International Research Journal of Engineering, IT & Scientific Research

VOLUME NO. 10
ISSUE NO. 1
JANUARY - APRIL 2024

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International Research Journal of Engineering, IT & Scientific Research

(Volume No. 10, Issue No. 1, January - April 2024)

Contents

The Effect of Survey, Question, Read, Recite, and Review (SQ3R): Method and Learning Motivation of Achievement in Learning Indonesian Language

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A B S T R A C T

This study aims at examining the effect of SQ3R reading methods and student achievement, learning motivation and student achievement, as well as the influence of reading method SQ3R and learning motivation on the 5th-Grade students' achievement in learning the Indonesian language at elementary schools regional III district of Langgudu, Bima. The population of this research is the 5th-grade students at elementary schools of Regional III, district of Langgudu, Bima. In terms of sampling, this study used purposive sampling technique by considering the purpose and certain considerations. In collecting data, this study distributed questionnaire related to an SQ3R reading method and student learning motivation and gave the test to examine students' learning achievement. The data were analyzed by using: descriptive statistics including SQ3R reading method data and students' learning motivation; then using inferential statistics including multiple regression, multiple correlation significance tests (F test), partial test and then multiple correlation calculations. Based on the results of the descriptive statistical analysis, it is found that the percentage of reading method SQ3R is 37.7% and student learning motivation is 44.2%. Multiple regression equations between reading method of SQ3R and student's learning motivation to student achievement is Y = 20,606 + 0,343X1 + 0,549 X2 and value of significance obtained 72,167 is less than α = 0,05; hence, there is significant influence on reading method SQ3R and motivation to learn on 5th-grade students' achievement in learning Indonesian language at elementary schools, in Regional III district of Langgudu, Bima. Based on multiple correlation analysis, it shows obvious influence of variable of reading method SQ3R and motivation learn on student achievement that can be shown by the amount of plural coefficient (1,992) with r = 0,813 significant at α = 0,05, df = 75, and with coefficient determination (0,652 or 65,2 %). It indicates that the value of student achievement variable can be explained by the variable value of reading method SQ3R and learning motivation.

Keywords: Achievement; SQ3R Reading Method; Motivation and Learning;

1. Introduction

Basically, education aims at nurturing learners to gain knowledge, skills, and positive attitude in life. An educational and learning process is said to succeed if learners gain a better chance of the improvement of knowledge, change of skills, and positive change of behavioral maturity. The problem of education that is still existed is the low quality of education, including in learning the Indonesian language. This is due

to students' difficulties in understanding the content of instructional materials becoming the substance of the curriculum that tend not to meet the needs of students.

The development of science and technology has had an impact on various fields, especially in the field of education. Such progress requires the development of a learning society. One of the effective learning processes is done by reading. Reading that previously became the major lesson and practice, is now getting less attention, both from students and teachers. When in fact, reading teaching can be a means to guide students to become an independent reader, foster interest in reading, and have good reading skills. Students learn to acquire skills and master reading techniques and understand reading content well. Therefore, teachers need to design reading learning well in order to foster reading habits as a fun activity.

Reading skills as one of the receptive written language skills need to have elementary school students to be able to understand the contents of the reading involved in writing. Therefore, the role of teaching the Indonesian language especially teaching reading in elementary school becomes extremely important. Student reading skill is closely related to student's learning achievement. The more skilled the students are in reading, the better the learning achievement the students will get. Therefore, to obtain maximum learning achievement, students must motivate themselves in reading and should make the ability to read as priority scale that must be mastered by students. The selection of good methods in the learning process is obviously fundamental. However, in general, teachers have not applied certain methods, especially in learning reading in the Indonesian language. This phenomenon is happened in reading class of 5th-Grade students at Elementary Schools in in Regional III District of Langgudu, Bima. Based on the results of preliminary through observation on the result of Mid-term test II, it was identified that the students had not shown maximal reading skill. Therefore, it needs an appropriate reading method to improve students' achievement in learning the Indonesian language. One of the alternative methods that can be used in improving students' achievement in learning the Indonesian language is an SQ3R reading method, it is an alternative to meet those expectations. The SQ3R method as its name implies this technique is an abbreviation of each step that an intensive reader must go through. The stages include Survey, Question, Read, Recite, and Review. It is a reading technique in studying reading material. Its realization is a set of skills captions to cultivate every aspect of reading that is meaningful to the reader.

Research Problem

Based on previously stated background, the formulation of the problem in this study of how is the effect of SQ3R method and learning motivation on 5^{th} -grade students' achievement in learning the Indonesian language at Elementary Schools in Regional III District of Langgudu, Bima?

Research Objective

Based on the research problem above, the purpose of this study is:

In order to examine the effect of the use of the SQ3R reading method and learning motivation on the 5th-Grade students' achievement in learning the Indonesian language at Elementary School in Regional III District of Langgudu, Bima.

Research Significances

a. Theoretical Significances

This research of SQ3R reading method is expected to be studied in more depth research and contribute benefit for learning process improvement especially in learning reading and can be used as a reference for subsequent and related research.

b. Practical Significance

1) Teacher

a) To enhance teachers' knowledge of the use of learning methods to improve students' reading skills.
b) To enhance teachers' knowledge and creativity in improving student learning motivation and students' learning achievement.

It is expected that the results of this study can improve students 'reading skill in learning Indonesian language materials and improve students' insight of the various learning resources being read.

b) School

a) The result of this study can be used as a consideration to decide school policy for students related to how to spend leisure time by reading and optimize library facilities as a learning resource for students
b) The results of this study are expected to positively contribute to the school in order to improve the efficient and effective learning strategies.

Theoretical Framework

1. Learning Definition

According to Susanto (2013: 1-3), the notion of learning is not new, it is very widely known, but in this study, each expert has different understanding and definition, but all of them essentially have the same

perceptions. The following will be presented various definitions of learning according to experts.

According to R. Gagne (in Susanto, 2013), learning can be defined as a process in which an organism changes its behavior as a result of experience. In accordance with Burton (in Susanto, 2013), learning can be interpreted as a change of individual behavior as a result of the interaction between individuals and other individuals and between individuals and the environment so that they are able to interact with the environment well. While according to E.R. Hilgard (in Susanto, 2013), learning is a change of reaction activity to the environment. Such activity changing include knowledge, skills, behavior, and those are gained through practice (experience). Hilgard asserts that learning is a process of seeking knowledge that occurs within a person through practice, habituation, experience, and so on.

Based on the above definitions, it can be concluded that learning is an activity that a person deliberately in the consciousness to gain new concepts, understandings, or knowledge that allows him or her to gain behavioral change that is relatively good in terms of thinking, feeling and acting.

2. Learning Method

The learning method is the way in which the teacher organizes the class in general, or in presenting the lesson material in particular (in Susanto, 2013: 43-44). Methods are required in order to achieve the learning objectives, in which its implementation can facilitate students receive and understand the subject matter provided by the teacher. According to Winarno Surakhmad (in Susanto, 2013), the method is a way in which the function is a tool to achieve a goal. While Madjid (in Susanto, 2013) is concerned on the method, it should be emphasized that any method planned by the teacher should be able to accommodate thoroughly the principles of teaching and learning activities: 1) student-centered; 2) learning by doing; 3) develop social skills; 4) develop curiosity and imagination, and 5) develop creativity and problem-solving skills. Absolutely, the teachers must enhance their knowledge and practice their skills, so that they are able to present interesting learning.

Based on the above definition, it can be concluded that the method of learning is a way or method selected by educators to optimize teaching and learning process aiming at achieving the expected learning objectives.

SQ3R Method

Definition of SQ3R Method

a) Purpose

SQ3R is a learning method of reading consisting of five steps namely Survey, Question, Read, Recite, and Review. The main objectives of the implementation of this method are (1) to improve students' understanding of the content of the reading, and (2) to maintain the understanding over a longer period of time.

b) Rationale

Francis Robinson (in Abidin, 2012) after examining the level of reading of his students, found the fact that his students only remember half of what they have read. This is a bad reality for students, both elementary and high school students. To solve this problem, Robinson used the SQ3R learning method as a method to improve long-term understanding and memory. This method is excellent to encourage students in the learning process.

What is SQ3R? SQ3R is a five-step method: Survey, Question, Read, Recite, and Review. The first two steps are based on research activities on (1) skimming reading value and summarize the initial part before reading, and (2) the value of reading question knowledge before being commissioned to read. Surveys are done by skimming to find out the outline of reading materials and know what materials are presented. The question provides a special activity for reading and instructions on how to read. Questions can also be used as a guide in reading as well as determining how easy they are to remember what the content they read. Because the question provides the specific information we are looking for, the question helps us to remember the information.

When Robinson's students used the first three steps, researching, asking, and reading, students turn out to have a high level of understanding. This progress does not make Robinson proud because he knows about 80% of what he read will be forgotten after two weeks. When the reading test is repeated, the reader will forget about 80 percent to 20 percent after a two-week period. Because of that influence, Robinson built the last two components, those are a retelling and repeating.

c) Stages of SQ3R Method

In general, learning by using SQ3R method can be done through the following stages.

Pre-reading

1) Survey

Students are asked to analyze the title, first paragraph, and image and then read the introduction and last paragraph or summary. In the survey stage, students only read the title and the main idea to give the reader a broad picture of the reading content and the reading structure.

2) Question

After researching the passage, at this stage, the students must use the information they obtained from the headline and the main idea for composing the question. The prepared questions should be taken from the reading section of the student's reading in the order in which the discourse is arranged.

Reading

1) Read

The reading stage is done by the students to find the answer to the question that they have made. In this context, reading does not mean looking at every word or every line of all paragraphs. At this stage, students must apply skimming reading, read the layout, and repeat reading the materials needed to answer questions. The purpose of this reading activity is to seek information to answer the questions. Students should be accustomed to reading flexibly means reading speed is adjusted to the type of information that must be obtained from the reading.

2) Recite

After finding the answers to each question, the students must compile a summary of the content of the reading based on the answers they made using their own language. This activity is very important to convince students' understanding of what they get during reading activities. To be able to remember important information, students are asked to write down each key idea of the paragraph contained in the reading material.

Post-reading

1) Review

At this stage, students are asked to look back at the reading material and compare their writing to the actual reading material. If there is an error, the students must improve their writing based on the content of the reading material (Abidin, 2012: 107-109).

d) Strengths dan Weaknesses of SQ3R Method

The strengths of the SQ3R reading method are able in:

a. Improving learners' skill in reading.

b. Improving the memory of the learner.

c. Avoiding boredom during reading.

The weaknesses of the SQ3R reading method are:

a. Learners only focus on what they read.

b. It takes a relatively long time (Budiyanto, 2016: 134-135).

The Definition of Reading

According to Crawley and Mountain (in Rahim, 2011: 2) reading is essentially a complicated activity that involves many aspects, not only pronunciation but also visual, thinking, psycholinguistics, and metacognitive activity. It is the visual process of reading is the process of translating symbols (letter) into spoken words. Besides, as the process of thinking, reading includes word recognition activities, literal comprehension, interpretation, critical reading, and creative understanding. Reading as a psycholinguistic process, the reader's schema helps students build meaning, while phonological, semantic, and syntactic features help them communicate and interpret messages. The metacognitive process involves planning, rectifying a strategy, monitoring, and evaluating. Readers at this stage identify reading tasks to develop appropriate reading strategies, monitor their understanding, and assess the results.

Syafi'ie (in Rahim, 2011: 2-3) proposed three terms that are often used to provide the basic components of the reading process, namely recording, decoding and meaning. Recording refers to words and phrases and then associates them with sounds according to the writing system used, while the decoding process refers to the process of translating a set of graphics into words. The process of recording and decoding usually takes place in the early classes, namely elementary classes (I, II, and III) which are known by beginning reading. The emphasis of reading at this stage is the perceptual process, which is the correspondence of a series of letters with sounds of language. Meanwhile, the process of understanding meaning is more emphasized in high school classes. In addition, for decoding skills, the reader must also have the capability of understanding the meaning. Understanding meaning takes place through various levels, ranging from the level of literal understanding to the interpretive, creative, and evaluative. Thus, it can be said that reading is a process of perceptual and cognitive processes.

Based on the description above, it is concluded that reading is understanding the thoughts and feelings of others by the medium of writing. The goal is to understand the written language correctly and regularly.

Learning Motivation

According to Hamzah B. Uno (in Suprijono, 2012) Indicators of learning motivation can be classified as follows: 1) The existence of desire and motivation to succeed; 2) There is an encouragement and need in learning. 3) Presence of future hopes and aspirations; 4) The existence of awards in learning; 5) The existence of interesting activities in learning and; 6) The existence of a conducive learning environment that allows learners to learn well.

According to Mc. Donald (in Sadirman, 2011: 73-75), motivation is a change of energy in a person marked by the emergence of "feeling" and preceded by a response to the existence of a goal. Understanding put forward by Mc. Donald contains three essential elements.

1. Motivation initiates the change of energy in each individual human being. The development of motivation will bring some energy changes in the "neurophysiological" system existing in human organisms. Because it involves the change of human energy (although the motivation comes from human itself), its appearance will involve the human physical activity.

2. Motivation is characterized by the emergence of one's "feeling" and affection. In this case, the motivation is relevant to the psychological, affection and emotional problems that can determine human behavior

3. Motivation will be stimulated because of the purpose. Therefore, motivation, in this case, is actually a response to an action such as a goal. Motivation does not arise from human itself, but its emergence is aroused or driven by the existence of other elements. In this context, it is the purpose that strongly engages with the need.

By those three elements, it can be concluded that motivation is something complex. Motivation will cause a change of energy that exists in man so that it will relate to psychiatric symptoms, feelings, and emotions that stimulate human to act or do something. All this is driven by a purpose, a need or a desire.

Furthermore, related to learning activities, the important thing is that how to create a condition or a process that leads the student to do learning activities, in this context, of course, teacher role is extremely important. How teachers make efforts to grow and motivate students to conduct learning activities

properly. To be able to learn well, it requires process and good motivation.

Based on the definitions proposed by some experts above, it can be concluded that the motivation to learn is the spirit of learning from students themselves to obtain maximum results in the learning process.

Learning Achievement

WJS. Poerwadarminta (in Djamarah, 2012) argues that achievement is a result that has been achieved (conducted, done, and so on). In line with Mas'ud Khasan Abdul Qohar (in Djamarah, 2012), achievement is what can be created, the results of work, the satisfied results obtained by way of work perseverance. While Harahap et al (in Djamarah, 2012), restrictedly define that achievement is an educational assessment of student development and progress regarding the mastery of the lesson material presented to them and the values contained in the curriculum.

In line with Sardiman (in Djamarah, 2012) who proposes a concept that is learning as a series of activities of body and soul, psychophysical activity to the development of the whole person, which involves the elements of creativity, taste, and intention, cognitive, affective, and psychomotor. The result of this learning activity will be seen from the change of behavior as a result of experience. This experience will eventually form the individual person towards maturity. This has been put forward by Cronbach with his opinion, that learning is shown by a change of behavior as a result of experience.

Djamarah (2012) define that basically, achievement is the result obtained through activity. While learning is basically a process that results in a change in the individual, namely the change of behavior. Thus, learning achievement is the result obtained in the form of impressions that result in changes in the individual as a result of activity in learning. Progress gained not only in the form of knowledge but also in the form of skill. To know student's mastery of to certain subjects, that evaluation should be conducted. By the evaluation, it will be able to know students' progress. Thus, it can be understood that learning achievement is an educational assessment of students' progress towards all matters learned in the school regarding the knowledge or skills released after the assessment results.

Based on the explanations of the experts above, it can be concluded that the achievement of learning is the result of a process of maximum achievement of something that is learned and understood. Student achievement can be shown through the grade or score as the result of the learning process.

Research Hypothesis

There is a significant positive effect of SQ3R reading method and learning motivation on 5th-Grade

students' achievement in learning the Indonesian language at Elementary Schools in Regional III District of Langgudu, Bima in Academic Year 2016/2017.

2. Research Methods

2.1 Research Setting

Place

This research was conducted at class V in Elementary Schools in Regional III District of Langgudu, Bima.

Population

The population in this study are all 5th-grade students at Elementary Schools in Regional III District of Langgudu, with a total number of student are of 112 students.

The students' description in each class is shown in the table below.

Table 2.1 5th -grade Students' description in Regional III, District of Langgudu, Bima, in Academic in 2017/2018

No	Class	Students		Total
		Male	Female	
1	V SDN Karumbu	20	12	33
2	V SDN Soro Afu	13	10	23
3	V SDN Inpres Karumbu	13	8	21
4	V SDN Inpres Rimba	6	4	10
5	V SD/Mi Karumbu	15	11	26

2.2 Sample

The sample is essentially a part of the population area. Correspondingly, Maolani and Cahyana suggest the sample is part of the number and characteristics possessed by the population (Maolani and Cahyana, 2015: 39). In accordance with Sugiyono (2014: 81) sample is part of the number of characteristics possessed by the population.

Based on that explanation, it can be concluded that the sample is part of the population that has certain characteristics or circumstances to be studied. In this research, the sample is part of the 5th-Grade students at Elementary Schools in Regional III, District of Langgudu, Bima.

The results of the sample distribution in each class are presented in Table 2.2 below.

Table 2.2 Distribution of Selected Students as Sample at Elementary Schools in Regional III, District of Langgudu, Bima

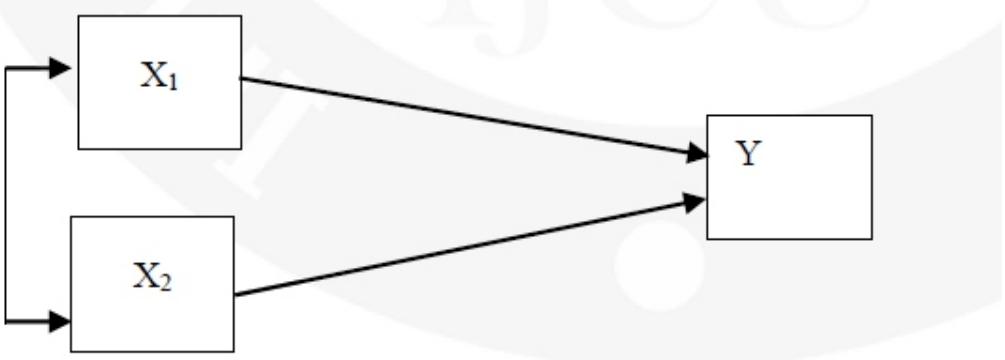
No	School Name	Class	The number of students
1	SDN Karumbu	V	33 Students
2	SDN Soro Afu	V	23 Students
3	SDN Inpres Karumbu	V	21 Students
Total			77 Students

2.3 Sampling Technique

The class selection was conducted through purposive sampling with consideration, the three schools are one of the Elementary Schools with accreditation "A". Those three schools are SDN Karumbu in which in compiling the class, SDN Karumbu is classified as the good class (as the reference of other classes of other elementary schools which are in Regional III), while SDN Soro Afu and SDN Inpres Karumbu are classified as the middle class. However, the condition of each class is relatively the same or homogeneous, such as the public school with the same curriculum used, the teacher who taught the subjects of Indonesian language are the same as the class teacher or homeroom teacher, the evaluation tool used during the mid-test and or semester is the same , the location of the school is equally located in the capital district, the availability of facilities are relatively the same, and the students' parents profession are equally varied (clerks, farmers, traders). Based on these considerations, the recruitment of school and class samples is done purposively or based on certain considerations.

2.4 Research Design

This study uses quantitative correlation approach considering the data used is numerical data with the aim to examine the effect between two independent variables, namely the use of reading method SQ3R (X1) and learning motivation (X2) on one dependent variable, that is learning achievement (Y). The pattern of relationships between variables is visualized as shown below.



Picturer 1.2 Research Design Pattern

Descriptions: X_1: The use of SQ3R reading method

X_2 : Learning motivation

Y : Learning achievement

2.5 Instrument

A research instrument is a tool used to measure natural phenomena as well as observed social phenomena (Sugiyono, 2014). The instrument in research is used to answer research problems and to test hypotheses. Instruments in this research is a test used to determine the influence of two factors that affect learning achievement.

2.6 Data Collection

The test was used to obtain data on student learning outcomes to measure students' abilities after the implementation of the SQ3R reading method. The tests were given in the form of essay and objective test. The test was designed by the author with the aid of Indonesian language textbooks and Indonesian language teachers in school.

2.7 Data Analysis

The data collected in this study is data that must be analyzed and processed carefully, meticulously, and systematically. The data obtained were analyzed by inferential statistics.

a. Inferential Statistical Analysis

Inferential statistics (often called inductive statistics or probability statistics) are statistical techniques used to analyze sample data and the results are applied to populations (Sugiyono, 2014).

b. Multiple Regression Analysis (Simultaneous Test)

Multiple regression analysis is used by the researcher, if the researcher intends to predict how the state of the dependent variable (ups and downs), if two or more independent variables as a manipulated predictive factor (should change its value). Thus, multiple regression analysis will be performed when the number of independent variables is at least two (Sugiyono, 2014). Regression equation will be determined by using software SPSS 16.0 so that it will be obtained regression equation as follows:

$Y = a + b_1X_1 + b_2X_2$

Description:

X_1 = value of SQ3R reading method variable

X_2 = value of learning motivation variable

Y = value of learning achievement variable

a = regression constant (value of Y) when $X_1 = 0$ and $X_2 = 0$

b_1 = regression coefficient, showing the increase or decrease of dependent variable based on the independent variable (X2)

b_2 = regression coefficient, showing the increase or decrease of dependent variable based on the independent variable (X2), (Sugiyono, 2014).

For examining significant correlation coefficient test, it used significance F test. If significant F test < 0.05 then H_o is rejected and H_a accepted, that is, X1 and X2 simultaneously have an effect on Y. If significant F test > 0.05 then H_o accepted and H_a rejected, that is X1 and X2 simultaneously have no effect on Y.

H_o (Null Hypothesis)

There is no significant positive effect of SQ3R reading method and learning motivation on 5th-grade students' achievement in learning the Indonesian language at Elementary Schools in Regional III, District of Langgudu, Bima.

H_a (Alternative Hypothesis)

There is a significant positive effect of SQ3R reading method and learning motivation on 5th-grade students' achievement in learning the Indonesian language at Elementary Schools in Regional III, District of Langgudu, Bima.

3. Results and Analysis

3.1 Data Description

Hypothesis testing was conducted by using data obtained from the data collection during the research. The data gathered in this study is data of students' achievement in learning the Indonesian language at Elementary Schools in Regional III, District of Langgudu, Bima.

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3.2 Inferential Statistical Analysis

a) Multiple Regression Analysis (Simultaneous Test)

The formula of Multiple regression is Y = a + b1X1 + b2X2. Based on multiple linear regression analysis using SPSS 16.0 software, it was obtained a constant value which are: a = 20,606; coefficient b1 = 0.343; and coefficient b2 = 0,549. Thus, the multiple regression equation is Y = 20.606 + 0.343X1 + 0,549X2.

For more details, it can be seen in table 3.1 below.

Table 3.1 Regression Equation Model Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	20.606	4.905		4.201	.000
	X1	.343	.118	.270	2.901	.005
	X2	.549	.085	.604	6.486	.000

Source: Primary data management

$$Y = 20{,}606 + 0{,}343X1 + 0{,}549X2$$

It was obtained a constant value (βo) of 20.606 which indicates that if the variable of the SQ3R reading method and learning motivation respectively zero then the average value of student learning outcomes is 20,606. Regression coefficient X1 (SQ3R method) of 0.343 means that if the variable SQ3R learning method increased by 1 then the average value of student learning outcomes will increase by 0.343, assuming variable motivation (X2) remains or constants. The coefficient of regression X2 (learning motivation) equal to 0,549 indicates that if the value of learning motivation variable has an increase of 1, then the average value of student achievement will increase equal to 0,549.

b) Multiple Correlation Significance Test (F Test)

Multiple correlation analysis of F test using SPSS 16.0 software is used to analyze the effect of SQ3R reading method and learning motivation on learning achievement. For more details, it can be seen in table 3.2 below.

Table 3.2 ANOVA[a]

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7705.495	2	3852.748	72.167	.000[b]
	Residual	3950.582	74	53.386		
	Total	11656.078	76			

To test the effect of simultaneously SQ3R reading method and learning motivation on learning achievement (H3), it is obtained the F-count value of 72,167. F-table value at α: 0.05; df1: 2 and df2 74 is 3.120. Since the value of F-count is greater than F-table value, it can be claimed that Ha is accepted, SQ3R method and learning motivation simultaneously have a significant effect on the 5th-grade students' achievement in learning the Indonesian language at Elementary Schools in Regional III, District of Langgudu, Bima in Academic Year 2016/2017.

c) The Effect of Reading Methods SQ3R and Learning Motivation on Students' Achievement

Based on the analysis result it is found that there is the effect of SQ3R reading method and motivation learn on 5th-Grade students' achievement in learning the Indonesian language at Elementary Schools in Regional III District of Langgudu, Bima. If it is seen from linear regression equation, that is Y = 20,606 + 0,343X1 + 0,549 X2, it is obtained value of regression coefficient X1 (method of SQ3R) of 0,343 which means that if variable of SQ3R reading method increase by 1, then the mean value of student learning result will increase into 0,343, assuming the motivation variable (X2) is constant. The coefficient of regression X2 (learning motivation) is 0,549 indicating that if the value of learning motivation variable has an increase of 1, then the average value of student achievement will increase into 0,549. Based on the results of significant analysis of correlation coefficient F test, it is calculated f-score = 72,167> f-table = 3,120 at significant level 0,05; df 75, because the value of F-score is greater than the value of F-table then it can be said that Ha is accepted, the SQ3R reading method and motivation to learn simultaneously significantly affect 5th -Grade students' achievement in learning Indonesian language at Elementary Schools in Regional III, District of Langgudu, Bima.

There is interaction relationship between two variables, caused individually, a method of reading SQ3R and student's motivation given the influence to student's learning achievement. Therefore, this will have a further impact on the influence of the combination of both on student achievement which is indicated by the interaction. Hence, it can be concluded that the interaction of the use of SQ3R reading methods and students' motivation affect student achievement in the subjects of the Indonesian language.

Conclusion

There is a significant effect of SQ3R reading method and learning motivation on student achievement. Based on the results of significant analysis of correlation coefficient F test obtained f-score value = 72.167> f-table = 3.120 at a significant level of 0.05; df 75, because the value of f-score is greater than the value of f-table then the decision taken is to accept Ha, that is SQ3R method and motivation to learn simultaneously have a significant effect on student learning achievement with that value including categorized steady positive relationship. And the result can be concluded that the hypothesis (Ha) above is accepted or there is the effect of SQ3R reading method and motivation learn on 5th-Garde Students' achievement in learning the Indonesian Language at Elementary Schools in Regional III, District of Langgudu, Bima in Academic Year 2016/2017.

Recommendation

1. Teacher

By the existence of the significant influence of SQ3R reading method and learning motivation on Indonesian learning achievement, it is expected that teachers begin to consider using this method in the learning process to improve students 'learning motivation and students' learning achievement.

2. Students

Based on at the results of this study it is advisable for students to use the SQ3R reading method to improve reading skills in learning Indonesian language materials and to improve knowledge of various learning resources that are read.

3. School

By considering the results of this study, it is suggested that SQ3R reading method can be used as an alternative method of teaching and learning activities. By concerning on the method of reading and the conditions of student learning motivation, the school is expected to prepare some educational facilities, such as adequate libraries, interactive media and, devices, including the completeness of the props, needed students.

4. Further Research

All scholars or academician who want to study this topic further, it is advisable to consider the use of some combination of other variables, so that in future, it can be obtained a diversity of variables that can be an alternative method for education research in Indonesia.

Acknowledgements

By the help of some people, the writing of this journal can be accomplished. Therefore, I will deliver my greatest gratitude and thank Dr. H. Syahdan, M. Ed., Ph.D., and Muhammad Amin. M.Tesol who have guided me in writing and finishing this journal.

References

1. Abdullah, Ma'ruf. 2015. Quantitative Research Methodology. Yogyakarta: CV. Aswaja Pressindo.
2. Abidin, Yunus. 2012. Character Education-Based Reading Learning. Bandung: PT. Refika Aditama.
3. Arikunto, Suharsini. 2013. Management of Research. Jakarta: Rineka Cipta.
4. Arikunto, Suharsimi. 2013. Research Procedure: A Practice Approach. Jakarta: Rineka Cipta.
5. Budiyanto, K. A. M. 2016. Syntax 45 Learning Methods in Student Centered Learning (SCL). Malang: UMM Press.
6. Djamarah, Syaiful Bahri.2012. Teaching and Learning Strategies. Jakarta: Rineka Cipta.
7. Hakim, Thursan. 2002. Learn Effectively. Jakarta: Puspa Swara.

8. Maolani, Rukesih A dan Cahyana, Ucu. 2015. Methodology of Educational Research. Jakarta: PT RajaGrafindo Persada.
9. Rahim, Faridah. 2011. Teaching Reading in Primary School. Jakarta: Bumi Aksara.
10. Sadirman. 2011. Interaction and Motivation Learning-Teaching. Jakarta: Rajawali Pers.
11. Soeharto, Karti. Soeprajitno. Sudjimat. Sulton. 2003. Learning Technology (System Approach, Conception and Model, SAP, Evaluation, Learning Resources and Media). Surabaya: SIC
12. Sudjana, Nana dan Ibrahim. 2014. Research and Educational Assessment. Bandung: Sinar Baru Algensindo.
13. Sugiyono. 2014. Qualitative Quantitative Research Methods and R & D. Bandung: Alfabeta.
14. Suprijono, Agus. 2012. Teaching Methods and Models. Bandung: Alfabeta.
15. Susanto, Ahmad. 2013. Theory of Learning and Learning in Primary School. Jakarta: Prenadamedia Group.
16. Zucchini, Darmiyati. 2008. Strategies to Improve Reading Ability. Yogyakarta: UNY Press.

Biography of Author

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The Effectiveness of the Social Reconstruction Learning Model with Character Education Content for the Deviant Behavior

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A B S T R A C T

This study aims at analyzing the tendency of deviant behavior found among the secondary school students studying in the tourism areas in Denpasar. The problem has been analyzed using the social reconstruction learning model with some character education. It applied the quasi-experiment method with the factorial 2x2 design and involved 80 students. It demonstrates an analysis of variance (ANOVA) of two lines. The study shows that there is the effect of the model towards the deviant behavioral interaction. The model is believed to be effective in growing the students 'self-awareness' with all of uniqueness and personalities which include building the concept of objectiveness, self-actualization, self-creativeness, as well as understanding the various aspects of social lives.

Keywords: Self-Awareness; Deviant Behavior; Social Reconstruction;

1. Introduction

The ideal education for Indonesia according to the Indonesian Government Regulation No.20/2003 on the national education system is the one that is capable of building strong nation characters and prestigious civilization. This is in accordance with the goal of education for life; actively develop the ones 'capacity for spiritual and religious strength, self-control, personality, nobility, practical skills that are necessary for themselves, societies, and the country. Based on that all components of the education system should build and support an integrated network in order to reach the goal. An ideal education is always anticipatory and predatory. It looks at the future and helps the young generation to have better, quality, and meaningful lives. However, critically reflected, Buchori (2001: 67), suggests that the ideal education system that is supposed to develop the Indonesian national characters has lost its moment. Buchori noted that since the 1960s, the system has been going nowhere and losing its pride and culture. This can be seen, among others, in the reduction of the young generation spirit of patriotism. The

national education system, as it is reflected in the national curriculum system, is no more than a machine which is giving up its remote controller to the bureaucrats. The schools are given no space and merely serve the higher officers whose decisions are often impractical.

The concept of social reconstruction plays a significant role in real life. Within the concept, there are ways of solving social problems. In the curriculum, the implication can be enlarging or deepening that it continues to be discussed. In this study, the discussion is focused on the implication of the social reconstruction model towards the development of students' characters. The model regards education as a collective, inseparable, interactional, and cooperation activity, which is built between students and teachers, students and students, the surrounding people, and also with other learning resources.
The research aims at describing the tendency of the secondary school students' deviant behavior when related to the social reconstruction learning model with character education content and the interaction of the students with tourists.

2. Research Methods

The study involved 80 students of secondary schools found around the tourist areas in Denpasar. It was using quasi-experiment method with a factorial design 2 x 2 (Dantes, 2012: 97) by applying two instruments, namely, the instrument for measuring the deviant behavior tendency and the instrument for social interaction. The analysis has been made using expertise test, a questionnaire on the deviant behavior tendency with the construct validity of 0,775 and reliability coefficient of 0,949. Whereas the questionnaire for the social interaction with tourists has the construct validity of 0,775 and reliability coefficient of 0,955. The F-test was used to test the homogeneity of the tendency between the sub-population of the social reconstruction with character education and conventional model for learning. The test was in the significance level of $\alpha = 0,05$ by comparing F_{hitung} and F_{tabel}. The hypothesis was tested using SPSS 16.00. The analysis procedure with two variants was used to test: (1) the means of deficiency for the tendency of the deviant behavior found in the group made with the factor of the learning model (A). (2) to test the effect of the model interaction factor (A) and the social interaction with tourists (B) towards the tendency of misbehaviors and (3) the difference in means of deficiency of the tendency for the deviant behavior in two different sample groups that are built by learning the learning model factor. (A) and the factor of social interaction with tourists (B).

3. Results and Analysis

In general, this research aims at understanding the influence of a learning model and social interaction with tourists towards deviant behavior. The research shows the variable of the learning model (A), and the interaction with tourists (B) affect significantly the deviant behaviorism (Y). Based on the hypothesis

test, the four proposed hypothesis succeed in rejecting the zero hypothesis. The following is the further detailed explanation.

3.1 The differences between the students' deviant behaviorism when given the Social Reconstruction

Model with Character Education and given Conventional Learning Model

The research reveals that the distribution of the means for the tendency of the students' deviant behavior, when given the social reconstruction model with character education content, was 73,200 and the deficiency standard was 2,946 as found in the chart below.

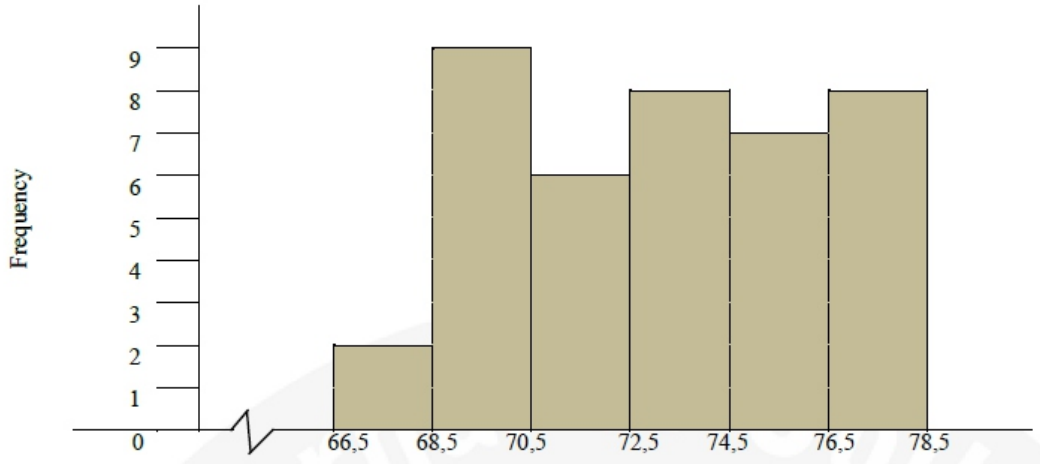

Chart 01: The Histogram for the Score of the Tendency of the Students' Deviant behavior when given the Learning Social Reconstruction Model with Character Education

Whereas the means of the score for the tendency of the students' deviant behavior with conventional learning model was 7r,950 and the deficiency standard was 3,789. The chart below shows it.

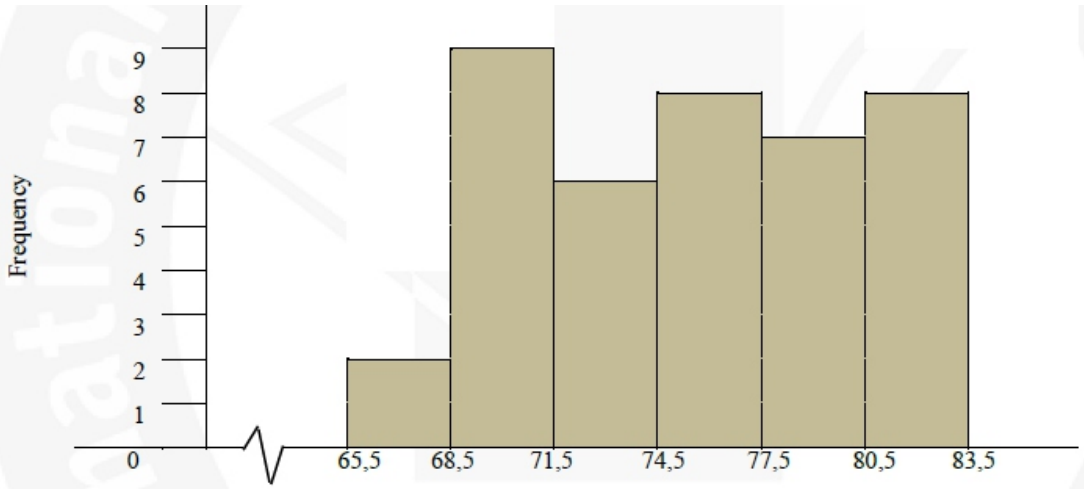

Chart 02: The Histogram Score for the Tendency of the Student's Deviant behaviorism with the Conventional Learning Model

This study suggests that the hypothesis test is acceptable. The comparison shows that the means in the deviant behaviorism of the students given the social reconstruction model is lower than the other. The success in rejecting the zero hypothesis lies on the better model of the learning. The concept plays important role in the social life. It includes problem-solving that provides a better living as Vygotsky (Arends, 2008:47) suggests. Vygotsky believes that social interaction can trigger new ideas and improve intellectual capacities (Darmiyati & Suyanto, 2008: 6). The concept emphasizes the essence of humanity as also taught by Ki Hajar Dewantara, the Indonesian education maestro, who said that education is to make human realize his (her) humanity. According to Lasmawan (2010: 310), the model of social reconstruction with character education content has been rooted in the constructivist theory of Vygotsky, who emphasizes social surrounding and interaction. The theory claims that learning takes place when students work on the tasks that are within their reach as they are in the zone of proximal development. This is in accordance with R.Pranata, et al (e-Journal Program Pascasarjana Universitas Pendidikan Ganesha, Program Studi Pendidikan Dasar: Volume 3 Tahun 2013) who stressed that learning is an interaction between students, students and teachers, and students to their surroundings. Based on that, a teacher plays an important role as a facilitator whose selection of teaching materials will affect the learning process and outcome, yet the traditional teaching does not provide such an interaction. The social reconstruction model with character education is an alternative lesson planning. It improves the social senses of the students as it allows them to use their consciousness when they interpret any problems they keep in their subconsciousness. The five technics as proposed by Jumsai (2003: 39) and applied in the model would be persuasive to the students' minds and behaviors that are needed for responding to their environments.

The description here shows that the learning model of social reconstruction with character education content is better to apply to the students' learning when compared with the conventional model. The model engages all students' senses in learning and reduces the tendency of deviant behavior.

3.2 The Influences of the Interaction between the Learning Model and Social Interaction with Tourists towards the Tendency for Deviant Behavior

Based on the analysis using Two-path variants, the value of $F_{ABhitung} = 39{,}594$ with $p = 0{,}000$ ($p < 0{,}05$). Therefore, $F_{ABhitung}$ significant. This concludes that there is influence from the interaction between the learning model and the social interaction with the tourists towards the tendency for the deviant behavior among the students.

The hypothesis test also indicates the interaction. It is visualized into a graphic as below.

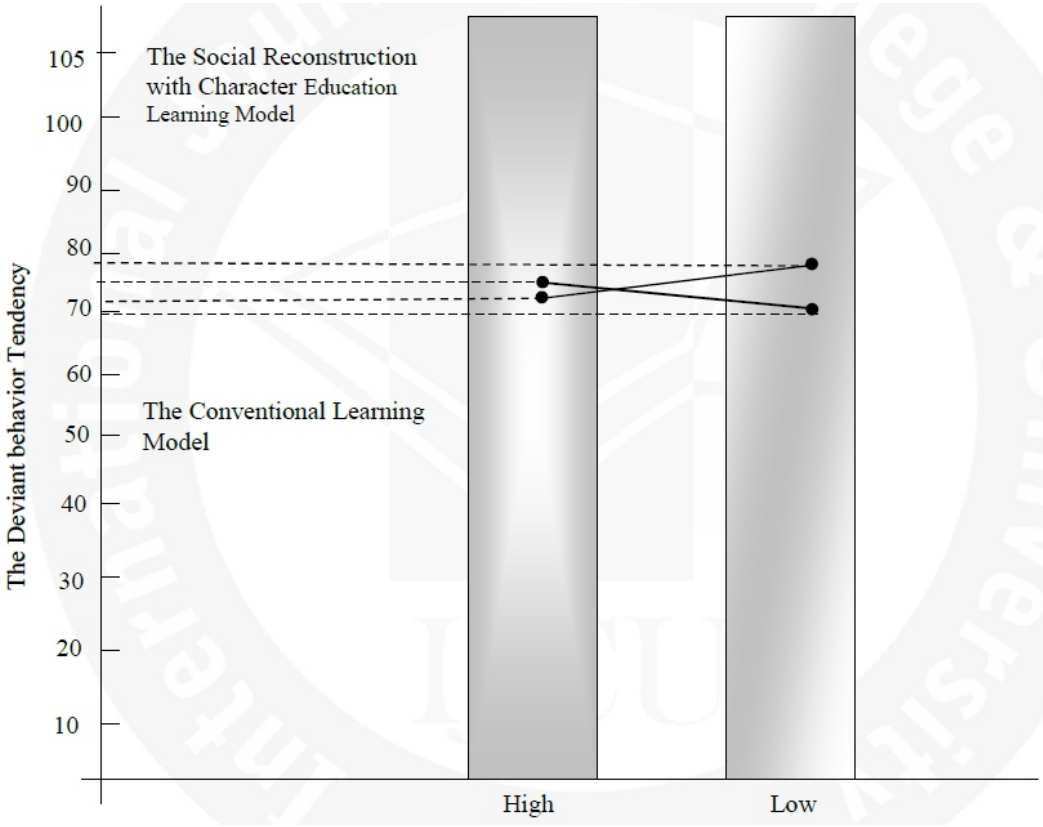

Chart 03: The Influence of the Interaction between the Learning Model of Social Interaction with Tourists towards the Tendency for Deviant Behavior

The graphic shows a configuration of the means for the tendency of the deviant behavior for every social interaction with the tourists. The hypothesis testing shows the influence of the dependency between the models towards the deviant behavior. The finding informs that the data supports the hypothesis. The conclusion is strengthened with the score means which shows the interdependency. Therefore, the test reveals different simple effect for both groups.

The tourists visiting Bali must bring their own values and life patterns. When the local young people interact with them, there is an interaction between each life patters. In the tourist areas in which the status and the interests are attached, the values and the patterns of the behaviors tend to follow the tourist's values and patterns. According to de Kadt (1979: 217), the tendency is called demonstrative effect, i.e. change in social value, behavior, and attitudes for tourists' visits to the areas, because of the interaction and tendency to follow the foreign culture. The effect of the interaction can be seen in the way the local people dress, speak, and acts.

The foreign culture-imitation includes some lifestyles, such as nightlife, alcoholic drinks, public kissing, as well as playing reggae and blues music. According to the focal point of view, the imitation is the negative effect of the interaction between the local people and tourists. Gradually, the change of the local

behavior due to imitating the tourists' lifestyles is thought to be able to degrade the local culture. However, others see it as a kind of modernization that supports the growth of tourism itself (Tashadi, 2014: 46). It is also known that some tourists bring problems, such drugs, ecstasy, free sex, especially the hedonist tourists.

The imitation then develops into internalization among the young people. Wuryati, et al (http://journal.unnes.ac.id/sju/index.php/jess/article/view/733) emphasize that the imitation causes the tendency towards the deviant behavior that in turn also affects the parents and the society. The tourist facilities, such as discotheques, karaoke, and other nightlife entertainments have been attracting the young people. The generation becomes aggressive and turns into violence, especially when they begin to over consume alcoholic drinks. There have been those who died too soon as they committed crimes. Oktaviyanti et al (http://dx.doi.org/10.22146/jnp.6693) emphasized the growth of the tourism industry as the positive impact of the tourists' visits and interaction. However, they also admitted that the interaction had caused cultural and social behavior changes, such as materialism, views about sex, values of arts, etc. This is in accordance with the study of Brian C. Kelly, et al (Journal Deviant Behavior Volume 38, 2017 - Issue 9, Pages 941-956) which states that the social interaction can intensify social deviant behavior.

Based on the description and the visualization of the effect, it is obvious that there is the tendency towards the interaction. On average, the tendency is lower in those receiving the social construction model than those who did not. Meanwhile, the average scores for the deviant behavior tendency among the students with low social interaction with tourists who receive the social reconstruction learning model and character education content are higher when compared with those who have the conventional model.

3.3 The Difference in the Deviant Behavior Tendency of the Students with High Social Interaction with Tourists between Those Receiving the Social Reconstruction Learning Model with Character Education and Receiving Conventional Model

The third hypothesis says "among the students with high social interaction with tourists there is the different tendency of deviant behavior, i.e. between those receiving social reconstruction learning model and the ones receiving conventional learning model". The statistics are as below.

$H_o : \mu A_1B_1 = \mu A_2B_1$

$H_1 : \mu A_1B_1 \neq \mu A_2B_1$

Based on the research, the distribution of the frequency for the means of the scores of the students with high social interaction and the tendency for the deviant behavior when given the social reconstruction learning model is 72,85p and the deficiency standard is 2,996. Thus, it is classified as low as it falls under the ideal score as it can be seen in the graph below.

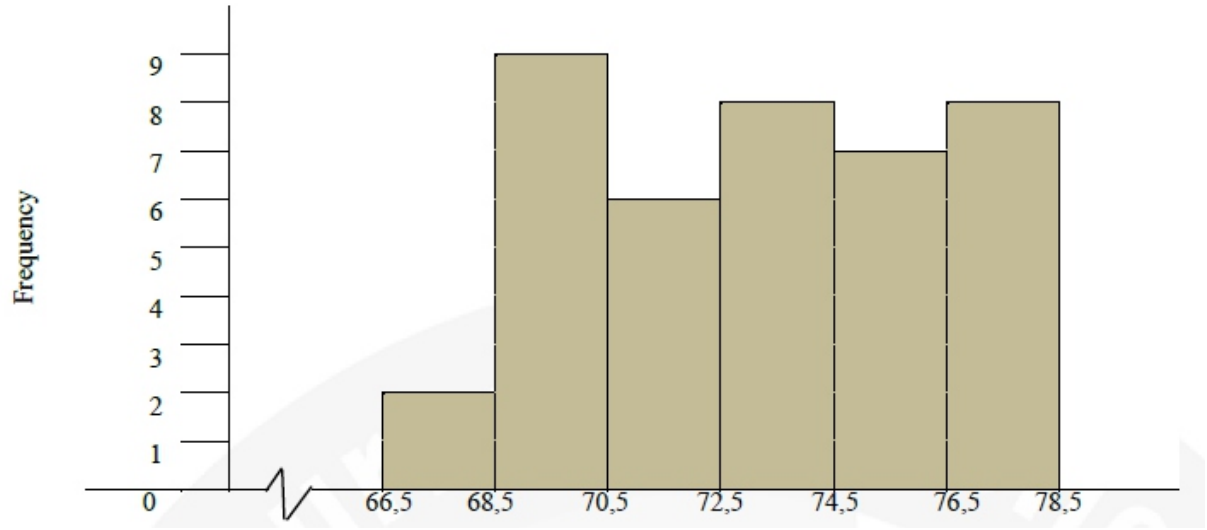

Chart 04: Histogram of the Score for the Tendency of the Deviant behavior of the Students Given the Social Reconstruction Learning Model with Character Education and High Frequency of Interaction with Tourists

Meanwhile, the tendency of the deviant behavior among the students receiving conventional learning model with high-frequency interaction with tourists is 78,150 and its standard deficiency is 1,755. Thus, the tendency for the deviant behavior among the students is low, falling within the interval 76 to 101 from the ideal score as the histogram below shows.

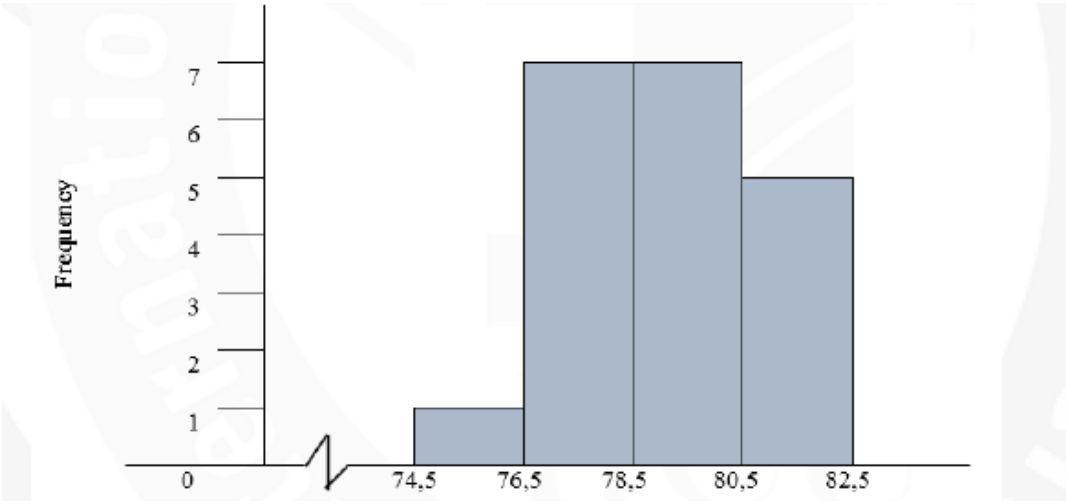

Chart 05: Histogram Score of the Tendency for Deviant behavior among the Students Receiving Conventional Learning Model and with High Social Interaction with Tourists.

The research confirms that the social reconstruction learning model with character education content could improve the student's personalities and competencies as the students are the subjects of education, something that has been ignored these days (Lasmawan, 2010: 59). The model is also hoped to be able to return the climate of the classrooms, to exercise the students' social sensitiveness, and their motivation in studying, therefore, their understanding becomes better and the education, in general, becomes more meaningful.

The model could also grow the students' self-awareness with all of the uniqueness and wholeness, just like the development of selfless, objectiveness, creativity, and the awareness about the values of social diversities (Lasmawan, 2009: 56). High level of interaction with tourists may affect the pattern of the social life, i.e. internalization of some values, imitation, identification, sympathy, and suggestiveness. The interaction should be related to the ability of self-controlling. The ability in setting aside the impulsiveness, as studied by Chae Mamayek, et al (Journal Deviant Behavior Volume 38, 2017 - Issue 9 Pages 895-916), has become really relevant to the development of the more conventional students' self-awareness.

Based on the hypothesis test and the theory, it is concluded that with the students having high social interaction with tourists, the tendency for deviant behavior, among those with learning model of social interaction and character education content, is lower when compared with those receiving conventional learning model. This conclusion is also supported by the means scores.

3.4 The Different Tendency of Deviant Behavior among the Students Receiving Social Reconstruction Learning Model with Character Education and the Conventional One, among the Students with Low Tourist Interaction

The fourth hypothesis says "Among the students with low tourists interaction, there is a different tendency of deviant behavior, i.e. between the ones receiving social reconstruction learning model and those receiving conventional one". Statistically, it is formulated as below.

$H_o : \mu A_1B_2 = \mu A_2B_2$

$H_1 : \mu A_1B_2 \neq \mu A_2B_2$

The means for the tendency of deviant behavior among the students receiving the social reconstruction learning model with some character education content and having low tourist interaction is 73,550 and the deficiency standard is 2,928. This suggests that the tendency is very low, as it is under 76 from the ideal score as found in the following graph.

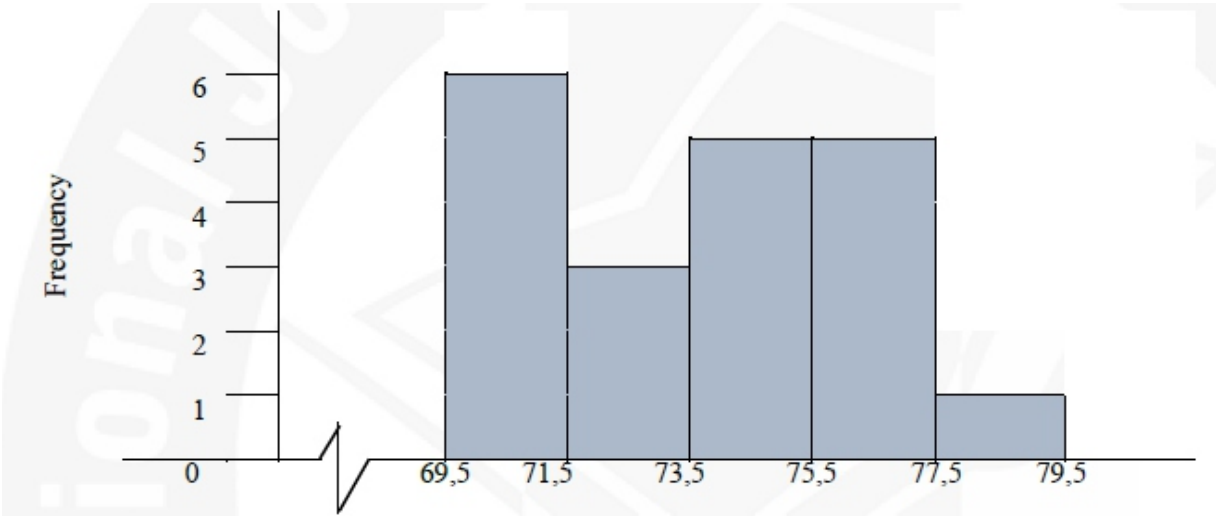

Chart 06: Histogram Score of the Tendency for Deviant Behavior among the Students Given Social Reconstruction Learning Model with Character Education and Having Low Social Interaction with Tourists

The means of the tendency for deviant behavior among the students given conventional learning model and low interaction with tourists is 71,750 and the standard deficiency is 2,197. Thus, the tendency is very low as it is under 76 or below the ideal score. The histogram below shows this.

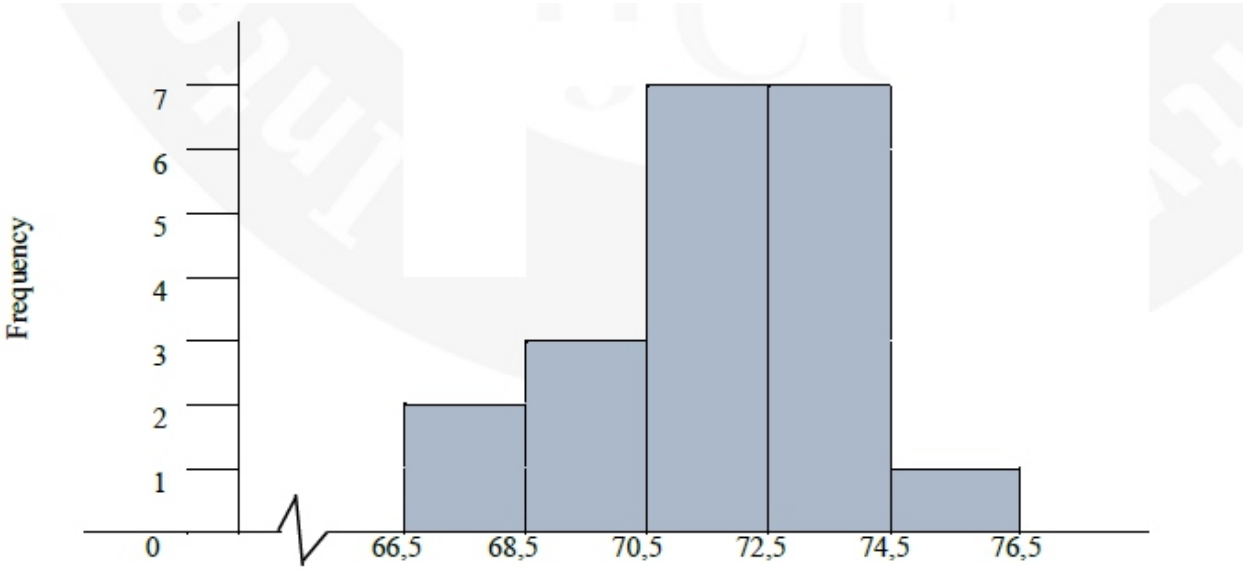

Chart 07: The Histogram Score for the Tendency of Deviant Behavior among the Students Given Conventional Learning Model and Having Low Social Interaction with Tourists

The hypothesis test suggests that there is the difference in the tendency for the student's deviant behavior, between those receiving social reconstruction learning model and character education, and those receiving the conventional model, among the students with low interaction with tourists. Seen from the

means, among the students having low tourist interaction, the tendency of deviant behavior is higher with the students receiving social reconstruction learning model than with the ones receiving the conventional model.

Low interaction with tourists could affect the life of the society in general, in terms of the internalization of values, imitating, suggestiveness, identification, sympathy with others.

Some teaching for proper behaviors found within the social reconstruction learning model should become a filter for the influence of tourist interaction that may affect the students' behaviors. The social setting as proposed by Vygotsky could be reconstructed through the practice of silent sitting, which is an effective means for affirming the subconscious mind and values of humanity as they are required in the study of civics education.

The social reconstruction model with character education invites students to be actively engaged in the process of education. The contextual and constructivist climate is the soul for its model, with which the students find what they study to be related to their life. This is going to help them understand things in the classes more easily as well as straightly practice all in the societies. Thus, the social reconstruction model could optimize the student's memories through the contextualization. Based on the hypothesis and theory testing, it concludes that among the students having low social interaction with tourists, those who received the social reconstruction learning model, have higher tendency to misbehave than those who received conventional learning model.

This conclusion is supported by the means showing that among the students with low tourist interaction, the tendency for deviant behavior of those receiving social reconstruction learning model is higher than those receiving conventional model.

4. Conclusion

Based on the hypothesis testing with two paths-variant analysis it is concluded that there is some effect of interaction between the learning model and social interaction with tourists to the tendency for deviant behavior among students. With the students who have a high frequency of interaction, and receiving social reconstruction learning model, the tendency is lower when compared to those receiving conventional learning model. And among the students having low tourist interaction, the tendency for deviant behavior among those receiving conventional learning model is higher when compared to those receiving social reconstruction with character education model.

Acknowledgements

I express my thankfulness to the Almighty God who has granted me this chance and ability to finish this article. My thanks also go to my friends who contributed to my research. I especially express my gratitude to Prof. Dr. I Wayan Suastra, M.Pd who gave me advice and motivation for my personal development. Without their words and supports this cannot be here. May this article be found meaningful to the readers.

References

1. Arends, Richard I, 2008. Learning to Teach, Belajar untuk Mengajar, Edisi ketujuh, Buku dua (Terjemahan: Helly Prajitno Soetjipto dan Sri Mulyantini Soetjipto).
2. Buchori, M. 2001, Pendidikan Antisipatoris, Yogyakarta; Kanisius.
3. Brian C. Kelly, Emily Harris & Mike Vuolo. Psychosocial Influences of the Escalation of Deviance: The Case of Prescription Drug Sniffing. Journal Deviant Behavior Volume 38, 2017 - Issue 9, Pages 941-956 | Received 26 Apr 2016, Accepted 30 Jun 2016, Published online: 06 Oct 2016
4. Chae Mamayek, Raymond Paternoster & Thomas A. Loughran. Self-Control as Self-Regulation: A Return to Control Theory, Journal Deviant Behavior Volume 38, 2017 - Issue 9, Pages 895-916 | Received 13 Apr 2016, Accepted 13 Jun 2016, Published online: 30 Sep 2016
5. Cohen, Eric., 2001, Toward a Sociology of International Tourism. Social Research.
6. Cole, Beth dkk., 2009, Guiding Principles for Stabilization and Reconstruction. Washington: United State Institute of Peace Press.
7. Dantes, Nyoman, 2012, Metode Penelitian. Yogyakarta: CV. Andi Offset.
8. Darmiyati & Suyanto, 2008, Humanisasi Pendidikan (Menemukan Kembali Pendidikan yang Manusiawi). Yogyakarta: Bumi Aksara.
9. De Kadt, E.. 1979, Tourism: Passport to Development? Oxford: Oxford University Press.
10. Jack R. Fraenkel dan Norman E. Wallen, 2010, How To Design and Evaluate Research in Education, New York: McGraw-Hill.
11. Jumsai Na Ayudhya, Art Ong, 2003, A Development of The Human Values Integrated Instructional Model Based on Intuitive Learning Concept. Chulalongkorn University, Bangkok, Thailand.
12. Lasmawan, 2010, Menelisik Pendidikan dalam Perspektif Kontekstual Empiris. Singaraja: Mediakom Indonesia Press Bali.
13. Lickona, 2013, Educating for Character: How Our Schols Can Teach Respect and Responsibility: Mendidik Untuk Membentuk Karakter: Bagaimana Sekolah Dapat Mengajarkan Sikap Hormat dan Tanggung Jawab. (Penerjemah: Juma Abdul Wamaungo, Ed. Uyu Wahyudi dan Suryani). Jakarta: Bumi Aksara.
14. Oktaviyanti, Sri Safitri., 2013, Dampak Sosial Budaya Interakasi Wisatawan dengan Masyarakat Lokal di Kawasan Sosrowijayan, Perkembangan Kultur Sekolah. Yogyakarta: Perpustakaan Nasional, Jurnal Nasional Pariwisata, Volume 5, Nomor 3, Desember 2013 (201 - 208) ISSN: 1411-9862 DOI: http://dx.doi.org/ 10.22146/ jnp.6693
15. Pranata, R, I.W.Lasmawan, A.A.I.N Marhaeni, Pengaruh Implementasi Model Rekonstruksi Sosial Vigotsky Dengan Teknik Scaffolding terhadap Sikap Sosial dan Prestasi Belajar IPS. e-Journal Program Pascasarjana Universitas Pendidikan Ganesha, Program Studi Pendidikan Dasar (Volume 3 Tahun 2013)
16. Sugiyono, 2011, Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D, Bandung: Alfabeta.
17. Tashadi. 2014, Dampak Pengembangan Pariwisata terhadap Kehidupan Sosial Budaya DIY. Yogyakarta: Departemen Pendidikandan Kebudayaan.
18. Wuryati, Wuryati; Astuti, Tri Marhaeni Pudji; Rachman, Maman. Fenomena Perilaku Menyimpang Remaja Di Kecamatan Rowosari Kabupaten Kendal. Journal of Educational Social Studies, [S.l.], v. 1, n. 2, nov. 2012. ISSN 2252-6390. Available at: <http://journal.unnes.ac.id/sju/index.php/jess/article/view/733>. Date accessed: 25 dec. 2016.

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The Degree of Subjective Complaints of Students Practice in Mechanical Technology Laboratories

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ABSTRACT

The working practice of the engineering students is part of the learning process that is irreducible and indispensable. The composition of lecturing between theoretical and practical one is 40% to 60%. With this condition, the students spend more time at the laboratory. Generally, the students perform in the laboratory work by standing position. The design of research is observational cross-sectional. The method applied is observation, interview and measuring. The subjects of research are practicing students amounting to 21 students. Referring to the analysis of statistical test or Wilcoxon signed ranks test, the difference of effect of work position is significant, namely $p < 0.05$ towards musculoskeletal disorders (MSDs) before and after working. The quantity of the average complaint after working is score 44.62 ± 9.47. The result of Wilcoxon signed rank test shows that there is significant different effects of standing work position, namely $p < 0.05$ towards fatigue generally before and after working. The degree of the working pulse is on the average of 110.78 ± 17.80 bpm (beats per minutes) which can be categorized into the medium workload. Using paired t-test, the result is $p < 0.05$.

Keywords: Students Practice; Subjective Complaints; Mechanical Technology Laboratories;

1. Introduction

The working practice is the core of the learning process in the Engineering Department of Bali State Polytechnic. The working practices involve turning, cutting, scraping, welding, grinding training and so on. Almost all working practices are conducted in standing position. With eight hours a day, it can be predicted that there will be a lot of disorders, especially the subjective ones such as the musculoskeletal disorders and general fatigue as well as the workload.[1]

Nowadays, at the general workshops and construction ones, especially those located in Denpasar and Badung regency have been devised to decrease the disorders resulted from works. The efforts are such as providing working seat for the operator, short-term rest or supplying water while practicing. To be able to compete, hence, the industry has to be able to give the best service to the customers, have a

comfortable working atmosphere, the interesting and friendly performance of the students, fast service, and the products fulfill the customer's expectation.[2,3] Consequently, the efficiency and productivity of work must be accelerated optimally to reach the above goal. The improvement of the work productivity can be reached by pressing all kind of input into the minimum level and increasing output into the maximum one.[4] The input, especially related to resources, has to be employed optimally. To reach such as condition, the students must be facilitated with comfortable, safe, and efficient work facilities. The work facilities comprise of workstation, work environment and work organization that is the capability, skill, and limitation of students in the hope that the productivity can be reached at the highest level.[5,6] Based on the background above, we can formulate the following problems. Is there any difference of work position effect before and after working towards the musculoskeletal disorders, general fatigue and workload on the students and how big is the effect of standing work position towards the musculoskeletal disorders, general fatigue, and workload on the students?

Research Methods

This research is conducted at the mechanical workshop of the engineering department of the state polytechnic of Bali Jimbaran, dated 11-15 January 2017, at 08.00 until 15.00 WITA. The research design is performed with the observational cross-sectional. The work process comprises cutting, forming and finishing. The number of students or students observed are 21 students who are all male, aged 18-21 years old, being on the third semester.

The standing work position is frequently performed by the students at the cutter station. They rarely perform the work with sitting position as they consider it can slow the finishing process of working. They do not realize that such condition can affect the musculoskeletal disorders, fatigue, and workload. According to Habibi and Soury[8] and Chaff's,[9] the standing position is an alert position physically and mentally. Therefore the work activity performed is faster, stronger and more careful. Standing is more tiring than sitting, and the energy spent when standing is more, 10-15 % compared to sitting.

The tools used to retrieve data consist of fatigue questionnaire and Nordic body map questionnaire, Japanese olympus FE-15 digital camera for documentation, table of psichrometry to determine relative humidity by % unit, stop watch - British-made diamond brand with seconds units, used for recording the time of the pulse, as well as the working time of the subject, sound level meter (measuring the noise), lux meter (for measuring the intensity of light), black globe thermometer (measuring radian temperature), sling thermometer (measuring wet temperature and dry temperature), anemometer (to measure wind speed).

3. Results and Analysis

The descriptive analysis results of average, stretches of time, the standard deviation of the subject characteristics that involve age, height, weight, and body mass index is presented in table 1 below.

Table 1 Characteristics of subjects

No	Variable	N	Average	SD	Range
1	Age (year)	21	19.48	0.68	18.00 – 21.00
2	Height (Cm)	21	157.48	3.98	150.00 – 166.00
3	Weight (kg)	21	56.62	3.47	49.00 – 67.00
4	Body Mass index	21	22.88	1.98	19.88 – 29.77

Description: SD = standard of deviation

The average age of subjects is 19.48 ± 0.68 years old, which means within productive ages. Body mass index (BMI) is a comparison of weight (kg) and height quadrate (m). The average of body mass index of subjects is 22.88 ± 1.98 kg/m^2, which shows a normal body mass. According to Erensal and Albayrak,[10] bodies mass index of the Indonesian is considered to be normal if it reaches an average value of 18.5 – 25.0 kg/m^2, therefore body mass index of the subjects is considered to be normal as it is within the value range.

To minimize the effect of musculoskeletal disorders, fatigue, and workload, consequently, the work must be designed in such a way that it does not reach forth, bend down, or performing unusual positions of the head.

Figure 1. Work position of students

The result of normality test to the environmental condition data, both for the working environment condition during before and after activity shows that normal distribution data is light intensity data, while dry temperature data, wet temperature, humidity, ball temperature, wind speed, noise and WBGT index not normally distributed. If one of the data is not normal then the test using non-parametric test

equipment. Thus the data were tested by Mann-Whitney test. The results of data analysis of environmental conditions in the workshop of the crafters can be seen in Table 2.

Table 2 Environment conditions

Variable	Period I		Period II		Value	Value
	Average	SD	Average	SD	Z	p
Dry temperature (°C)	30.14	0.78	30.11	1.12	-1.621	0.068
Wet temperature (°C)	26.61	1.11	26.47	1.23	-1.127	0.121
Relative humadity (%)	78.68	4.50	78.72	4.55	-0.639	0.361
WBGT index (°C)	27.67	1.13	27.62	1.22	-1.266	0.071
Wind speed (m/min)	13.65	3.06	13.57	2.78	-1.012	0.387
Light Intensity (lux)	265.00	4.81	268.00	6.77	-0.143	0.865
Ball temperature (°C)	32.27	0.91	31.81	0.88	-1.296	0.064
Noise (dBA)	76.837	6.45	77.11	6.76	-0.213	0.654

Environmental conditions consisting of dry temperature, wet temperature, relative humidity, wind speed, light intensity, ball temperature and noise also greatly affect the subject condition. The data of light intensity, wind speed and noise are measured at five points and at different times. The result of data analysis shows that environmental condition seen from dry temperature, wet temperature, ball temperature, relative humidity, wind speed, light intensity and noise before and after the activity is no different. It is said that because all values $p > 0.05$ or it can be said that (A) the average of dry temperature in the study before activity is not significantly different with the average of dry temperature at the time of observation after activity; (B) the average of wet temperature at observation before activity was not significantly different with mean wet temperature of after activity; (C) the average of sphere temperature at observation before activity was not significantly different with mean of ball temperature of after activity; (D) the relative humidity average at observation before activity was not significantly different with the mean of relative humidity during observation after activity; (E) the average of wind velocity in observation of before activity is not significantly different with mean of wind velocity of after activity, and (f) average of noise, WBGT and light intensity at observation before activity is not significantly different with mean of noise, WBGT and light intensity of after activity.

To find out the musculoskeletal disorders of the students at the cutter station, one of the ways is by filling questionnaire of Nordic Body Map before and after working with the Likert scale scored from 1 to 4. From the tabulation data, the musculoskeletal disorders are analyzed descriptively and by normality test supported with the application program of SPSS for Windows. The result of data tabulation of musculoskeletal disorders before and after working with statistical analysis can be seen in table 3 below.

Table 3 Results of descriptive analysis and normality test

No	Variable	n	Average	SD	Normality test K-S test
1	Musculoskeletal disorders before working	21	28.67	1.06	p = 0.002
2	Musculoskeletal disorders after working	21	44.62	9.47	p = 0.515
3	Difference before and after working	21	15.95	9.59	p = 0.000

The table 3 above shows that data of musculoskeletal disorders before working is not distributed normally p=0.002 (p<0.05). As there is one of data is not distributed normally, therefore the nonparametric test is applied namely the Wilcoxon signed test. The result is, there is a significant difference standing work position effect towards musculoskeletal disorders before and after working on the students with p=0.000 (p<0.05).The average amount of effect of standing work position towards musculoskeletal disorders score is 44.62 ± 9.47. Musculoskeletal disorders felt according to the percentage per item of disorders, with the details (a) 100% stiff on the upper and lower neck, right shoulder, back, right upper arm, waist, right elbow, right wrist, right hand, right and left thighs, right and left knees, right and left calves, right and left tarsus, and right and left legs; (b) 91,67 % aches on left shoulder and left hand; (c) 50% aches on left elbow and left tarsus.

Such condition results from the standing work position of the students that is performed continuously and repeatedly. The complaint of skeletal muscles occurs as the muscle contracts exceedingly due to the excess of workload and long duration of loading.[3,11] The muscle disorders may not occur if the muscles contraction is ranging from 15-20% of the maximum muscle power. If the contraction of the muscle is over 20%, so the blood circulation to the muscle will reduce according to the contraction level that is influenced by the capacity of energy needed.[9,12] The oxygen supply to the muscle decreases, the carbohydrate metabolism process is blocked, and as a result, the accumulation of lactate acid occurs which results in muscle aches.[13,14] To obtain data on fatigue, the questionnaire is used which contains 30 items of general fatigue before and after work.[4,10] The results of the questionnaire applies the Likert scale with scores from 1 to 4. The result of tabulation data and general statistical fatigue test before and after working with the students is obtained with the descriptive analysis and normality test. For more details, the analysis results of the general fatigue before and after working are clearly defined in table 4.

Table 4 The results of descriptive analysis and normality test

No	Variable	n	Average	SD	Normality test K-S test
1	General fatigue before working	21	30.00	0.00	
2	General fatigue after Working	21	53.90	6.71	P=0.17
3	Difference between before and after working	21	23.90	6.71	P=0.17

Seen from Table 4, it is ascertainable that one of the data of general fatigue before working is not distributed normally as p is zero. Therefore the general fatigue data is tested non-parametrically with the Wilcoxon signed rank test. The data analysis data is revealed that there is a significant difference of standing position effect towards the general fatigue before and after working on the students, in which p=0.000 (p<0.05). The average amount of the standing position effect towards general fatigue on the students is 53.90 ± 6.71. Based on the questionnaire of 30 general fatigue items, it can be grouped into 3 (three) namely (a) group of questions 1-10 showing the attenuation of activity of 77%, (b) group of questions 11-20 showing the attenuation of motivation of 86% and (c) group of questions 21-30 showing the general physical fatigue description of 53%.

The fatigue results from the body condition that accepts excessive workloads, continuously, repeatedly and also the standing position as well as the uncomfortable working environment. The fatigue will be recover if a short-term rest is applied to the temporary fatigue. The permanent fatigue will be recovered if a one-day sleeping rest is taken.[15,18] The quantity of workload of the students can be discovered by calculating the pulse when having a rest and working with the ten-pulse method. The calculation is done with the formula = (60 x 10)/t bpm.[19,21] The results of the calculation of the pulse when resting, and when working then are analyzed with statistical tests. Data is analyzed descriptively and then continued with normality tests. If the data is normally distributed, the paired T-test is applied, and if the data is not distributed normally, then the Wilcoxon signed ranks tests is applied. For more details, table 5, shows the results.

Table 5 Descriptive analysis results and normality test

No	Variable	N	Average	SD	Normality Test K-S Test
1	Pulse when resting	21	72.27	8.15	p = 0.108
2	Pulse when working	21	110.78	17.80	p = 0.145
3	Working pulse	21	38.51	18.84	p = 0.504

4. Conclusion

Based on the previous discussion can be concluded some of the essences of research to answer the existing problems, as follows. Based on Wilcoxon signed rank test, it shows that there is a difference of effect of standing work position significantly towards the musculoskeletal disorders before and after working on the students with p=0.02 (p<0.05). The degree of standing work position effect on the students is on the average score of 72.27 ± 8.15. The musculoskeletal disorders are suffered according to the percentage per item of complaint of ache with the details. (a) 100% stiff on the upper and lower neck, right shoulder, back, right upper arm, waist, right elbow, right and left wrist and right and left feet.

(b) 91.67 % aches on left shoulder, and right hand. (c) 50% aches on the left elbow and left wrist. Based on the analysis of Wilcoxon signed rank test, it is ascertainable that the difference of standing work position effect is significant towards general fatigue before and after working on the students with $p = 0.002$ ($p<0.05$). The degree of the effect of standing work position towards general fatigue is on the average of 53.90 ± 6.71.

Based on the questionnaire of 30 items of general fatigue can be grouped into 3 (three) namely (a) group of question 1-10 showing activity attenuation of 66.67 %; (b) group of questions 11-20 showing a motivation attenuation of 52.08% and; (c) group of questions 21-30 showing general physical fatigue description of 54.17%. Based on paired t-test, it is ascertainable that there is a difference of pulse beat while having a rest and working on the students with $p = 0.00$ ($p<0.05$). The degree of the effect of the standing work position towards the workload on the students is on the average of 110.78 ± 17.80 bpm and can be categorized into a medium workload. The students can accept hard and soft of the workload depending on the length they perform the activity of work which is adjusted to their capability. The workload can be influenced by the continuous, repeating works and the standing position while working, as well as the working environment that is hot.

Acknowledgements

The author would like to thank the Director of the Bali State Polytechnic which has helped facilities the research. The author also wishes to thank the Chairman of P3M PNB who have helped and facilitated the process of writing and reporting of the research.

References

1. Chan, A. D., & Fishbein, J. (2009). A global engineer for the global community. The Journal of Policy Engagement, 1(2), 4-9.
2. Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of retailing, 64(1), 12-40.
3. Hignett, S., Wilson, J. R., & Morris, W. (2005). Finding ergonomic solutions—participatory approaches. Occupational Medicine, 55(3), 200-207.
4. Bubb, H. (2006). A consideration of the nature of work and the consequences for the human-oriented design of production and products. Applied ergonomics, 37(4), 401-407.
5. Chandna, P., Deswal, S., & Chandra, A. (2010). An anthropometric survey of industrial workers of the northern region of India. International Journal of Industrial and Systems Engineering, 6(1), 110-128.
6. McCann, M. (1996). Hazards in cottage industries in developing countries. American journal of industrial medicine, 30(2), 125-129.
7. Epstein, Y., & Moran, D. S. (2006). Thermal comfort and the heat stress indices. Industrial health, 44(3), 388-398.
8. Habibi, E., & Soury, S. (2015). The effect of three ergonomics interventions on body posture and musculoskeletal disorders among stuff of Isfahan Province Gas Company. Journal of education and health promotion, 4.
9. Chaffin, D. B. (1974). Human strength capability and low-back pain. Journal of Occupational and Environmental Medicine, 16(4), 248-254.
10. Erensal, Y. C., & Albayrak, E. (2007). The impact of micro-and macroergonomics considerations on

appropriate technology transfer decisions in developing countries: The case of Turkey. Human Factors and Ergonomics in Manufacturing & Service Industries, 17(1), 1-19.
11. Pandit, S., Kumar, P., & Chakrabarti, D. (2013). Ergonomic problems prevalent in handloom units of North East India. International Journal of Scientific and Research Publications, 3(1), 1-7.
12. Carrivick, P. J., Lee, A. H., & Yau, K. K. (2002). Effectiveness of a participatory workplace risk assessment team in reducing the risk and severity of musculoskeletal injury. Journal of Occupational Health, 44(4), 221-225.
13. Alamgir, H., Li, O. W., Yu, S., Gorman, E., Fast, C., & Kidd, C. (2009). Evaluation of ceiling lifts: transfer time, patient comfort and staff perceptions. Injury, 40(9), 987-992.
14. Das, B., & Sengupta, A. K. (1996). Industrial workstation design: a systematic ergonomics approach. Applied Ergonomics, 27(3), 157-163.
15. Mitchell-Ketzes, S. (2003). Optimising business performance through innovative workplace strategies. Journal of Facilities Management, 2(3), 258-275.
16. Grandjean, E., & Kroemer, K. H. (1997). Fitting the task to the human: a textbook of occupational ergonomics. CRC press.
17. Widana, I. K. (2012). Redesigning tractors for reduced soil cultivation and increased productivity in the agricultural sector in Bali Indonesia. Ergonomics in Asia: Development, Opportunities, and Challenges, edited by Shih, YC., Liang, SF. M, 31-35.
18. Dutta, T., Holliday, P. J., Gorski, S. M., Baharvandy, M. S., & Fernie, G. R. (2012). A biomechanical assessment of floor and overhead lifts using one or two caregivers for patient transfers. Applied ergonomics, 43(3), 521-531.
19. Widana, I. K. (2013). Redesain Traktor Capung Meningkatkan Kesehatan dan Kepuasan Petani di Subak Teba Mengwi Badung. Jurnal Energi dan Manufaktur Vol, 6(2), 95-205.
20. Nishanth, R., Muthukumar, M. V., & Arivanantham, A. (2015). Ergonomic workplace evaluation for assessing occupational risks in multistage pump assembly. International Journal of Computer Applications, 113(9).
21. Chung, M. K., & Choi, K. (1997). Ergonomic analysis of musculoskeletal discomforts among conversational VDT operators. Computers & industrial engineering, 33(3-4), 521-524.
22. Vivas, F. E. V., Cuello, R. L. C., Macías, D. M., & Rosado, G. P. (2017). Elaboration of Essential Oil from the Oregano for Medicinal Use Sheet. International Journal of Physical Sciences and Engineering (IJPSE), 1(1), 81-87.
23. Ogu, G. I., & Orjiakor, P. I. (2017). Microbiological and Nutritional Qualities of Fermented Melon Seed Shells. International Journal of Life Sciences (IJLS), 1(2), 1-9.
24. Arcentales, G. A. T., Lucas, M. A. P., Guerrero, J. A. C., & Gordín, R. G. (2017). Evaluation for the Reduction of NH3 Contamination Risks. International Journal of Life Sciences (IJLS), 1(2), 10-17.
25. Wartawan, P. G. (2017). The Effectiveness of the Use of Portfolio Assessment by Controlling Prior Knowledge to Enhance Scientific Attitude among Senior High School Students. International Journal of Physical Sciences and Engineering (IJPSE), 1(3), 9-18.
26. Mataram, I. K. A., Laraeni, Y., & Agustini, N. P. (2017). Formula Kahiguru High Protein for Making of Food Supplement as Elimination Stunting. International Journal of Life Sciences (IJLS), 1(3), 14-27.
27. Pérez, A. V., Briones, V. V., Viteri, C. G. V., & Gámez, M. R. (2017). Iberoamerica in Network, GIS & TIC. International Journal of Social Sciences and Humanities (IJSSH), 1(3), 108-117.
28. Simpen, I. N., Redana, I. W., Pujianiki, N. N., & Umratul, I. (2017). Aquifers Selection to Aid Geoelectrical Methods on Drilled Well Building near the Beach. International Journal of Physical Sciences and Engineering (IJPSE), 1(3), 41-50.
29. Sulistiawati, N. P. A., Kartini, L., & Yuliartini, M. S. (2017). Identification of Development Phases and Changes Shoots Flowering Orange Siam Plants. International Journal of Life Sciences (IJLS), 1(2), 28-38.
30. Suryani, S. A. M. P., & Arya, I. W. (2017). Improving the Quality of Tilapia (Oreochromis niloticus) With consumption measures Leaf Extract Neem (Azadirachta indica A. Juss) as Antiparasitic. International Journal of Life Sciences (IJLS), 1(3), 28-37.
31. Alcivar, M. S. G., Pérez, A. V., Gilert, B. I. C., & Gámez, M. R. (2017). Zeolite in Wastewater Decontamination as a Local Development Solution. International Journal of Life Sciences (IJLS), 1(3), 1-13.
32. Nahak, S. (2017). Criminal Law Policy on Land Functions Impacting Climate Change in Indonesian National Law Perspective. International Journal of Social Sciences and Humanities (IJSSH), 1(3), 28-39.
33. Omer, A. M. (2017). Sustainable Development and Environmentally Friendly Energy Systems. International Journal of Physical Sciences and Engineering (IJPSE), 1(1), 1-39.
34. Korry, P. D. P., Yulianti, N. M. D. R., & Yunita, P. I. (2017). Increase the Attractiveness of Local Fruits to the Buying Intention of Hedonic Consumers in Bali. International Research Journal of Management, IT and Social Sciences (IRJMIS), 1(1), 9-15.

35. Mathur, S., & Khanna, K. (2017). Sustainability Practices As A Competitive Edge In Five Star Hotels Of Delhi: A Study on Manager's Perception. International Research Journal of Management, IT and Social Sciences (IRJMIS), 1(1), 1-8.

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