

# The Application of Fishbone in History Subject

1<sup>st</sup> Yofita Sandra  
Visual Art Department  
Universitas Negeri Padang  
Padang, Indonesia  
[yofita.sandra@fbs.unp.ac.id](mailto:yofita.sandra@fbs.unp.ac.id)

2<sup>nd</sup> Yusron Wikarya  
Visual Art Department  
Universitas Negeri Padang  
Padang, Indonesia  
[yusron.wikarya@fbs.unp.ac.id](mailto:yusron.wikarya@fbs.unp.ac.id)

3<sup>rd</sup> Zubaidah  
Visual Art Department  
Universitas Negeri Padang  
Padang, Indonesia  
[zubaidah@fbs.unp.ac.id](mailto:zubaidah@fbs.unp.ac.id)

4<sup>th</sup> Z. Mawardi Effendi  
Education Technology Department  
Universitas Negeri Padang  
Padang, Indonesia  
[zmeffendi@gmail.com](mailto:zmeffendi@gmail.com)

5<sup>th</sup> Atmazaki  
Indonesian Language Department  
Universitas Negeri Padang  
Padang, Indonesia  
[almazaki@fbs.unp.ac.id](mailto:almazaki@fbs.unp.ac.id)

6<sup>th</sup> Darmansyah  
Civil Engineering Department  
Universitas Negeri Padang  
Padang, Indonesia  
[estigadarman2013@gmail.com](mailto:estigadarman2013@gmail.com)

**Abstract**— This research was done based on students' need to comprehend western art development and it's impact to Nusantara's achievement. Most of students has limitation in searching information about subject matter not only because the limitations of book resources but also limitation in Indonesian reference in internet. Meanwhile the students aware that western art history subject matter become the most important information to be link to another subject matter when creating works of art, official or not official setting. To accommodate this effort, lecturer convince student that the fishbone method can be used to analyze the development of art creation based on it's time line history. Data were gathered by observation note made by lecturer, student's exercise, and paper and semester score from two classes; experiment and control. Hypotheses tested by using SPSS.16 and find the Sig. (2-tailed) 0,00 smaller than 0,05. It means that null hypothesis was rejected and alternative hypotheses was confirm. Fishbone method were proved can enhance student ability in mastered western art history easier.

**Keywords**—*Works of art analysis, fishbone method, art history subject matter.*

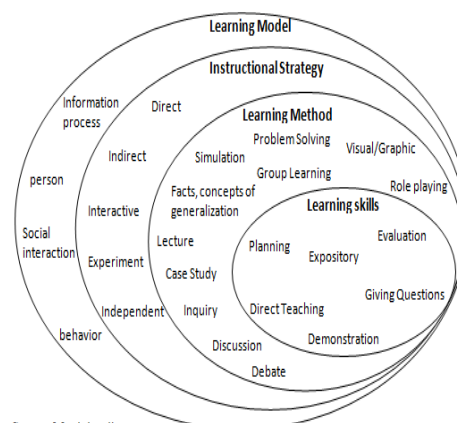
## I. INTRODUCTION

The development of learners' creativity plays an important role in the framework of national education objectives as mandated in article 3 of Law of the Republic of Indonesia number 20 of 2003 on national education system. The creativity in question is not only based on the development of the lesson material in theory, but also supported by practice activities. The development of the material as had been done by the lecturer of the subject of Western Art History had involved students' activity both in theory and practice. Specifically for theoretical studies, the lecturer presented the material in accordance with the curriculum for Higher Education on History of Art subject, and for the practice stage, students dissected works of art through deep analysis per period of its historical development in the form of paper and presented it in front of the class.

According to the Law number 14 of 2005 on teachers and lecturers, and Government Regulation number 19 of 2005 on national education standard, the minimum level of education for prospective teachers is bachelor degree. Art students who will become teachers must be equipped with the knowledge and the practical understanding of the birth of art itself. Started from prehistoric art to modern art and to

post modern art, it cannot be denied that western world had a great influence on art world, and the lecturer lecturing the subject had designed it in an integrated syllabus to be developed in classroom learning.

However, the expectations that wanted to be realized in the implementation of art history learning were not in accordance with the reality faced by lecturers. There were many students who did not concentrate on the materials presented by the lecturer, even some felt sleepy. Some students were even known to play hooky in face-to-face lectures. Things like these then triggered students' low semester final scores on the subject of Western Art History.



Source: Martiningsih

Based on the identification of the problem above, the discussion of this study is limited only for lecturers who have never directed students to use fishbone diagram method to solve problem in analyzing art works based on their development period.

The formulation of the research problem is: Can the application of fishbone method in analyzing art works based on their historical development period on the subject of Western Art History improve semester final score of art students from Art Department of FBS-UNP Padang?

Index of achievement as a form of evaluation of learning outcomes is obtained by means of exams or tests. The exam is one way to measure student learning outcomes, whereas the decision of national education minister clearly states that students' activities and development are assessed periodically in the form of tests, task performances, and observation by the lecturer. Exams or tests only measure the

achievement of learning objectives in cognitive domain. How do we measure the achievement of learning objectives in psychomotor and affective domains? or in general, how do we measure the achievement of certain competencies that have been formulated?

Test or examination is only one of the measurement instruments used to evaluate learning outcomes by using a sample of questions whose answers have been structured. If students' answers are different, then they are wrong. From the result of students' answer is obtained a measure (numeric score) of students' learning outcomes. Assessment is a measurement using a specific measuring instrument, for example test/exam or other assessments such as task performances and observation. From the result of the measurement obtained quantitative data of the things measured (in the form of score based on certain criteria). Like tests, the measurement result does not determine whether a student passes, while evaluation is a decision-making based on the results of the assessment.

Learning method is a concept of learning strategy. To implement the strategy, certain various learning methods are used. In other words, strategy is a plan in achieving something while method is a way in achieving something [1]. Therefore, a learning method can be interpreted as a way used to implement the plan which has been prepared in the form of real and practical activities to achieve the objective of the learning. There are several learning methods that can be used to implement learning strategies, among others: (1) lectures; (2) demonstrations; (3) discussions; (4) simulations; (5) laboratory; (6) field experience; (7) brainstorming; (8) debates; (9) symposiums; and etc.

Next, the learning method is translated into learning techniques and styles. Therefore, a learning technique can be interpreted as a way to implement a method specifically. For example the use of lecture method in a class with a relatively large number of students needs its own technique which is different from the lecture method used for a class with limited number of students. Similarly, the use of discussion method for a class with relatively active students is different from the discussion method used for a class whose students are relatively passive. In this case, teachers can vary the techniques used despite being in the corridor of the same method.

On the other hand, learning tactics are a person's style in carrying out certain learning methods or learning techniques individually. For example, two people who both use lecture methods may apply different tactics. In presenting the material, one lecture may tend to be interspersed with humor because the lecturer has a high sense of humor, while the other, despite the lack of humor, may use a lot of electronic teaching aids because the lecturer masters in the field. The uniqueness of each teacher will be seen in the style of learning according to the teacher's ability, experiences, and personality traits. In this tactic, learning will be both knowledge and art (tips).

The components of learning are the objective, the material, the method, and the learning aid and the assessment [2]. "Learning methods used by teachers are almost nothing in vain because the methods produce results

in the near future or in a relatively long time. Results produced in near future are called direct effects (instructional effects), while results seen in a relatively long time are called effects of accompaniment (nurturing effects) which usually relate to attitudes and values [3].

The Fishbone method usually appears in the form of diagram. The diagram is usually used to find the element of cause which is suspected to cause the problem. The diagram is often referred to as a fishbone diagram because the shape of the structure resembles the bone of a fish. The right part of the diagram usually illustrates the effect or the problem, while the branches of the fish bones illustrate the cause. Generally, the result part of this diagram is related to quality issues, while the causative elements usually consist of the factors of human, material, machine, method, and environment.

The tools developed are 7 tools of quality control (the 7 QC Tools), namely: (a) check sheet, (b) histogram, (c) Pareto diagram, (d) stratification, (e) Scatter diagram, (f) control map, (g) Fishbone diagram (diagram of cause and effect). On fishbone diagram, it can be translated some important points of concern to study the cause and effect relation tailored to the needs to analyze the presence of art work as well as the trend and the style that it carries in which the first steps to do are: (1) to agree on the problem statement, (2) to identify categories which become the attribute of creating a stream in artwork based on the background and the setting of historical events, (3) to find out the causes of potential effects by brainstorming, (4) to examine and to agree on the most likely causes.

## II. METHOD

The study of the use of fishbone method in analyzing art works based on their historical period development on the subject of Western Art History was an experimental study. The method had never been used before in the learning implementation in the class. Therefore, the research variables which were set consisted of independent variable and dependent variable. The independent variable in the research was the fishbone method and the dependent variable was the semester final score on the subject of Western Art History of the students from Art Department enlisted on January – June 2016. One class was set as the experimental class, while one other was set as the control class.

Then, the research design that was considered suitable in this research was *posttest only control group design* [4]. The research design can be described as follows:

Table 1. Research Design

<i>R</i>	<i>X</i>	<i>O</i>
<i>R</i>	<i>Y</i>	<i>O</i>

*R* : randomly chosen sample

*X* : treatment in the experimental class when the fishbone method was applied

Y : treatment in the control class without implementing specific learning strategies  
O : the assessment of the final exam results of the students taking Western Art History subject.

The research design can be elaborated in details in the form of learning implementation matrix which differentiate the treatments to both groups (control group and experimental group), as stated on the learning outcomes of the subject. After the students attended the lectures for one semester, they were expected to write a summary of the learning in the form of scientific paper.

Table I. Data Collecting Technique

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Semester Final Assignment	Experimental Groups	Control Group
Lecture material	course syllabus varied with enrichment material	according to the course syllabus
Reading material	based on various references from various sources on the internet whose scheme could be described as fishbone	based on the same references as the lecturer with the schema of the ordinary frame of mind.
Activity section	dissecting the problem of artwork analysis with fishbone diagram	dissecting the problem of artwork analysis with pictures
Supporting information	Presenting in the front of the class using the media of fishbone diagram	Presenting in the front of the class using the media of pictures

The data were collected through Semester Final Test which covered assignment, participation, mid-semester test, and semester final test. The data collecting tools used in the research were a set of stationery such as pens, pencils, markers, as well as pictures created by each student who had successfully finished each end of the subject stages.

The data analysis used in the research referred to the use of the t-test formula. The use of the t-test referred to the comparison of the final score of the experimental class and the final score of the control class on the cumulative of final semester score.

### III.RESULT AND DISCUSSION

Using the program of SPSS 16, the comparison of both classes' semester exam result was as follows.

TABLE II. T-TEST TO COMPARE THE SCORE OF EXPERIMENTAL CLASS AND CONTROL CLASS

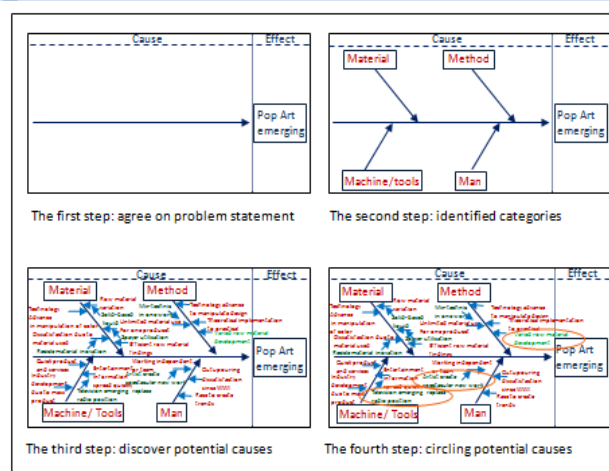
Independent Samples Test					
		Levene's test for Equality of Variances			
		F	Sig	t	df
Final semester Score	Equal Variances assumed	0,539	0,466	3,779	49
	Equal variances not assumed			3,824	48,704

To draw the conclusions of the hypothesis testing, besides comparing t-counted and the score on the t-table, in SPSS 16, the *sig* score can also be used. If *sig* is  $> 0,05$  then  $H_0$  was accepted, and if *sig* was  $< 0,05$  then  $H_0$  was rejected.

The data processing using SPSS 16 program showed that the *sig* score acquired (2-tailed) was  $0,00 < 0,05$ . Therefore, in accordance with basic decision-making in independent test of t-test sample, it can be concluded that  $H_0$  was rejected, and  $H_a$  was accepted.

The average score of experimental class was 78,64, while the control class's average score was 75,42. This indicates that the score of experimental class was higher than the control class's. The treatment given to the experimental class was considered as a factor that could encourage the average increase of the experimental class 'score. Moreover, the increase of the point gained by the experimental class was also because of the intense attention given since the process of the learning plan in the class until the implementation and the evaluation of the learning process.

Although at the beginning it was difficult to guide students to be able to analyze artworks according to its historical development period, by implementing Fishbone method, the problem can be solved. This might happen because it was easy to introduce students to the steps to design Fishbone diagram to analyze art work according to its historical period in Western Art History subject, such as: (1) to agree on the problem statement, (2) to identify categories which become the attribute of creating a stream in artwork based on the background and the setting of historical events, (3) to find out the causes of potential effects by brainstorming, (4) to examine and to agree on the most likely causes. A complete picture of the planning of fishbone diagram can be seen in Figure 2 as an example.



### IV.CONCLUSION

In general, it can be argued that the application of fishbone method in analyzing art works based on their historical development period in Western Art History subject is an essential need that is important to implement and follow up by lecturers and students anticipatively. The

diagram of the flow of cause and effect described in the form of fishbone will continue to grow as needs analysis used. At any given moment, in terms of visualization, Opportunities will open at different times if reviewed from economic, political, social, cultural, defense and security perspective. In other words, the application of this method deserves support, and, in the future, it can be applied on other similar subjects in Art Department of Language and Art Faculty of Padang State University.

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