

## **Development Of Mathematical Activities And Learning Cooperation Using Walk Gallery Methods In Vocational School**

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### **Abstract**

The purpose of the study was to determine the increase in student activity and cooperation in learning mathematics. The study was conducted at SMK Negeri 1 Salam, kelas X AHP 4. The sample taken was the entire study population. Data obtained from class teacher, documentation and activity questionnaire given to students. The method used is processing questionnaires with percentage calculation, this article will explain 1) the percentage of student activity questionnaire in following the lesson using the gallery walk. 2) method steps learning by using the gallery walk in the class. 3) identification of the strengths and weaknesses of using the gallery walk method. 4) documentation of mathematics learning activities using gallery walk. The results obtained were that the class became active in learning mathematics by using the gallery walk method. As evidenced by 38.8889% very active in participating in the lesson and 38.888% active, in participating in learning while 11.11% is quite active, the remaining 5.5% is less active and very less active.

**Keywords:** *activity, cooperation, gallery walk method.*

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### **Background**

Learning is one of the main keys in achieving education goals. Good learning is learning that takes place effectively and efficiently so that it can achieve a goal.

The teacher is the person most responsible for carrying out classroom learning. Whether or not the learning process in a class depends on the teacher's ability to do teaching professionally. Success or failure of the learning done by the teacher can be seen from the point of view of the process and the results achieved from the learning activities in the classroom.

Learning activities are needed by students to get maximum learning results. When students are passive, or only receive from teachers, there is a tendency to quickly forget what has been given. Therefore, certain devices are needed to be able to bind the information just received from the teacher. Active learning is one way to bind information that is then stored in the brain. Why is that? Because one of the factors that causes information to be quickly forgotten is the weakness of the human brain itself.

Learning only relies on the sense of hearing has several weaknesses, even though learning outcomes should be stored for a long time

The purpose of learning mathematics is to suppress the concepts of mathematics, structuring reason and attitude formation, ability to solve problems, communicate ideas and have an attitude of respecting the usefulness of mathematics in life to change student behavior. Changes in student behavior are seen at the end of learning and it is hoped that the changes lead to learning outcomes.

Transition of students from junior high school to high school will certainly bring some adjustments to each individual. When in junior high school they tend to receive anything from the teacher, whether it's assignments, notes, homework that demands their activities because there is a command from the teacher that is structured, but when they enter the high school level that implements the 2013 curriculum and requires them to look for material, analyze, up to conclude what they get on internet media that inevitably involves their peers to collaborate in these activities. From the junior high school level students who may be reluctant, at this high school level students are required to move to get the knowledge set in the curriculum in class x. (ten).

## **Theory Study**

### **1. Understanding activity**

Activities according to KBBI Ministry of Education and Culture (online) means activities, activities or work carried out in each part of the company. Anton M. Mulyono explained that activities are activities or activities. So everything that is done or activities that occur both physically and non-physically is an activity. According to Sriyono, activities are all activities carried out both physically and spiritually.

From the explanation of some of the above references, it can be concluded that activity is a person's activity carried out both physically and spiritually or physical or non-physical activities. We must understand that in effective learning, teachers must be able to provide learning activities that can provide opportunities for students to actively find out their knowledge. This means that in learning students must obtain or get the opportunity to learn. Students don't just sit still, listen then work on the questions. Moreover, students must get the opportunity to actively study.

Like the definition of learning which says that learning is a change in behavior caused by interactions between individuals and other individuals. Then this interaction is activity. In the context of learning, students must obtain interaction both with the teacher and the interaction between fellow students. Some experts explain the meaning of activity. The following is the explanation.

a. Sadirman (2006: 100)

Learning activity is an activity that is both physical and mental.

b. Hamalik (2009: 179)

Learning activities are activities carried out by students in learning activities.

From the discussion about the definition of one's own activities, self-learning and learning activities according to the experts, it can be concluded that learning

activities are individual or physical physical activities carried out in order to get change in a better direction (gaining knowledge and experience).

## 2. Activities In Mathematics Learning

Mathematics is a scientific discipline that lives and grows where truth is achieved individually and through a mathematical society. Mathematical learning humanely according to Siswono (2007: 2) will form the value of humanity in students. In addition to understanding and mastering mathematical concepts, students will be trained to work independent or collaborating in groups, being critical, creative, consistent, systematic logical thinking, respecting opinions, honest, confident and responsible. In this aspect the creativity of the teacher to facilitate student learning activities with various methods and creativity of students to find or build their own knowledge is mutually integrated and support for the success of student learning goals.

Activities in mathematics learning are individual physical or non-physical activities carried out in order to get a change in a better direction (obtaining knowledge and experience) that is done by the teacher and students with various methods of learning Mathematics

## 3. Definition of cooperation

Cooperation is someone who has concern with other people or a group of people so as to form an activity that is the same and benefits all members based on mutual trust among members and upholds the existence of applicable norms. The collaboration according to Zainudin is a partnership in the field of organization which is a work carried out jointly between members to achieve the goals set by the members of the organization.

According to Pamudji Cooperation is a work carried out by two or more people by interacting with individuals who collaborate in order to achieve a dynamic goal. There are three elements contained in cooperation, namely the person who cooperates with the interaction and the same goal.

Meanwhile, according to Thomson and Perry Cooperation is an activity that has a different level starting from the coordination and cooperation to collaboration in a collaborative activity.

So according to the author, cooperation is an activity carried out by two or more people to achieve a goal with coordination so that a common goal is achieved

## 4. Gallery walk method

Gallery Walk consists of two words, Gallery and Walk. Gallery is an exhibition. The exhibition is an activity to introduce products, works or ideas to the public. While Walk means walking, walking. According to Silberman (2006: 274) (Ishmael: 2008), Gallery walk (exhibition runs) is a way to assess and remember what students have learned so far. Based on the description, the Gallery Walk (exhibition walk) is a learning method that can cause the emotional power of students to find new knowledge and can facilitate memory if something found is seen directly. Gallery Walk (walking exhibition) can also motivate student activity in the learning process because if

something new is found is different from one another it can be mutually corrected between fellow students both groups and between students themselves.

By using Gallery Walk (exhibition runs) can overcome learning constraints such as learning material absorbed by students not maximally so that student learning outcomes are not maximized, because this method can streamline lesson time and students can more easily understand the lesson because this strategy provides opportunities for students to make a work and see the lack of understanding directly with the material by looking at the work of other friends and can complement each other's shortcomings.

The Gallery Walk method is a learning method that requires students to make a list in the form of pictures and schemes according to what was found or obtained during discussions in each group to be displayed in front of the class. Each group assessed the work of another group that was conceived, then questioned during group discussions and responded to. Procurement of work is done when students have done their work. After all groups carry out their duties, the teacher gives conclusions and clarifications if anything needs to be rectified from the students' understanding.

a. Advantages of the Gallery Walk Method (Walking Exhibition)

- 1) Students are used to building a culture of cooperation to solve problems in learning.
- 2) Synergy occurs to strengthen mutual understanding of learning goals
- 3) Familiarize students with respecting and appreciating the learning outcomes of their friends.
- 4) Activating students physically and mentally during the learning process
- 5) Familiarize students with giving and receiving criticism.
- 6) Students are not too dependent on the teacher, but can help add confidence in the ability to think for themselves, find information from various sources, and learn from other students.

b. Weakness of Gallery Walk Method (Walking Exhibition)

- 1) If too many group members will occur some students depend on their friends' work
- 2) Teachers need to be extra careful in monitoring and assessing individual and collective activity
- 3) More complicated class setting settings.
- 4) In an effort to develop group awareness, it requires a long period of time
- 5) If without effective peer teaching from the teacher, what can be learned and understood can never happen to students

## **Research Methodology**

In this study researchers used a questionnaire distribution method by calculating the percentage of student answers.

The population is all students of class X ahp 4, SMKN 1 Salam and the sample used in this study is the entire population.

### Findings and Discussion

A teacher before carrying out learning activities must first plan a learning model that will be applied to deliver a material so that students actively follow the lessons presented. The activeness of students in a class depends on the method used by the teacher in the implementation of learning, a teacher must use a design model that is considered suitable to be developed in the class he taught.

Each individual in each class has a different attitude in receiving lessons from the teacher, there are students who are very active in receiving learning, be it listening, asking the teacher, answering questions and doing activities with the group, or just keep quiet without any activity. This can certainly be influenced by the learning outcomes of each student, therefore activeness in the classroom can be seen from the percentage of students answering and carrying out activities provided by the teacher. To find out how much the percentage of students in participating in the lesson, the author made a questionnaire about the activeness of students in taking Mathematics lessons matrix material with the gallerywalk method, where the success of this method depends on cooperation, activity, and cohesiveness of the group. The activity questionnaire used to measure student activity is as follows.

Table 1.1 Percentage of class X ahp learning activities 4

N0	Activity Indicators	No	Yes	
1.	I use effective thinking strategies when I get an assignment from the teacher	20%	80%	100%
2	I translated the assignment from the teacher into a work step with a clear goal	33.33%	66.67%	100%
3.	I complete the assignment given within the time specified	30%	70%	100%
4.	I communicate ideas with group friends to achieve a goal	3.33%	96.7%	100%
5.	I asked the teacher questions about the learning material I got on the internet	53.33%	46.7%	100%
6.	I answer the teacher's question when the learning process takes place	20%	80%	100%
7.	I am trying to maintain the cohesiveness of the group	0%	100%	100%
8.	I pay attention to the teacher so I can complete the information provided	6.67%	93.33%	100%
9.	I do work according to the steps set	20%	80%	100%
10.	I express the idea clearly to the group	10%	90%	100%
11.	I communicate my ideas with other students	13.33%	86.67%	100%
12.	I try to solve a problem that is raised or arises during the learning process	13.33%	86.67%	100%
13.	I am looking for, making and using learning resources from teachers, libraries or the internet.	20%	80%	100%
14.	I made plans before activities began	43.33%	56.47%	
15.	I work with my group and interact in groups	0%	100%	100%
16.	I give ideas and ideas according to my thinking ability for the group	3.33%	96.7%	100%
17	I asked the teacher for activities that I did not understand	6.67%	93.33%	100%
18	I always pay attention to the information from the teacher	13.33%	86.67%	100%

### **Conclusion And Suggestions**

After the teacher uses the gallery walk method in class when learning and calculating the results of the questionnaire, the following results are obtained.

1. Of the 18 items of student activity, 7 items or 33.888% are very active, and 7 items or 33.888% are active
2. While 11.11% or 2 items are quite active
3. And 5.55% or 1 item is less active as well as very less active there is 1 item or 5.55%
4. So it can be concluded that the use of the gallery walk method will activate students in mathematics learning.

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