

ARE PUPILS SCARED OF MATHEMATICS? A DISCUSSION ON THREE STRATEGIES USED IN PRIMARY MATHEMATICS TEACHING

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Abstract

It is clear that the fundamental concepts, principles and procedures from some branches of mathematics should be known by all students, particularly in basic level in grade 1 to 6. However, in fact, some students claimed that mathematics is a difficult (complex), scary and not enjoy full subject to learn. This study aims to investigate the views and discussion of the strategies used in order to persuade pupils to love mathematics. Descriptive review method was used in the research. Study results show that there are three strategies used in order to persuade student to love mathematics, namely, (1) mathematics teacher should have great enjoy full manner in instructional ability and strategy (2) the learning should be connected to their student's daily life activities (3) development of personal self-confidence student character, the purpose of mathematics is not only collecting of concepts and skills to be mastered, but including of mastering mathematical reasoning and communication skills for students.

Keywords: Pupils, Primary Mathematics Teaching, Three Strategies

INTRODUCTION

Virtue, Mathematics is the most significant subject that should be intensely promised in Kindergarten and Elementary School. Moreover, in that level, there is a need of affirming on mathematics concept in the beginning of students learning to enhance properly for stressing to make they love this subject. As we know that the teacher should has softly manner to maintain that the subject is essential in their comprehending for their future life. In addition, they should emphasise to make students love it by making intensely approaching strategy between teacher and student activities in the class.

A long-standing opinion by students and parents as well, by period to period, thought that mathematics was truly difficult subject to understand, even though mathematics teacher had hardly moment when they have to teach a concept, for instance: fraction and numbering. Some students have some difficulties to mention kind of fraction? Which one less than $\frac{1}{2}$ or $\frac{1}{4}$? More over fraction significantly hard understand for students whose begin to lose their belief that learning mathematics is a sense-making experience, because teacher did not connect class activities when they learn a fraction by using their previous experiences. Consequently, they become passive receivers of rules and procedures rather than active participants in creating knowledge fraction concept.

A lot of researchers stated that students' assumption is the same description that mathematics is a complicated subject. There is a strongly believe that teachers' strategy

when transferring their knowledge students feel scary when learning it. Teacher always said that it was difficult subject, a lot of numbering, symbols, procedures and operations. In addition, it happens as the result misconception of teachers when they are giving some interpretation for this subject, teaching and learning was not enjoyed full design, students feel scary and boring in class activities. Mathematics is not taught by connecting their daily life. National Council of Teacher Mathematics stated that mathematical experiences are needs to teach for the student to stressing the understanding concepts and some skills (Reys, Et.al, 2010).

Mathematics has a connection in students' intellectual, social and emotional progressive do in light mathematical experiences, student should know the aims of this subject focusing, why their learning mathematics? And also, it's kind of trait to compare and comprehensive one to one correspondence.

There are some interpretations of this cases suggested (Department of Education and Early Childhood Development, 2011, p. 10-14). Firstly, making connections for your students by explaining mathematics concept such as how the numbers is counted that is a part of everyday life. Secondly, turning maths into a story, it will be explained by presenting mathematics as a story. In this case, students can make connection to their everyday life. Thirdly, playing games, by using this strategy, students are able to identify numbers, shapes and patterns. Moreover, We should begin learning by using fun games, for instance: dice is a great addition. Teachers can shake the dice and say, make or write the numbers identified or the teachers can shake two dices and add the numbers together to find the result.

There is a need of giving a real action to students and emphasising teacher, students and parents as well that teaching and learning mathematics have played a significant role in the process of education development. Moreover, there were no many achievements, such as student's performance in international Mathematics level. Consequently, teacher has still faced some challenges. They must connect between mathematics and another subject, such as Physics, Economics, and Linguistics. Let student know that mathematics was a crucial subject to apply for another discipline. So, it will indicate that its subject must be mastered for each student. According to Government of Western Australia (2017, p. 1), Mathematics is an essential subject and that was a huge focus to describe and using mathematics effectively, efficiently and critically thinking to our children, it will change and make reasoning student to clarifying activities problem in their daily life. It provides students with the mathematical knowledge, skills and understanding to solve problems in real contexts for a range of workplace, personal, further learning and community settings. This course provides the opportunity for students to prepare for post-school options of employment and further training.

On the other hand, mathematics teacher always uses drilling method for examination. Most of problems appearing in mathematics examination are number and fraction. In other word, students should have forced to memorize formulae and then should apply them to solve problem. However, mathematics subject is not perhaps to encourage cognitive ability, but it is also developed character for student, such as self-confidence character.

Confidence character is begun by communication skills; when small groups of students need to discuss their ideas or solve problems, they permitted to clarify their answers to another group discussion. The way of their communication develops self-confidence of students. It is essential to provide opportunities for them for sharing their ideas by using their own words. They can express anything from the problem and follow the rule how procedure must be conducted. Self-confidence is an ability how students persist their answers to their friends. It is particularly useful because it allows student who is unconfident in during discussion. By using the strategy, the teacher will encourage them to express understanding in the class. One of the mayors aims of mathematics instruction is to help students in developing their belief that they have confidence to do mathematics and to control over their own idea, is it wrong or right solution? This kind of students will enhance confidence in their ability to decide and justify their answer and also develop reason for their decision. It develops as student learn mathematics is not simple subject, only memorizing, do operation, procedures and remember the symbols but mathematics give good sense, is logical and enjoyable. In this article we would like to emphasize that mathematics is meaningful, logical and fun.

All these problems should be solved; it happened long time ago up to the 21-century. It is happened not only in Indonesia that mathematics becomes scary subject but also around the world. In some cases, we recognize and agree that students are special and they have different talent with each other, no more accuse from the parents to make they want to be with. Some of them more likely do sciences, astronomers, linguistics, socials, drawing and cooking. However, the teachers must emphasize that is connected to mathematics, so that's way mathematics is essentially learned. For example: if you want to be mastered in cooking, you must know about measurement, in economics as well there is interpretation statistics to draw diagram, in science there is celerity and acceleration term and that need division and multiplication concept to solve procedures. If we describe that mathematics really benefit for another subjects (fields), so this solution could enhance student's motivation to learn.

LITERATURE REVIEW

Mathematics is Fun

In contemporary, a student mathematical thinking about their perception that mathematics was difficult, as same opinion by Bear and Coulter (2015, p. 7) that new typical of students in US feeling bad in maths, the call maths negativity, in US we also not surprised that many students has also negative attitude about maths subject. In stressing statement by (Good, Aronson, & Inzlicht, 2003; Stephanou, 2012; Willis, 2010). Not only the student perspective about math but also the parents assume same think negative feeling due to maths, such as pessimistic, low predictable of success doing maths problem and they have previous negative experiences before, inadequate skills and practicing for doing math correctly, failure to be engaged in math through their individual learning strengths, and fear of "looking dumb" if they make mistakes. Because of that, maths teacher has a strong way to change about math toward make its fun the learn it. The impact of this beginning assumption will make negativity maths increasable, low motivation, feelings of helplessness and hopelessness and avoid for advance math necessary, diminished class participant, due to they do not interact about maths.

The solution about this mayor problem is due to making maths positive in students' personal attitude, teachers give clarify that maths in useful in our life. They can describe many statements to encourage positive maths, such as in what ways have you used math outside of school? Describe your best math study habits. What do you do when you get stuck?

The deterioration of teaching and learning in school, method, model, approaches, and situation when they learn maths, something looks scary. As the value maths cannot be only transform by remembering formulae, symbols, but it also needs best performance from maths teacher in holding students' soul in order to change students' mind set about teaching mathematics. Most students have the same assuming about mathematics subject, in stressing way, maths teacher should influence them assuming and stressing that maths is benefit in our life. For instance; when we buy something? We need to know about calculation, percentage, and measurement. It was vital basic skills if we cannot understand about addition, subtraction, multiplication, and division. It also difficults to understand a next level of mathematics subject such as ratio. In my opinion, someone who say maths is difficult because they assume that they cannot solve problem because they were not completed to comprehend first concept in maths. As we know that, maths is continuing subject matters; we cannot jump for next level if we not yet really know about the concepts. For instance: elementary students say that integers operation is difficult, because they are not so well in addition or subtraction skill before. It connected to next mastery. According to Bier (2015, p. 4) the Common Core State Standards-Mathematics (CCSS-M) honestly say that acknowledge that math students need to inadequate more than knowledge; they need to enhance the "habits and skills," character give a main role, for higher-order math learning.

In another explanation, fun is defined as happy situation by using all aspects of class activities, give reward for students and teacher performance enhance their character to build good condition, fun activities, find a new strategy and form a virtuous student's behaviour in class. Similarly, Schumacker (2009, p. 3) he motivates the student by give some candies as reward feedback, and he always and try to make good condition when public presentation begin. It was affirmed by Lewis & Archer (2002, p. 25) Vitals concepts are "learning outcomes" are a vital concepts that to be mastered bay the child, teaching well by preparing and give describing "maths contexts" (arrangements and materials predict all phase to be used), using new "strategies" that combine with fun activities and "structure" (the time, specific interaction, and follow-up learning specifications for each activity).

In general, starting with planning fun activities, teacher demonstrates one of strategy in fun activities when they teach maths. Such as modelled maths is dynamics in whole class, the teachers should have introduced learning activities, demonstrate and give good character when they learn maths. The teacher 'think aloud', students ask question and prepare for explanation, and observed. Teaching and learning will do outside, to looking for a material base on maths mastery. For instance: pick one leaves and try to explain - to recognise size ('big' and 'little') and to decide which objects are big and small in relation, using blocks to make paths and discuss whether students have made long paths or short paths, estimating and comparing foot length and height, predicting which container will hold the most sand. Predicting whether two objects are heavier, lighter or not, is by using simple examples such as using books, bags, leaves and so on.

Teacher with Outstanding Teaching and Learning without Connected with Students' Experiences

As discuss previously, Freudenthal considers mathematizing primarily is a human activity, which means students should be offered problem situations which they can imagine that it refers to the realness of authenticity of problems. Context problems are problems of which the problem situation in experientially real the student. For instance: when teacher explains about fraction concept, they begin with a fraction represents part of a whole. When something is broken up into a number of parts, the fraction show that how many of those parts you have. In contrary, we cannot begin just being to define of fraction, something the best way to learn fraction by picture. To emphasize that meaningful concept, teachers can bring a real thing, such as cake, they can demonstrate how to divide the cake correctly and also give word problem that connected by student's real life.

One of the mathematical topics that can be used to develop caring attitude towards the environment and energy saving are statistics, especially the presentation of data. To begin the mathematics teaching and learning, teachers can ask students to predict the amount of paper they use every week. Use tables to present data obtained by the students. Ask students, whether they be surprised. Do they use too much paper? Why use a paper on certain days or weeks more than days/weeks of the others? Do they have a better idea to save paper? Is the paper saving campaign will succeed? Discuss students' responses. Students' answers can be used as a basis for developing the character of saving/efficiency and care for the environment.

There are opportunities for all students to experience these components of mathematical experiences. Moreover, we see class as places where interesting problems are regularly explore using important mathematics ideas. Our expectation, make classroom as places where interesting problems are regularly explore using important mathematical ideas, combine class activities, such as recording measurement object, collecting information and describing their properties using statistics. Way to influence value of mathematics, students should have diversity experience in maths, and that connected with their daily activities. Most students like play shopping, it has been formed by addition and subtraction numbering concepts, to measuring one object, it has been formed by gauge to measure high in a group, it has been completed statistics to be mastered for interpreting in diagram. The teachers could use some ideas to explore activities class with something that previous students' activities.

Same cases in Iran, Primary education is compulsory. Maths is one of the most important subjects that required to be learned such as number-word sequence, enumeration and basic arithmetic skills and geometry skills (e.g. shapes, orientation) to be learned. Some activities that teacher do is using contextual and real-life examples in teaching math concepts (British Council, 2013).

Character Building in Maths Learning

Character, an essential student's attitude, is important to build for student's manner in their life. "Character isn't just about doing the right thing in an ethical sense; it is about

doing our best work. If that is true, then character education isn't about helping students get along; it is also about teaching them to work hard, develop their talents, and aspire to excellence in every area of endeavor" Lickona & Davidson 2005, p. 373).

Implicit of this definition of character building, in the new K-13 curriculum have to promote building character, student-character strength. Recently, researchers claim that academic achievement is influenced by students' character such as confidence, discipline, optimism, persistence, high order thinking (Wagner, 2012).

A vital phase in master learning any subject matter is having a positive behaviour and self-confidence in one's ability to learn new things. Renowned psychologist Albert Bandura (1993, 1997) demonstrated that confidence in one's ability to be successful at a given task—what he termed "self-efficacy"—influences how a person thinks and behaves. In maths, confidence can develop in group activities and presenting a concept. Building students' confidence is an essential because of outcome achievement of student. It is making smoothly process to problem solve in daily life is to be confidence and optimism.

Moreover, many students are feeling scary to purpose any explanation in class, particularly when they unsure of a possible answer or their idea are contrary with their peer partner in group or class. Teacher can norm self-confidence in class, they preserving safe and supportive class activities no doubt to feel afraid and anxious if they make wrong answer. It is important to develop for teacher approaches. Class norm can be arranged to show a sense of trust and conviction. All students should have permitted feel that they safe, allow errors, courageous attitude, ask for help, and trial-error for word-problems. It was one solution to make warm and happiness condition when doing maths subject.

METHOD

Descriptive review method was used in the research in terms of the aim and the data used. In this study, research related to teaching strategies used by teacher in order to persuade students to love mathematics examined and the obtained findings were analysed.

RESULTS AND DISCUSSION

In particularly, we highlight three strategies that were connected to understand mathematics concept and how mathematics would be taught: The first, mathematics teacher should have great enjoyed full manner in instructional ability and strategy: The second, the learning should be connected to students' daily life activities by previous students' experiences: the third, developing personal self-confidence of students' character.

In elementary school, starting with making math real close the math distance by making math "real-world" interesting with the concepts of area, density, and ratio: teacher can ask students to find the concentration of fast food restaurants in their neighbourhood and compare the concentration in a different community. Students need lots experience in counting, talking about number. Teacher could connect how counting and numbering in part of everyday life. Such as: give some activities playing

shop, playing game, making pattern, measuring things or turning math into a story, moving with math, playing card.

Playing card, connection this activity in fraction concept, is one way to explain fraction concept toward student's daily life. The teacher can apply new activities such as: playing fraction card

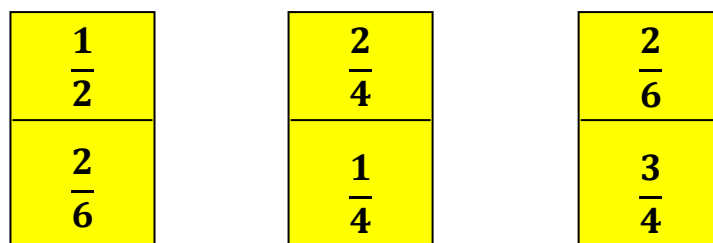


Figure 1. Fraction Card

Step One

How to play it:

1. The teacher asks students to sit in groups. Each group of students consists of 4 or 5 people.
2. Each group is given a set of fraction cards
3. One shuffles the card then shares it with all players. Each of them gets several cards
4. Player 1 takes out a card
5. Player 2 must take out a card whose value matches the fraction of the card issued by player 1
6. If player 2 does not have the appropriate card, we turn move to player 3. If player 3 also does not have the appropriate card, turn to move to player 4, and so on
7. Suppose player 2 has a card that matches the card issued by player 1. Player 3 must issue a card whose value is equal to the fraction on the card issued by player 2.
8. After player 3, the next turn is player 4, then returns to player 1, and so on
9. Players whose cards are finished first become winners. For example:

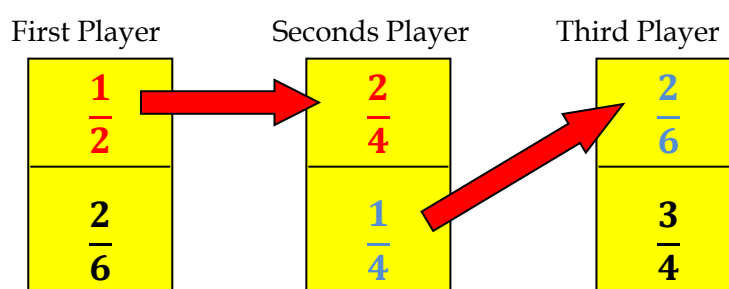


Figure 2. Fraction Card

First player takes a card $[\frac{1}{2} \quad \frac{2}{6}]$, second player takes $[\frac{2}{4} \quad \frac{1}{4}]$, that means the value of $\frac{1}{2}$ is equal which another fraction that pull out by second player, namely; $\frac{2}{4}, \frac{1}{2} = \frac{2}{4}$. Likewise, with third player, the value of the $\frac{1}{4}$ fraction is worth $\frac{2}{8}$, and so on, the player whose card runs out first becomes the winner.

CONCLUSIONS

In conclusion, we affirm that there are three main strategies that can be used by maths teachers: toward positive attitude about maths, teacher should do teaching and learning with fun activities, toward mathematics begin by student's life experience to connected maths and experience (humans' life), and maths is one subject that not only describe about formula, but it can encourage and influence personal character.

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