REACT Instructional Strategy: Boosting Creative Problem-Solving in Social Arithmetic

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Keywords: CreativeThinking, REACT (Relating, Experiencing, Applying, Cooperating and Transferring), Social Arithmetic.

Abstract

REACT (Relating, Experiencing, Applying, Cooperating and Transferring) is an instructional approach, which includes linking classroom learning process with daily-life concept (relating), learning to find mathematical concept (experiencing), solving problems in independent work or group work (applying), cooperating in solving problems (cooperating), and applying the concept learnt into daily-life context (transferring). The purpose of this study was to analyse students' creative thinking skills in solving SocialArithmetic problems. Delving into REACT approach in solving SocialArithmetic problems, qualitative research was operative in the study and aimed at analysing the skills to perform creative thinking using 5 components, i.e. fluency, flexibility, originality, and elaboration evaluation).

Introduction

Contextual learning has been widely introduced by the Center of Occupational Research and Development (CORD). The United States presents a five-element instructional strategy for educators grappling with contextual learning, which is abbreviated to the REACT strategy (Crawford:2001). One of the learning models which can overcome the prevalent problems in Mathematics instruction is the model involving Relating, Experiencing, Applying, Cooperating, Transferring (REACT), as what Crawford points out (in Rohati, 2011). This learning model is one of the models, which put contextual learning at work. In contextual learning, problem in an instructional context is related to that in daily life, so that students can experience and feel the concept being learnt directly in real life situation. This direct experience is then combined with students' experience, resulting in new realistic and relevant concepts. As a result, the students will capable of applying the new concepts, which have been learnt in class, into a new context.

REACT is one of context-based approaches to how to link and how to apply a concept into daily life. REACT is an approach of learning Mathematics, which involves linking a mathematical concept in class with everyday context, learning to find mathematical concept being learnt, solving problems independently or in groups, cooperating in solving problems, and applying the concept learnt into everyday life context for solving daily-life problems. As a corollary, REACT strategy is one of the contextual approaches for Mathematics learning, involving teachers and learners as well as parents in solving problems related to everyday life for better results. This premise is in line with Sounders (Komalasari, 2011:8), who states that REACT strategy is contextual learning focused on following components: (1) Relating, which deals with learning in the context of life experience; (2) Experiencing, that is learning in the context of research and discovery; (3) Applying, that is learning when knowledge is introduced in the context of its use; (4) Cooperating, which requires learning through the context of interpersonal communication and sharing; and (5) Transferring, which is done by applying and transferring learnt concepts and materials.

Afterward, students are required to relate daily situation with new information being learnt or problems solved. The teacher uses strategy one, relating, when he associates a new concept with something the students already know. The learning process should begin with posing questions and presenting phenomena, which are interesting and familiar to students, instead of those which are abstract and beyond the reach of students' perceptions, understanding, and knowledge. Relating is basically linking what students already know with the new information they are about to learn. The second strategy, which is experiencing, is the stage in which exploration, discovery, and discussion serve the basis to contextual learning. However, students may become motivated and comfortable due to the results of other learning strategies such as interaction with text, stories, or videos. Learning seems to be going faster when students can manipulate tools and materials and also work on other forms of investigation. Meetings in the classroom can involve manipulating equipment, problem solving,

and laboratory activities. Next, teacher initiates the applying strategy, which deals with how to put a learnt concept into use. At this juncture, students learn to apply concepts when they grapple with problem-solving activities. Teachers should be able to motivate students to understand concepts by providing more realistic exercises. Fourth, cooperating (learning together) is learning process in which responsiveness and communication among students take place in contextual teaching. The experience of working together goes beyond simply helping most students to learn the instructional materials. Working with peers in small groups will improve students' readiness in explaining conceptual understanding and suggesting problem-solving approaches for their groups. The learning process will take place very well when students are given the opportunity to express their opinions and work in tandem with their peers. The last stage includes transferring, which deals with using and extending what has been known or transferred, on the basis of what the students already know. After students understand the concepts, they apply the knowledge they have gained into a new context. Crawford (2001) defines transferring as the use of knowledge in a new context. Gaining in-depth understanding requires the skills to think and the skills to transfer knowledge.

A study focusing on the implementation of REACT strategy, conducted by Faisal (2005), shows that students' learning outcomes are better with the application of REACT (Relating, Experiencing, Applying, Cooperating, Transferring) strategies in the learning of cube and block volume at junior high school. In addition, research conducted by NurLailiAchadiyah (2009) who conducts an instruction using REACT strategy on the circumverence and width of circle indicates that the students' understanding improves subsequent to applying the approach. One of the learning models which can overcome the problems in Mathematics instruction is the Relating, Experiencing, Applying, Cooperating, Transferring model (REACT) Crawford (in Rohati, 2011). This REACT learning model is one of the models that apply contextual learning. In contextual learning, problems are linked to the problems that exist in students' everyday life, so that students can gain first-hand experience on the problem solving. This direct experience is then combined with previous experience, resulting in new realistic and relevant concepts. Afterwards, the students will work with the theme in applying new concepts they have learnt. The results of Pramadan's study (2013) suggest that learning through REACT (Relating, Experiencing, Applying, Cooperating, Transferring) model with Cabri 3D can improve tenth-grade students' learning outcomes. Experiment conducted by Yuniawatika (2011) evinces improvement of mathematical representation of students involved in an instruction applying REACT model in that they perform better than those who are involved in conventional instruction. The development of REACT model instrument will result in students-centred learning, so as to improve students' motivation in learning activities which aim ultimately at improving students' mathematical comprehension of three-dimension figures. What sets the present study apart from the previous studies is that it investigates Mathematics learning on Social Arithmetic to improve students' creative thinking skills.

According to William (in Margono 2000:29), the characteristics of creativity resulting from creative thinking is being able to think fluently, think flexibly, think originally, elaborate concepts, and to evaluate progress.

The skills to think creatively is a very important competency to be trained to students because students can examine and solve the problems they face, and foster ideas in solving problems more systematically and clearly. This supports the opinion of Nuris (2016: 2) in a proceeding, which suggests that the skills to think creatively represents a person's skills to generate an idea or how to solve problems or produce a product. Given student's level of creative thinking skill of each is different, teacher needs to know and analyse whether his students categorized into excellent critical thinker or poor one. In reality, the current study has revealed that students' participation is still low, as they tend to be passive in following instruction, especially Mathematics learning. As a result, students are not used to creative thinking. What exacerbates the issue is the Mathematics achievements of students at grade VII-C at Public Junior High School 13 of Jember is have yet to reach maximum scores. These preliminary findings indicate that the weak creative thinking skill is evident.

This study aimed to analyse students' creative thinking skills. In the process of learning Mathematics, creative thinking skill is necessary, which is why students need to develop their creativity in solving Mathematics problems. The creative thinking skills in the learning process are representative of various aspects, such as the emergence of questions for increased expectations and anticipation; probing existing information; describing information presented carefully and systematically; physically preparing information presented; deepening the awareness of problems, difficulties, and information gaps; encouraging personal creative traits or tendencies; and heightened caring and curiosity (HeriKuswanto, 2016:2).

Resolving a problem is a general goal of learning Mathematics, which prioritizes process and strategy performed by students in solving problems. This of course has to be balanced with the students' creative skills. In this case, the researchers adopted an instructional model proposed by the Centre of Occupational Research

and Development (CORD), dealing with contextual learning and involving five strategies for teachers, abbreviated into REACT (Nurhadi, *et al*, 2004:23). This strategy includes Relating, Experiencing, Applying, and Transferring to determine the level of creative thinking skills of the students. The five stages include linking, discovering, experiencing, cooperating, and applying.

Research Method

This research deployed qualitative descriptive approach, as it was projected to describe and analyse students' creative thinking skills in solving SocialArithmetic problem. This research was conducted at Public Junior High School 13 of Jember, by involving the students in class VII, leading to choosing class VIIC as control group and class VII A as well as VII B as the experimental classes, which possessed heterogeneous skills, that was high, medium, and fair.

The data analysis model in the study was adopted from Miles and Huberman (in Gunawan, 2013), involving three stages in analysing qualitative research data, namely data reduction, data exposure, and drawing conclusions.

The steps in this research were divided into three stages,*inter alia*, preparation stage, implementation stage, and final stage. The first stage was the preparation stage, at which instructional instruments were developed. The instruments consisted of lesson plan, students' worksheet, and learning achievement test. The second stage was the implementation of learning process and running learning achievement test. In the final stage, data processing, data analysis, and drawing conclusions were performed.

In the research, the measured data were pertinent to the students' creative thinking skills in solving the social arithmetic in instruction deploying REACT. Afterwards, then the data were analysed to know the level of students' creative thinking skills based on the indicator of creative thinking skills.

Results and Discussion

The outset of the study grappled with planning. At this stage, the researchers developed the design of instructional instruments needed, arranged the lesson plans, and determined the indicators needed to analyse the students' creative thinking skills resulting from test result. After planning, the researchers developed the instruments needed in the study, and the instruments were then validated by experts. The validation on instructional instruments included the lesson plans, students' worksheet, and learning achievement test.

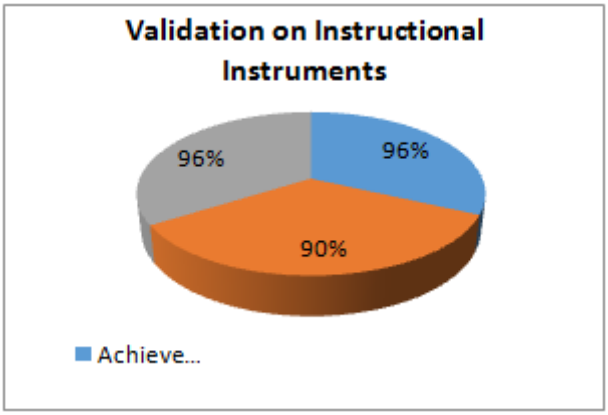


Figure 1:The Percentage of Validation Result on Instructional Instruments

Based on the validation results, the instructional instruments received over 94% of total score, so this result indicated that the instructional instrument were ready for research implementation. After validating the instruments and getting the positive validation results concerning the instructional instruments, then the researchers conducted the study in the classes. The research was implemented in 4 meetings (4 lesson plans, 4 worksheets and 3 learning achievement tests).

During the learning activities, the teacher's activities in managing the class and those of students in the class were assessed by the observer, which aimed to know whether or not the learning process ran well. The following chart points out the percentage of teacher and students' activity in the learning process.

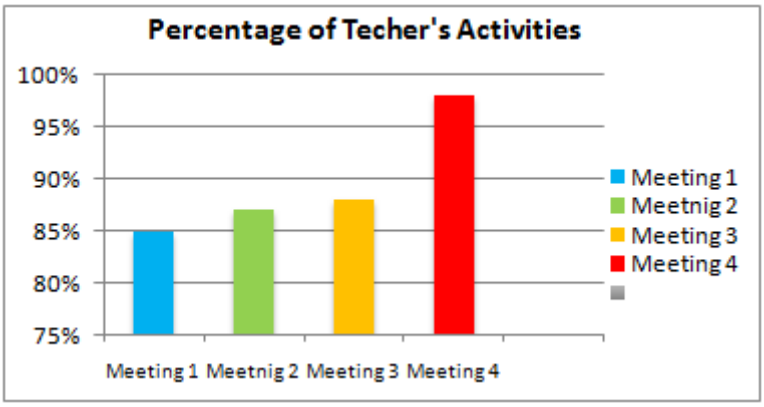


Figure 2:The Percentage of Teacher's Activities

Based on the above diagram, it is clear that the percentage of teachers' activity in the first meeting represents very good value of 85%. In the first meeting, the teacher guided the students in the preliminary process, which began b**y** prayingand then checking the attendance of the students, followed by giving apperception to the material to discuss. The teacher conducted the learning activities by informing the learning goals, motivating students to find concepts (experiencing), asking them to relate the material to be taught to their daily life (relating) by observing the learning objects, motivating them to ask questions about the problems present in their worksheets by trying to solve their own problems (applying), asking them to understand the problems presented in the worksheets, inviting them to cooperate (cooperating), and asking them to explain the problems presented in the sheets, asking them to solve problems, asking students to be able to apply the learnt concept into daily-life context (transferring) by solving the problems in the sheets, and asking students to summarize the problems of the whole material. In the first meeting, the percentage of teacher's activity reached 87%, indicating fine instruction.

In the second meeting, the percentage of teacher's activity increased to 87%, as he still maintained the instruction according to the existing learning plan by trying to motivate the students to remain excited. In this second meeting, the first teacher gave motivation so that the students were more passionate to take part in the lesson and then carried out the instructional activities related with the previous material (relating). Afterward, he pointed out the learning objectives, motivated the students to find the material concept in the learning activity (experiencing), and asked the students to observe the learning object. He then motivated the students to ask questions about the problems presented in the worksheets by encouraging them to raise opinion (applying). The students were then asked to find a concept (experiencing) and to understand the problems in the sheets. The teacher afterward asked the students to explain the problems in the sheets. He asked the students to work together in solving the problems (cooperating), asked them to apply learnt concept into everyday-life context (transferring) by solving the problems, and asking the students to summarize the problems of the whole material.

The percentage of teacher's activity in the third meeting rose in the second meeting to 88%, marked as good category. In this third meeting, the teacher kept giving motivation and tried to encourage the students in following the learning by giving material, which was familiar and soundly related to students' life (relating). The teacher continued to carry out the core activity that was by describing the learning objectives, motivating the students to find the concept of material (experiencing), asking the students to observe the learning object, motivating them to ask questions about the problems in the worksheet by trying to solve them on their own so that students gained first-hand experience (applying). Afterward, the teacher asked the students to understand the problems in the worksheet, asked them to explain the problems in the worksheets, and asked the students to be able to solve the problems, as well as asking them to apply learnt concepts into daily-life context (transferring). In this case, the students learnt how to calculate the percentage of tax or any other expenditure when solving the problems in the sheets. Lastly, the teacher encouraged the students to find their own concepts and asked students to summarize the problems.

Teacher's activity percentage in the fourth meeting indicated significant increase, compared to the first, second, and third meeting. The increase to 92% indicated very good instruction. As motivation consistently grew throughout the course, in this fourth meeting the teacher was more motivated in to scaffold students' motivation by relating the last learning with previous ones.This learning activity was commencted by praying so as to accrue faith and piety**,**followed by singing *Indonesian Raya*, which was meant tospark love for the homeland. The teacher then continued with apperception by associating the current instruction with the previous material (relating). In the next stage, which was while teaching,the teacher operated onthe learning goals, motivated and

invited students to find the mathematicalconcept being learnt (experiencing). Afterward, he asked the students to focus on the learning objects, motivated the students to ask questions about problems posed in the worksheets. Presented with the problems, the students were then asked to understand and explain the problems, followed by group discussion to solve the problems (applying). The teacheralso encouraged the students to apply the learning materials is to solve the daily-life problems in the worksheets (applying). Lastly, the teacher asked them to draw conclusion concerned with the whole material. What follows is the percentage of students' activity.

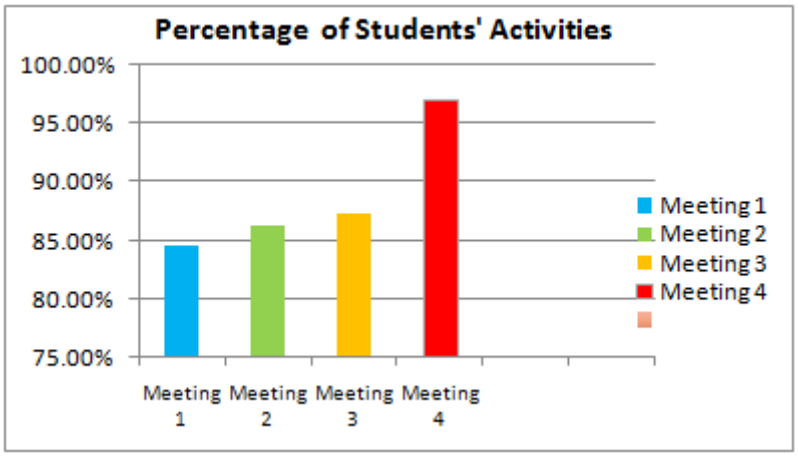


Figure 3:The Percentage of Student's Activities

The diagram above indicates that in the first meeting the percentages of students' activity from the first to the third meetingare 84.65%, 86.30%, and 87.30%, respectively. In the fourth meeting, the percentage of students' activityreaches 89.95%. In the first meeting up to the fourth meeting, the students paid attention to and listened to the teacher's explanation of teachers, actively askedto take active role in raising their opinions and find the link between the previous materialsand their daily life (relating). Also,they were encouraged to understand the problems presented in the sheets, find the concept (experiencing), pointed out the problems present in the sheets, completing themselves in group work (applying).They were also supported to take activepart in the discussion process (cooperating) and sum up the material they learnt. They werefurther fostered to apply the concepts learnt in their daily life (transferring) and solve problems present in the worksheets.

The implementation of REACT-based instruction was aimed to introduce the concept of Social Arithmetic in a case-study context. After the introduction and explanation of SocialArithmetic through REACT-based learning were accomplished, then at the end of the learning an achievement test was carried out.The students had to solve problems germane toSocialArithmetic. The test results were then analysed to determine the level of their creative thinking skills.

The test ultimately was intended to assess the students' creative thinking skills in solving SocialArithmetic problems, subsequent to REACT-based instruction. Here is one of the student's answers in solving REACT-based SocialArithmetic problems (Relating, Experiencing, Applying, Cooperating and Transferring).

In the case of instructional process in control class, the students 'creative thinking skills were divided into 3 levels, *inter alia,* (1) very creative thinking skills, (2) fairly creative thinking skills, (3) unsatisfactorily creative thinking skills, as the following.

Students,who were found to master very creative thinking skills,successfully met the 5 components of creative thinking, namely being able to think fluently (fluency), thinkflexibly, think originally (originality), provide elaboration, and evaluate his progress (evaluation). On the other hand, the students who were proven able to showcasefair creative thinking skillsmet three of the five components of creative thinking. Lastly, those classified to show unsatisfactory critical thinking skills did not meet the five components of creative thinking, namely being able to think fluently (fluency), thinkflexibly, think originally (originality), provide elaboration, and evaluate his progress (evaluation).

Based on the classroom activities which encompassed observing, associating, finding, implementing, cooperating and transferring on worksheet 1, worksheet 2, worksheet 3, worksheet 4, achievement test 1, achievement test 2, and achievement test 3.The students' answers are classified to indicate highly creative thinking skills categories if they meet the five creative components.

a. Fluent (fluency)

From the answers of students categorized in fluent category (fluency), we can see that they perform well in the fluency respect. As in the student's answer in Figure 4.20 below:

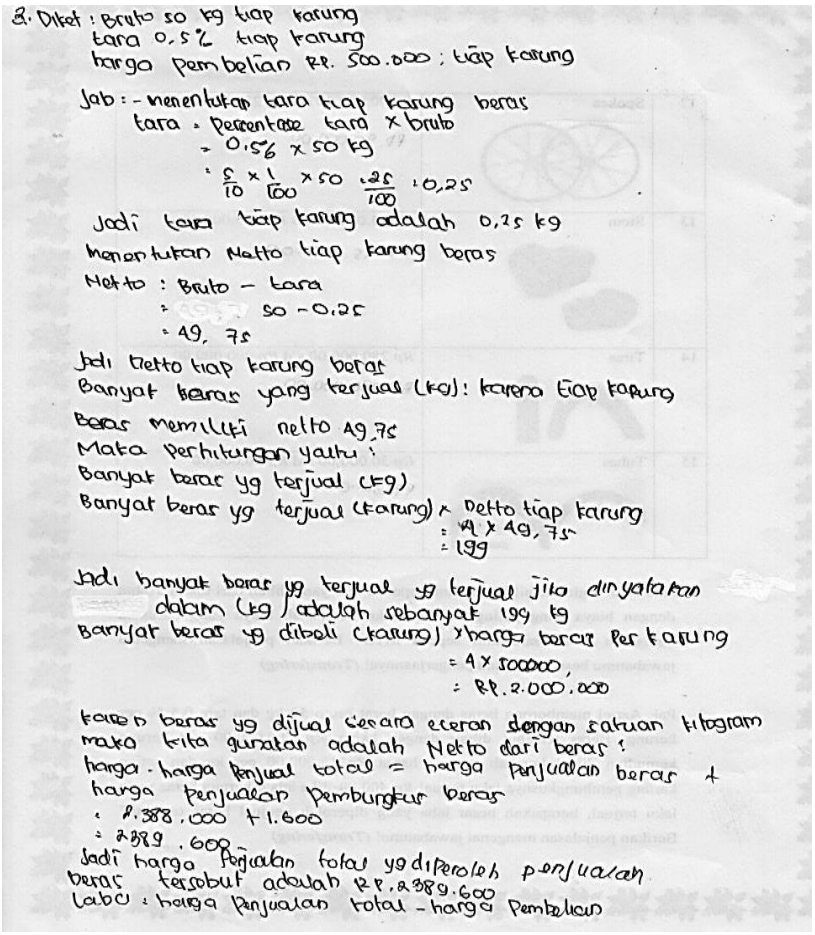


Figure 4.20: The Answer of Student Categorized at Very Fluent Level (Fluency)

The student can provide the answer in systematic, detailed, clear, procedural fashion when working on what was known and unknown about the problem to determine the price after discount given. Also, he can find out the goods affordable with the money he has. So, he has already given the right answer.

b. Flexibility

The ability to complete the whole problem by providing ideas and opinion clearly on problem solving is the core competent in this respect. By using different and similar answers, the researchers measured the flexibility. In the area of flexibility assessment, the emphasis was on how student provided answer using various strategies, as the work by a student in Figure 4.21 below.

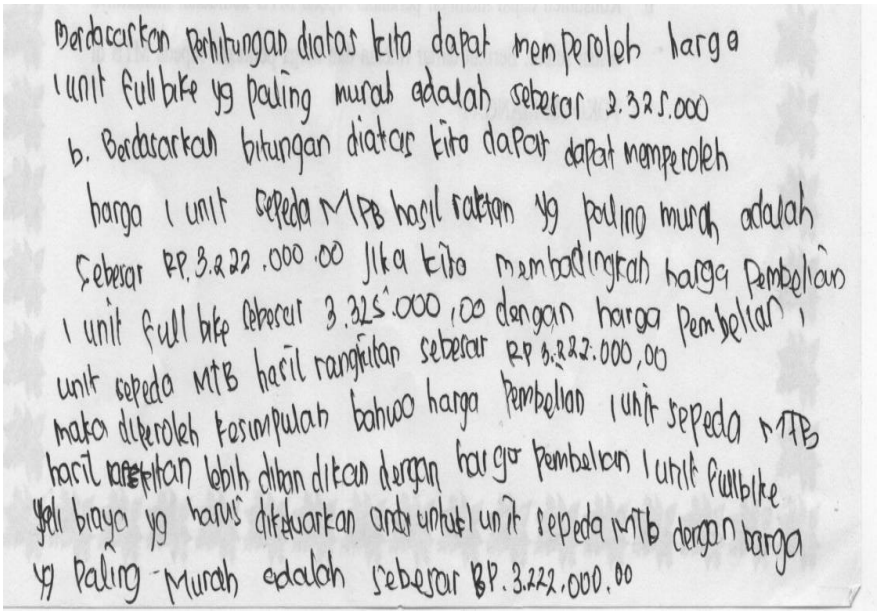

Berdasarkan perhitungan diatas kita dapat memperoleh harga 1 unit fullbike yg paling murah adalah sebesar 2.325.000
b. Berdasarkan hitungan diatas kita dapat dapat memperoleh harga 1 unit sepeda MTB hasil rakitan yg paling murah adalah sebesar RP.3.222.000.00 jika kita membandingkan harga pembelian 1 unit fullbike sebesar 3.325.000,00 dengan harga pembelian 1 unit sepeda MTB hasil rangkitan sebesar RP 3.222.000,00 maka diperoleh kesimpulan bahwa harga pembelian 1 unit sepeda MTB hasil rakitan lebih dihan dikan dengan harga pembelian 1 unit fullbike yaki biaya yg harus dikeluarkan andy untuk 1 unit sepeda MTB dengan harga yg paling murah adalah sebesar RP.3.222.000.00

Figure 4.21 The Answer of Student Categorized at Very Flexible Level (Flexibility)

The answer provided is clear, coupled with alternatives to problem solving. This is done through finding the percentage of discounted price first, rather than finding the sale price substracted with the purchase price first.

c. Original (Originality)

This aspect deals with how well student provides answers appropriate to a problem. The problems presented to the students were categorized as highly original as the answer given was different from other students' and it was not created by modifying the existing samples of problem solving. This is evident of the answer presented in Figure 4.22 below.

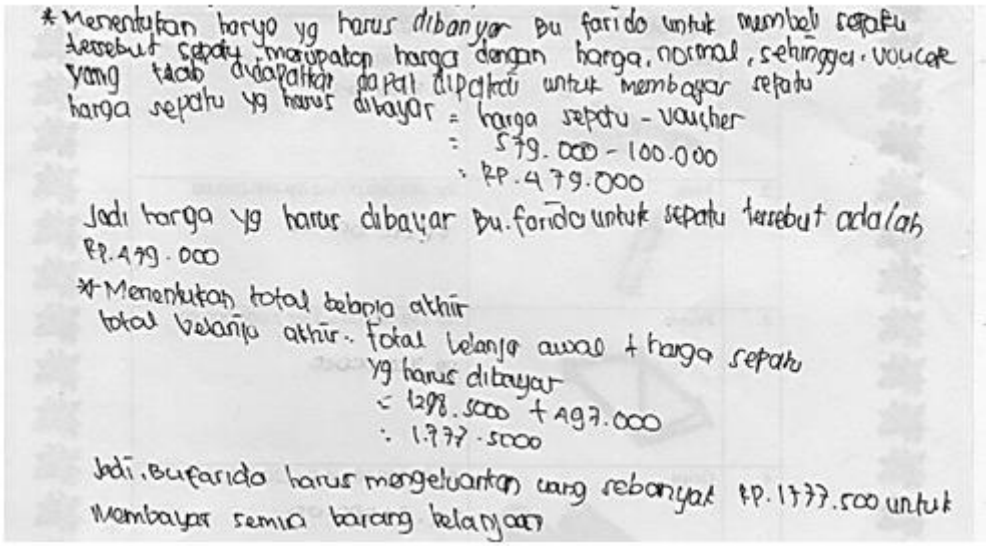

* Menentukan harga yg harus dibayar Bu farida untuk membeli sepatu tersebut sepatu merupakan harga dengan harga normal, sehingga voucer yang telah didapatkan dapat dipakai untuk membayar sepatu
harga sepatu yg harus dibayar = harga sepatu - voucher
= 579.000 - 100.000
= RP.479.000
Jadi harga yg harus dibayar Bu.farida untuk sepatu tersebut adalah RP.479.000
* Menentukan total belanja akhir
total belanja akhir = total belanja awal + harga sepatu yg harus dibayar
= 1298.5000 + 497.000
= 1.777.5000
Jadi. Bufarida harus mengeluarkan uang sebanyak RP.1777.500 untuk membayar semua barang belanjaan

Figure 4.22 The Answer of Student Categorized to Master Very Original Thinking

The student provided clear and original answer based on his own opinion and this complied with teacher's expectation.

d. Elaborating

This aspect is represented by detailed answers given in an orderly, procedural, and systematic fashion. In this case, the ability was evident in searching the net, gross, and tare and providing clear answer, such as student's answer in Figure 4.23 below.

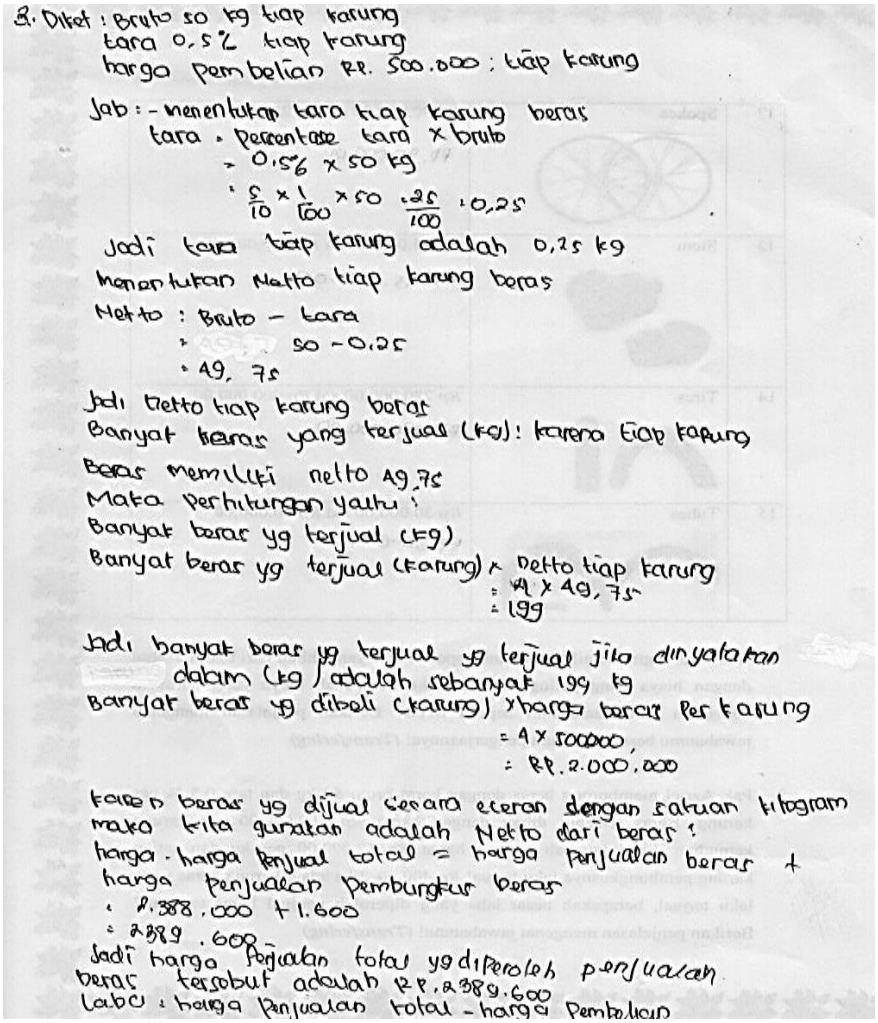
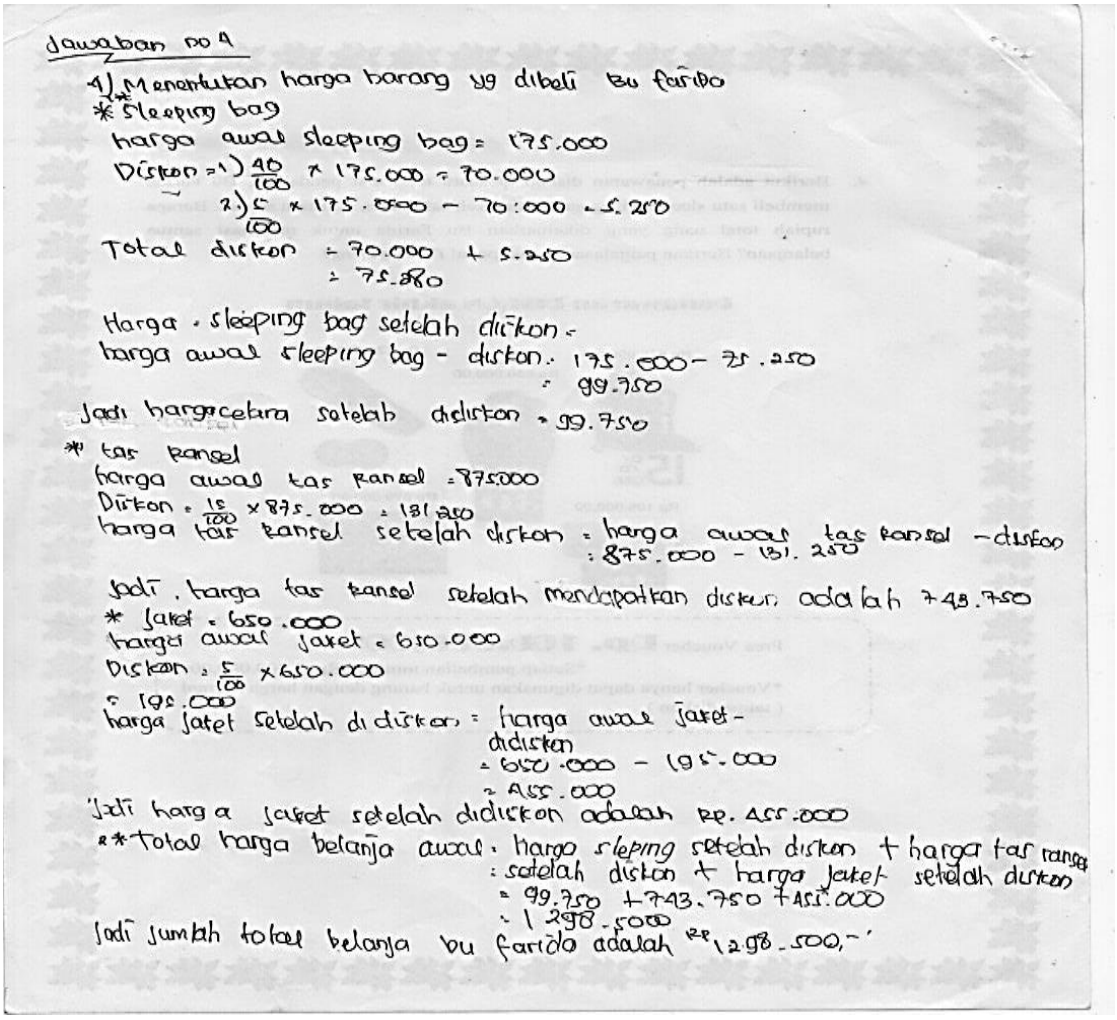


Figure 4.23: Student's Answer Indicating Very Elaborated Response (Elaboration)

As shown in the figure, the student's response is classified into analysis one as he performs analysis on what is known and connects it with the problem at hand by linking purchase percentage and sale percentage. The problem solving of this kind belongs to synthesis. In solving the problem, the student combines two ideas, including the idea concerning percentage and the percentage of sale profit.

e. Evaluating (evaluation)

Students are considered able to evaluate (evaluation) a problem when they are capable of providing a complete solution in detail to problems given. The following student's answers in Figure 4.24 represents the very competence.


Jawaban no 4

1) Menentukan harga barang yg dibeli bu farida
* Sleeping bag
harga awal sleeping bag = 175.000
Diskon = 1) $\frac{40}{100}$ x 175.000 = 70.000
2) $\frac{5}{100}$ x 175.000 − 70.000 = 5.250
Total diskon = 70.000 + 5.250
= 75.250

Harga sleeping bag setelah diskon =
harga awal sleeping bag − diskon = 175.000 − 75.250
= 99.750

Jadi harga cetana setelah diskon = 99.750

** tas ransel
harga awal tas ransel = 875.000
Diskon = $\frac{15}{100}$ x 875.000 = 131.250
harga tas ransel setelah diskon = harga awal tas ransel − diskon
= 875.000 − 131.250

Jadi harga tas ransel setelah mendapatkan diskon adalah 743.750
* Jaket = 650.000
harga awal jaket = 650.000
Diskon = $\frac{5}{100}$ x 650.000
= 195.000
harga jatet setelah di diskon = harga awal jaket − didiskon
= 650.000 − 195.000
= 455.000

Jadi harga jaket setelah didiskon adalah Rp. 455.000
**Total harga belanja awal = harga sleping setelah diskon + harga tas ransel setelah diskon + harga jaket setelah diskon
= 99.750 + 743.750 + 455.000
= 1.298.500

Jadi jumlah total belanja bu farida adalah Rp 1.298.500,-

Figure 4.24: Student's Answers Indicating Fine Evaluation

The analysis on students' works indicate that their answers are given with clear judgmental components, including the capability of giving ideas, being able to carry out the ideas along with the right reasons, and being able to draw conclusions marked by the "*so* ..." answers. Thus, from the answers of students categorized as very creative thinker, it is clear that these students are very capable of thinking divergently, which deploys open, broad mindset, and leads to optimal development. These students can develop responses optimally and are very capable of generating new ideas or solutions to the problems experienced during the learning process problem solving, which indicated the ability to generate original ideas (originality). The students can provide systematic, detailed and, very clear answers, including what is known, questioned, and answered, in very precise and systematic elaboration. The students are proven capable of thinking flexibly and fluently as shown by the action in the form of smooth expression of his ideas, the ability to evaluate problem and progress (evaluation) during the collaboration in finding a mathematical concept (experiencing) and following the learning process.

To find out the improvement in terms of students' creative thinking skills, the researchers assessed their achievement test results. The result of learning achievement test in the control class with 34 students consisting of 16 male students and 18 female students indicated that 5 students were able to think at very creative level, 23 students were able to think at fairly creative extent, and 6 students were shown to master unsatisfactory creative thinking. On the contracy, the result of learning improvement resulting from REACT strategy in the first experimental class (class VII A) with 36 students, consisting of 12 female students and 24 male students, corroborated that 10 students were able to think at very creative level, 22 students were able to think at fairly creative level, and 4 students were proven unsatisfactorily creative. The test results in the first experimental class marked an improved creative thinking skills compared to the control class. In the second experimental class (class VII B) with 36 students, encompassing 15 female students and 21 male students, found out that 12 students were at very creative thinking level, 23 students were able to think at fairly creative level, and 1 student was found at unsatisfactory creative thinking category. Hereunder is the data signifying increase in creative thinking between the control class (VII C) and the experimental classes (VII A and VII B).

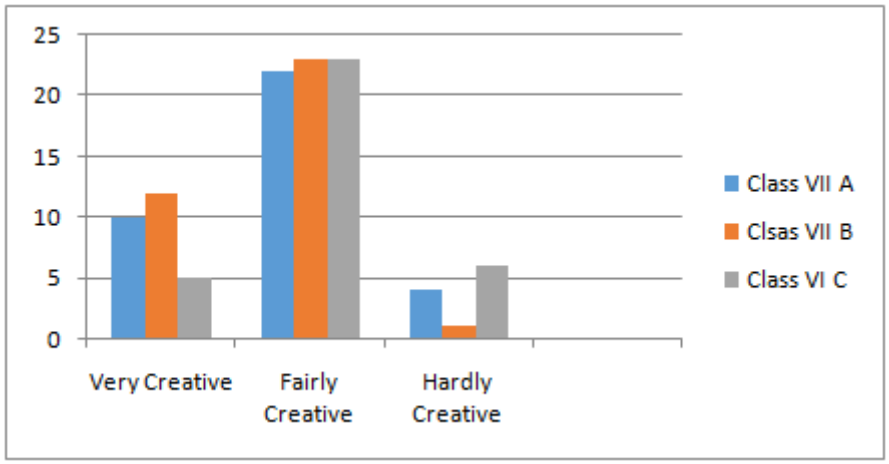


Figure 4:The T-test on The Correlation of Creative Thinking Skills between Control Class (VII C) and Experiment Classes (VII A and VII B)

From the results of t-test, the significance of correlation between VII A and VII C is 0.002 < 0.05, so H0 is approved. Based on the correlation between the average value of the creative thinking skills between class VII A and VII C is 0.985, indicating that the correlation between students in VII A and those in VII C is very significant. The correlation significance between class VII B and VII C is 0.014 < 0.05, so t H0 is approved. The correlation between the mean scores of the creative thinking skill of students in class VII B and VII C is 0.948, evincing that the correlation between class VII B and VII C is very robust. The difference between the average value of creative thinking skills between the students of class VII A and those in VII C is 0.03 with a significance level of 0.013 < 0.05, so that H0 is accepted or, in other words, there is an increase in the ability of creative thinking in the experimental class, that is class VII A, compared to the control class, class VII C. The difference in the average value of creative thinking skill between students of class VII B and those of VII C reaches 0.042 with a significance level of 0.028 < 0.05, which indicates that H0 is approved or signifies an increase in the ability of creative thinking in the experimental class, class VII B, compared to the control class.

Based on the results of the abovementioned statistical tests, which analyzes the average learning outcome representing creative thinking skill components between control class and 2 experimental classes, a significant improvement has been evident. In the test results, most of the students were found to master fairly creative thinking skills. The analysis on the research subject, which was based on the five indicators corresponding to creative thinking skills, showed that most of the research subjects mastered creative thinking skills to solve problems in Social Arithmetic. The analyis results have shown that Mathematics learning based on REACT strategy (Relating, Experiencing, Applying, Cooperating and Transferring), when deployed to improve the ability of creative thinking, comes with both advantages and disadvantages. The advantages of Mathematics learning based on REACT Strategy (Relating, Experiencing, Applying, Cooperating and Transfering) are that learners become familiar in relating mathematical concept they focus on in class (relating), learners can find their own concept directly, learners can gain deeper understanding on the learning materials because they experience the problem solving process (applying), learners are able to work together in group discussion (cooperating), and learners are able to transfer the concept they have learnt into their daily-life context (transferring) .

Learners were guided to deploy their creative thinking in solving problems related to daily-life problems based on REACT strategy, which has systematic and procedural stages ranging from linking, discovering, experiencing, cooperating, and transferring during learning the instructional materials. The five components of REACT strategy (Relating, Experiencing, Applying, Cooperating and Transferring) were all operative in each instructional instrument, which was meant to scaffold more improved instructional instruments so as to facilitate students in understanding Social Arithmetic material. The exercises in the worksheets that students had to do were accompanied with guidance and examples of guided steps to solve problems. In general, the students liked the worksheet as it was practical and easy to understand as well as very interesting to learn. In learning, students were taught to cooperate and share knowledge (cooperating). This was seen during group work, in which the more competent students helped the other group members who appeared to be struggling (peer tutor).

Conclusion And Suggestions

REACT-based Mathematics instruction has been proven effective to improve students' creative thinking skills. The learning process under investigation resulted in three levels of students' critcal thinking skills, including very creative, fairly creative, and unsatisfactorily creative.

Learners are guided to active their creative thinking skills in solving problems related to mathematical problems based on REACT strategy, which stipulates systematic and procedural stages ranging from linking, discovering, experiencing, cooperating, and transferring upon working on mathematical concept. Five components of REACT strategy (fluency, flexibility, originality, elaboration and evaluation) are operationalized in every instructional instrument developed in the study, which is devoted to scaffolding students' understanding on Social Arithmetic.

The researchers suggest future researchers to come up with better work by pondering the following details. First, research methodology has to be elaborated in greater lens. Also, novelty and advancement should lie in the core of future studies. It is also imperative that the researchers gain better results than do former ones.

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