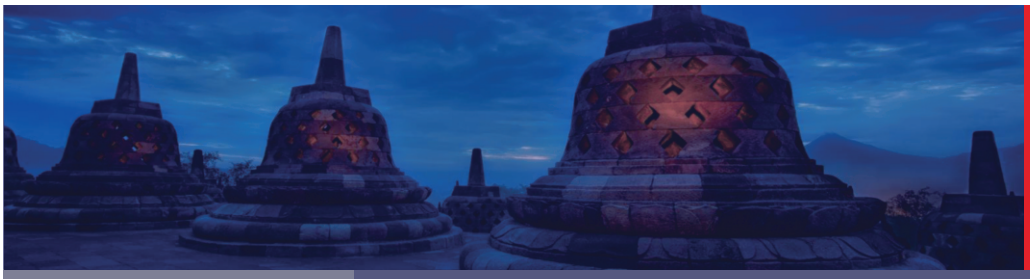

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Implementation of Authentic Assessment

THE EFFECTIVENESS OF USING INSTRUMENT AND RUBRIC OF CREATIVE THINKING SKILL-BASED ASSESSMENT PROJECT IN THE LEARNING OF CONSUMER EDUCATION

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Abstract

The purpose of this research was to determine (1) the effectiveness of the use of the instruments and rubrics of creative thinking skills–based assessment project in the learning of consumer education, (2) the aspect of the ability of creative thinking skills that is already possessed by students after learning consumer education using instruments and rubrics of assessment project, and (3) the opinion of students about the learning of consumer education using the instruments and rubrics of creative thinking skills–based assessment project.

The research was held using the type of survey with the evaluation approach of students' study results. It was conducted in the first semester of the academic year 2014/2015 at the Study Program of Three Years Diploma of Clothing Technique of Yogyakarta State University as many as 34 students. A set of questions and rubrics for the pre-test, post-test and task of creative thinking skills-based assessment project. The data was analysed using quantitative descriptive statistical techniques.

The results showed that the instruments and rubrics of assessment project were effectively able to develop creative thinking skills of students by 88.24%, the score is above 80% of students achieved a score above 75 competent equivalent to a score of B+ (75-79), which includes: the ability to fluently generate new ideas (fluency), the ability to suggests a variety of approaches to the problem-solving (flexibility), the ability to spark ideas in an original way (originality), the ability to describe something in detail (decomposition), and the ability to review things from a different perspective of those already known by many people (reformulation). The aspects of fluency, originality, and the decomposition are included in the high category, whereas the flexibility and reformulation aspects are in the middle category. The result shows that the students' opinions on the use of instruments and rubrics of creative thinking skills–based assesment project in learning consumer education are in the excellent category (26 students (76.47%)) and 8 (23.52%) are in good category.

Keywords: *instruments, assesment project, and creative thinking*

A. Introduction

One of learning qualities is determined by the quality of the assessment used by educators in their learning process. The assessment implemented by educators can help them in understanding the strengths and the weaknesses experienced by their students in their learning materials as well as in their critical, systematical, logical, and creative way of thinking. Thus, the educators will have a reference to make an effective decision in their learning process. This will also give information to the students about their learning progress

so that they can improve their learning behavior. Therefore, it is necessary to develop an educational program which improves qualified assessment with a set of instruments and rubrics for mastery the material and develop the critical, systematical, logical, and creative thinking skill. The more qualified an assessment activity in a learning, the more better the educators' understanding of their students' strengths and weaknesses in learning the material and in improving their critical and creative thinking skill.

This is in line with Clement and Lochead (in Steven, 1991:...) who state that an educator has to teach his/her students how to think instead of what to think. Guilford (in Munandar (1999:...)) adds that creativity to think is an ability to see various possible solutions to a problem. This thought is now still less attention in learning process. Therefore, problem solving in a learning process should be viewed entirely as a process and involves learners in the stages of creative thinking process.

The importance of assessment in learning has been explicitly emphasized in the regulation of Minister of National Education No. 20 of 2007 on Education Assessment Standards. In section E for assessment by educators, noted that the assessment of learning outcomes by educators has to be done on an ongoing basis, aims to monitor the process and progress of learners, as well as to improve the effectiveness of learning activities. Assessment in learning can be applied through a formative assessment to monitor students' learning competence outcomes when the learning process takes place as well as a summative assessment to determine achievement of the learning outcomes. Gareis & Grant (2008) argue that a formative assessment is an assessment conducted during the learning process, used to make a learning decision, focused on a separate knowledge or a required skill, typically associated with daily decisions about teaching and learning, the results used by both educators and learners, and can be done by observation, discussion, guided practice in the classroom, homework assignments, and quizzes. Thus, improving a formative assessment means improving students' learning as well as improving students' understanding effectively. In addition, the information given from a formative assessment can be used to increase the learning process. Formative assessment that conducted during the learning process and provides feedback to educators and students is useful to guide the learning to the improvement of learning (Moore & Stanley, 2010).

The implementation of authentic assessment is one of the pillars in implementing the 2013 curriculum because classroom assessments need to be authentic, using a variety of assessment methods and techniques in accordance with the objectives and processes as well as the experiences of learners (Depdiknas, 2013). Formative assessment is used by educators to monitor the process of mastering learning materials of students, and can do so by applying

authentic assessment in the form of project assessment of assignment. The effort to integrate activity of measuring learning outcomes of all learning process in formative assessment can be applied in authentic way. Authentic assessment is used in order for students not only understand the materials learned but also act and produce something as a form of understanding of the materials learned (Suhardi dkk, 2003). Project assessment instruments-based learning enables students to study, to plan, to design, and to reflect of creating something in line with their passion.

Assessing students' creative thinking skill needs an authentic assessment instead of *paper and pencil test* or project assessment. Learning with project-based assessment enables students to study, plan, design, and reflect the creation of the final project work in accordance with the problems of their field (Doppelt, 2000). Applying assessment project needs instruments and rubrics as a complement of an assessment project. These instruments and rubrics should be developed based on students' needs and objected to assess every creative thinking skill of students. The rubric of assessment project that is developed to measure the multidimensional skills, i.e. the skill of logical reasoning and empirical experience, the criteria of assignment project indicator in an assessment project should be made at the initial stage. Based on Zainul (2008), there are some important things need to be considered in determining a rubric. Those are a) specification in writing down all of the key elements from performance and b) the chronological performance defining for each element such as start from writing down the performance quality of those the worst, the best, and such. Performance intelligibility and compatibility is important for a good assessment project.

Reality shows that many students have poor thinking ability. They are accustomed to think by rote. Most learning activities at school only focus on training students to put on knowledge, to rote, and to have an ability to think logically or convergent thinking (the ability of finding the most appropriate answer to a problem given, based on the information available). This will cause low development of the creativity of learners. Thus, when students face a problem, they will get difficulty to find other alternative solutions.

Educators are hoped to be able to complete their learning by applying the skill of creative thinking for every concept, especially which relates to environment. Guilford in Munandar (1986) said that creative thinking as an ability to see various possible solutions of a problem is a form of thought that receives less attention in formal education. Therefore, solving a problem must be viewed in their entirety as a process and involve it in the stages of the process of creative thinking.

Thinking skills in learning should be improved because it is a cognitive strategy that is always evolving and can be learnt and be taught. Creative thinking can also foster

perseverance, self-discipline, and a full practice, including mental activities such as: 1) asking question, 2) considerinng new uncommon information and ideas with an open mind, 3) building linkages, particularly between different things, 4) linking various things freely, 5) applying imagination in every situation to produce something new and different, and 6) listening to intuition (Costa, 2006).

The weak thinking skill of students can not be separated from the behavior of educators in implementing the learning process. According to Stiggins (1995), an effective, efficient, and productive learning needs to be accompanied by assessment with its good and meaningful instruments and rubrics. Authentic assessment in assessment process (formative) is one of the alternative solutions in assessing the learning progress of students comprehensively and objectively as well as more emphasize on the development of a more accurate assessment tool that can reflect and measure what is assessed (Hart, 1994).

Fuchs (Zainul, 2008) gives opinion that one of the assessments that can improve students' learning process is the project assessment because it helps educators in making decisions during the learning process. According to Stiggins (1994) project assessment has some reasons for educators to do, such as the ability of learners that cannot be detected writtenly i.e. skill and creativity, and it provides wider opportunities for educators to analyze the ability of learners totaly, and educators can see the ability of their learners during the learning process without waiting for the end.

Consumer Education Learning in Higher Education, formative assessment in the form of authentic assessment of assignment project is used to obtain information of the strengths and the weaknesses of learners. It is because the characteristics of the course material apply the concepts in life behavior as a consumer and critizises various problems caused by consumption activity. The course material learnt by students need to understand the essence of the concept of consumer education about managing personal finances, making buying decisions, and becoming good and right citizens. Therefore, we need a capability to obtain, select, and cultivate the essence of the concept of consumer education as a form of information.

Those abilities require logical, systematical, critical, and creative thinking. Therefore, it needs educational programs that can develop the ability to think logically, systematically, critically, and creatively. According to Dedi Supriya (1997) indicator of the characteristics of creative thinking is as follows: 1) fluency is the ability to generate a lot of ideas, 2) flexibility is the ability to express a variety of approaches or solutions to a problem, 3) originality is the ability to spark ideas in original ways, 4) elaboration is the ability to explain something in

detail, 5) redefinition is the ability to review an issue from the perspective of something different to what is already known to many people.

Many daily life problems emerge because of an inappropriate buying decision making process, of an inappropriate finance management, or of consumptive behaviour. Oftentimes, problems of consumption activities recurres because of consumer ignorance in doing consumption activities. If students get difficulty in mastering the concept and get no help, they will get difficulty and have no awareness to apply the concept in their daily life. If the concept of course material is not linked to the students' consumption experiences and does not creatively critize the common consumption problems through assignments of assessment project (intsruments and rubrics), students' learning achievement will be low and the internalization of life values that is accompanied will also low. Based on the above description, the writer thinks that there is a need to do a study of the affectiveness of the implementation of creative thinking skill-based instruments and rubrics as an assessment project in the learning of consumer education.

Related to that idea, the writer proposes some problems as follow: (1) how effective the use of instruments and rubrics of assessment project to improve learners creative thinking skill in the learning of consumer education, (2) what aspects of creative thinking abilities do the students have after experiencing a consumer education using assessment instruments and rubrics assessment project, and (3) how are the students' opinion about the application of the assessment project-based instruments and rubrics used by educators in learning consumer education to develop their creative thinking skills ability. This study is hoped to be useful for lecturers, students, and the world of science, particularly the field of assessment and learning in vocational education, particularly the field of fashion in college, both theoretically and practically.

B. Method of Study

This study used evaluation approach for the learning outcomes which was described with the aim to establish the effectiveness of the use of the instruments and rubrics of students creative thinking skills-based assessment project. The measurement of the effectiveness of learning was associated with the achievement of learning objectives. The index of learning effectiveness was determined through two main things: 1) the level of the percentage of students who reach the level of goals mastery and 2) the average percentage of objectives mastery by all students. Criteria for achievement of learning outcomes at the level/standard of excellent/optimum, if a majority (76%−99%) of the lessons can be mastered by learners. In the opinion of Kemp (1985: 230) a level of precision that can be tolerated as a

measure of the effectiveness of achieving the goal if 80% of students achieving a score of 75 on the minimum criteria to achieve the goals set.

The object of this study was the students of D3 Clothing in odd semester of the academic year 2014/2015 at the Department of Food and Clothing Technical Education (PTBB) FT UNY. Data collection was conducted in August−October 2014. The research sample which was used in purposive sampling was 34 new students who were taking courses of Consumer Education.

The data in this study is in the form of quantitative and qualitative. Quantitative data includes the assessment result of the understanding of the learning material (pre-test, post-test, and project assignment) and the skill of creative thinking. The technique used in this study is test, project assignment, and questionnaire. The data of the learning outcomes and creative thinking skill of the students was achieved through assessment instruments and rubrics in the form of questions/essay for pre-test and post-test, and consumer problem-based assignment of performance project which is suitable with the learning objectives and competences that should be achieved. The instruments of this study includes questions/creative thinking skill-based assignment, sheet of assessment, and assessment rubrics contain of assessment criteria and scoring standard. The data of students' opinion was achieved from questionnaire.

This study describes the object studied through the sample data as it is, without making analysis and conclusions apply to the sample or the population applicable to general. Analysis of data on the learning outcomes, creative thinking skills, and students' opinion was done by using descriptive qualitative and quantitative techniques to the presentation of the data in the form of a table.

C. Study Result and Discussion

This study was conducted to find out the effectiveness of the use of instruments and rubrics of assessment project to achieve the learning outcones and to develop students' creative thinking skill in the learning of consumer education. This study also analyzes students' opinion on the implementation of problem-based consumer education learning using instruments and rubrics of assessment project to develop creative thinking skill.

1. The Effectiveness of the Use of Instruments and Rubrics of Assessment Project for the Achievement of the Students' Creative Thinking Skill-based Learning Outcomes

Based on the data, the creative thinking skill-based instruments and rubrics used in the learning of consumer education on applying consumer rights and responsibilities is useful. Pre-test result in Table 1 shows that most students are still in the lower limit of competent score that is below the score of 76 (B +) of the conversion value in colleges. Results of pre-test scores showed 33 people (97.06%) students is still below the limit of competent only 1 student who has achieved a score of 76 which is the limit of minimum competency. The data also shows that 31 (91.18%) of students have achieved scores more than 76 (the conversion value in colleges reached a score of B (71–75)), and there are 3 (8.82%) of the students were under the score limit competent. It can be interpreted that in the consumer education learning there occure a development of materials understanding related to creative thinking skills if the students use creative thinking skills-based instruments and rubric in solving consumer problem.

Data in Table 1 shows us that creative thinking skill-based instruments and rubrics used as assessment project in the learning of consumer education on consumer problems is useful. Performance result from assessment project shows that most of students have been at the upper limit of competent scores of above 76 (B +) of the conversion value in colleges. The results of these scores showed 33 (97.06%) students were in the upper competent and only 1 student who has not achieved a score value of 76 which is the limit of minimum competency. Following is the description of the achievement of creative thinking skills-based consumer education competence based on the results of the pre-test, post-test, and performance assessment project.

Table 1. The Achievement of Creative Thinking Skill-Based Consumer Education Competence

No.	Pre-test	Post-test	Project Assignment	Final Score	Explanation
1	65	85	80	77	More than good
2	63	78	79	73	Good
3	75	88	80	81	Very good
4	65	84	82	77	More than good
5	66	80	82	76	More than good
6	64	82	83	76	More than good
7	48	74	80	67	Goodish

8	52	72	74	66	Goodish
9	65	81	82	76	More than good
10	60	86	82	76	More than good
11	59	87	83	76	More than good
12	67	80	84	77	More than good
13	62	84	81	76	More than good
14	60	85	83	76	More than good
15	48	70	82	67	Goodish
16	59	86	82	76	More than good
17	68	82	80	77	More than good
18	60	83	84	76	More than good
19	68	85	82	78	More than good
20	63	85	83	77	More than good
21	60	83	84	76	More than good
22	67	86	88	80	Very good
23	69	83	80	77	More than good
24	63	88	80	77	More than good
25	68	82	81	77	More than good
26	60	87	82	76	More than good
27	74	91	83	83	Very good
28	70	90	79	80	Very good
29	61	86	82	76	More than good
30	69	86	80	78	More than good
31	72	87	84	81	Very good
32	59	87	82	76	More than good
33	68	86	84	79	More than good
34	64	85	83	77	More than good

The above table shows that the overall results of the study of consumer education for the achievement of competence application of rights and responsibilities in consumer protection based on the problem, showing mastery of materials based on creative thinking skills of 30 (88.24%) of students have achieved scores above ≥ 75 which is the limit of minimum competence when viewed from the conversion value in colleges reached a score of B (71-75) or the achievement of learning outcomes at the

level/standard of excellent/optimum, if a majority (76%-99%) of subjects taught can be mastered by learners. There are only 4 (11.76%) students who have not reached the limit competence in learning scores taken. This in line with Paul and Elder in Inch et al. (2006) who state that the critical and creative idea contains implications which are the result of reasoning and thinking. Critical and creative thinking is not a single intention but is a process to produce something. It clearly describes that the achievement of students' creative thinking skills-based consumer education competence is effective by using instruments and rubric of assessment project.

2. Indicator Achievement of Students' Ability of Creative Thinking Skill Based on The Achievement of the Learning Result of Consumer Education

The following study result is to identify the mastery indicator of creative thinking skill by students. The mastery of creative thinking skill is based on the acquisition score of the average of the pre-test results, project performance, and post-test in following the learning of consumer education, about the competence mastery of solving consumer problems as a result of lack of awareness to implement the rights and responsibilities as a consumer protection when do consumption activities. Achievement profil of the final score of the creative thinking skills indicator in the form of class average scores is presented in Table 2.

Table 2. The Class Average Achievement of Creative Thinking Skill Based on the Achievement of Consumer Education Learning Result

No.	Creative Thinking Skill Indicator	Class Average				Explanation
		Pre-test	Pos-test	Project	Average	
1	Fluency	2.2	2.6	2.8	2.5	High
2	Flexibility	1.9	2.1	2.3	2.1	Medium
3	Originality	2.2	2.4	2.6	2.4	High
4	Elaboration	2.1	2.6	2.7	2.5	High
5	Redefinition	1.4	2.0	2.5	2	Medium

Note: High: ≥2,2 – 3, Medium: ≥1,4 – 2,2, Low: 1,00 – 1,4

From Table 2 above, it can be seen that the average of each indicator of the aspect of creative thinking skill in pre-test result is in the medium and low criteria. The aspect of redefinition is in the low criterion which means that students' ability to observe a problem based on different perspectives with those of known by people in general is categorized as low. The pos-test result shows that students' creative thinking skill is in

the criteria of high and medium. The medium category is in the aspect of redefinition which means that the ability to observe a problem based on different perspectives with those of known by people in general is categorized as medium.

Table 2 shows the average result of each indicator to reveal the ability of creative thinking skill in the form of doing project assignment of paper of consumer problems caused by the lack of awareness in applying rights and responsibilities in doing consumption activities. Based on each indicator score of the ability of creative thinking, all are in high category. Thus, it can be concluded that students' creative thinking skill in the indicator of fluency aspect is categorized as high, of flexibility is categorized as high, of originality is categorized as high, of elaboration is categorized as high, and of redefinition is categorized as high. This finding supports Rustaman, et al (2005) who said that the process of learning and teaching by doing performance increases students' success in learning.

The achievement of the aspect of creative thinking skill in the above table also shows that the average of each indicator of the aspect of creative thinking skill in the final score of consumer education material is in the high and medium criteria. If the score is compared with the assignment completion in the assessment project, it can be seen that there a decreasing score. This is caused by the average calculation which invokes the score of pre-test, post-test, and assessment project assignment. However, the result has been categorized as high and medium. Based on the mastery of each indicator of creative thinking skill aspect, fluency is categorized as high, flexibility is categorized as medium, originality is categorized as high, elaboration is categorized as high, and redefinition is categorized as medium. Compared to the completion of assignment in project assessment, there is a change to a bit descend. It is because the average calculation which includes the achievement score of pre-test, post-test, and assessment project assignment. However, the result in general has been categorized as high and medium.

3. Students' Opinion on the Implementation of Instruments and Rubrics of Creative Thinking Skill-Based Assessment Project in Learning

The explanation of students' opinion on the implementation of the learning of problems-based consumer education by implementing instruments and rubrics of assessment project in formative assessment to develop the students' creative thinking skill is presented in the following table.

Table 3. The Average Class Score of Students' Opinion on the Implementation of

Instruments and Rubrics of Creative Thinking Skill-Based Assessment Project in the Learning of Consumer Education

No	Opinion Aspect	Ideal Score	Class Average Score	Explanation
1	Happy and enthusiastic in following the learning and completing the tests/assignments given	4.00	3,5	Completely agree
2	More understand and command the learning objectives and competences to gain		3,6	Completely agree
3	More understand and command the learning material		3,4	Agree
4	Exercise and increase the ability to think creatively		3,7	Completely agree
5	Exercise and increase the finding of creative ideas to give solutions		3,5	Completely agree
6	Increase the motivation to learn		3,4	Agree
7	Exercise to seize initiative and to make decision rightly and correctly		3,3	Agree
8	Improve and increase the quality of thinking in the learning of giving solutions		3,5	Completely agree
9	Active in following the learning		3,5	Completely agree
10	More increase self-confidence in the learning		3,5	Completely agree
11	More increase the independence in learning		3,5	Completely agree
12	More able to express problems faced in learning		3,4	Agree
13	More able to detect the weakness and strength in learning		3,6	Completely agree

Note:
≥3,25 - 4 : Completely agree
≥2,5 - 3,25 : Agree
≥1,75 - 2,5 : Less agree
1 - 1,75 : Not agree

Based on the analysis of questionnaire, in general, students give positive opinions on the use of instruments and rubrics of creative thinking skill-based assessment project for the learning of problems-based consumer education caused by the lack of awareness in applying rights and responsibilities in consumption activities. 9 of 13 opinion aspects (69%) shows complete agreement to implement instruments and rubrics of assessment project in the learning of problems-based consumer education to support the development of students' ability to think creatively. 4 opinion aspects (31%) are answered "agree" to the use of instruments and rubrics of assessment project to support

the development of students' creative thinking skill. Fun learning situation encourages students' interest and motivation to learn (Roth in Wulan, 2003).

The above data collecting if described by classifying students' opinion on the implementation of learning using instruments and rubrics of assessment project in problems-based consumer education to develop the students' creative thinking skill is seen as follow.

Table 4. The Classification of Students' Opinions on the Learning by Implementing Alternative Assessment

No	Criteria	Score Range	Frequency
1	Very good	>42,25 - 52	26 (76,47%)
2	Good	>32,5 - ≤ 42,25	8 (23,52%)
3	Not good	>22,75 - ≤ 32,5	-
4	Very not good	13 - ≤ 22,75	-

From the data analysis, it is found that the result of the average calculation of students' opinions on the use of instruments and rubrics of assessment project in the learning of problems-based consumer education to develop students' creative thinking skill is 45,79. If it is converted in the table of the classification of students' opinions, it can be concluded that students give very good opinion on the use of instruments and rubrics of assessment project to support the achievement of learning competence and to develop their creative thinking skill.

D. Conclusion

1. The score of learning result viewed from the average of pre-test, post-test, and assessment project assignment contributes to the effectiveness of the use of instruments and rubrics of assessment project in the learning of students' creative thinking skill-based consumer education. This shows that creative thinking skill-based material mastery is 30 (88.24%) students have achieved score of above ≥75 which is the minimum competence limit of score conversion in Higher Education of B (71 – 75) or the achievement of learning outcomes at the level/extent splendidly/optimal, if a majority (76% – 99%) of the lessons can be mastered by learners. There are only 4 (11.76%) students who have not reached the competence score limit in the learning they taken.
2. The achievement from indicators of creative thinking skills aspects based on the average score of the pre-test, post-test, and the project assessment assignment shows that on

average, each indicator aspect of creative thinking skills in final score of the learning of consumer education materials is at high and moderate criteria. Based on the mastery of each indicator of the aspects of creative thinking skills, the aspect of fluency (the ability to generate many ideas) is include in high category, 2) flexibility (the ability to express a variety of approaches or solutions to a problem) is in medium category, 3) originality (the ability to spark ideas in original ways) is in high category, 4) elaboration (the ability to explain something in detail) is included in high category, 5) redefinition (the ability to review the issue from the perspective of something different to what is already known to many people) is in medium category.

3. Based on the analysis of questionnaire, in general, students give positive opinion on the use of creative thinking skill-based instruments and rubrics of assessment project in the learning of problems-based consumer education caused by the lack of awareness in applying rights and responsibilities in doing consumption activities. 9 of 13 opinion aspects (69 %) are very agree on implementing instruments and rubrics of assessment project in the learning of problems-based consumer education and support to develop the students' ability of creative thinking skill. There are 4 opinion aspects (31 %) who are agree that instruments and rubrics of assessment project support the development of students' creative thinking skill.

E. Suggestions

1. Implementing instruments and rubrics of assessment project in the problem solving-based learning activities of consumer education. Educators/lecturers are demanded to develop themselves, especially in the aspect of applying creative thinking skill-based instruments and rubrics on the life problems caused by the lack of awareness of rights, responsibilities, and consumer protection.
2. Instruments and rubricts of asessment project are very sangat effective in the achievement of students' creative thinking skill, especially consumer problems-based consumer education subject. Thus, there is a need to apply these to other subjects.
3. The implementation of instruments and rubricts of assessment project is very important in the learning of consumer education in every other material learning. It is because every material has its own characteristic of various daily life problems caused by consumptive behaviour, so that students will be motivated to develop their creatie thinking skill in finding solutions for a problem. This will be a tool to develop the learning and education quality.

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with the paper entitled

THE EFFECTIVENESS OF THE USE OF THE INSTRUMENTS AND RUBRICS OF CREATIVE THINKING SKILLS–BASED ASSSESMENT PROJECT IN THE LEARNING OF CONSUMER EDUCATION

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