

The Strength of Cooperative Learning Method Based on CTL on Fashion Design Production

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Abstract—The purpose of this study is to look at the ability and skills of students in working together and collaborating in their groups, to work on fashion projects, in Fashion Design Production, FPP UNP. The approach and strategy used is cooperative learning on CTL basis. The methodology used was action research, with the Kemmis spiral model. The first stage starts from the initial planning, namely the planning of research that has been adapted to the conditions of the students, and the demands of syllabus competencies, so actions are taken while obsession. The results of cycle 1 are reflected to determine the form of the second or cycle and so on. From the results of each cycle, an average learning result of 73.67 is obtained. In the second cycle the value obtained rose sharply to 82.44. Whereas in cycle 3, learning outcomes value was 85.22. Although it was not too high in the third cycle, the ability of students was much better because the material / subject matter given was more difficult than that given in cycle 2. The students' abilities and skills had improved considerably when compared with the pre-test value before the lecture starts.

Keywords—Cooperative learning, Contextual Teaching Learning

I. INTRODUCTION

Group learning method or cooperative learning is one of the teaching methods that can be used in learning, especially fashion design production courses. To improve the quality of learning in order to get more advantage in producing a good fashion production design, several personnels are involved in its completion. Cooperative learning method is one of the teaching strategies that can be chosen, because different students' abilities can be empowered.

The purposes of implementing cooperative learning (group learning) in this study are: (1) to achieve maximum learning outcomes because students will develop their own potential in their groups. (2) Acceptance of individual differences is existing so that they will respect and accept each other's strengths and weaknesses. They will feel interdependent with each other and feel responsible for the tasks that are given, so these tasks can be completed as well as possible to obtain high results. (3) Social skills are developed, because cooperative learning is teaching collaboration and collaboration skills. These skills are very important if they are involved in the community later because a lot of work must be done together in an

organization, to complete a project / work that are not possible only individually.

Accordance with the learning objectives of Fashion Design Production, students must have the ability and skill in designing a fashion ranging from design to producing clothing. This work should be done together in a team work, therefore one of the methods that can be chosen is group learning / group work so they will be able to manage businesses in the field of fashion / clothing both on a small and large scale (Boutique or garment). The cooperative learning / learning of this group is made based on CTL. Some of the components in CTL are closely related and support cooperative learning including the ability to relate material that has been previously learned with new material, contextual to the contemporary and community culture. It can be seen from the way students design modes that are designed, good cooperation to get maximum results. Learning is more meaningful because the results will be utilized and they can be seen during the learning process and the learning outcomes obtained.

Fashion Design lectures have been carried out individually in practice, namely making designs and producing them only individually, so that graduates are less able to manage their business in groups. If they are able to collaborate well so as to develop the potential of each member, of course the busines are bigger later. This study was conducted in groups for several subjects. The aim is to see the ability of students to integrate and collaborate among fellow members in their groups, and to achieve high standards in the achievement of learning outcomes. In accordance with the principles that exist in the CTL components, namely cooperation, collaboration, achieving high standards and outgoing assessments, researchers do that in the form of CTL-based group / cooperative learning methods.

Learning by using group learning methods or cooperative learning is learning by emphasizing on aspects of tasks that are carried out jointly in a group and delegating tasks and authority from the teacher / lecturer to students , while the teacher / lecturer acts as a facilitator in guiding students. "Cooperative learning will be defined as student working together in a group small enough that everyone

participates in a task that has been cleared assign [1]. Moreover, students are exposed to carry out their tasks without direct and immediate supervision of the teacher"

The strength of this group's learning or cooperative learning is students can share the task of making projects in this case for example making fashion designs to become ready to wear clothes. Then the assignment is done by the lecturers according to the strengths and abilities of the students, so they can work more maximum in a team work (group work). "Cooperative learning methods share the idea that students work together to learn and are responsible for their learning, as well as their own" in achieving this learning goal [2]. Each student must be responsible for their work and also must be jointly responsible for completing the tasks given by the lecturer.

Cooperative learning is teaching collaboration and collaboration skills. These skills are very important if they are involved in the community later because a lot of work must be done together in an organization, to complete a project / work that is not possible to be done individually. There are several principles adopted in cooperative learning including; 1) active learning, 2) cooperative learning, 3) participatory learning 4) reactive learning and enjoyable learning. While the elements of cooperative learning are interrelated between one another, because of the collaboration, members of the heterongent group, collaborative skills, interdependence. In accordance with the learning objectives of Fashion Design Production, students must have the ability and skill in designing a fashion ranging from design to producing clothing. This work should be done together in a team work therefore one of the methods that can be chosen is group learning / group work. Thus, they will be able to manage businesses in the field of fashion / clothing both on a small and large scale (Boutique or garment).

The emphasis on cooperative learning is cooperation between students in a group, both small and large groups. In this case, it is based on the thought that they would be better of working in a group in producing a product that has a high selling power because it is produced by well-collaborated thoughts in a good working team. They will always share their experience to produce the best product. Each group member has different abilities and strengths that are academically different.

During cooperative learning, students will follow the explanation of the lecturer, actively, and complete the tasks that have been given well. In cooperative learning, students must also establish communication between fellow members in the group, the lecturer must actively monitor the activities of students both individually, and in groups. Lecturers also always evaluate individually and in groups in the form of monitoring by making an assessment grid in accordance with types / learning materials provided in order to avoid errors in assessment during the learning process. The emphasis on this research is the assessment of study groups without neglecting the assessment of individual students. Learning objectives in the form of group learning / cooperative learning is to achieve the highest and maximum

learning outcomes with acceptance of diversity, and the development of students' social skills.

The achievement of learning outcomes includes a variety of objectives including social goals so that it looks at how students integrate with their friends in completing a task that can be considered a project. Thus, in real world of work later, they are accustomed to working together / team work in making and completing their work because in the real world humans must be able to work together to achieve certain goals. It is impossible for a project to be done without others` help, of course it needs professionals. As it is explained earlier, these students are very diverse in their abilities. The task of learners is to develop their skills in diversity. In this case, Slavin and experts believe that cooperative learning can change young people's cultural norms and make culture more able to receive outstanding achievements in various academic tasks. Thus, Slavin and other experts can use this cooperative learning.

In the study of Fashion Design Production, it takes several competencies that must be possessed by students to complete a project such as making a clothing / clothing. Some the required competencies are the ability to design clothes / designers, the ability to design patterns / patterns maker and the ability to sew clothes / sewers or sample maker and may require other abilities, such as; designing embroidery / embroidery designs. To complete a dress, all of these abilities are needed to collaborate well, in accordance with the design / plan that has been agreed upon, or in accordance with the demands of consumers or buyer later.

Cooperative learning that researchers do is based on CTL (contextual teaching and learning), because this group learning is very closely related to CTL-based learning, namely with the components of CTL. Johnson states "CTL is a system and educational process that the academic material they are studying with the context of their personal, social, and cultural circumstances." To achieve this aim, the system encompasses the eight components following: making meaningful connections, doing significant work, self-regulated learning, collaborating, critical and creative thinking, nurturing the individual, reaching high standards, using authentic assessment.

Contextual in teaching and learning is a system in the educational process that can help students to relate learning material with the real-world situations they face every day, includes the personal, social, cultural and cultural context of their environment, to achieve the stated goals. There are 8 CTL components, namely: (1) making a meaningful relationship (2) doing work which means (3) independent learning (4) Collaboration (5) critical and creative thinking (6) appreciating individual differences (7) Setting high standards (8) using authentic assessment [3].

Almost all CTL components are closely related to cooperative learning strategies, in this study researchers used group learning methods for several subjects / lectures on Fashion Design Production, namely material; 1) miniature party clothes (for doll clothes). 2) production of work clothes designs, 3) work clothes (uniform clothing) made by several product samples. The materials are carried

out in the form of group learning (small groups) consisting of 3 personnel.

II. METHOD

The research methodology used in this part of the research is action research. The data was obtained from the assessment of student learning outcomes in groups on subjects that were determined / selected according to the teaching material suitable for group work in order to see the students' ability to learn in groups, and personally. Action research is carried out by using cycle learning during the research process. The first cycle is making miniature party clothes for dolls. The second cycle is making sample production for work clothes. The best results of the production design is allowed to follow the third cycle. The third cycle is producing several samples work clothing production. Action research needs to be done in order to improve the ability and skills of students to get maximum result. The object of research was the 2014 undergraduate students in the Fashion Study Program. Action research is carried out with a model as stated by Kemmis. He says, "action research is participatory, collaborative research which arises from the clarification of some concerns generally shared by group, people describe their concerns, explore what other think, and probe to find what it might be possible to do." In the discussion, they decide which one that would be feasible to work on a group project. The group identifies as a thematic concern. The thematic concern defines the substantive area in which the group decides to focus its improvement strategies. Group members plan action together, act and observe individually or collectively, and reflect together. They reformulate more critically informed plans [4].

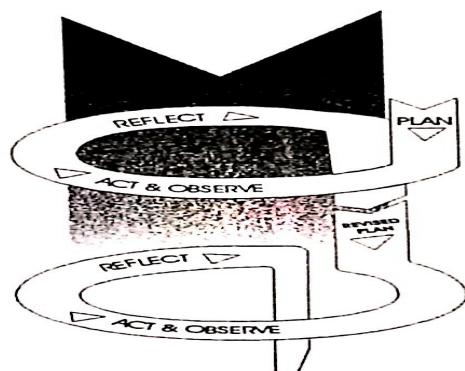


Fig.1 Action Research

This research is participative and collaborative, where there is a concern of a group of people to carry out investigations that might be possible to improve and enhance learning outcomes (a project / work) and jointly make the right and critical formula for the next plan.

III. RESULTS AND DISCUSSION

In this study, group values have been generated each cycle that can be seen in the following tables. In the tables can be seen the weight / percentage of student values in accordance with the predetermined grading based on

competencies that must be have students in accordance with the demands of the course based on the synopsis / description of the course. In this lecture, it is needed the ability to design, make production designs, design materials, design patterns and fashion clothes to completion, for the production needs of both garments and individual businesses.

Assessment grilles make miniature party clothes for dolls (miniature party dresses). The data in the table consist the subject matter / lecture material making party dress chemistry for dolls, as well as an action for cycle 1. In the total value of the group, it can be seen that the group value is still not maximal. Students have difficulty in sewing clothes because the size is very small, so the neatness of the seam is not maximal. The value / weight of designing, production design, breaking patterns and designing materials are almost good.

From group value for cycle 2, it can be seen that the number of values increased sharply compared to the first cycle. The subject that was designed was to make design fashion work production ranging from: design, production design / detail design, designing patterns / patterns and designing ingredients. From the grids that are assessed according to the competencies needed to design a work-clothing model, results are almost perfect.

TABLE I. Every Cycle and Average Per Cycle

Table 1 Every Cycle and Average Per Cycle						
NO	Group Code	Cycle 1	Cycle 2	Cycle 3	Total Value	Average
	Topic	Miniatur Party Wear	Work Wear Prod Design	Work uniform wear		
1	Group 1	72	89	87	248	82,67
2	Group 2	87	85	89	260	86,67
3	Group 3	89	89	92	268	89,33
4	Group 4	63	77	67	207	72,67
5	Group 5	74	79	73	226	77,00
6	Group 6	74	82	77	233	80,33
7	Group 7	71	82	81	234	79,33
8	Group 8	68	80	89	237	79,00
9	Group 9	71	79	82	237	77,00
	Total per Cycle	668	742	737		
	Average Per Cycle	73,67	82,44	85,22		

In table above, it can be seen the final result of each group and can be compared the value of each groups in each cycle of action and the average value of each group / per cycle. In the first and second cycles there was a sharp increase, the third cycle of values was almost the same, there was very little difference, this was because the material in the third cycle was more difficult and complicated. The results were still quite high, for the category of work done in groups.

The results of this study have been able to improve the ability and skills of students in the form of group learning / cooperative learning, so they have been able to work on a project together with good results. The emphasis is how students are able to work together and interact in their groups so that they can appreciate the differences in the superiority of each member academically. Diversity is used as the strength of the group itself to produce high-value and useful products. This is in line with research entitle

"Exploring creative pattern cutting and draping for zero-waste design." They explain how a group works in designing fashion products using cooperative learning approaches, members (designer, pattern maker and sewer / sample maker) can save the use of materials by using the draping method or using a three-dimensional pattern processing system [5.]

Then, next study is about the effect of cooperative learning strategy on students learning experience and achievements in mathematics. The result of the study showed that cooperative learning has significant changing as compared to traditional method. CL is an enjoyable and effective teaching strategy and it can improve learning achievement [6].

The other study also conducted a research about cooperative learning in higher education, namely differences in perception of contribution to the group. It took 48 students as sample, and they divided into working groups of between 3 and 5 people who participated in the same specialization seminar held in the academic year 2010/2011 (39 students) and 2011/2012 (9 students). The result of this study can be summarized in the following result; (1) work indicator; the mean of the proposed variable (dif) is positive, which means that the assessment given to students analyzed is greater than that perceived by the student him/herself. (2) The result from participation, organization, and overall assessment showed negative values in the three cases. Therefore, the students perceive that their contribution to the group is greater than other teammates gave to their work in the process in cooperative learning. (3) Cohesion indicator showed that it is very similar to the previous indicators; the values of the variable dif are negative for the total sample and for the first sub-sample (academic year 2010/2011). However, the second sub sample (academic year 2011-2012) did not show any differences between individual self-evaluation and the evaluation made by the group. (4) Communication indicator showed that it varies between the total sample, the first sub-sample, and the second sub sample. The dif mean is negative in the first cases (the students value themselves above the grade assigned by the rest of the group members) whereas the value becomes slightly positive in the second case (each student evaluates him/herself exactly the same as his/her team-mates) [7].

CTL is a conception of teaching and learning that helps teachers relate subject matter content to real world situations, and it motivates students to make connections between knowledge and its applications to their lives as family members, citizens, and workers and engage in the hard work that learning requires. Thus, CTL helps student to relate the content they are learning to life contexts in which that content could be used. Students then find meaning in the learning process. As they strive to attain learning goals, they draw upon their previous experiences and build upon existing knowledge. Thus, multidisciplinary manner and in appropriate contexts are able to use the acquired knowledge and skills in applicable contexts[8]

[9] Fashion design education, stated that due to the rapid and volatile changes occurring in the industry, the future role

of fashion designer will require the ability to perform deeper levels of research in order to support design proposals. Fashion designer will be expected to engage with previously unrelated practices to create innovative fashion design, contextualize the work, and improve industry systems. Academia is considering how to prepare graduates for this accelerated and highly unpredictable professional landscape by reimagining the future of fashion design education. Educator will increasingly focus on developing students' conceptual skills and design processes within curricula that provide greater interdisciplinary opportunities. While this approach is being lauded by many people, especially those in the fashion design industry-stress. They said that a balanced education incorporates the development of conceptual thinking and "han practical on" skill is needed. Isika, Juliet Kaindi, have conducted research about the competencies of fashion design teacher in public institution of higher learning Nairobi. Real' fabric draping involves the use of sample textile, fabric or cloth to make pattern or garments on a model or dress form stands manually. The technique is suitable for ready-to-wear and couture garment designs, and it has numerous advantages, including satisfaction with garment fit, accurate proportions of fabric division and reduced time waste. Numerous studies in Kenya have been carried out in Home Science subject. However, little documentation exists on 'real' fabric in draping by teachers in public institutions of higher learning and fashion designers in Nairobi County, Kenya, and it assesses the competencies of fashion design teachers in Nairobi County, Kenya. It also examines the relationship between the use of 'real' fabric draping for design and the teachers' area of training. The study was guided by the activity theory and pedagogic activity system structure. Employing a cross-sectional survey research design, five public institutions of higher learning were purposively selected [10].

According to the inherent characteristics, fashion industry is different from traditional industries. By taking the most important categories in the fashion industry, such as clothing, jewelry, animation industry, cosmetics, consumer electronics as an example and summing up four kinds of profit model, profit pattern of applicability are very wide. Profit model has carried on the concrete analysis to the fashion industry. Finally, based on the fashion industry problems arising from the current situation of the development, the corresponding suggestions are given.

It can be concluded that there are two aspects of research. The first is that research perspective is too narrow. For the rich variety of fashion industry, only from the perspective of profit model analysis is not enough. The second is the single research method. In the form of case study, research fashion industry cannot have certain theoretical basis for general conclusions. The growing importance of the fashion industry for economic development will attract more social scholars into fashion industry study [11].

Joana, was conducted research about basic design for designing a succesful garment. To facilitate the design process in every art form, there are certain guidelines that all

professional designers should use. These are known as elements and principles design. This study is a survey carried out to assess the knowledge of dressmakers about basic design in the Ho Municipality of Ghana. Sixty dressmakers were randomly sampled for study. A combination of questionnaires and purposive interview were used to collect data for analysis. It was found out that all the dressmakers had an idea about only one element of design, which is line. Lack of formal education in fashion design was a major contributive factor to their limited knowledge. It can be concluded that basic design has a positive impact on the designer's performance and it serves as an important tool used to attain competitive advantage in the fashion design industry.

Lena et al conducted a research about focal interest in fashion design, which makes the perspective of act design is important in learning/teaching. The objective of the project was to introduce interaction design methods in fashion design explicit throughout the different stages of the design process in a systematic manner and to develop a general workshop curriculum in experimental fashion design focusing on the expressiveness of wearing and use. A series of test workshops were implemented to provide a foundation for reflection and critical discussions. The main results was motivated by workshop evaluations, consist of theoretical models for a systematic development of workshop exercises in fashion design aesthetics.

Kritina and shin had conducted research at the Institute of Textiles and Clothing. In this study, they discussed the importance of work experience in the industry throughout the academic year, so students face the real world of work / work environment context in the industrial world. Thus, students can work later after completing their education. In this study, it was found that students are generally able in theory in the field of fashion design, but they are less capable in professional design practice. Thus, researchers develop teaching materials in the form of WIE (Work-Integrated Education) manually and using computers. In his research, the author suggested that the government is willing to facilitate learning with adequate learning facilities so that learning outcomes is increase and students can work professionally in the field of fashion design. Beside, it needs government participation to work with related industries to facilitate students to work practices there.

This research is not an independent, but it also a personal assessment of students through individual subjects that are conducted privately. Thus, there are tasks that are made individually so that the lecturer can also see the ability of students personally. Thus, the group's value is not the final grade of a student, but it must be reconsidered after calculating the amount of value generated in the other lecture material, so this research is ongoing.

IV. CONCLUSION

The learning approach with the use of group learning strategies (Cooperative Learning) based on CTL can improve students' abilities and skills more significantly in the Fashion Design Production course because the

competencies required for students who take this course are the ability and skills to be able to work well with all members of the group / team. From the learning outcomes obtained by each group through this approach, it is found out that it is better compared to before the learning begins. The acquisition of learning outcomes is done with the cycle stages that have been carried out in this study. The planning of each cycle is determined based on the needs and analysis of the course syllabus with the teaching team. It takes into account socially cultural contextual and student needs based on the present context. Thus, students are able to adjust themselves when plunging into the real world / after completing their education.

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