COMPARATIVE STUDY OF PROJECT BASED LEARNING MODEL AND STUDENT TEAM ACHIEVEMENT DIVISION MODEL APPLICATION TOWARD LEARNING OUTCOMES AND 4C'S SKILLS IN CREATIVE PRODUCT AND ENTREPRENEURSHIP LEARNING OF 12TH GRADE CULINARY ARTS VOCATIONAL HIGH SCHOOL STUDENTS

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Abstrak

Penelitian ini bertujuan untuk: 1) menganalisis perbedaan hasil belajar siswa kelas XII Tata Boga di SMKN 7 Malang pada penerapan model pembelajaran Project Based Learning dan Student Team Achievement Division; 2) menganalisis keterampilan 4C siswa kelas XII Tata Boga SMKN 7 Malang pada penerapan model pembelajaran Project Based Learning dan Student Team Achievement Division. Penelitian ini merupakan eksperimen semu kuantitatif dengan desain pretest-posttest control group. Data hasil belajar siswa diperoleh melalui pretest-posttest, sedangkan data keterampilan 4C siswa diperoleh melalui lembar observasi. Data pretest-posttest dan keterampilan 4C kelas eksperimen diuji secara komparatif dengan data pretest-posttest dan keterampilan 4C kelas kontrol. Hasil penelitian menunjukkan: 1) kelas yang menerapkan model pembelajaran Project Based Learning memiliki hasil belajar yang lebih unggul dibandingkan dengan kelas yang menerapkan model pembelajaran Student Team Achievement Division; 2) kelas yang menerapkan model pembelajaran Project Based Learning memiliki keterampilan 4C yang lebih baik dibandingkan dengan kelas yang menerapkan model pembelajaran Student Team Achievement Division.

Kata kunci: hasil belajar, keterampilan 4C, project based learning, student team achievement division, produk kreatif dan kewirausahaan

Abstract

This study aims to: 1) analyze the differences in learning outcomes of students in class XII Culinary Arts of Public Vocational High School (SMKN) 7 Malang on the application of Project Based Learning and Student Team Achievement Division learning models; 2) analyze the 4C's skills of students in class XII Culinary Arts SMKN 7 Malang on the application of Project Based Learning and Student Team Achievement Division learning models. This research is a quantitative quasi experiment pretest-posttest control group design. Student learning outcomes data were obtained through pretest-posttest, while students' 4C's skills data were obtained through observation sheets. The pretest-posttest data and 4C's skills of the experiment class were tested comparatively with the pretest-posttest data and 4C's skills of the control class. The results showed: 1) the class that applied the Project Based Learning learning model had superior learning outcomes than the class that applied the Student Team Achievement Division learning model; 2) the class that applied the Project Based Learning learning model had better 4C skills compared to the class that applied the Student Team Achievement Division learning model.

Keywords: learning outcomes, 4C's skill, project based learning, student team achievement division, creative product and entrepreneurship

1. PENDAHULUAN

Government Regulation of the Republic of Indonesia Number 57 of 2021 and Ministry of Education and Culture Regulation of the Republic of Indonesia Number 5 of 2022 state that the competency standards of graduates in Vocational High School (SMK) students are focused on skills to improve the competence of students. In this case, SMK graduates are expected to meet the BMW standards, namely work, continue their studies and entrepreneurship. One of the efforts to foster the characteristics of students who are ready to open jobs through entrepreneurship is the implementation of Creative Products and Entrepreneurship (PKK) subjects. The entrepreneurship program is aimed at introducing entrepreneurial concepts and characters, utilizing opportunities, and direct experience to students. However, the entrepreneurship program that has been taught in SMK has not been able to produce students who have entrepreneurial attitudes, dispositions, behaviors and life skills (Prabawati & Suparman, 2019).

Based on the National Labor Force Survey (Sakernas) organized by the Central Bureau of Statistics, the percentage of unemployed SMK graduates in 2022 was 9.42% with a total of 2.148 million people. Although it has decreased in the last two years, the Open Unemployment Rate (TPT) from SMK graduates still has the highest percentage compared to graduates from other education levels (Badan Pusat Statistik, 2022). In response to this, learning is needed that can equip students with various 21st century skills. 21st century skills can be realized through learning with the 21st century learning concept. The special feature of the 21st century learning concept is the provision of skills that can help students to survive in the future because knowledge itself will not be enough for students (Maulidah, 2019). There are various basic skills that students need to become entrepreneurs who are better prepared to face the world of work. These skills include 4C skills, which are Critical thinking, Creativity, Communication skills, and Collaboration.

Critical thinking is the ability to argue in an organized way to make decisions, solve problems, and conduct scientific research (Septikasari & Frasandy, 2018). Creativity is the development of ideas and ideas combined with existing ideas and ideas with the aim of producing a new invention (Marliani, 2015). Meanwhile, effective communication according to (Septikasari & Frasandy, 2018) is a process of interaction between individuals that makes it easier for recipients of information to understand the message conveyed so that it can produce attitude change. Meanwhile, collaboration is the skill of working together, synergizing and adapting in various roles with others in order to achieve common goals (Zubaidah, 2018).

Learning models that are considered to have the potential to improve learning outcomes and hone students' 4C skills are Project Based Learning and Student Team Achievement Division. Project Based Learning can encourage students to think critically, creatively, skillfully solve problems and connect knowledge about various problems and issues in the real world (Maulidah, 2019). The Student Team Achievement Division type cooperative learning model can improve collaboration skills, motivation, and student achievement (Rilianti & Huda, 2020). The Project Based Learning and Student Team Achievement Division models are student-centered learning (SCL) where students actively develop the knowledge and skills they learn (Direktorat Pembelajaran dan Kemahasiswaan, 2014).

SMK Negeri 7 Malang is one of the schools that teaches PKK subjects. Based on preliminary studies and interviews with PKK teachers at SMK Negeri 7 Malang, it was found that class XII students have not fully absorbed the PKK material taught in past semesters as a result of the Covid-19 pandemic. Through improving attitudes, skills and knowledge, the implementation of Project Based Learning and Student Team Achievement Division methods in PKK subjects is expected to support the improvement of learning outcomes and students' 4C abilities. In this study, the Project Based Learning and Student Team

Achievement Division learning models will be integrated into the Learning Implementation Plan (RPP) that will be used for PKK subjects.

2. METODE

This study used a quasi experiment pretest-posttest method of non-equivalent control group design. The flow of this research is that the experimental class and control class are given a pretest then continued with the treatment and ended with a posttest. The research location is public vocational high school (SMKN) 7 Malang. According to (Cohen, Manion, & Morrison, 2007), generally the larger the sample used, the better, but the minimum number that researchers must take is 30 samples. Sampling using purposive sampling technique is a sampling technique with certain considerations. The consideration used is that the sample needed is class XII Tata Boga students so that the sample is taken from class XII Tata Boga. In this study, the sample used was 51 students. A total of 23 students came from class XII Tata Boga 3 as an experimental class that applied the Project Based Learning learning model and 28 students from class XII Tata Boga 2 as a control class that applied the Student Team Achievement Division learning model. The data collection steps in this study are as follows: (1) collecting data on pretest scores before learning begins in experimental and control classes, (2) collecting data on the value of 4C skills through observation sheets filled in by observers when learning takes place in experimental and control classes, (3) collecting data on posttest scores after learning is complete in experimental and control classes, (4) analyzing all data obtained in experimental and control classes using statistical tests.

The research instruments consisted of pretest-posttest questions and 4C skills observation sheets. The research instruments have gone through the validity and reliability test stages before being used in research. The results of students' answers after working on pretest-posttest questions will be analyzed using the N-Gain score to determine the level of learning effectiveness. The comparative test of pretest-posttest results and observation sheets of students' 4C skills was carried out using the Mann-Whitney U Test non-parametric statistical test after going through the normality test and obtaining data results that were not normally distributed.

3. HASIL DAN PEMBAHASAN

Analysis of Differences in Learning Outcomes of Grade XII Tata Boga Students of SMKN 7 Malang on the Application of Project Based Learning Model and Student Team Achievement Division

Analyzing student pretest results aims to measure students' initial abilities before being given a treatment process in learning. The results of the pretest can make it easier for teachers to assess students' initial abilities regarding the material to be taught (Solihin, Zulkarnain, & Widodo, 2013). In other words, this stage aims to measure students' initial understanding of product marketing material in Creative Products and Entrepreneurship subjects to be delivered. Based on the results of the student pretest analysis, although the average value of the pretest of class XII Tata Boga 2 which applied the Student Team Achievement Division model obtained a higher value than the average value of class XII Tata Boga 3 which applied the Project Based Learning model, both classes had a relatively low pretest average value. According to (Sari, Abdurrahman, & Maharta, 2014), the low pretest score is caused by students' lack of understanding of the material that comes out during the pretest. A similar opinion was also expressed by (Adri, 2020) who stated that the low pretest score indicates the low level of students' initial understanding of the material to be taught.

Analyzing student posttest results aims to measure students' final understanding after the product marketing learning process in Creative Products and Entrepreneurship

subjects. Based on the results of the analysis of posttest scores, students in class XII Tata Boga 3 who applied the Project Based Learning model obtained a greater average score than class XII Tata Boga 2 who applied the Student Team Achievement model. This is supported by research conducted by (Maghfiroh, Susilo, & Gofur, 2016) and (Rubrica, 2018) which states that there is a significant difference between the experimental group applying the Project Based Learning model compared to the control group using other learning models. These results are related to student activeness in the process of drawing conclusions and asking questions during the learning process with the Project Based Learning model (Ergul & Kargin, 2014).

The results of the pretest and posttest results obtained from the experimental and control classes were processed using the N-Gain formula to measure the effectiveness of the treatment given. Based on the results of the N-Gain calculation, in the experimental class, 43.5% had a low N-Gain score, 43.5% had a medium N-Gain score, and 13.0% had a high N-Gain score. As for the control class, 96.4% had an N-Gain score in the low category and 3.6% had an N-Gain score in the medium category. This shows that in general the learning outcomes of the experimental class are better than the control class.

Normality test was conducted with Shapiro-Wilk test. In this Shapiro-Wilk test, if the sig value. >0.05 means the data is normally distributed. Based on the results of the pretest-posttest normality test results in the experimental class and control class, both classes obtained a sig. <0.05 so it can be concluded that the data is not normally distributed so that the comparative test is continued with the Mann Whitney U Test non-parametric statistical test. Based on the comparative test of the experimental and control classes, the results obtained (1) the pretest scores of the experimental and control classes were not significantly different, (2) the posttest scores of the experimental and control classes were significantly different, (3) the pretest-posttest scores of the experimental and control classes were significantly different.

Analysis of 4C Skills of Class XII Tata Boga Students of SMKN 7 Malang on the Application of Project Based Learning and Student Team Achievement Division Learning Models

Based on the results of the analysis of the 4C skills observation sheet, class XII Boga 3 students who apply the Project Based Learning learning model have better average critical thinking skills than class XII Boga 2 who apply the Student Team Achievement Division learning model. This is in line with the results of (Issa & Khataibeh, 2021) research which states that all stages in Project Based Learning contribute to improving critical thinking skills. At the stage of determining fundamental questions, developing project plans, and developing activity schedules, students expand their perceptions and thoughts about the newly taught material with the knowledge they already have. At the stage of testing results and evaluating experiences, students can practice the skills of analyzing their data and findings to achieve clear and specific goals.

Based on the results of the analysis of the 4C skills observation sheet, class XII Boga 3 students who apply the Project Based Learning learning model have better average creativity skills than class XII Boga 2 who apply the Student Team Achievement Division learning model. This is supported by (Putri, Sumiati, & Larasati, 2019) research which states that students' creative abilities in classes that apply the Project Based Learning model provide students with the opportunity to explore material from various sources which also facilitates students' success in completing projects given individually.

Based on the results of the analysis of the 4C skills observation sheet, class XII Boga 3 students who applied the Project Based Learning learning model had better average communication skills than class XII Boga 2 who applied the Student Team Achievement Division learning model. This is in line with the results of research by

(Saenab & dkk, 2018) which states that there is a significant increase in student communication skills after the learning process using the Project Based Learning model which gives students the opportunity to convey ideas derived from information from various literature sources during group discussions.

Based on the results of the analysis of the 4C skills observation sheet, class XII Boga 3 students who applied the Project Based Learning learning model had better average collaboration skills than class XII Boga 2 who applied the Student Team Achievement Division learning model. This is reinforced by (Ibrahim & Rashid, 2022) research which states that Project Based Learning helps students become more responsible for contributing to their group.

The normality test was carried out with the Shapiro-Wilk test. In this Shapiro-Wilk test, if the sig value. >0.05 means the data is normally distributed. Based on the normality test results of the pretest-posttest results in the experimental class and control class, both classes obtained a sig. <0.05 so it can be concluded that the data is not normally distributed so that the comparative test is continued with the Mann Whitney U Test non-parametric statistical test. Based on the results of the comparative test of 4C skills in the experimental and control classes, there are significant differences in critical thinking, creativity, communication and collaboration scores between the two classes.

4. SIMPULAN DAN SARAN

The experimental and control classes had pretest scores that were not significantly different. The experimental class had a higher mean posttest score than the control class. Overall, the experimental class had a higher N-Gain score than the control class. The results of the comparative test of posttest scores in the control class and experimental class have significant differences in value. The results of the comparative test of students' 4C skills showed that the experimental class generally had better 4C skills than the control class.

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