



The Analysis of Animated Media and Portfolio PjBL Models to Improve the Competence of Vocational High School Students

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Abstract

Effective and efficient learning can be done by using the right learning model. In this study, the PjBL learning model was used to improve student competence. The research methodology is Research and Development (R&D). Respondents in this study were 50 students. The method of data analysis in this research is descriptive non-parametric with data analysis using one-way ANOVA. The results of the study are as follows: 1). The model test in the field shows that the PJBL model is effective in increasing student competence, at the Surakarta Christian Vocational School it shows results in the form of the four desired competencies. PJBL animation media and portfolio assignments. The competence of students of SMK Negeri 7 Surakarata also showed very good results with a significance value of 0.05 from the four competencies being studied, this shows the effectiveness of the animation media PJBL model and portfolio assignment.

Keywords: *PjBL Learning Model; Animation Media and Portfolio; Competence*

Introduction

Vocational learning must emphasize student-centered learning and student competence (Hery, 2014). In this case, learning can be combined with various technologies. One of them is in the process of learning theory in the classroom. Students can be stimulated to think creatively and think ahead. The use of information technology is needed because the field of study in Catering is one of the fields of study that demands creativity in its work. According to Hamidah (2012), in learning in vocational high schools (SMK), especially the Catering program, some vocational teachers in DIY that teachers lack adequate skills in managing soft skills learning at the classroom level, teachers also still experience problems in evaluating soft skills. This is based on the fact that a good mastery of soft skills can encourage students to master hard skills better.

Teachers have several problems including, the learning model taught tends to be monotonous by using only one type of learning model. Project-based learning methods (Project Based Learning) can stimulate students' thinking (Erniasih et al, 2018). In the use of innovative media, there needs to be a

stimulus that can trigger students' thinking power in solving the problems at hand. Media plays an important role in the 21st-century learning process. The media can provide a stimulus to students so they can think creatively and apply it in projects that will be initiated. According to Asri et al (2018), the use of 2D animation is also very popular among students because the content is interesting and still has elements of youth, in the course of which animation media is often used in various learning media, both main teaching materials and side teaching materials. Based on this phenomenon, the purpose of this study is to analyze the animation and portfolio media pjbl model to improve the competence of vocational high school students.

PjBL (Project-Based Learning) Model

The Project Based Learning learning model is a learning model in which real problems in the world of work are appointed as the basis for problems that are solved through projects (Sudira, 2018). According to Trianto (2014) Project Based Learning is an innovative learning model or approach, which emphasizes contextual learning through complex activities. According to Wena (2014), the Project Based learning model is a learning model that provides opportunities for teachers to manage to learn in the classroom by involving project work.

From several opinions, it can be concluded that the Project Based Learning learning model is an innovative learning model that uses projects as independent and group learning based on problems related to real life. The steps of the PjBL learning model are as follows: Fundamental questions, designing product plans, drawing up a manufacturing schedule, monitoring project activity and development, testing results, and evaluating learning experiences (Rais, 2018).

Animation Media and Portfolio Assignment

MAP or animation media and portfolio assignments are one of the breakthroughs in educational media and assignments to students, in which students are expected to achieve 21st-century competencies which are currently being intensified by the government to welcome the creation of an industrial society 4.0. The use of media and this assignment is an initial stimulus for students in doing the tasks given by the teacher. Animation is a process of recording and playing back a series of static images to get an illusion of movement (Fernandes, 2002). Making animation is categorized into three stop motion, traditional animation, and computer animation.

The theory that underlies learning by using portfolio assignments is based on the theory of constructionism learning, in which students are asked to form their own knowledge that has been obtained through interaction with the surrounding environment, the most common principle of this learning is that students can look for reference materials from outside the school. Learning that uses portfolio assignments as described above has a positive impact on students because the diversity in learning resources is not only centered on the teacher but centered on the students themselves, such learning stimulates student performance to be more competent and students can develop cognitive affective abilities, and psychomotor (Ratih, 2017).

Research Framework

Research conducted by Yuanita (2019) found graphic videos able to improve student learning outcomes, Lisna's (2019) research results PjBL learning models were able to increase student competence, Iskandar (2020) found learning media were able to improve the competence of vocational high school students. Ratih's research (2017) the portfolio learning model is able to increase student activity.

Learning is an activity of the teaching and learning process carried out by teachers and students to achieve certain goals. Teaching and learning activities carried out at this time are limited to listening, reading, and answering questions if the teacher asks. These activities make students' motivation and interest in the subject of Food Processing and serving decrease and as a result, their thoughts on learning Food Processing and Serving are only limited to boring lessons and must be carried out.

Research questions as follows;

- 1) How is the level of effectiveness of the Project Based Learning learning method integrated with Animation media and Portfolio assignments based on functional learning?
- 2) How is the feasibility level of the Project Based Learning learning method integrated with Food Processing and Serving learning media using Animation media and Portfolio assignments in terms of the assessment of experts and respondents in Vocational Schools?
- 3) What is the impact of the Project Based Learning learning method on the integrated learning media of Food Processing and Serving using Animation media and Portfolio assignments in terms of the test results given to students?

Methodology

The research method is that this research was carried out using the Research and Development method or R&D (Research and Development) using the ADDIE model from Dick and Carry. In research and development methods ADDIE stands for Analysis, Design, Development or Production, Implementation or Delivery, and Evaluations. This data collection was aimed at students at SMKN 7 Surakarta and SMK Kristen Surakarta in the Catering Department. The number of participants taken as a sample of this study amounted to 50 students from two different schools.

Findings and Discussion

The results of the research from the analysis stage are that learning in schools still uses traditional learning methods that have not been added to methods that support student creativity. In practicum learning, students are freed to make the presentation of the dishes made, but the teacher does not facilitate students to think. Therefore, the researcher designed this research in order to motivate students and make lessons more fun. In the next stage, the researcher analyzed the PjBL learning method, to dissect the flow of the learning method so that it could be updated and included in the learning media. Next, do the development stage; 1). Development of learning books. In this case, the material that the researcher takes is the material for processing and serving Indonesian food, the sub-chapter of Indonesian salad. This material is the basic material in these subjects, the researchers consider that the basic material can be easily combined with other media, as well as adding to the students' creativity techniques in teaching. In developing this book, the researcher used two main sources and several additional sources, the sources are the culinary material book issued by the Ministry of Education and Culture and the professional chef book from The Culinary Institute of America. 2). Development of learning animation media, learning animation videos with a duration of 11 minutes 17 seconds. The learning animation video has gone through a validation process from media experts and subject teachers. The subject teacher in question really welcomes the animated video because it is suitable and worthy to be used as learning material, and 3). The development of the Pjbl learning model is in table 1.

Determination of Fundamental Questions	Designing Project Planning
The teacher gives students an understanding of the material to be taught using animated videographic media and creative power points, and the teacher gives problems that will become student projects.	Teachers provide opportunities for students to design project designs that will be made by motivating students through learning media
Schedule	Monitoring Students and Project Progress
The teacher arranges a project schedule so that the project initiated will be held on time	The teacher monitors the progress of student projects by means of students consulting the projects they make
Test Results	Evaluating Experience
Students test or create projects that have been designed and compiled and have received approval from the teacher.	The teacher evaluates the student's performance after the process of testing the results by means of the students making a portfolio in the form of infographics during the project creation process.

(Source: Risky Kuku, 2021)

At the time the research took place, teachers and researchers gave students and groups of students a value where the value was the performance value and competency value that would be used as a reference whether it was successful or not. choose good and good students but judge fairly and honestly. After all the processes have been carried out, students collect infographic portfolios and the assignment is made into a wall magazine or made a poster to provide information to other school members with the aim of increasing giving to those used as research material.

The final stage of this research is the evaluation of the results of the research that has been carried out to students. The results of the evaluation of learning media are that the animated video is still a little less interactive and a little lacking in terms of appearance, there is input for video animation if it can be given a voice narration that explains the material. However, in terms of information and learning materials, it is quite good and has new information, because the material itself is a combination of two foreign language books and books that have been published by the government. The learning model carried out by researchers according to subject teachers is rarely used, so that it can generate student interest and interest in learning, as well as animation media and portfolio assignments are relatively new in learning, this is due to the limitations of available learning media. This learning model and media can still be developed better with various projects and other subjects.

From the results of the analysis using the SPSS application, the results obtained from the Surakarta Christian Vocational School as obtained the results that of the 6 statements that refer to critical thinking, 4 of them are significant with a significance value of 0.05, which means that the model developed is effective in lessons and assignments. While the other 2 do not have a relationship yet because the significance value is more than 0.05. From these results, it can be concluded that the effectiveness of the use of learning models can still improve critical thinking competence. While the results of SMKN 7 Surakarta are very good and all students have critical thinking competence in this study. This is evidenced by the results or data that have been processed using the SPSS application and all aspects have a significance below 0.05, which means the significance level is good.

The feasibility of media work is carried out to determine the effectiveness of the media in ongoing learning. Learning media consists of student guidebooks along with portfolios and animated

learning media. In this case, there are 27 items for the feasibility of the material in the student manual and there are 26 items for the feasibility of animation media.

In terms of media feasibility, several aspects are needed in its development, this is because this learning media can and is able to meet appropriate and relevant learning standards when used. From all aspects that were tested on expert lecturers, it was found that this learning media deserves to be tested on students. The learning aspect of the student guidebook media is an aspect to see whether the material contained in the guidebook is in accordance with ongoing learning or whether it is appropriate. with learning materials and learning objectives. In this aspect, there are 9 items of the serviceability test and the results of this feasibility aspect test get an average final score of 3.2 from two material expert lecturers. This is good because the number 3 out of a scale of 4 indicates that the learning aspect is feasible. The overall results of the tested aspects indicate that the results are said to be feasible to be tested. This can be accounted for by the results of the validation scores from expert lecturers and subject teachers in question. These results indicate that the PjBL learning model integrated with animation media and portfolio assignments can be tested or can be distributed as research tools or learning aids.

The impact of developing PjBL learning models integrated with animation media and portfolio assignments is seen from the learning outcomes obtained during the research and obtained from the post-test and pre-test results by calculating each test using a t-test using the SPSS application. Before using the t-test, the researcher used a different test. Statistical test results show that the significance value is 0.000, which means that the value is less than 0.005 which indicates that this research has a significant effect on ongoing learning in the Vocational School which is the place of research. From the results of the two schools studied, the pre-test and post-test scores showed a significant comparison so this study had an impact on learning Indonesian Food Processing and Serving. In this case, it also shows that the development of PjBL learning methods integrated with animation media and portfolio learning can improve students' competence in four different areas.

Conclusion

Based on data analysis and discussion conducted in research on the development of PjBL learning methods integrated with animation media and portfolio assignments, namely: 1). the development of learning tools in the form of PjBL syntax which is integrated with animation media and portfolio assignments and textbooks is very good and in the manufacturing process, many go through the revision process and the process of improvement in terms of material and application. feasibility, an integrated learning model of animation media as a whole based on data analysis that has been carried out states all aspects are feasible to be used in learning. These aspects include learning aspects in manuals, material aspects in guidebooks, benefits aspects in guidebooks, consistent aspects in animation media, interactive aspects in animation media, real-time aspects in animation media, and visual aspects in animation media. animation. This is evidenced by the results of the validity of expert lecturers and subject teachers who assess that all aspects are feasible to use in learning. 2). The impact of the PjBL learning model integrated with animation media and portfolio assignments in the Indonesian Food Processing and Serving subject received a very positive response. From the results of the pre-test and post-test observations, the results were in the form of an increase with an average of 17 points, where this increase can be categorized as significant and can increase students' competence and grades in learning. Based on the tests that have been carried out between schools, the results show that the significance value is below 0.05 and there are no results that show differences in research between the two schools being tested in terms of learning Indonesian Food Processing and Serving.

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