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The Effectiveness of Project-Based Learning Model Teaching Materials Fantasy Hair Bun

Annisa Anugrah A.✉, Sri Endah Wahyuningsih, Nur Qudus

Pascasarjana, Universitas Negeri Semarang, Indonesia

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Abstract

Learning activities on fantasy hair bun material require students to create the design of the arrangement before engaging in practical activities. However, the practical results of the fantasy hair bun do not align with the students' initial designs. Students find it challenging to produce fantasy hair bun arrangements that match their created designs. This study aims to analyze the feasibility, practicality, and effectiveness of the Project-Based Learning teaching materials on fantasy hair bun. The research adopts the Research and Development (R&D) method with the ADDIE procedure, which consists of Analyse, Design, Development, Implementation, and Evaluation stages. The research design used a Quasi-Experiment. The results of the feasibility test, based on assessments by three experts, produced an average score of 3.64, indicating a highly feasible category. The practicality test results, conducted with 36 students, produced a total score of 1909 with an average score of 53.2, falling under the highly practical category. The effectiveness test used the N-gain test which was carried out in both classes, namely the experimental class and the control class. The results of the N-gain calculation of the experimental class were 0.42 while the average N-gain of the control class was 0.10, so learning using the PjBL model teaching materials was more effective in improving student learning outcomes on bun material development research resulted in a product in the form of Project-Based Learning model teaching materials that have a positive and beneficial impact on fantasy hair bun learning activities. Based on the research findings, the developed Project-Based Learning teaching materials are highly feasible, highly practical, and effective for use in fantasy hair bun material learning.

✉ Correspondence:
Pascasarjana, Universitas Negeri Semarang,
Jalan Kelud Utara III, Semarang, Jawa Tengah, Indonesia 50237
E-mail: aprilia.annisa.aa@gmail.com

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INTRODUCTION

Students at the Vocational High School (SMK) level must be equipped with abilities in the aspects of attitude, knowledge, and skills. Vocational High Schools (SMK) always prioritize the development of soft and hard skills aspects of students. In line with the opinion of Karend (2020) that, this supports the goal of revitalizing SMK, namely forming students to form students who are ready to enter DU / DI (the world of work) according to their field of expertise. In this regard, especially in hair beauty expertise. A superior workforce in this global era is a workforce that masters 21st century skills such as critical thinking, creative thinking, collaborating, communicating, compassion, compuatation (6C). This needs to be strengthened and included in the 21st century-oriented learning process, and adjusted to the type of career path in each career in each expertise program (Bunyamin, 2022). The curriculum currently used in Indonesia is the Merdeka Curriculum. The implementation of this curriculum focuses more on essential material and makes students more active, creative, and innovative. The Merdeka Curriculum refers to the student talent and interest approach, where students have the freedom to choose subjects that match their talents and interests with learning methods based on specific projects (Project Based Learning). Therefore, a learning strategy that is applied is that students implement the material they have learned through project activities. In accordance with the learning strategy applied by the curriculum, Project Based Learning is one of the recommended learning models to be applied in learning in the Independent Curriculum. Widiana (2021) argues that this learning model provides opportunities for students to create a project in solving a problem. The teacher is a facilitator in encouraging students to discuss and solve problems and ensuring that students remain active during project activities.

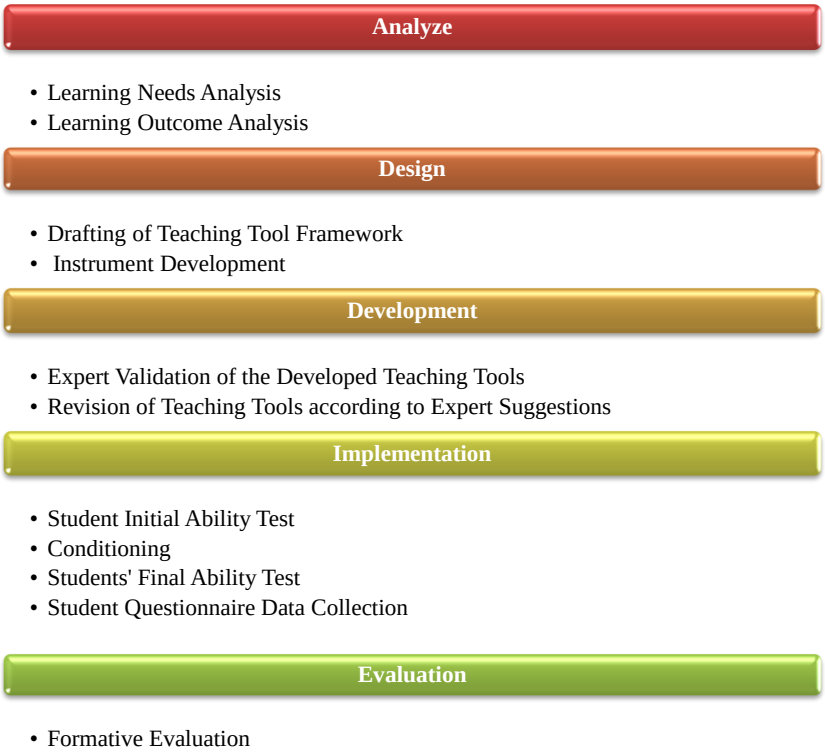
Fantasy Bun Styling material is one of the materials that must be taken by students in the Traditional, Modern and Creative Bun Styling course found in the Skills Concentration course. Fantasy bun is a free-form bun that displays the skills and skills of hairdressers with certain themes as a manifestation of creativity that aims to beautify themselves through hair styling. Making a bun design drawing is the first step that students must take before practical activities take place. Making a fantasy bun styling design, learners are given the freedom to fantasize and imagine according to the theme that has been chosen. Learners must ensure that the styling design made must be similar to the results when practiced. Kuswidyaningrum (2021) argues that students are required to be able to develop the ability to develop their thinking skills in order to create creativity and skills in styling and shaping buns in accordance with the material taught. Based on observations of teachers at SMK Negeri 6 Semarang, the obstacle in learning fantasy bun styling is the result of bun styling practice that does not match the design that students have made. Students find it difficult to create their work according to the design that has been made.

The first step that needs to be done is to develop related teaching tools, learning activities that begin with making learning tools consisting of Teaching Modules, Teaching Materials and Project-Based Learning model guides. Through the development of teaching tools, it is hoped that it is not only a guide for teachers and students in implementing learning, but also can spur activeness and creativity and foster enthusiasm in participating in learning so that students are free to bring up creative ideas and explore their potential. Project Based Learning (PjBL) model teaching tools developed according to needs can be a solution to existing problems. Project Based Learning (PjBL) can be defined as learning with long-term activities that involve students in designing, creating, and displaying products to solve real-world problems (Benik, 2019). Nurhidayah (2021) argues that education is currently faced with 21st century skills, so this PjBL learning model is considered capable of being used to develop 21st century skills. Research conducted by Khamdun (2021) and Dwiyanti (2020) developed project-based teaching tools to support learning. This research develops teaching tools that focus on project-based learning activities on fantasy bun material. The benefits contained in this research are to develop teaching tools that are feasible and

effective to use as a teacher's guide when teaching so that learning is more directed and makes it easier for students to achieve competence.

METHODS

This type of research is Research and Development (R&D) with the ADDIE model approach. The design in this study used a Quasi Experiment with a pretest-posttest control group design. According to Sugiyono (72: 2016) the quasi-experimental research method is a research method used to look for the effect of something that is given treatment on others under conditions that can be controlled. This development research procedure uses the ADDIE model which adopts from Robert Maribe which consists of 5 stages namely Analyze, Design, Development, Implement, and Evaluate. The research was conducted at SMK Negeri 6 Semarang with 2 classes consisting of experimental and control classes with each class consisting of 36 students. This study used data collection techniques, namely interviews, observations, tests, questionnaires and documentation. The subjects of this study were 36 students of class XI at SMK Negeri 6 Semarang. feasibility test of learning devices developed based on expert judgment which amounted to 3 experts.



Source: Researchers Document

1. Analyze

Analyze is the initial stage in this development research. The stages carried out are analyzing the needs of teaching devices and analyzing the ability of students on Fantasy Bun material. Based on the results of observations and interviews, researchers get the following needs analysis data: 1) There is no development of Project-Based Learning model teaching tools to help and facilitate teachers in implementing learning. Based on the needs of teachers and students in the implementation of project-based learning, project-based teaching tools are needed as a guide for teachers. 2) Learning outcomes have not been maximized in the material of styling a famtasi bun. Therefore, researchers developed a PjBL model teaching tool for fantasy bun material to improve student learning outcomes.

2. Design

Design is the second stage of the ADDIE model which is carried out to facilitate researchers in the preparation of teaching devices that are being developed. The design stage includes the preparation of the initial draft of the Project-Based Learning model teaching device components and the preparation of instruments.

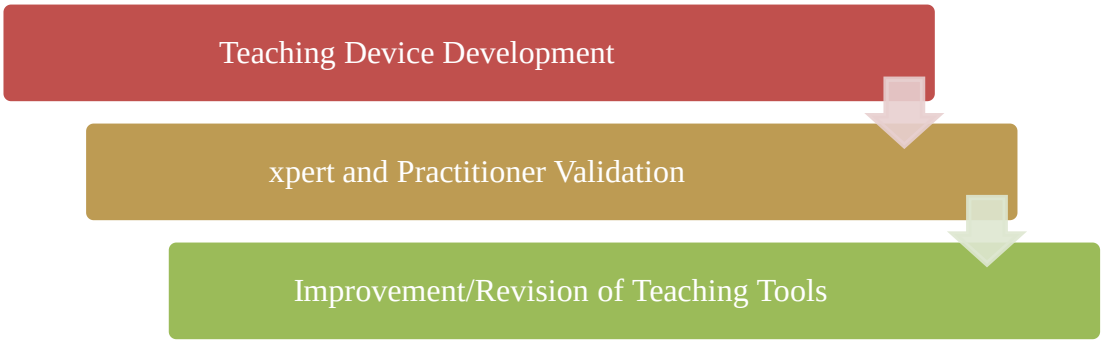
Component	Description
Cover	The first look at the teaching tool that contains the title, phase and school level
Table of Contents	Make it easier for readers to find specific pages
Learning Objective Flow	It is a series of learning objectives developed in order to achieve a Learning Outcome (CP). This research consists of 3 Learning Objectives (TP)
Teaching Modules	Contains a series of lesson plans in the classroom that are systematically organized in one material topic.
Teaching Materials	Contains subject matter that is organized according to the learning objectives to be achieved.
Project-Based Learning Model Guide	The Project-Based Learning model guide consists of 5 stages of project activities from Karagoca to be implemented.

Source: Researchers Document

The preparation of the instrument consists of 2 types, namely questionnaire instruments and test instruments. The questionnaire instrument was addressed to experts (expert judgment) and students of class IX SMK Negeri 6 Semarang which amounted to 36 people. The expert validation questionnaire instrument was designed with the aim of getting an assessment and input on the teaching tools developed. Furthermore, the design of the student questionnaire instrument contains 15 questions regarding the implementation of learning using the Project-Based Learning model teaching tool. Furthermore, the test instrument aims to measure the achievement of student learning outcomes carried out before learning (prestest) and after learning is complete (posttest). The test instrument consists of 30 questions in the form of multiple choice.

3. Development

Development is the third stage in the ADDIE model. The development stage aims to see the extent of the feasibility of teaching devices that have been designed. This stage is a follow-up to the design stage. Activities in development consist of the following:



4. Implementation

The implementation stage is the stage of applying the teaching tools developed in classroom learning. The application of teaching devices can be carried out after the results of the expert judgment test meet the criteria and are declared feasible. This implementation stage, the teacher applies the teaching tools developed by the learning researcher to students totaling 36 students in class XI of the Beauty Study Program of SMK Negeri 6 Semarang. The 36 students each gave feedback on the learning that applied the teaching tools developed by the researcher. The results of student responses are taken into consideration to test the effectiveness of the teaching materials developed. The implementation stage in this research is also carried out by giving instruments to test students' abilities at the beginning and at the end of learning. The pretest instrument was given at the time before and the posttest was carried out after treatment.

5. Evaluate

The final stage in the ADDIE model is Evaluation. Evaluation is carried out with the aim of knowing whether or not there are deficiencies / weaknesses in learning using the PjBL model teaching device. Activities in this evaluation stage, researchers analyze the effectiveness of the Project-Based Learning model teaching device. If the teaching tools developed have been improved according to expert input, then the teaching tools are suitable for use.

RESULT AND DISCUSSION

A. Feasibility test of Project-Based Learning model learning devices

The purpose of the feasibility test is to determine whether the Project Based Learning model teaching tools developed are feasible or need improvement. Experts/experts who become validators assess and provide input on products developed through validation instrument sheets. There are 3 experts in this study who are lecturers and practitioners (subject teachers) with assessment indicators, namely teaching modules, teaching materials and Project-Based Learning model guidelines. All three are components in the teaching device developed. The validation results from 3 experts showed that the Project-Based Learning model teaching materials was declared very feasible to use with an average assessment value from 3 experts of 3.64 which was included in the very feasible category. The following is a recapitulation of the feasibility assessment:

No.	Assessment Components	V 1	V2	V3	Averages	Category
1	Teaching Modules	3.86	3.85	3.57	3.76	Very Feasible
2	Teaching Materials	3.5	3.5	3.00	3.34	Feasible
3	Project-Based Learning Model Guide	4.00	3.5	3.25	3.6	Very Feasible

Source: Researchers Document

The table above is a recapitulation of the results of the experts' assessment with a very feasible category. This means that the Project Based Learning model teaching device is suitable for use in learning.

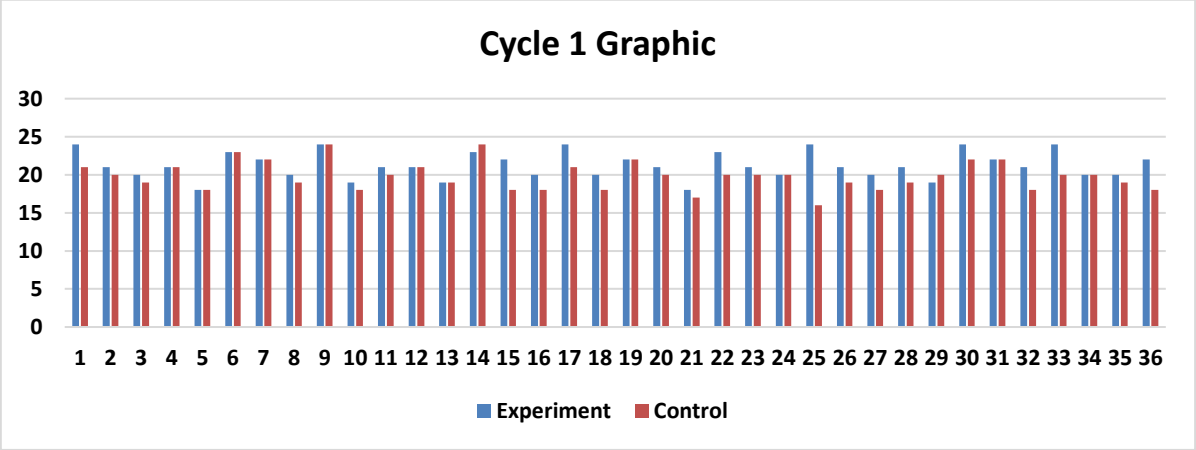
B. Practicality Test of Project-Based LearningL Model Teaching Material on Fantasy Hair Bun

Respondents in the practicality test were students of class XI of the Beauty Expertise Program of SMK Negeri 6 Semarang. The practicality test stage was carried out through filling out a student response questionnaire. Data were collected through a questionnaire instrument containing 15 questions with 4 answer options. Based on the results of the practicality test by 36 students, the total score was 1909 with an average score of 53, 2 which is included in the very practical category.

C. Effectiveness Test of Project-Based LearningL Model Teaching Material on Fantasy Hair Bun

1. Cycle 1

Cycle 1 in this study describes the initial activities in classroom learning. Before starting learning activities, a pretest was conducted to measure the extent of students' abilities on the material to be presented. Measurement of students' initial abilities using a multiple choice test instrument totaling 30 items carried out in both classes, namely the experimental class and the control class The results of the acquisition of students' initial ability tests (pretest) in cycle 1 are described in the following graph:

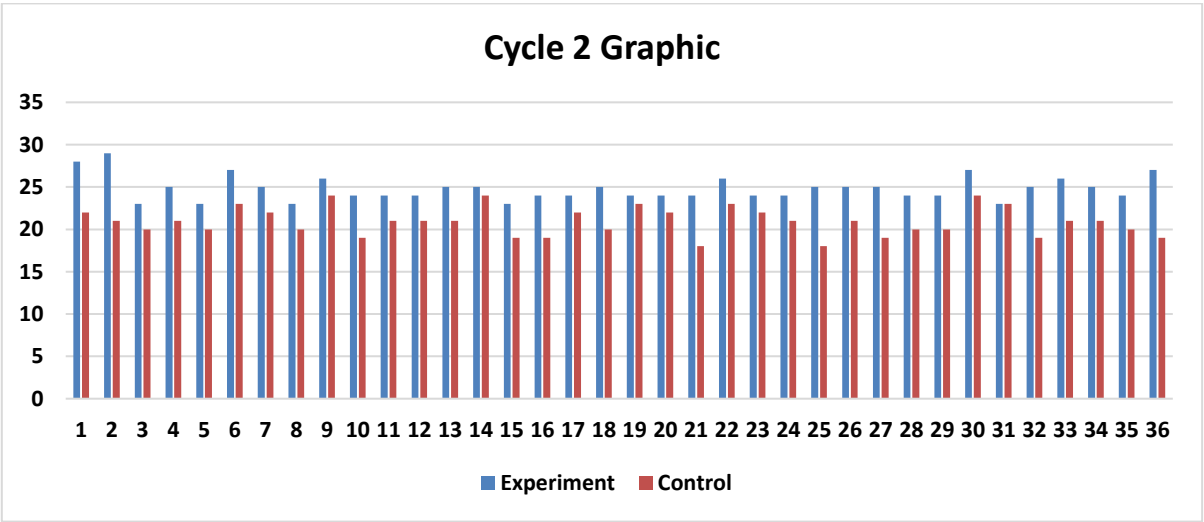


Source: Researchers Document

The graph in cycle 1 shows the results of the acquisition of pretest data by 36 students in the experimental and control classes. Based on this graph, it can be seen the extent of the initial ability of grade XI students related to fantasy bun material. The results of the calculation of the average score in the experimental class were 21.14 and the average score of the control class was 19.86.

2. Cycle 2

Cycle 2 describes activities after learning is complete. Furthermore, the final ability test / posttest is carried out which aims to determine the ability of students after the learning is complete. Where the experimental class applies the Project-Based Learning model materials while the control class is given the learning treatment with a conventional model The results of the data acquisition in cycle 2 are described in the following graph:



Source: Researchers Document

The graph in cycle 2 shows the results of the acquisition of pretest data by 36 students in the experimental and control classes. Based on this graph, it can be seen the extent of the final ability of grade XI students related to the fantasy bun material that has been taught. The results of the calculation of the average score in the experimental class are greater at 24.92 than the average score of the control class which is 20.92.

After obtaining pretest data and posttest data through cycle 1 and cycle 2 of the two classes, then analyze the improvement through the N-gain test. The following is a table of N-gain test results:

Class Group	Pretest Average	Posttest Average	N-Gain	Category
Experiment	21.14	24.92	0.42	Medium
Control	19.86	20.92	0.10	Low

Source: Researchers Document

Based on the data in the table above, it shows that the experimental class has an average pretest score of 21.14 and an average posttest score of 24.92 with an N-Gain calculation result of 0.42 which is included in the moderate category. Furthermore, for the results of the calculation of the average pretest in the control class showed a score of 19.86 and an average posttest score of 20.92 with an N-Gain calculation result of 0.10 which is included in the low category. With regard to this, learning using the Project-Based Learning model teaching materials is more effective in improving student learning outcomes on fantasy bun material than using conventional models/methods, this is evident from the average N-gain of the experimental class of 0.42 while the average N-gain of the control class is 0.10.

The Project-Based Learning Model Teaching Tool is a teaching tool developed according to the needs of the Beauty Expertise field, especially in learning fantasy bun material at Vocational High Schools. (SMK). Learning by using this Project-Based Learning Model Teaching Materials makes it easier for teachers and students to create a pleasant classroom atmosphere because teachers and students are actively involved in project activities from start to finish. The following is a description of teacher and student activities in 5 stages of project activities spread over 3 learning meetings:

Project-Based Learning Steps		Description
Meeting 1	Project Determination	All students in the class form groups of 4-5 people each.
		The teacher and students actively discuss to determine the theme for the fantasy bun making project.
		In groups, students actively collaborate to express ideas and creations in making fantasy bun designs according to the agreed theme.
Meeting 2	Design the steps to complete the Project	Each group presents the design of the fantasy bun arrangement that has been made along with the steps of the process.
		In groups, students design the need for tools, materials, and cosmetics in project activities.
	Preparation of Project Implementation Schedule	The teacher provides assistance to students and organizes the scheduling of all project activities that have been designed

Meeting 3	Project Completion with Teacher Facilitation and Monitoring	The teacher facilitates and monitors each student to collaborate on project activities in their group according to the design that has been made.
	Report Preparation and Presentation/Publication of Project Results	The teacher facilitates students to present the results of the fantasy bun styling project.
		Displaying the project in a special place or room that has been provided so that it can be seen by teachers and other students in the school environment.
	Evaluation of Project Process and Results	Each group compiles a report on making a fantasy bun using a good and correct report systematic based on teacher guidance.
		Learners and teachers conduct a joint evaluation of the process related to planning, implementation and project results in the form of a fantasy bun, report and exhibition of work.

Source: Researchers Document

CONCLUSION

This research and development produced a product, namely a teaching tool for the Project Based Learning model on fantasy bun material. The teaching tool is a teacher's guide as a facilitator in learning. The main objective in developing this device is to support and improve the effectiveness of learning fantasy bun material. The feasibility test was carried out by experts who served as validators through assessing and providing input on the products developed through validation instrument sheets. The experts in this study amounted to 3 people who were lecturers and practitioners (subject teachers) with the average results of the three of them 3.64 with a very feasible category. The practicality test was conducted with a closed questionnaire instrument. The overall total score obtained from 36 respondents was 1909 with an average score of 53.2 including in the very practical category. Project-Based Learning model teaching materials are effectively used in learning. This is based on the N-gain test conducted in both classes, namely the experimental class and the control class. The result of the N-gain calculation of the experimental class was 0.42 while the average N-gain of the control class was 0.10. With regard to this, learning using PjBL model teaching tools is more effective in improving student learning outcomes. Learning activities run actively and fun because teachers and all students are directly involved in learning. Through the application of the Project-Based Learning Model Teaching materials, students are more excited and enthusiastic in participating in learning.

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