



## Development of Practicum Learning Models Assisted with Practice Guide Videos

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### Abstract

This study aims to develop a practicum learning model assisted by a practicum guide video. The research method used is research and development using the Dick and Carey Educational Research and Development Step System Approach Model and the Bergman and Moore model. The results of the expert one-to-one evaluation, namely material experts, learning design, instructional media and language stated that the practicum model of learning assisted by the practicum guide video was feasible to use. One-to-one student is done by selecting three students whose results are feasible to use. The results of the small group evaluation with an average score of 4.58 for nine students are in the very good category, which can be interpreted as feasible to use; the results of field trials conducted on 30 students obtained 4.57 which can be interpreted as very good. Based on the findings, it can be stated that developing practicum learning model with the use of a practical guide video is feasible and may successfully improve students' knowledge and practice results while meeting the KKN level 9 requirements.

### Keywords:

development of learning, model practicum, practice guide video

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## INTRODUCTION

Culinary management is a profession designed to empower students through the development of technical skills, human abilities, cognitive understanding, attitudes and work habits to adequately prepare students for the world of work or position graduates practically for entrepreneurship (Raimi & Akhuemonkhan, 2014). Courses in culinary education whose implementation is divided into theoretical and practical lectures with a weight of 60% theoretical courses and 40% practical courses. Practicum is a scientific activity exercise to hone students' abilities in the form of experiments, observations and demonstrations which show a link between theory and phenomena carried out in the laboratory and outside the laboratory (Duda & Susilo, 2018). Practicum is useful for increasing students' expertise in observation, and improving skills, as well as a means of practicing in using equipment. Prior knowledge (pre-requisite knowledge) before doing practicum is an important component, therefore the provision of previous knowledge that is not sufficient will cause students to find it difficult to follow the practicum learning process in the laboratory (Aprina & Latifah, 2016). Practicum activities are considered to be a habit, because students only follow them routine

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instructions, but does not use process skills. Practicum learning will of course be oriented towards competencies that must be mastered by students both in attitude, knowledge and skills.

The results of the acquisition of the average value of practicum courses in the last three years showed that the highest percentage of students got an A practicum score of 12% for class students in 2015, an A- value of 36% for class students in 2015, a B+ value of 55% for class students in 2016, the B score was 18% for the 2017 class students, the C value was 2% for the 2017 class students. the remaining A scores are 28.33% on A- grades and 10% on B grades.

Based on the results of discussions with lecturers supporting practicum courses, the achievement of student practicum results is still not maximized and evenly distributed in all practicum material, especially in practicum material with a long process. Students have not been able to carry out practicum optimally without guidance from the lecturer, the condition of the lecturer has limitations in accompanying students one by one to carry out the practicum stages. The results of a survey conducted on students regarding the implementation of practicums were only guided by practice guidelines in the form of text books and material containing recipes and manufacturing steps where as much as 43.3% of students still felt it was not clear to follow the practice flow that had been described and was less effective because there was no guide. practice that provides a real picture of the steps that must be carried out apart from asking the lecturer.

Improving the quality of practicum learning needs to develop a more comprehensive learning concept by updating learning models that are more directed to student abilities. In this study, it seeks to develop a practicum learning model with samples in the bread processing course with the help of a practice guide video. The results of the study (Dymond & Benz, 2006) state that using video in practical observation can provide similar perceptions and experiences even in different environments. Integrating technology in practicum learning will provide convenience, clarity and motivation for students to learn, thereby increasing competency achievement. Integrating technology for developing learning programs is based on the need to plan learning that will motivate students to learn (Khosrow, 2011).

A learning model is a plan or pattern that can be used for curricula, designing learning materials, and for delivering learning inside and outside the classroom (Joice & Weil, 2009). The learning model is a plan that is used as a guide in planning learning in class or learning in tutorials and for determining learning tools and directing us in designing learning to help students so that learning objectives are achieved. The learning model according to Branch (2002) is divided into systems-oriented models, class-oriented models, product-oriented models. The development of practicum models can be made according to the needs of industry 4.0 which integrates the implementation of the management, planning and evaluation functions. Research conducted by Abdurrahman et al (2020), states that a practicum model made by adjusting to the needs of industry 4.0 provides productivity and improves the quality of graduates.

Video is one of the effective media to apply to practical learning. The use of video in making sweet bread effectively increases the ability to make bread (Muhariati, 2017). Through the media in the form of videos, the learning outcomes

and skills of students are proven to have increased (Rais, Verawardin, Ambiyar, & Ramadhani, 2020). Contextual-based learning videos are appropriate for use in the learning process so that they can improve students' critical thinking skills, creative skills, collaboration, and communication (Marsa & Desnita, 2021). Video tutorials are also an effective method for introducing students, viewing video tutorials like in the classroom is an appropriate method for teaching specific skills (Chen et al, 2018).

The results of research related to the development of practicum guidelines in biology learning stated that the feasibility of the practicum guidelines developed was considered good and effective for biology practicum learning activities to improve cognitive, affective, and psychomotor aspects (Putri & Violita, 2021). Practical guidelines used in biology learning based on a guided inquiry approach have proven to be valid, practical, and effective (Wilandari & Advinda, 2021).

Other research related to the impact of using video tutorials states that video tutorials have a positive impact on their users because they provide a near-real experience (Lamontagne, Senecal & Fredette, 2021). This is in line with the results of other studies which state that the use of learning videos in practice can increase students' learning motivation (Guswiani, 2018). Video media in learning can display good results and learning activities, thereby making learning more effective (Rais, Verawardin, Ambiyar, & Ramadhani, 2020).

Based on the background and also the results of previous research, this research is focused on developing a practicum learning model assisted by a practice guide video to provide independent learning for students without being limited by time and place so as to improve practicum results.

## METHODS

The research design used in this research is research and development which is used to design new products and procedures, then apply research methods for field trials, evaluate and improve products and procedures until they meet the criteria of effectiveness, quality, and standardization (Borg & Gall, 2007).

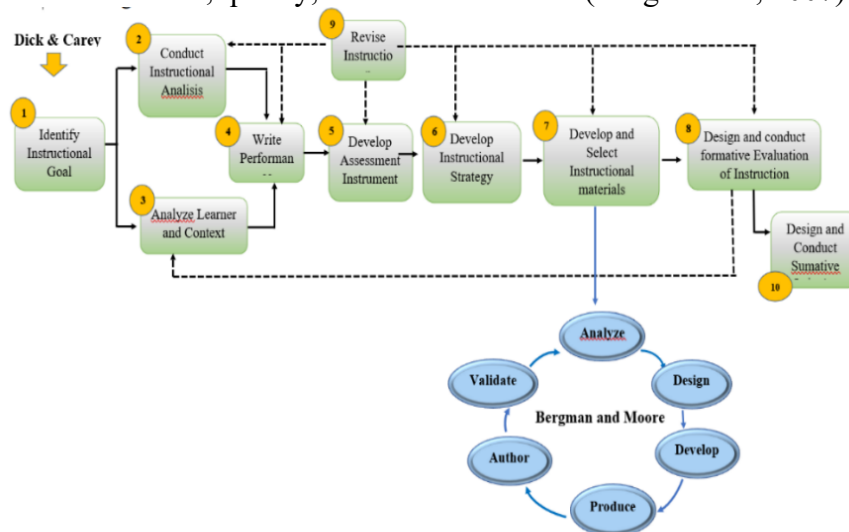


Figure 1. Stages of Research and Development of the Developed Model

The design of the development of a practicum learning model assisted by a practice guide video uses the stages recommended by Gall, Gall, and Borg proposed by Dick, Carey, Carey as a Step of System Approach Model of Educational Research & Development and the development of learning products in the form of a practicum guide video using the Bergman model and Moore.

This research was conducted at the Culinary Study Program, Faculty of Engineering, Jakarta State University with a sample of 30 students from the Culinary Study Program who were taking bread processing courses. Formative evaluation data collection techniques. This study uses content validity to validate instruments which include material experts, instructional design, media, and language. The analysis technique used is quantitative and qualitative data analysis. Quantitative data analysis, processed from the results of expert validation, one-to-one student evaluations, small group evaluations and field trials using a questionnaire. For data generated from interviews, observation was processed qualitatively using the qualitative model of Miles and Huberman, namely through the stages of data reduction, data presentation, drawing conclusions, and verification (Miles and Huberman, 1992).

## **RESULTS & DISCUSSION**

This research begins with conducting preliminary research that aims to identify the conditions and situations that exist today and will serve as the basis for the development that must be carried out. Next will be a discussion of the results of the implementation of development research.

### **Preliminary Research Results**

The condition of practical learning in the Culinary Study Program is currently carried out using lecture and practice methods. Explanation of the material and implementation of the practicum is carried out using presentation slides, then students will carry out the practicum in groups. Based on the results of a survey conducted on students, the average student score was in the B+ group with a percentage of 51.3%.

The results of the analysis from interviews and distributing questionnaires via Google form to students stated that students needed media that provided stages to difficult practicum material, while the results of interviews with practical lecturers stated that the failure rate in practice was 40%, especially in material with a long process. Based on this analysis, it can be concluded that the implementation of practicum with long stages requires a practical learning model that can maximize the results of student practice

### **Results of Research Implementation**

The development of a practicum learning model assisted by a practice guide video uses the Dick, Carey and Carey development model (Dick et al, 2015, p.589) and the development of learning products in the form of a practicum guide video uses the Bergman & Moore model. With the following results:

#### **Identify General Goals (Assess needs to Identify Goals)**

An analysis of instructional needs is carried out through an assessment of the Semester Learning Plan (RPS) and discussions with the course lecturers. The results of the analysis stated that the achievements of the developed courses were; 1) analyze the concept of bread development; and 2) making various types of bread (special, Asian and copyright bakery products).

### **Carrying out Learning Analysis (conduct instructional analysis)**

The activity describes general competencies into sub-competencies so that students achieve general competencies through the achievement of course sub-competencies. Determining student needs analysis in bread processing practicum by mastering the scientific concepts and methods of bread processing, having bread processing skills. Identifying the practicum learning conditions that have been carried out so far, analyzing the practical learning models used, analyzing student learning achievements. The results of the instructional analysis are in the form of competency maps showing the most basic sub-competencies to the highest sub-competencies.

### **Identifying Student Characteristics (analyze learners and contexts)**

Students who take bread processing courses have the basic concepts of practicum implementation, have passed pre-requisite courses, have academic values, norms and ethics; Demonstrate a responsible attitude towards the concepts and skills provided.

### **Determine Learning Objectives (write performance objectives)**

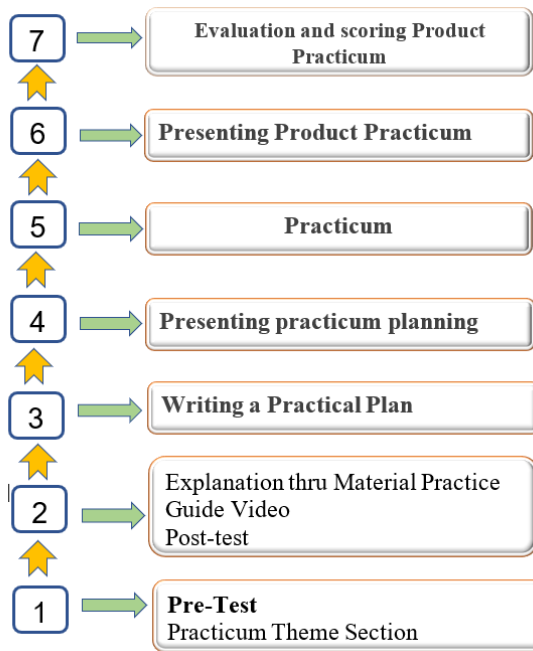
Specific learning objectives in the form of sub-course outcomes are produced, namely students are able to a) analyze the basic principles of bread development; b) analyze the characteristics of bread development products; c) practicing special bread; d) practicing Asian bread; e) create bakery products. The competence achieved by these students is an indicator of the achievement of learning outcomes and as material for developing assessment instruments for both knowledge and skill assessment in bread processing courses.

### **Develop Reference Test Criteria (develop Assessment instruments)**

The assessment used uses a benchmark reference assessment developed based on the sub-course outcomes that have been formulated. The question grid consists of objective questions to measure the attainment of knowledge while to measure students' skills in the practicum assessment using a practice assessment sheet in the form of a checklist with a scale of 1-5.

### **Developing Learning Strategies (develop instructional strategy)**

The practicum learning model focuses on practical activities with the aim of helping improve the mastery of students who display and demonstrate skills independently with a low error rate. The learning steps taken are as follows:



**Figure 2.** Bread Processing Practicum Learning Model Assisted by Video Practice Guides

**Selecting and Developing Learning Materials (develop and select instructional materials)**

The development of learning materials is developed using the Bergman and Moore model and produces practice guide videos that can be accessed through the practice guide application. The results of developing teaching materials using the Bergman and Moore model are as follows:

**Table 1.** Stages of Teaching Material Development Using the Bergman and Moore

<b>Tahapan</b>	<b>Hasil</b>
Analysis	It is necessary to develop videos according to the characteristics of students to minimize abstractness in practicum and help students to learn independently.
Design	Outline of Media Content (GBIM) and Material Description (JM) are used as a reference in making videos so that they focus on competence achievements and benchmarks in the pre-production process of teaching materials.
Development	Preparation of story boards in accordance with the JM and GBIM that have been made.
Production	Make practice guide videos. The shooting process is carried out in accordance with the story board that has been made. The production results are video practice guides that can be accessed using a QR Code which contains practice guides consisting of videos, practicum guides, recipes, and pre-post tests.
Evaluation	Assessment was carried out by material experts, instructional design experts, media experts, language experts.

### **One-to-one Evaluation Results with Experts**

The first stage in formative evaluation is one-to-one with experts to validate the instrument and assess the feasibility of learning materials developed by involving five experts with their respective expertise. The results of one-to-one evaluation with experts are as follows:

a. **Material Expert**

The advice given is that the sequence of presentation of the material should be in groups for practicum materials. After making improvements according to the suggestions and input, the practice guide video was declared suitable for use.

b. **Instructional Design Expert**

The advice given is that the video should start with learning objectives, the developed questions can be included in the guidebook, making hierarchical competency maps starting with simple achievements. After making improvements according to suggestions and input, the practice guide video was declared feasible for use.

c. **Media Specialist I**

The suggestions given are the stability of the video so it doesn't shake, the use of color and font type must be contrast/avoid white, display close up weighing of ingredients, add captions for bread titles, add the UNJ logo, start showing like teaching, and make the motion not too fast. After making improvements according to suggestions and input, the practice guide video was declared feasible for use.

d. **Media Specialist II**

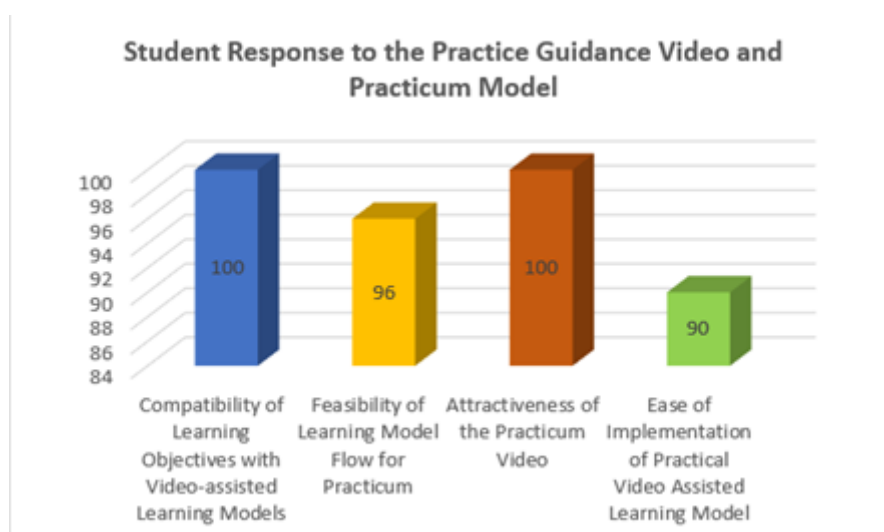
The suggestions given are adding learning outcomes at the beginning of the video by including ABCD elements, and using foreign terms written in italics. After making improvements according to suggestions and input, the practice guide video was declared feasible for use.

e. **Language Expert**

The suggestions given are to improve several sentences that are not effective so that they create multiple meanings, improve the use of punctuation marks and word expressions, as well as the consistency of using terms and letters that are correct. After making improvements according to suggestions and input, the practice guide video was declared feasible for use.

### **One-to-one Evaluation Results with Students**

One to one learners evaluation activity by giving questions through interviews and questionnaires to three Culinary Education students who have taken bread processing courses. Students carry out an assessment of the practice guide videos and practicum models using assessment instruments.



**Figure 3.** Student Response to the Practice Guidance Video and Practicum model

In the results of the one-to-one evaluation with students, in general, the assessment given was very good and after revision was carried out according to the suggestions given, it can be concluded that the practicum learning model assisted by video guidance practices is feasible to use.

### Small Group Evaluation Results

Small group stage It was carried out to obtain eligibility for nine students who had taken bread processing courses in the Culinary Education Study Program. Evaluation of practicum guide products in the form of practicum guide videos using instruments in the form of a Likert scale questionnaire (1-5). The recapitulation of the results of the small group with nine students is as follows:

**Table 2.** Small Group Formative Evaluation Recapitulation

No	Student	Average Results
1	Student 1	4,76
2	Student 2	4,84
3	Student 3	4,68
4	Student 4	4,28
5	Student 5	4,28
6	Student 6	4,64
7	Student 7	4,28
8	Student 8	4,68
9	Student 9	4,76
<b>Average Overall Score</b>		<b>4,58</b>

Based on the results of the small group recapitulation, it can be concluded that an average value of 4.58 is included in the very good category. Based on the suggestions given as in the table below, improvements are made.



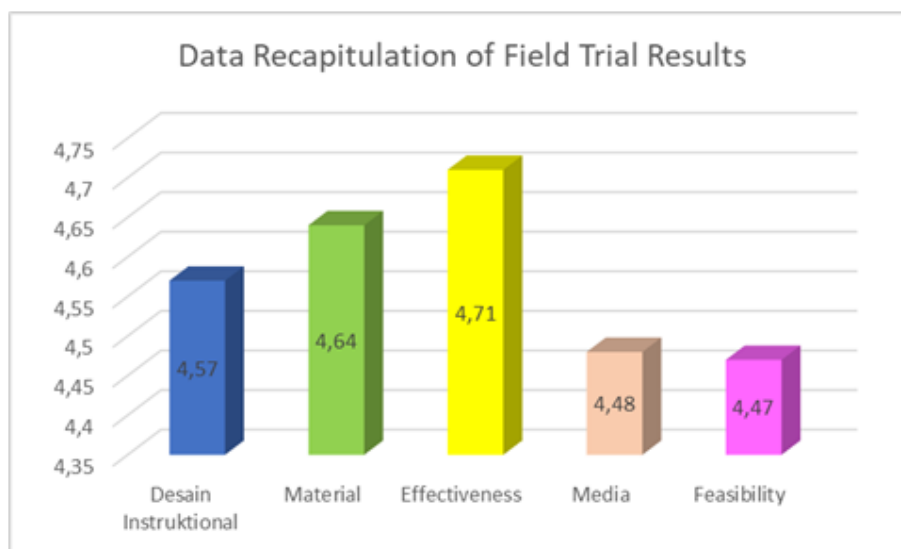
**Tabel 3.** Small Group Evaluation Results Suggestion

No	Improvement Suggestions	Repair Results
1	The font color on the video should not be white	The text color has been changed to black
2	Sentences in foreign languages are italicized	Foreign sentences have been italicized
3	Bread background should be blurred and the writing bolo bread should not be separated from the background	The background has been blurred and the writing is not separated

Based on the results of the small group evaluation and revisions to the suggestions given, the practicum learning model assisted by video practice guides is feasible to use.

**Field Trial Evaluation Results (Field Evaluation)**

Field trials were conducted on 30 students who had passed the prerequisite courses. This field trial activity consisted of three stages, namely the initial stage where students were asked to work on a pre-test sola and divide practicum themes by groups. The second stage is the implementation where students are given an explanation regarding bread processing material with the help of a practice guide video, then work on post-test questions, make practicum plans and present and collect practicum plans. The last stage is the final stage where students fill out a questionnaire provided by the developer to perfect the practicum learning model that is being carried out.



**Figure 4.** Data Recapitulation of Field Trial Results

Based on the results of field tests conducted on 30 students, an instructional design score of 4.57 was obtained; material of 4.64; effectiveness with a value of 4.771; the media is 4.48 and the feasibility of the video is 4.47. The average for the overall assessment is 4.57 which can be interpreted that based on the large group test (field test) the learning model for bread processing practicum assisted by video practice guides is very good, which means it is feasible to use.

## CONCLUSION

The development of a practicum learning model for bread processing with the help of a practice guide video uses the stages recommended by Gall, Gall and Borg to follow the stages in the learning design development model proposed by Dick, Carey, Carey as a Step of System Approach Model of Educational Research and Development. At the develop instructional material stage, a practice guide video was developed for the experiment to be carried out at the Taiwanese bakery practicum using the Bergman & Moore model. Based on the results of the model development that has been carried out, it is obtained (1) a learning model for practicum processing of bread assisted by a practice guide video with seven learning steps, (2) a video guide for practicum on Taiwanese bread material. Based on the feasibility test conducted, it can be concluded that the practicum learning model assisted by the practice guide video is feasible to use.

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