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Storyboard Video Guideline Development in Processing Practicum: The Case of Taiwanese Bread

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This study aims to produce storyboard video guidelines in the Taiwanese Bread processing practicum and determine the feasibility of storyboard video guidelines in the Taiwanese Bread processing practicum. The study method used Research and Development (RnD) by Dick and Carey's model development. The study sites included the processing laboratory, and the pastry and bakery laboratory. Data collection techniques involved interviews, documentation, and questionnaires. Data analysis techniques used documentation, qualitative, and quantitative data analysis. The procedures of designing storyboard video guidelines in Taiwanese Bread processing practicum were conducted by preparing material, making a script, and preparing a storyboard. To assess the feasibility of storyboard video guidelines, content validation was assessed by a material expert, media expert, and learning expert. The study result revealed that the storyboard video guidelines were feasible to be developed in the Taiwanese Bread processing practicum. The average level of feasibility obtained was 79.57% for the feasible category of material experts' judgment, 77.54% for the feasible category of media experts' judgment, and 86.12% for the very feasible category of learning experts' judgment. It concluded that the storyboard video has a valid, practical, and potential effect in the Taiwanese Bread processing practicum.

Key words: *Storyboard Video Guidelines Development, Processing Practicum, Taiwanese Bread.*

Introduction

In the patisserie processing course of the Culinary Arts Education Program, the use of laboratories in higher education is beneficial in achieving optimal learning objectives. According to Government Regulation Number 5 of 1990 article 27, a laboratory is a means of supporting majors in learning science and technology according to the study program. Jaya (2012:84) added that the laboratory is defined as a place to provide opportunities to experiment, observe, and practice in the field of study. The laboratory facilities and infrastructure are a place where students practice their technical and general skills in culinary arts (Tri Sadha Bakti, 2017, p. 170). Laboratory-based learning can improve science process skills and encourage the realization of students' activeness character in the form of the responsibility of preparing reports, tidying tools, and collaboration between groups (Kristiana, 2017, p. 170). Thus, the laboratory serves as a bridge between theory and practice in the patisserie course.

The Culinary Arts Education Program in one state University in Jakarta has two productive laboratories to accommodate student practicum needs. One processing laboratory and one pastry and bakery laboratory. The use of laboratories leads to specific subjects and cannot be used for all practicum subjects because they have different needs and characters, so the existence of two laboratories in the Food Study Program still cannot facilitate maximal learning practically when compared to the number of students. Practical learning patterns tend not to provide opportunities for students to learn critically, creatively, innovatively, and solve problems. The utilization of digital assisted learning aids in practical lectures has also not been implemented consistently and maximally. The condition of practicum learning that is available and the limited number of laboratories owned by the culinary education study program. It is necessary to develop a practicum model that can maximize practical learning. The development of the practicum model developed is assisted by video guidance practicum so that students can be independent, disciplined, and creative in practice.

The use of video has become one of the interesting and important studies to be studied in the Culinary Arts Education Program. The following are some of the studies relating to the use of video studied in the Culinary Arts Education Program. Muhariati researched Assessing the Impact of Instructional Video Clips in the Training of Bread Production (2017:277). The study results revealed that the use of video in making sweet bread effectively increases the ability to make bread. Surgenor, Hollywood, Furey, et al. researched the Impact of Video Technology on Learning: A Cooking Skills Experiment (2017:306-312). The study results revealed that video technology has the potential to improve cooking skills among low-skilled individuals who want to cook from scratch using fresh ingredients. Schaeffer and Warren researched Will Culinary Videos Increase Dietetic Students' Culinary Skills and Food Knowledge? (2013:5-61). The study results revealed that when comparing two parts of the same course with a

consistent curriculum and adding culinary videos to one section, food and culinary knowledge for students increased significantly.

This study focused on developing storyboard video guidelines in the Taiwanese Bread processing practicum. This study aims to produce storyboard video guidelines in the Taiwanese Bread processing practicum and determine the feasibility of storyboard video guidelines in the Taiwanese Bread processing practicum. The research questions of this study are as follows: (1) How is the development of storyboard video guidelines in the Taiwanese Bread processing practicum? (2) What are the feasibility results of storyboard video guidelines in the Taiwanese Bread processing practicum?

Literature Review

Patisserie Processing

Culinary Arts Education is a program of expertise that provides knowledge and skills to students in the fields of processing and serving in both food and beverages. Culinary arts is the art of food processing which covers the preparation, processing, and serving of food, both traditionally and internationally (Bartono and Ruffino, 2010). The patisserie processing course is one of the compulsory subjects in Culinary Arts Education. Patisserie processing course teaches materials such as (a) the ingredients and tools and their functions; (b) the characteristics of pastry types based on the dough type; (c) the method of making pastry; (d) the steps in making pastry; and (e) the calculations in making pastry and evaluating pastry products. Competencies that must be achieved by students in the patisserie processing course are (1) understanding the basic concepts and development of patisserie processing, (2) explaining the ingredients and tools and their functions in patisserie processing, (3) understanding the methods and calculations in patisserie processing, and (4) making pastry and evaluating the quality or characteristics of various kinds of pastry.

Taiwan's Bread

This study focused on Taiwanese Bread. Taiwanese Bread is the bread that has a soft and light texture with various contents and toppings (on the surface of the bread). Physically, Taiwanese Bread looks bigger but is not dense because the texture of the middle is empty. The characteristics of Taiwanese Bread are not just the taste of bread but also the emphasis on its shape and its variety in terms of shape and taste. This method of making Taiwanese Bread dough uses the boiled dough method. This method divides the dough into three parts, namely pre-dough, sponge & dough, and dough (Wacana Mitra edition 195, 2013).

Video

One of the effective medias that can be applied in practical learning is video. According to Iqro 'Al-Firdaus (2010: 13-14), video is a series of image frames that play quickly. Each frame is a recording of the stages in a movement. Rima Wati (2016: 34) said that video learning has a better ability because it consists of audio and visual media. A video is a tool used in learning to help writing and words spoken in conveying knowledge, attitudes, and ideas in learning material. Based on Susilana and Cheppy (2008:6), instructional video media as learning material has the aim to 1) clarify and facilitate the delivery of messages so as not to be too verbal; 2) overcome the limitations of time, space, and the senses of students and instructors; 3) can be used precisely and across varied contexts.

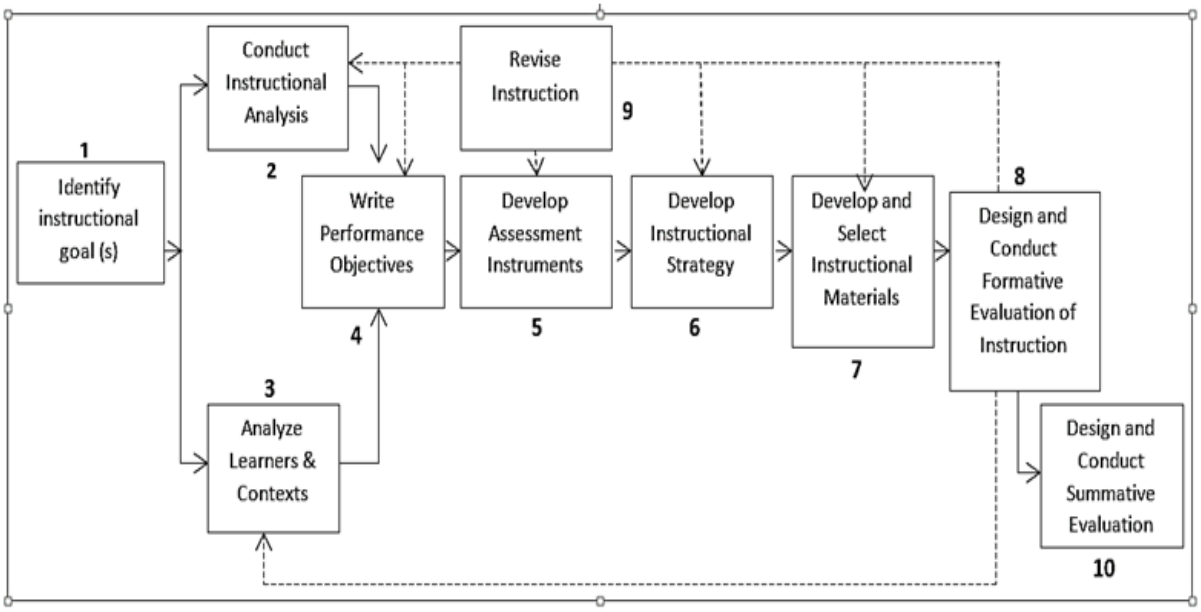
Methodology

The study method used Research and Development (RnD) by Dick and Carey's model development. It used to design new products and procedures, apply research methods to field trials, evaluate and refine products to meet effective, quality, and standardized criteria (Borg & Gall, 2007). Dick and Carey's model development steps consists of the following ten steps:

1. Assess needs to identify goals;
2. Conduct instructional analysis;
3. Analyse learners and contexts;
4. Write performance objectives;
5. Develop assessment instruments;
6. Develop an instructional strategy;
7. Develop and select instructional materials;
8. Design and conduct the formative evaluation of instruction;
9. Revise instruction; and
10. Design and conduct the summative evaluation.

Based on the information above, Dick and Carey's model development steps can be seen.

Figure 1. Dick & Carey's Model Development



Sites and Participant

The study sites were a processing laboratory and a pastry laboratory and bakery in the Culinary Arts Education Program at one state University in Jakarta with 345 participants who have taken the patisserie processing course.

Instrument

To assess the feasibility of storyboard video guidelines, content validation was assessed by a material expert, media expert, and learning expert. The measurement scale used a Likert scale. The variables to be measured are translated into indicator variables. The variable indicators are then used as starting points for compiling instrument items, which can be statements or questions. The answers to each instrument item that uses a Likert scale have gradations from very positive to very negative. Sugiyono (2015:136) explained the Likert in Tables 1 and 2 as follows:

Table 1: Feasibility Assessment Criteria

Assessment Criteria	**Score**
Very Feasible	5 (80-100)
Feasible	4 (60-79)
Feasible Enough	3 (40-59)
Not Feasible	2 (20-39)
Not Very Feasible	1 (<20)

Table 2: Interpretation Result of Assessment Criteria

Assessment Criteria	**Interpretation**
Very Feasible	Material expert, media expert, and learning expert said that a storyboard video guideline is very feasible as learning media.
Feasible	Material expert, media expert, and learning expert said that a storyboard video guideline is feasible as learning media.
Feasible Enough	Material expert, media expert, and learning expert said that a storyboard video guideline is feasible enough as learning media.
Not Feasible	Material expert, media expert, and learning expert said that a storyboard video guideline is not feasible as learning media.
Not Very Feasible	Material expert, media expert, and learning expert said that a storyboard video guideline is not very feasible as learning media.

Data Collection Techniques

Data collection techniques used interviews and questionnaires, which addressed material expert, media expert, and learning expert.

Data Analysis Techniques

Data analysis techniques used documentation, quantitative, and qualitative data analysis. The percentage calculation is done by comparing the frequency obtained with the frequency expected. The percentage is calculated using the following formula:

$$\text{Percentage} = \frac{\text{Frequency obtained x 100\%}}{\text{Frequency expected}}$$

Furthermore, interviews, observations, and documentation was analysed through a qualitative data analysis. Qualitative data techniques used Miles and Huberman models, namely through the stages of data reduction, data presentation, conclusions, and verification (Miles and Huberman, 1992). It was used to see the feasibility of storyboard video guidelines in the Taiwanese Bread processing practicum.

Results and Findings

Results

Storyboard video guidelines development is an initial step in the production of patisserie processing practicum. It aims to get quality storyboard video guidelines in the Taiwanese Bread

processing practicum that fit the students' needs. A formative evaluation of storyboard video guidelines in the Taiwanese Bread processing practicum was conducted through experts and small group trials. The instrument grid as follows:

Table 3: Formative Evaluation Instrument Grid of Material Expert

No	Indicators	Data Collection techniques	Interview Items
1	Material suitability with the competencies that must be achieved	Interview	
2	Material accuracy		
3	Supporting learning material		
4	Material updates		
5	Learning presentation		
6	Completeness of presentation		
7	According to the level of students' development		
8	Communicative, dialogic / interactive, critical / reflective		

Table 4: Formative Evaluation Instrument Grid of Learning Expert

No	Indicators	Data Collection techniques	Interview Items
1	Accuracy in formulating General Instructional Objectives (GIO)	Interview	
2	The relevance of Specific Instructional Objectives (SIO) with General Instructional Objectives (GIO)		
3	Accuracy in formulating Specific Instructional Objectives (SIO)		
4	Material suitability with Instructional Objectives (IO)		
5	Systematic, coherent and logic		

Table 5: Formative Evaluation Instrument Grid of Media Expert

No	Indicators	Data Collection techniques	Interview Items
1	Visual Layout Design	Interview	
2	Typography (fonts and font order)		
3	Colour Visual		
4	Visual Move		
5	Navigation Icon		
6	Communicative		
7	Usability (easy to use and simple in operation)		
8	Maintainable (can be maintained or managed easily)		

Based on the results of formative evaluations, the data obtained from formative evaluations are collected and interpreted to solve the difficulties faced by students in achieving their goals. The evaluation results used to revise the storyboards were developed to be more productive and carry out the summative evaluation (design and conduct summative evaluation). Summative evaluation is the process of collecting data and information in order to decide on the acquisition or continuation storyboard video guidelines in the Taiwanese Bread processing practicum.

Findings

Researchers developed storyboard video guidelines in the Taiwanese Bread processing practicum, which consists of visual, audio, and duration sections. The visual part consisted of the opening, intro, scene 1 to scene 13, closing, and the outro. The audio section consisted of segments 1 to segment 3. The duration section consisted of 2 minutes for opening and intro, 6 minutes for each scene, and 2 minutes for closing and the outro. The following is an example of storyboard video guidelines in the Taiwanese Bread processing practicum:

Table 6: Storyboard Video Guidelines in the Taiwanese Bread Processing Practicum

Visual	Audio	Duration
Segments 1		**2 minutes**
1. **Opening** Opening slide ***2.*** **Intro** **Shoot: MLS, MS, CU** Talent stands behind the processing table using complete cooking equipment	Background Song **Take 1:** “Selamat datang dalam media pembelajaran pengolahan roti lanjutan ” "Welcome to the learning media for advanced patisserie processing." **Take 2:** “Pada kesempatan kali ini saya akan menunjukan bagaimana proses pembuatan Taiwan Bread.” "On this occasion, I will show how the process of making Taiwanese Bread." **Take 3:** “Taiwan Bread merupakan salah satu varian roti bertekstur lembut yang didapatkan dari adonan roti manis yang ditambahkan boiled-dough.” "Taiwanese Bread is one variant of soft-textured bread obtained from sweet bread dough added by boiled-dough." **Take 4:** “Boiled-dough merupakan sebuah adonan yang terbuat dari tepung terigu berprotein tinggi yang dilarutkan dengan air panas sebanyak 200% x tepung pada boiled-dough.” "Boiled-dough is a dough made from high-protein flour which is dissolved with hot water as much as 200% x flour in boiled-dough."	

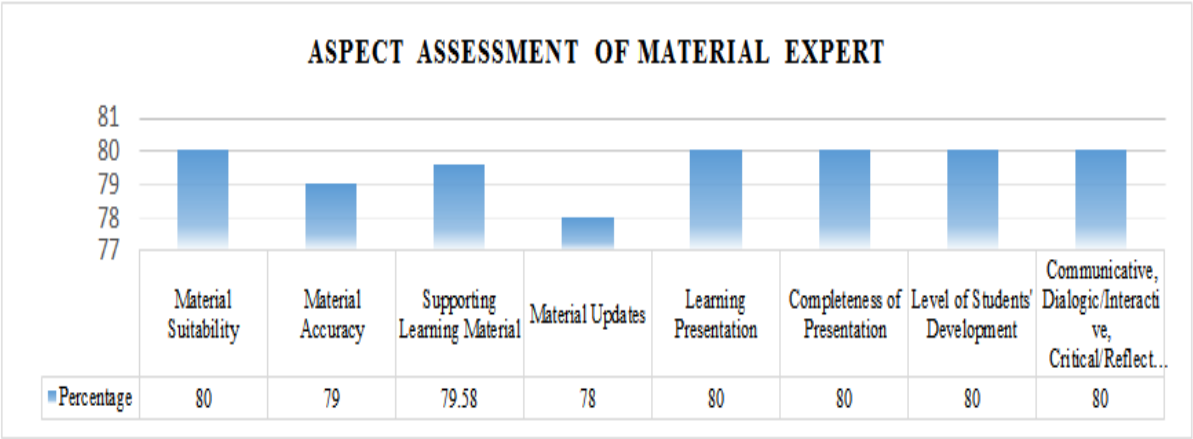
Segments 2		**12 Minutes**
1. **SCENE 1** **Making Pre-Dough** Talent introduces tools and materials used in making pre-dough **SHOOT: MLS, MS, CU**	**Take 1:** Introducing tools and materials used to make pre-dough. The tools needed in making pre-dough are bowl and balloon whisk while the materials needed in the pre-dough making process are Cakra Kembar Emas or the golden twin chakra flour and warm water **Take 2:** Talent weighs the material to be used **Take 3:** Talent explains the process of making pre-dough 1. Pour the flour into a container 2. Pour warm water into a container 3. Stir the mixture using Balloon Whisk until the mixture is evenly mixed *4.* Cool the pre-dough mixture, cover with plastic wrap and then place it in the refrigerator	
2. **Scene 2** **Making Sponge Dough** Talent introduces tools and materials used in making Sponge Dough **Shoot: MLS, CU**	**Take 1:** Introducing tools and materials used to make sponge dough. The tools needed in making pre-dough are bowl and mixer while the materials needed in the process of making pre-dough are Cakra Kembar Emas or the golden twin chakra flour, water, yeast, and caster sugar **Take 2:** Talent weighs the material to be used **Take 3:** Talent explains the process of making sponge dough 1. Add CKE flour, yeast and caster sugar to the mixer, then turn on the mixer. Stir the dry ingredients until they are evenly mixed before adding water 2. Add water slowly into the dough 3. Stir the sponge mixture with the mixer until the mixture is smooth	

	4. After the dough is smooth, round the dough and place it in a clean container, then cover with plastic wrap. Let it rise until the mixture 5. The mixture is allowed to stand for 30 minutes to 2 hours the mixture will expand and be ready to use	
Segments 3		**2 Minutes**
1. **Closing** **Shoot: MLS** **Transition** Dissolve ***2.*** **Outro** Credit rolling **Transition** Fade to Black	**Take 1:** "Demikian video pembuatan Taiwan Bread, semoga dapat bermanfaat bagi pembelajaran" "Thus, the video making Taiwanese Bread is end. Hopefully, it can be useful for learning." Background music	

A validity assessment in this study referred to Sugiyono (2015: 168), who said that a valid instrument is used to obtain valid data. Valid means that the instrument can be used to measure what should be measured. Assessment of storyboard video guidelines in the Taiwanese Bread processing practicum is done by experts through an assessment instrument, existing theories, and assessment. Experts included a material expert, a media expert, and a learning expert.

Aspect assessment result of material expert explained in Figure 2 as follows:

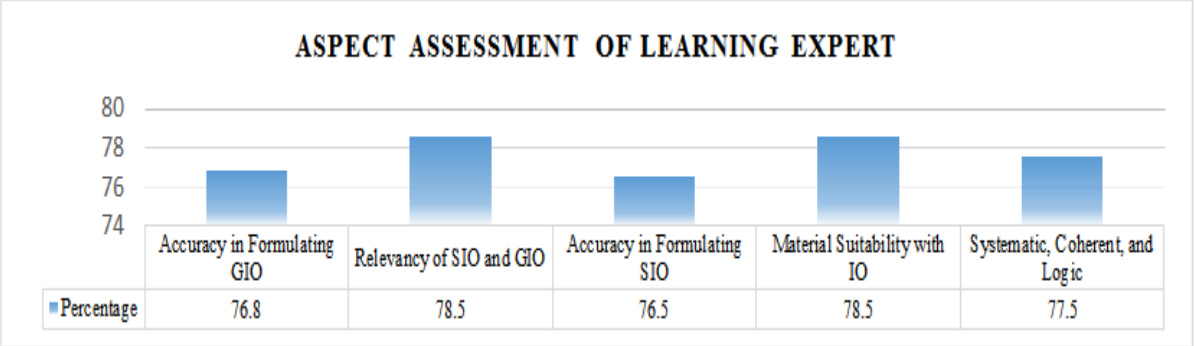
Figure 2. Aspect assessment result of material expert



Bread processing practicum revealed 80% for material suitability, 79% for material accuracy, 79.58% for supporting learning material, 78% for material updates, 80% for learning presentation, 80% for completeness of presentation, 80% for level of students' development, and 80% for communicative, dialogic or interactive, critical or reflective.

Aspect assessment result of learning expert explained in Figure 3 as follows:

Figure 3. Diagram Assessment of Learning Expert

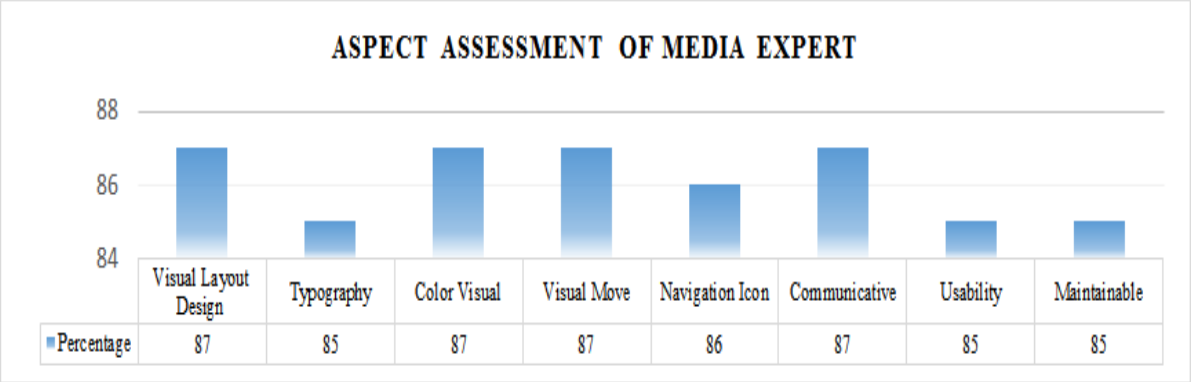


Calculation percentage of learning expert through storyboard video guidelines in the Taiwanese

Bread processing practicum revealed 76.8% for accuracy in formulating General Instructional Objectives (GIO), 78.5% for Relevance of Specific Instructional Objectives (SIO) with General Instructional Objectives (GIO), 76.5% for Accuracy in formulating Specific Instructional Objectives (SIO), 78.5% for Material suitability with Instructional Objectives (IO), and 77.5% for Systematic, coherent and logic.

Aspect assessment result of media expert explained in Figure 4 as follows:

Figure 4. Diagram Assessment of media expert



Bread processing practicum revealed that 87% for visual layout design, 85% for typography, 87% for colour visual, 87% for visual move, 86% for navigation icon, 87% for communicative, 85% for usability, and 85% for maintainable.

Conclusion

The study result revealed that the storyboard video guidelines were feasible enough to be developed in the Taiwanese Bread processing practicum. The average level of feasibility obtained was 79.57% in the feasible category of material experts' judgment, 77.54% in the feasible category of media experts' judgment, and 86.12% in the very feasible category of learning experts' judgment. It concluded that the storyboard video has a valid, practical, and potential effect in the Taiwanese Bread processing practicum.

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