Analysis of Requirements for the Creation of Edukiwari Learning Media Applications for Curriculum Designing Materials in Culinary Tourism Vocational High Schools

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ABSTRACT

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Food Service Development Edukiwari FGD The appearance of digital technology has transformed society into a life-oriented learning community, and learning activities, which originally took place offline, need to be transferred online. The integration of ICT in education by using the TPACK framework is no longer an option but an obligation. In Cookery subjects at tourism vocational schools, current learning media mostly consist of PowerPoint and printed books. This paper is intended to develop an Android-based application of Food Service Learning Media that could provide the possibility for the teaching and learning process and enhance critical thinking. Information from 3 participants to find out what students and teachers need through the FGD method shows that integration of knowledge of content, pedagogy, and technology is needed in the mobile menu book. It would also include in the application some very interactive elements which help enhance student learning and are missing from current culinary education, therefore making current culinary education more effective.

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Introduction

21st century education is useful for producing young people who think about facing the changes and complexities of the future (Widihastuti, 2013), (Jayatilleke et al., 2019). This educational approach emphasizes habits of inquiry, analysis, and problem-solving, which are in line with the demands of the world of work (Pramono & Setiawan, 2019), (Lee, 2020). 21st century skills emphasize mastery of information media and technology, as well as the ability to search for information, formulate problems, think critically and collaborate. Teachers have an important role in creating a positive learning climate and encouraging active student participation (Akbar, 2021). The development of digital technology has changed society into an informative society, with learning shifting from offline to online (Abd Ghofur, 2020). Teachers are required to integrate information and communication techniques in learning through the TPACK (Technological, Pedagogical, and Content Knowledge) framework (Subhashini et al., 2020). Teachers must be creative in presenting learning that is fun, meaningful, and able to increase student motivation (Darmaji et al., 2019).

A preliminary analysis is represented by showing that learning media in food service subjects are still dominated by PowerPoint and printed books (I Made Darma Oka, I Nyoman Winia, 2013) (Yulia et al., 2019), while varied media such as learning videos, real media, and electronic modules have not yet been widely adopted to date, as the students tend to feel bored and not concentrate (Liu et al., 2022). With such research, it is easy to modernize teaching in the digital era by creating a learning medium through a certain edukiwari application (Irwansyah et al., 2018). Edukiwari application assists technology as a whole to make students' learning interesting, interactive, and fun. Besides that, this method can also enhance students' critical, creative, and analytical thinking because it encourages students to be more actively and independently involved with the learning material. By using the different interactive features, students could practice in solving problems, formulate new ideas, and develop the ability of deep thinking about the material of food service (Gómez-Carmona et al., 2023). With that, it is expected that this edukiwari application could be conducted as an effective medium of learning. The use of technology and mobile media in learning food service subjects within the Tourism Culinary Vocational School has a positive impact on the rise in the effectiveness of learning interest and the development of higher-order thinking skills necessary for facing challenges in the world of work and daily life. This can also enhance the relevance of learning to follow the latest developments in the tourism and culinary sectors. The development of an Android-based food service (McCray et al., 2018) learning media application is

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in line with tourism school needs that need to be developed for improvements in the learning process and enhancing the thinking power of high-level thinking for students.

Method

The Focus Group Discussion (FGD)(Waluyati, 2020) FGD (Varela & Ares, 2018) is an in-depth interview method with a group by structured discussion (Kalluri & Kodali, 2014). It is usually done during discussions of at least 12 questions that are prepared to enable the researcher to obtain comprehensive information on the perception, needs, and experiences of respondents in-depth. FGD is also particularly useful in the context of the SMK Culinary Tourism Vocational High Schools, where educational applications need to be developed in order to enhance learning about food preparation. In discussions with teachers and other stakeholders, various kinds of perspectives can be debated by the researchers for informing the design and development of an Android-based learning media, such as the Edukiawari application for food service. By using the FGD method (Zaini et al., 2023), (O.Nyumba et al., 2018), have demonstrated that with the FGD method, a researcher can obtain comprehensive insight-a reflection of real-life challenges and opportunities in culinary education. This method can allow for in-depth exploration of how the teachers deliver material, engage students, and manage resources to inform the creation of more effective teaching tools.

The interview method of data collecting uses the questions listed in table 1 below:

Table 1. The 12 Questions Intrument

No	Questions
1	How do you do to explain the material (menu design) and food service during the learning process?
2	What do you do to make students active in learning activities?
3	What learning resources do you use in teaching?
4	During your time as a cooking teacher, what problems have you encountered during the learning
	process?
5	What do you think about application media for the learning process?
6	What learning media have you used during the learning process?
7	How is the collaboration between mother/father and the IT teacher in the media creation learning
	process?
8	According to you, what is the reason why it is necessary to create food service learning media?
9	Have you ever made an application as a learning medium?
10	If there is media, what type of media will be developed?
11	What are the contents of the material (menu design) for food service that need to be included in the
	creation of media for developing a mobile menu book as a learning medium for food service?
12	What are your hopes regarding the development of mobile menu books as a student learning medium?

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Through these questions, varied feedback and suggestions on current teaching methodologies, problems faced, and scope for the integration of new technologies such as mobile apps within the culinary curriculum are obtained. This will be an excellent input in creating a mobile menu book or any other application-based learning system for the needs of both students and teachers. Besides, some proposed interactive elements in such applications are designed to lead to a richer learning experience with heightened student involvement and enhancement of critical thinking skills, which will be of help in developing an updated culinary learning system.

Result and Discussion

Field studies in analyzing the requirement for creating an edukiwari application as a tool for teaching food service about menu design content at tourist vocational high schools can be done by FGDs and direct observation or survey. Three teacher from three distinct vocational high schools gathered the findings of the analysis. The results of the analysis of needs assessment on the use of education applications as media for learning in food service materials on the design of the menu material at tourism vocational high schools are organized based on indicator questions, namely:

Teachers' Interactive Approach to Learning

Based on the results of interviews in the process of delivering material, teachers tend to apply an interactive approach in the learning process. When explaining certain material, teachers often invite students to participate actively by asking questions and asking them to look for additional information. For example, when the teacher explains the concept of the types of menus available in restaurants and other eating places, I usually give a general view first. However, the steps taken did not stop there. Based on the results of the needs analysis, teachers believe that involving students in looking for additional references can produce deeper understanding. Therefore, teachers often encourage students to look for their own references about various types of menus in the restaurant industry and other eating places. The goal is for them to broaden their knowledge and perspective on the topic.

In this stage, students are given the freedom to explore various sources, such as books, articles, websites, or videos related to types of menus. This gives them the opportunity to understand the concept from a richer perspective and get a complete picture of the existing menu variations. In addition, involving students in reference searches can also develop research and information gathering skills that are important for their academic development. Additionally, by

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utilizing technology and *online* resources, students can view a variety of sample menus from various cultures and culinary categories.

Through this approach, teachers hope that students not only gain theoretical knowledge, but also develop critical abilities to analyze and understand concepts in real-world contexts. This way, they can relate this knowledge to the practical experiences they will face in the food service and tourism industry in the future.

Teacher Strategies for Making Students Active in Learning: Increasing the Practice of Interactive Learning Methods

One of the strategies that culinary teachers apply to make students active in the learning process is to increase the practice of using various learning methods that actively involve students. By increasing practices like this, students become more involved and have an active role in learning. They are not only recipients of information, but also active participants in exploring, understanding and applying learning concepts. This creates a more dynamic, engaging learning environment and provides opportunities for every student to contribute.

Use of Technology-Based Media in Cooking Teaching: Challenges and Potential

Teachers have used technology-based media in the learning process. The media that teachers often use in the cooking process, apart from technology-based ones, is textbooks, but there are some teachers that utilised technology-based learning media, such as PPT and video. Teachers usually obtain the technology-based interactive learning media from the internet. They also mentioned that the learning model is still conventional, but some have also implemented a student-centered learning model in learning.

Challenges in Overcoming Student Boredom in PPT and Video Based Learning

As a culinary teacher, I have identified several problems during the learning process, and one of them is when students feel bored when learning using *PowerPoint* (PPT) presentations and videos repeatedly. PPT and video presentations are generally one-way, where students are just passive viewers. This does not give students the opportunity to interact directly with the material or with the teacher. the majority of teachers try to find other types of media that are more interesting and in line with students' interests, such as real case studies or field experiences. In this way, I hope students will remain engaged, motivated, and find it more enjoyable during the learning process.

Benefits and Challenges of Using Application Media in Learning

As a culinary teacher, it is important to equip ourselves with a positive view of the use of application media in the learning process. teachers believe that application media has great

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potential to help create a more interesting and interactive learning atmosphere for students. Students can access learning materials through applications on their mobile devices anytime and anywhere. This gives them the flexibility to study outside of the classroom environment or at a more convenient time. However, I also realize that the use of application media needs to be accompanied by good planning and assessment. Application use must support learning objectives and refer to the existing curriculum. Additionally, please note that not all students have access to a mobile device or adequate internet connection. Therefore, the use of application media must be inclusive for all students. Overall, I see application media as a tool that can help enrich students' learning experiences and create a more dynamic, interactive and interesting learning atmosphere.

Effective Use of Learning Media in the food service Teaching Process

During the cooking process, teachers have used various learning media to help students understand the concepts being taught. Two types of learning media that teachers often use are PowerPoint presentations (PPT) and videos. The combination of PPTs and videos provides variety in teaching methods. PPTs help me convey information in a clear and structured manner, while videos provide real-world practical examples. Teachers also sometimes combine PPTs with videos to create a more complete learning experience. However, always ensure that the use of media is appropriate to the learning context and is not excessive. The use of media must support learning objectives and enrich students' understanding, not just be decorative.

Collaboration Between Food Service Teachers And IT Teachers In Learning Media Development

The collaboration between me as a food service teacher and an IT teacher in the media creation learning process is that the food service teacher prepares the content that will be delivered through learning media, such as text, images and main concepts. IT teachers help in designing the visual appearance of the media, choosing designs that are attractive and appropriate to the target audience. Our collaboration centers on a shared understanding of learning objectives and appropriate application of technology. The IT teacher helps in producing interesting and effective learning media, while I provide a perspective on the content that should be conveyed in the media. This collaboration aims to create a better learning experience for students through relevant and supportive media.

Why Learning Media Is Necessary In Food Service Subjects

The reason it is necessary to create learning media in the subject of cookery is to increase the effectiveness and attractiveness of the learning process. Technology continues to develop,

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and today's students are accustomed to using technological devices. By utilizing learning media, cooking teachers can utilize technology to create learning experiences that are more relevant to students' worlds. Overall, creating learning media in the culinary subject allows teachers to be more effective and creative in delivering the material, as well as increasing the attractiveness of learning for students.

Challenges in Technology-Based Learning Media Innovation

It can be inferred from the interviews that educators have not fully developed a variety of technologically based learning media innovations. As a result, we require educational materials that support instructors and students during class activities. Schools are not always able to provide technology-based instructional resources...

Utilizing 3D Visual Media in Education

The world of technology continues to develop, and 3D visual media is one of the significant trends. By utilizing this technology, education can become more relevant to current developments and the tendency of students to be more familiar with technology. In developing 3D visual media, it is necessary to ensure that the content presented is accurate and appropriate to the learning material. Also, the use of this technology should be supported by appropriate training and guidance for teachers and students so that they can use it effectively.

Contents Of Important Material In Edukiwari Application Development

Based on the results of the analysis of culinary media needs, there are several material contents (menu designs) for food service that need to be included in the development of a mobile menu book as a learning medium:

- a) Menu Photos: Displays visual images of various dishes on the menu. Clear and attractive photos can help students understand the appearance and presentation of dishes better.
- b) Menu Types: Introducing various types of menus that are generally used in restaurants or eating places, such as *a'la carte, table d'hote, special party menus*, and so on. An explanation of the characteristics of each menu type may also be included.
- c) Menu Cards: Presents examples of menu cards commonly used in restaurants. Students can understand the structure of a menu card, including commonly listed information such as a list of dishes, prices, descriptions, etc.
- d) Dish Description: Each dish can be accompanied by a description that describes its taste, aroma, texture, as well as the main ingredients used. This helps students understand the characteristics of each dish.

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e) Interactivity: Use of interactive elements such as quizzes or questions in each section of material, so students can test their understanding.

Edukiwari application as a student learning medium are:

- a) *mobile* menu books will make students more active and involved in the learning process. With visual interaction and interesting content, it is hoped that students will be more interested in learning and understanding the cooking material better.
- b) Facilitates Learning: teachers hope that the edukiwari application can help students understand the concepts of cooking. Material presented in visual and interactive form can help students overcome difficulties in understanding complex information.
- c) Creativity in Learning: I hope this learning media can stimulate students' creativity. Maybe they can design their own menu or experiment with serving variations, so that learning becomes more fun and rewarding.

The Edukiwari application as learning media will be more interactive and in accordance with the needs of the students in tourism vocational high schools. Analysis of the need for developing an application called Edukiwari as a medium for food service learning regarding dishes related to TPACK is explained as follows:

- 1) Content Knowledge (CK): In the context of culinary arts subjects, needs analysis will understand the content of the material being taught. This includes in-depth knowledge of various types of food, service techniques, dish presentation, as well as other table setting concepts. This analysis also includes identifying key elements that need to be included in a mobile menu, such as menu photos, menu types, dish descriptions, and other serving elements.
- 2) Pedagogical Knowledge (PK): Teacher involvement in an interactive learning approach is part of this analysis. Teachers understand how to teach culinary concepts effectively, motivate students, and make learning interesting. This includes the use of learning methods that actively involve students, the use of learning media, and learning strategies that suit the characteristics of students in tourism vocational high schools.
- 3) *Technological Knowledge* (TK): Teachers and students need to use technology in learning. This analysis includes an understanding of available technology, such as mobile menu books and learning applications, and how these technologies can be used effectively in the context of culinary learning.
- 4) Pedagogical Content Knowledge (PCK): PCK is the skill of teaching certain material. In this analysis, PCK is related to the teacher's ability to teach food service using a edukiwari

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application. This includes how to convey culinary concepts with the help of interactive media, creating interesting learning experiences, and ensuring that learning is in line with curriculum objectives.

- 5) *Technological Content Knowledge* (TCK): This analysis includes an understanding of how technology can be used to teach culinary content. Teachers and students need to know how to use edukiwari application as learning tools, access relevant content, and interact with this media effectively in the learning process.
- 6) Technological Pedagogical Knowledge (TPK): TPK is an understanding of how technology and learning approaches can be combined. In this analysis, TPK focuses on how edukiwari application can be used in learning methods that combine technology with effective pedagogical approaches.

The results of this needs analysis will help design a edukiwari application that integrates content knowledge, pedagogical knowledge, and technological knowledge, so that it becomes a learning tool that suits the needs of students and culinary teachers. In this way, this edukiwari application will help increase the effectiveness of learning food service in tourism vocational high schools. This finding is in line with previous research which stated that "the factors that cause effectiveness in the learning process are influenced by the type of media chosen and the learning methods applied in the learning process" (Khoir, 2020; Qistina, 2019). In implementing effective and enjoyable learning as well as a medium for students' self-actualization in the 21st century and to eliminate learning boredom/boredom. Apart from teaching, an educator must also continue to learn to improve his quality and abilities, such as the ability to use various interesting and innovative learning media according to current developments (Rosenberg & Koehler, 2015). As a result of the interviews, it can be concluded that the materials that must be included in developing a *mobile menu book* are: menu history, menu types, food illustrations and examples of standard restaurant food cards. It is hoped that the edukiwari application can increase student engagement, facilitate learning, stimulate student creativity, and make learning more interesting.

Conclusion

The needs analysis conducted for the Edukiawari application is essential in developing a tool to cater to the needs of both students and teachers of culinary learning in a vocational high school. The following are the key insights derived:

1) Culinary Teachers' Involvement: The most crucial of the findings in teaching culinary arts pertains to active involvement in the development process on the part of culinary teachers.

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Teachers remain in the best position to determine the primary needs in teaching culinary arts, especially in terms of practical skills and knowledge to be gained by students. This is because experiences ensure that developed content and features are directly related to the curriculum and specific challenges faced during lessons.

- 2) The application of Edukiawari should provide an interactive tool that enhances the learning of students in the culinary arts. Such features offer hands-on experience and increase understanding about cooking methods. Key features to be included will be:
- a) Different types of dishes, along with serving methods, will facilitate the student in finding different types of cooking and enhance their knowledge regarding different cuisine types and their presentation methods.
- b) Etimología de los Nombres de los Alimentos; This section will deal with the cultural importance of the names of foods and their etymologies, relating students to the culinary tradition.
- c) Accurately rendered 3D images help a student better imagine foods, especially for students who cannot read by themselves.
- d) Each dish will include information about nutritional facts, which will train a student about health and the right diet.
- e) The students will learn to make menus for each meal time, from breakfast to dinner, in order to be able to take into consideration the meal planning aspect comprehensively.
- f) The interactive animation will take the students through the process of ordering up to serving, focusing on the aspect of customer service involved within the food industry.

The integration of these features in Edukiawari promotes active learning, whereby students retain information more effectively and can apply the same in the culinary world. Edukiawari develops a combination of culinary content and modern technology that improves technical skills, cultural awareness, and knowledge of customer service for preparing students to work in a competitive environment within the food-service industry.

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