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Developing ESP based-digital learning materials support students' needs at Indonesian vocational schools: Perceived quality

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ABSTRACT

The purpose of incorporating digital learning materials into vocational school English instruction is to assist students in acquiring specific competencies. Additionally, prepared digital learning materials are intended to assist teachers in developing instructional materials that follow the principles of English for Specific Purposes (ESP) in vocational high schools (SMK). The research used the qualitative research and development (R&D) method. The stages of developing this teaching material model are adapted from Thiagarajan, Semmel, and Semmel's 4Ds model (1974), which consists of four stages: define, design, develop, and disseminate. As data sources, the participants were two teachers from two different vocational schools with a combined enrolment of 115 students. This research's results are a model for developing digital-based teaching materials (prepared digital learning materials). Furthermore, it was discovered that using the prepared digital learning materials greatly aided teachers in teaching English to achieve specific competencies. From the students' perspective, they admitted that it was also exciting because they perceived learning as distinct from traditional learning materials due to digital materials usage.

Keywords: *ESP; Digital learning materials; Vocational schools*

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1. Introduction

This research is a follow-up to previous research that discovered difficulties in learning English in vocational schools. The study discovered that the process and content of English learning in vocational schools are still general (GE) and do not address the specifics of English learning. It found that the syllabus for English learning in vocational high schools (SMK) is not aligned with vocational school majors and that there is a lack of examples of English learning content (ESP) (Fadlia, Zulida, Asra, Rahmiati, & Bania, 2020). However, the specifics of English learning materials can still be designed and taught to vocational students, for example, reading and vocabulary skills. Students will no longer read general texts but rather texts that correspond to their specific competencies.

Many studies supported those problems found in vocational high schools, such as a study conducted by Nuhamsih and Syahrial (2017) which found that the topics of the textbook used at vocational high school are not related and not emphasized enough to the programs in vocational high school, even the reading materials are still too general. Another study found that there was a need of integrating English reading materials with the materials of the content subjects due to achieving the vocational school targets (Azizah, Inderawati, & Vianty, 2020). Therefore, the concern in teaching materials specified for vocational high school students is still a priority to be studied.

The specific competencies such as a reading materials or conversations related to hotel for vocational students majoring in hospitality expertise programs and tourism services are competencies that are really needed by vocational students to face the challenges of the future world of work. The learning materials, especially English learning materials should be focused on the students' needs to support their future career after the school, especially in finding the suitable jobs (Azizah, Inderawati, & Vianty, 2020; Rhahima, Inderawati, & Eryansyah, 2021). As vocational school students, especially in hospitality expertise programs and tourism services, they are expected to become skilled workers in the fields of Front Office, Housekeeping, and Food and Beverages Services. They are expected to be able to compete globally. Therefore, they must also be equipped with global skills, one of which is the ability to speak English. If they do not have a good proficiency in English, then they will face a difficulty to overcome the challenges of the future job. However, they do not acquire the ability to use English during studying at Vocational High School due to English learning only focusing on fulfilling curriculum obligations without adjusting to the challenges of the 21st century learning.

Another challenge in teaching English in vocational schools is incorporating 21st-century learning, ICT, into ESP learning (Luna, 2018). Numerous prototypes and ESP learning models based on ICT have been developed. However, ICT-based ESP learning models have not been fully integrated into the Indonesian vocational education system. It has not even been translated into a policy for vocational education curricula. Thus, this study attempts to address those concerns.

Recent research on ESP in vocational schools also discovered a dearth of a systemic approach integrated into the vocational school's official curriculum (Oktarin, Syahrial, & Harahap, 2019; Poedjiastutie & Oliver, 2017; Syakur, Zainuddin, & Hasan, 2020). There is no specific model or textbook based on the needs of vocational schools that English teachers can use to teach English specifically for vocational high schools, making it extremely difficult for teachers to provide teaching materials that match their expertise in vocational schools. As a result, it is critical to developing an ESP learning materials model.

Additionally, to support the development of 21st-century learning that incorporates ICT into ESP learning and the Directorate of Vocational Development's recommendation to develop innovative educational approaches that assist students in effectively utilizing digital materials and technology, this study created a materials model of digital-based ESP learning to support the achievement of specific competencies through English learning. Additionally, this study will determine whether or not prepared digital learning materials can assist students in acquiring specific competencies and how teachers and students view the use of these prepared digital learning materials.

2. Literature review

The purpose of communication in English is critical when learning the language. This concept is consistent with Long (2007), who suggests that English instruction should focus on target discourse. It can be related to the teaching and learning process in vocational high school and should be designed and implemented to prepare students with the language skills necessary to succeed in the future workplace.

School, universities, vocational school, and educational institution keep changing the curriculum as the foundation of teaching and learning process in order to prepare the better future for the students (Gibbs, 2012; Habiburrahim, 2021; Knight & Yorke, 2004). This notion also supported by government to facilitate the educational institution to provide the layer of policies on this effort. Therefore, the continuous improvement and evaluation is needed on the process in adapting curriculum to the needs of the student (Darling-Hammond, 2010, Marwan, 2009; Poedjiastutie & Oliver, 2017). To provide the stakeholder with the analysis of how current curriculum can be suited into student needs and future workforce. The general English implemented at current curriculum in vocational school is seen to have the urgency to be adapted to have more English for Specific Purposes (Fadlia, et. al, 2020; Poedjiastutie & Oliver, 2017).

Baskturmen (2006) emphasized the importance of developing students' knowledge skills in their field of study or employment to develop target performance competence. In this case, the specific competence of the student, his or her future job competence, becomes the target competence to be included in English learning materials. As a result, there is a need for customizing the English curriculum in

vocational high school to each specific competence. The teaching of general English is considered insufficient to meet the students' needs in vocational high school and their future employment (Fadlia et al., 2020; Pudjiastuti & Olliver, 2017).

Dudley- Evans (1998) elaborated on the key stages of ESP to substantiate this notion. They are as follows: (1) need identification and analysis, (2) ESP program syllabus design, (3) teaching and learning process content, including organizing and sequencing material. (4) Evaluation and final evaluation.

In terms of content, integrating technology into English language learning materials has focused on EFL areas. It demonstrated that digital learning materials have a beneficial effect on EFL teaching and learning practices. However, some studies have highlighted the slow adaptation and lack of awareness of ESP teachers regarding using technology and ICT pedagogy (Luna, 2018). As such, this study aims to acclimate vocational English teachers to the use of digital audio-visual material in the classroom. Additionally, rather than focusing on general purposes, the English content should be tailored to the specific competencies of each class.

Digital content effectively promotes learning success (Asra & Irafadilah, 2020; Demirkan, 2019; Isda & Imran, 2021; Moro, 2018; Yokota & Teale, 2014; Sargeant, 2015). It adds interest to the learning process for students. Additionally, digital content meets the student's UpToDate Ness because it incorporates current technology (Demirkan, 2019). The digital material can take the form of a video, a digital presentation, an online textbook, or any other online platform that enables students to learn independently (Moro, 2018).

Westerfield (2010) outlined the steps that teachers must take to connect the learner's needs and technology. First, teachers should understand the learning objective and how technology can assist in meeting that objective. Second, teachers should know the current learner's language level skills to achieve what they need to acquire in their target language. Third, teachers have to be informed on what technological environment they have, for example the availability of computer and network. Then, these steps are adapted to build the model for this study.

Additionally, utilizing digital content, such as video, entails the use of audio-visuals. Utilizing audio-visual media in language learning entails promoting four-skill learning through listening, reading, speaking, and writing in a single activity. The ESP units can be integrated into the activity through the use of audio-visual materials. For instance, the learning activity of managing hotel check-in and check-out via video has highlighted several points, including the uniqueness of ESP, the value of learning four skills in one activity, and the value of technology-based learning.

3. Method

This study employs a qualitative approach and the Research and Development (R&D) method. The stages of developing this teaching material model are based on the 4Ds model by Thiagarajan, Semmel, and Semme (1974) consisting of four stages:

Define, Design, Develop, and Disseminate. This model was chosen because it is a feasible technique (Irawan, Padmadewi, & Artini, 2018). Prior research has been conducted on the defined stage by analyzing the needs of vocational students (Fadlia et al., 2020). The design stage involved format selection, which included creating the form of digital materials that meet the needs of 21st-century learners, as well as the creation of learning outcomes grids (adopted from the SMK SKL document). The development stage involved consulting experts in English education at vocational high schools (specifically, the head of the English MGMP at vocational high schools) and testing teaching materials in two classes that were not the study's target class. Finally, the dissemination stage took place as the teacher received the tested and revised teaching materials to use in the classroom. The classroom observations were performed to answer the research questions. The discussion in this study is limited to the final two stages, namely, develop and disseminate.

3.1. Source of data

The data sources of this study consisted of two teachers from two different vocational schools and four classes that were cared for by these two teachers, which consisted of 115 students. The four classes consist of two classes from hospitality expertise programs and tourism services, and two classes from fishing vessel engineering skills program (TKPI). These participants were selected based their future jobs which need to master English as their communication tools. As the hoteliers deal with the tourism industry, whereas the vessel engineers deal with traveling abroad.

3.2. Instrument

The data in this study were collected through expert checks, classroom observations, teachers' teaching material checks and semi-structured interviews with teachers, and students' questionnaires and FGD. Class observations were carried out four times. Interviews and questionnaires were conducted at the end of the lesson.

3.3. Data collection and analysis

The data is analyzed qualitatively using a checklist and a percentage. The checklist is used to document observations in class. The percentage is used to measure a teacher's assessment of the practicality of utilizing prepared digital learning materials and to gauge student responses when teachers utilize prepared digital learning materials.

4. Findings and discussion

The process of teaching English subjects in vocational schools still faces many challenges. One of them is the difficulties in preparing the learning materials following the special skills of the vocational high schools. Therefore, this study aims to solve those problems by developing a model for English teachers. The model is developed

based on English for Specific Purposes (ESP) to achieve vocational students' special skills.

4.1. Developing ESP based-digital learning materials

4.1.1. Initial stage

A model of teaching materials was developed in this stage by adapting Nunan notions (1989) of Task-Based Learning (TBL). He explained that TBL requires integrating listening, speaking, reading, and writing in one activity. This approach is based on the principle that language learning should be a daily use of language. In this context, the daily activities can be implied as the students' need to be communicated on their specific need for communication. This initial model can be seen below.

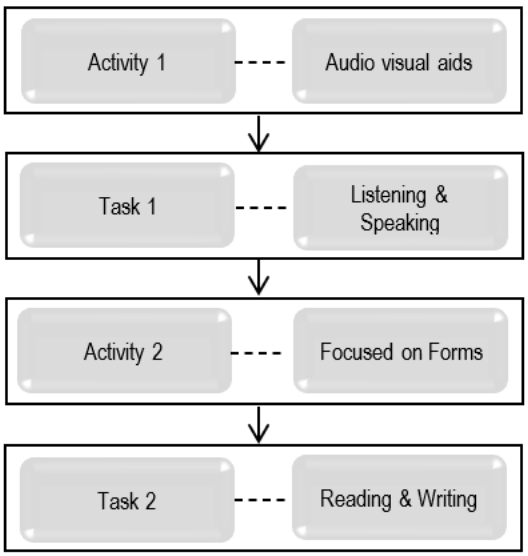

Figure 1. The initial model of digital learning materials

Following the development of this model, teaching materials were created using PowerPoint media with the theme of soliciting and providing feedback for the hospitality and tourism services expertise program and describing things for the vessel engineering expertise program (TKPI).

The teaching materials are organized according to the ESP principle, that is, by subject area of expertise. The teaching materials for the hospitality and tourism service expertise program include video check-in/check-out, reservation handling, and baggage handling. The teaching materials for the fishing vessel technical expertise program (TKPI) include videos of ship components, the structure of seafarers' positions, and communication between seafarers. After that, experts are consulted on the model and teaching materials.

4.1.2. Expert's stage

An expert was asked to make a review of the early-stage models and teaching materials. The expert is the chairman of MGMP (The English Teacher Union), Kota Langsa. From this review, several inputs were obtained, as shown below.

Table 1
Aspects of expert's suitability check.

Suitability Aspects	Yes	No
The suitability of teaching materials with core competence/basic competence (KI/KD)	√	
The suitability of teaching materials with specific competencies	√	
There are audio-visual media in teaching materials (digital media)	√	
Teaching materials have an opening activity (pre activity)		√
Teaching materials have a closing activity (post activity)		√
Teaching materials are developed from authentic sources (authentic materials)	√	
Teaching materials motivate learners to acquire language skills	√	

Source: Adapted from Harmer (2007)

In general, the expert suggests two essential things, namely the addition of pre and post activities. Revisions were made based on expert advice to create a development model for stage 2. The revision model incorporates the pre and post activities. This revision model is depicted below.

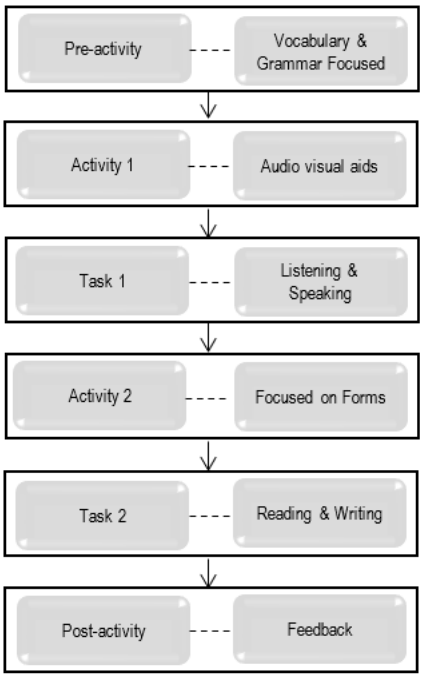

Figure 2. The revision model of digital learning materials

The above model was used as the final model of digital learning materials for the next stage, testing. A revision of the teaching materials followed the model revision. By developing pre-exercises on vocabulary and grammar focuses, pre-activities were

added to the teaching material. Teachers' or peers' feedback was included in the post-activity.

4.1.3. Testing stage

Testing was conducted in two classes from the two vocational schools that served as the research targets, but in different classes than the research target class. Two different teachers teach these two classes, and the teacher is the target of the study. One class was explicitly taken from the hospitality and tourism services expertise program, and the other was explicitly taken from the vessel engineering expertise program (TKPI).

The revision began with the testing results in class, based on teacher input and student responses requested after learning to test. Some inputs have been submitted, but they do not change the structure of the model. First, the teaching materials are incomprehensible to them since students' English skills are still poor. Students appear befuddled and unable to follow the conclusion of the learning process.

Second, pre-activity activities must be expanded, for example, by increasing the number of activities related to vocabulary and grammar development in order to prepare students to participate more fully in core activities.

In summary, the results of this revision stage produced an ESP teaching model that vocational English teachers could use to develop teaching materials based on specific skills in vocational high schools.

4.2. Implementing ESP based-digital learning materials

4.2.1. Class observation

Four classes from two different vocational schools were used to implement prepared digital learning materials. Each vocational high school had two classes chosen at random. Two classes are taken from the expertise program in hospitality and tourism services, and two classes are taken from the expertise program in fishing vessel engineering (TKPI). The same two teachers teach each vocational school's two classes.

Throughout the learning process, the students were seen to be very enthusiastic and happy. They are interested in learning through the use of digital media. They are also pleased when they enter the material section because it is closely related to their expertise program. They also actively asked the teacher about the videos they watched. They volunteered to be in front of class as models for practicing conversations. During playing a video, they also asked to pause the videos in the purpose of they wanted to comprehend the terminologies used by the actors in the videos.

On teachers' sides, the teachers look enjoying their teaching process. They taught with confidence since they had studied the prepared materials. They felt very helpful in carrying out learning when the digital learning materials have been prepared and adapted to the specific competencies of each class. They believed that they could begin preparing to teach right away. They were no longer required to seek out and

prepare teaching materials. Even the teaching materials were designed to meet the needs of students who will be doing practical work.

From the class observation, it could be seen that both students and teachers were in a good mood to teach and to learn. The prepared digital learning materials had a good impact in teaching and learning especially in vocational high schools.

4.2.2. Teacher's response

The interviews revealed that the teachers could continue to develop the instructional materials they had been using to achieve specific competencies.

Along with interviews, teachers were asked to complete a questionnaire to assess the usefulness of the prepared digital learning materials. The practicality criteria are adapted from Nieveen (1999), and they include the following: the teaching materials are simple for teachers to use, the teaching materials are well-structured, the teaching materials can accomplish goals, the teaching materials have appropriate tasks, and the teaching materials are developed using authentic resources.

A Likert scale ranging from 1 to 10 was used to assess teachers' perception on teaching materials practicality. The diagram below illustrates the results of the practicality assessment.

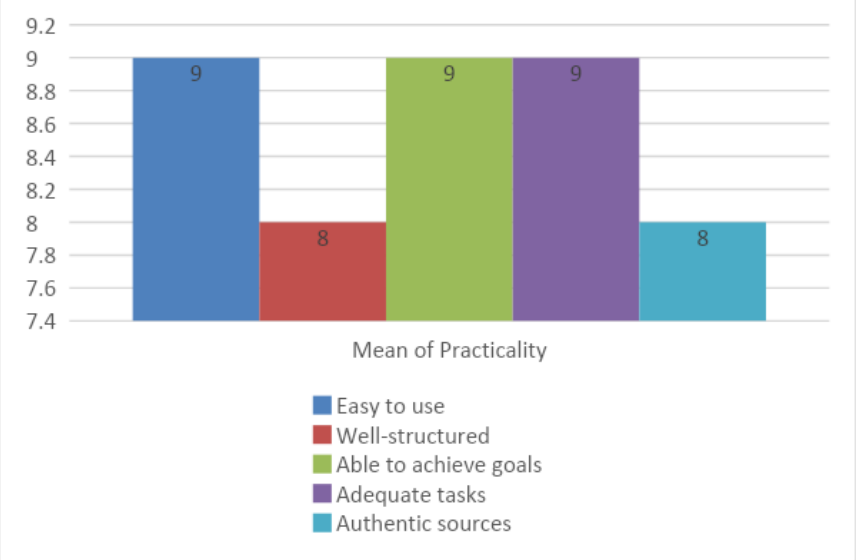

Diagram 1. Criteria of learning materials practicality

Based on the diagram above, teachers believed that the prepared digital learning materials were simple when teaching English subjects, particularly when encouraging students to participate actively in the learning process. The prepared digital learning materials followed a logical progression from receptive to productive skills (listening-speaking; reading-writing). Besides, it included sufficient tasks to accomplish learning objectives and is made from authentic materials. Therefore, it is suited with current issue and workforce needs.

From interviews with teachers, they argue that teaching materials need to be adjusted to the level of students' abilities. For instance, learning does not begin with a video; instead, it begins with a vocabulary introduction, an introduction to the learning context, and background knowledge about the video. One teacher said that: "The video is good, but we usually start with the introduction of vocabulary in such a simple-easy lists for students."

Teachers stated that they did not adapt their English instruction to language-specific competencies because they believed GE evaluated students. As a result, they concentrate on teaching English to prepare students to pass the national evaluation assessment standards. On the Interview Teacher said:

> We can not make our English lesson specified into each class future profession, because what is scored is Final Examination (UN), Which is formed in General English. Although The UN score is not become the indicator student pass to graduate. But still it is the burden for teacher to have their student n the higher examination score.

This notion also found in Marwan (2009), who studied the challenge of English teacher in vocational school. He found that the mismatch between the reality and expectation was existed. Parallel with the current studies that teacher is expecting students have better level on English proficiency, so vocational teacher can continue to teach on ESP matter. What is on the reality, the students' English proficiency background is not sufficient, Marwan (2009). Class observation found that teacher had to back again to simple grammar when they teach more advance level in English in specific matter.

Some other challenges found in teaching practise. Teacher admits the students' learning motivation, lack of English resources and heavy workload also becomes the main challenges faced by English teacher in vocational school (Marwan, 2009; Poedjiastutie & Oliver, 2017).

4.2.3. Student's response

One hundred fifteen (115) respondents completed questionnaires regarding their perceptions of the use of prepared digital learning materials. However, the questionnaire analyzed contained only 60 respondents, 15 from each of the four classes. This questionnaire contains five statements related to Nieveen's (1999) practicality criteria and employs a Likert scale with responses of strongly agree (SS), agree (S), disagree (TS), and strongly disagree (STS). The questionnaire data were then tabulated to determine whether each statement item received respondents' positive or negative responses. The following table summarizes the findings from the questionnaire data analysis.

Table 2
Analysis of student's response.

Criteria of Response	Mean	Category	Perception
Difference of learning materials	3.7	High	Positive
Difference of learning media used	3.6	High	Positive
Learning materials related to expertise program	3.3	High	Positive
Learning materials improved specific competence	3.3	High	Positive
Tasks used	3.3	High	Positive

According to the table above, all questionnaires on students' perceptions of using prepared digital learning materials received positive responses. As a result, it is possible to conclude that students have a favourable opinion of the use of ESP-based prepared digital learning materials in their classrooms.

The FGD was held to supplement the data from the questionnaire. According to the findings of the focus group, students believed that learning English that was tailored to specific competencies was highly beneficial to their learning. The student [SE] said that: "That is good, ma'am. We learned about hospitality right away. As a result, when we practice, we already understand the terminology." Another student [GA] stated that: "English through video is very interesting because it is not boring, and we immediately know about the check-in and check-out process from the video".

This finding is related to what Rhahima, Inderawati, and Eryansyah (2021) found that most of the students in vocational high school are motivated when learning uses the media electronic. Besides, according to the findings of the FGD, students responded positively to the use of digital learning materials based on ESP because they believe that learning English has been tailored to their specific needs.

The student also realized that they need English to improve the life opportunities. This finding is in line with Poedjiastutie (2017) study that students tend to relate their life opportunities will be more opened when they mastered English on their specific skills.

Furthermore, some students realized that they need English to support their learning matter, such as reading some specific sources. A student stated that "I need English to understand in some reading about hotel, because most of the terminologies are in English". This can be translated as the needs to support students in reading ability and to help them to understand specific terminology in their vocational competence. This finding is also corroborated with Poedjiastutie (2017) research on the student response in ESP needs. Students tends to realize they needs and demands in English, however sometimes this is not supported with learning resources, guidance from English teacher, and the curriculum itself.

5. Conclusion

The prepared digital learning materials can attract students' eagerness to learn English. They experienced a more interested learning in digital form by a specific topic related to their competencies. At the same time, the teachers admitted being greatly assisted by the prepared digital learning materials as they did not need an effort to prepare their own teaching materials. A model for developing digital-based teaching materials is effective to help teacher in preparing their learning materials based on ESP needs on their another teaching session.

The use of digital learning materials in teaching English is inevitable. Digital learning materials can level up the ways of teachers in teaching and the ways of students in responding to their learning. On the other hand, the prepared teaching materials can be a breakthrough for teaching in facing their problems to prepare the teaching materials specified to programs in vocational high schools. The ESP experts in collaboration with English teachers can develop specified learning materials to be directly used by the teachers in their classrooms. It will help the teachers in saving their time and energy related to preparing learning materials and the teachers can focus on how to deliver the materials in their best ways of teaching.

However, it is also expected that the teachers in the future can develop their own teaching materials specified to programs they taught in vocational high schools. The model for developing digital-based teaching materials (prepared digital learning materials) can guide the English teachers to develop their learning materials since the students think the learning is completed with their specific needs. In brief, the prepared digital learning materials had a positive influence to boost teachers' and students' interest in teaching and learning English.

It can be a suggestion to a decision-maker to make a policy that stipulates that learning English in vocational high schools must be following their specific competence, no longer general English (GE). It can be a basis for teacher to implement the prepared digital learning materials based on ESP in their classes.

Aside from teaching based on ESP, the assessment of learning English in vocational high schools must also be changed according to specific competencies. It will be miss-evaluation if they are assessed with general English standards. The students need to be assessed related to their ability in using four English skills. Therefore, the assessment based on ESP needs to be developed. In other words, when students study with ESP-based materials, they must be assessed with ESP-based assessment.

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