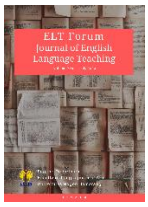
ELT FORUM 15 (Special Issue) (2026)

Journal of English Language Teaching

http://journal.unnes.ac.id/sju/index.php/elt



Vocational High School Students' Perceptions and Needs of Digital Learning Materials

Herlyna Cahya Ningrum[✉1], **Sri Wahyuni**[1]

[1]Universitas Negeri Semarang, Indonesia

Article Info

Article History:
Received on 24 June 2026
Approved on 2 August 2026
Published on 17 August 2026

Keywords: Vocational High School Students; Perceived Usefulness; Learning Needs; Digital Learning Material; Vocational English Learning.

Abstract

This study with topic digital learning materials result to explain vocational high school students' perceptions of the usefulness of digital learning materials and to identify their needs for digital learning materials in English learning. This study used a descriptive qualitative approach with a qualitative survey design. The data were collected through a questionnaire distributed through questionnaire to 115 students who are in Grade X and XI at some private vocational high school in Semarang. The respondents came from different vocational classes, including Culinary Arts, Software Engineering, Fashion Design, and Visual Communication Design. The data were analyzed by organizing students' responses, identifying important points, grouping similar answers, and interpreting them based on the research questions. The decision show that students generally had positive perceptions of need and use digital learning materials. They deliberated the digital learning materials useful because they helped them understand English lessons and supported the learning process. However, the improvement of English skills was still moderate, as many students felt that the materials only improved their skills a little. The findings also show that students needed digital learning materials that matched their vocational majors, included real-life and future job situations, and provided clear explanation. Therefore, digital learning materials for vocational English learning should be mobile-friendly, clear, practical, contextual, and relevant to students' future plan career.

✉Correspondence Address:
B3 Building FBS Unnes
Sekaran, Gunungpati, Semarang, 50229
E-mail: hlina641@students.unnes.ac.id

p-ISSN 2252-6706 | e-ISSN 2721-4532

INTRODUCTION

Digital technology now days in education system has become increasingly significant along with rapid enhancement of information and communication system used by technology (Blau, 2018). In practice, implementation digital learning often upgrades more by technological availability plus institutional policies than by students' actual learning needs and classroom conditions (Lim, 2004). This issue becomes important in vocational high school because vocational education related to practical skills. Vocational students expected not only to understand theoretical knowledge but also to practical in real situation (Hutchinson & Waters, 1987). Accordingly learning materials used in vocational education should support students' vocational major and future workplace, because vocational high school students raised to work after finish their study at school. In English learning contexts, students from different majors have a different language skills, communication practices, and learning materials according to their vocational fields, especially in English context.

Learning materials have an important thing, materials that effective should support meaningful learning experiences and match with learners' contexts and needs (Tomlinson, 2011). Understanding students' experiences to learn digital learning materials use, need to utilize knowledge from Technology Acceptance Model (TAM). 2 theories in TAM, this research only specifically focuses on perceived usefulness. Perceived usefulness refers to the intensity individuals who trust that applying a particular system can increase their performance (Davis, 1989). PU considered one of the strongest factors that influencing technology acceptance (Davis, 1989). However, students' perceptions alone are not enough to explain this research. Identifying students' learning needs regarding digital learning materials is also important. In English for Specific Purposes (ESP), needs analysis described an important process for identifying learners' goals, difficulties, and learning plan requirements (Hutchinson & Waters, 1987).

Based on researcher experience in one private Vocational High School in Semarang, researcher observed that teaching process in that school conducted without relying textbook materials due to the direction given by teacher, it happens because limited book in that school. Students need borrow the text book in the library whenever English class come, it takes many time. As a result, teaching materials independently prepared by the teacher. It is true that teacher worked to prepare the material, but if no have textbook in hand, how the teacher can maintenance it. This condition reflects an issue in which textbooks may not fully support classroom learning and students' needs. The gap in this study shows digital learning material by investigating vocational high school students' perceived usefulness and their learning needs in digital English learning material. By combining these aspects, this study is expected to provide a comprehensive knowledge about digital learning materials for vocational student that can relate to their work in the future.

5 key terms shown in this study, first is perception, refers to students' views and opinion of digital learning materials in English context based on their learning experiences. Perception involves how students can interpret and give a meaning to their experiences (McDonald, 2012). second, perceived usefulness refers to the students believe grade about digital learning materials that can improve their learning performance and support their English learning process (Davis, 1989). Although perceived usefulness and perceived ease of use are both theory that constructs in the Technology Acceptance Model (TAM), this study only focus on perceived usefulness. Third, Needs, in this study refer to students' requirements, expectations, and learning demands that hopefully can support their effective learning in the future (Baloochi, 2020). Fourth, English for Specific Purposes (ESP) needed in this study, because needs are related to learners' target situations which for what purpose they learn some material and learning requirements that help them achieve learning goals (Hutchinson & Waters, 1987). Fourth, Digital learning materials, refer to ICT theory that learning device can increase English learning processes (Van den Berg et al., 2004). The last key term, Materials, which supported students' learning experiences and align with vocational learning contexts can be effective because developed based on learners' needs and learning contexts to support their learning experiences (Tomlinson, 2011).

The significance of this study expected to institution in education and all the educator. In vocational English learning, digital learning materials not only function as some adding material but also as environments that shape students' engagement, understanding, and skilling for workplace communication in the future. Theoretically, this study contributes to investigate learner perspective by integrating concepts from English for Specific Purposes (ESP), technology acceptance, and contextual learning. ESP emphasizes that learning materials should match with learners' goals and learning processes (Dudley-Evans & St John, 1998). Practically, this study provides improvement of

digital learning materials for vocational students. In many schools, digital materials are adopted based on term and policy of curricula, without consideration of vocational students' experiences. Pedagogically, this study contributes to vocational high schools to strengthen their digital learning implementation. Integration of digital material not only require infrastructure and teacher proficiency but also an understanding of students' learning conditions and challenges. Students may face issues related to access the digital material and lack of digital literacy because low reading skill in which this study can investigate the challenges of digital materials in practice. Meanwhile previous studies emphasize that successful ICT integration depends on combination between technology, learning needs, and educational planning (Lim, 2004; Han et al., 2024).

The use of digital learning materials in vocational classroom contexts is connected to two aspects such as students' perceived usefulness and students' learning needs. The first aspect, students' perceived usefulness (PU), is contain theory from the Technology Acceptance Model (TAM) by Fred Davis (1989). Perceived usefulness refers to students' beliefs or view about which digital learning materials that help improve their learning performance and support their English learning processes (Davis, 1989; Davis & Granić, 2024). The second aspect is students' learning needs, which interpreted through the perspective of English for Specific Purposes approach. ESP emphasizes that learning materials should relate with learners' goals, vocational contexts, communication needs, and learning situation (Hutchinson & Waters, 1987; Dudley-Evans & St John, 1998). Through this perspective, students' needs include contextual learning activities that have relevant content, guided practice, interactive learning support, and accessible digital learning environments that support effective English learning.

These two aspects are connected because students' perceptions of usefulness influenced by whether digital learning materials reflect their vocational learning needs and learning contexts. In vocational education, students from different majors require different practices and material in learning activities (Johnson, 2002). Therefore, Students' perceived usefulness of digital learning materials and identifies students' learning needs in order to provide a clear understanding of how digital learning materials can support vocational English learning contexts examined this study. The novelty of this research summarized in 3 aspects. First, focusing vocational high school students' perspective, investigate students' lens of English digital learning material that relatable with their major. Second, using Modification to solve all problem from relatable theory, relating one by one theory to implementing solve into specific answer. Last novelty in data participant because including 4 majors from vocational high school students.

METHODS

A descriptive qualitative approach was employed in this study because it aimed to understand and describe students' views and experiences regarding digital learning materials. This approach allowed the researcher to explore participants' perspectives in greater depth and describe the phenomenon based on the meanings that participants attached to their experiences. In qualitative research, researchers seek to understand how participants perceive and interpret a particular phenomenon within their context (Creswell, 2013). A qualitative survey design was adopted to collect descriptive information from participants concerning their opinions, perceptions, and needs related to the use of digital learning materials. Through this design, the researcher was able to gather information directly from students and identify common patterns in their responses while maintaining the participants' perspectives as the primary source of data (Creswell, 2013).

Respondents

The participants of this study were Grade X and Grade XI students at a private vocational high school in Semarang, Indonesia. The students conducted from four different vocational majors, there are Software and Game Development, Culinary Arts, Fashion Design, and Visual Communication Design. These majors picked because they are in a same school but specific reason is each major has different learning contexts and characteristics that may influence students' perceptions and needs of digital learning materials in English learning. 278 students as population by the research observed in which contain of grade X and XI. The Grade X students are 171 students, while Grade XI students are 107 students. The population of Grade X students bigger than grade XI because Visual Communication Design is the newest major at the school, it makes Grade X student more lots.

Instruments

The instrument used in this study was a close-ended questionnaire distributed by Google Forms. The questionnaire was designed to collect qualitative data relating vocational high school students about perceived usefulness and learning needs related to digital learning materials. The questionnaire consisted of three sections. The first section collected participants' background information, including their name, major, class, access to digital devices, and internet accessibility. This information used to provide contextual understanding related to students' use of digital learning materials. The second section consisted of close-ended questions related to students' perceived usefulness and the last section, section 3, consisted student learning needs regarding digital learning materials in English material. The questions were developed based on the research objectives and relevant theories from previous chapter related to perceived usefulness and needs analysis.

Data collection procedures

This study is a close-ended questionnaire that distributed by Google Forms as a main data collection. The questionnaire was distributed online through Google Forms from April 27 to April 30, 2026. Before completed the questionnaire, participants asked to complete a consent form provided in the Google Form such as fill the square symbol that symbolize they were agree. Participation in this study voluntary by themselves, and all responses were treated confidentially, they data such as name and class will secretly and used only for research purposes. The questionnaire used to collect qualitative data from vocational high school students about their perceived usefulness and learning needs related to digital learning materials. The use of a close-ended questionnaire easier participants to choice multiple choice described based on their own opinions and perspectives.

Data analysis

Thematical analysis used in this study to analyze the data. Thematic analysis is a method that has many useful theories such as identifying, analyzing, and reporting patterns or themes within qualitative data according to (Braun & Clarke, 2006). This technique considered easy able because the data collected from students' responses in the close-ended questionnaire. By the thematic analysis, the researcher was able to organize students' responses and interpret the main ideas.

Following Braun and Clarke (2006), the data analysis conducted into six steps. 1) The researcher should familiar with the data by reading the students' responses when starting write finding chapter. 2) The researcher makes some initial codes by named of each student such as P1 and so on for identifying important words, phrases, and statements related to perceived usefulness and learning needs. 3) The codes grouped into each major and based on similar meanings if same. 4) The themes reviewed to ensure they represented by students' responses clearly. 5) The themes defined and named according to the focus research in this study. 6) The findings written with carefully and interpreted in relation to the research questions and relevant theories in previous chapter. Through those steps, the researcher could describe the students' perceptions of the usefulness of digital learning materials and identify their needs for digital learning materials carefully to get the worth result.

FINDINGS AND DISCUSSION

The findings are organized according to the two research questions. The first research question focuses on students' perceptions of the usefulness of digital learning materials in English learning. The second research question focuses on students' needs for digital learning materials. Before the findings are presented in this part, the respondents are described using code as P1 until P115 in the data. As described in previous chapter the population of this study consisted of Grade X and Grade XI students in a private vocational high school with total 278 students, consisting of 171 Grade X students and 107 Grade XI students.

Table 1. Population and Collected Questionnaire Responses

Grade Level	Population	Respondents	Response Coverage
Grade X	171	78	45.6%
Grade XI	107	37	34.6%

Total	278	115	41.4%

From Table 1, only 115 students completed the questionnaire. Therefore, the responses in this chapter represented 41.4% of the total population, means only 115 from 278 students are fill the questionnaire. Since the study used a qualitative survey design, the findings describe the participated students and not treated as a statistical representation of all students in the school. Table above to prove the fact about population of data.

Table 2. Respondents by Vocational Major

No.	Vocational Major	Frequency	Percentage
1	Culinary Arts	70	60.9%
2	Software Engineering	22	19.1%
3	Fashion Design	5	4.3%
4	Visual Communication Design	18	15.7%

Table 2 shows that Culinary Arts students joined the largest respondent group, while Fashion Design students formed the smallest group. This is relevant because culinary arts students is the biggest population in the school.

Table 3. Students' Devices for Learning

No.	Device	Frequency	Percentage
1	Smartphone	112	97.4%
2	Laptop	3	2.6%

Table 3 indicates that almost all respondents used smartphones as their main devices for learning, because smartphone is a primary device now days for student. Total of 112 students or 97.4% reported using smartphone, while only 3 students or 2.6% used laptop. This result shows that digital English materials should be readable on small screens which is can open it in smartphone also laptop, not contain a big memorize, and suitable for mobile learning. In other hand, it will face another challenge that will come such notification in smartphone that can distracted learning.

Table 4. Students' Internet Access for Learning Using Digital Learning Materials

No.	Answer	Frequency	Percentage
1	Yes, I have good internet access	106	92.2%
2	No, I don't have good internet access	9	7.8%

Table 4 give a fact that most respondents had good internet access, with 106 students choosing 'Yes, I have good internet access.' However, 9 students still reported that they did not have good internet access in their environment like home. This condition means that digital learning materials can be used by most students, but the materials should still be downloadable and easy to access for students with limited connectivity. Student can be downloaded the material first at school so the material can use in offline without internet.

Students' Perception of the Usefulness of Digital Learning Materials

The first research question in first chapter asks how vocational high school students perceive the usefulness of digital learning materials in English learning. In this finding, usefulness is understood through perceived usefulness in the Technology Acceptance Model theory by Davis (1989) defines perceived usefulness as the belief that using a technology can improve a user's performance. In this research context, the concept refers to students' beliefs that digital learning materials help them

understand English lessons, learn more effectively, improve English skills, increase motivation, and support English learning in general.

The perception data were taken from five closed-ended questionnaire items. The items asked whether digital learning materials helped students understand English lessons, how effective the materials were in helping them learn English, whether the materials improved their English skills, how the materials affected motivation, and how useful the materials were for English learning. The response categories were then grouped thematically under perceived usefulness. The results are presented in Table 5.

Table 5. Summary of Students' Perceptions of the Usefulness of Digital Learning Materials

Questionnaire Focus	**Answer**	**Frequency**	**Percentage**	**Interpretation**
Help students understand English lessons	They help me a lot	63	54.8%	Strong support
	They help me a little	52	45.2%	Moderate support
Effectiveness in helping students learn English	Very effective	72	62.6%	High effectiveness
	Sometimes effective	40	34.8%	Moderate effectiveness
	Not effective	3	2.6%	Low effectiveness
English skill improvement	They improve them a little	74	64.3%	Limited improvement
	They improve my skills a lot	39	33.9%	Strong improvement
	They do not improve my skills	2	1.7%	No improvement
Motivation in learning English	They make me more motivated	81	70.4%	High motivation
	Sometimes they motivate me	32	27.8%	Moderate motivation
	They do not motivate me	2	1.7%	Low motivation
General usefulness for English learning	Very useful	68	59.1%	High usefulness
	Sometimes useful	47	40.9%	Moderate usefulness

Table 5 shows that students generally had positive perceptions of digital learning materials. In relation to understanding English lessons, 63 students or 54.8% stated that digital learning materials helped them a lot, while 52 students or 45.2% stated that they helped a little. No negative response appeared in this item. This means that all respondents felt that digital learning materials provided at least some support for understanding English lessons.

The effectiveness item also showed a positive tendency. There were 72 students or 62.6% who considered digital learning materials very effective in helping them learn English. Meanwhile, 40 students or 34.8% that chose 'Sometimes effective,' and 3 students or 2.6% pick 'Not effective.' As

they lens resulting indicates that most students experienced digital learning materials as useful learning tools, even a small number of students did not feel the same level of benefit.

The question about English skill improvement showed a more moderate result. The largest group, 74 students or 64.3%, thinks that digital learning materials improved their skills a little. Only 39 students or 33.9% felt that the materials can improved their skills a lot, while 2 students or 1.7% deliberate that the materials did not improve their skills. This pattern shows that digital materials may support comprehension and task completion, but they may not provide enough practice yet, feedback, or repeated language.

The strongest positive result in the motivation item. with total of 81 students or 70.4% view that digital learning materials made them more motivated to learn English. Another 32 students or 27.8% stated that the materials sometimes motivated them motivate to learn use digital tools, while only 2 students or 1.7% assume that the materials did not motivate them. This finding suggests that digital learning materials can make English learning more attractive, especially when the materials are visual, interactive, and more item to enhance practice skill of vocational high school students.

For the general usefulness question, 68 students or 59.1% considered digital learning materials are very useful, while 47 students or 40.9% considered them sometimes useful. This shows that the respondents didn't reject the use of digital learning materials. They viewed the materials digitalized as useful learning support, although the usefulness was experienced at different terms. The moderate responses in several items show that usefulness depends on the quality, clarity, accessibility, and relevance of the materials for vocational students.

Students' Needs for Digital Learning Materials

The second research question in first chapter of this study asks what vocational high school students need from digital learning materials. In this study, students' needs were interpreted in relation to vocational English learning. From the perspective of English for Specific Purposes, learning materials should be developed based on learners' needs, including the target situations where learners are expected to use English and the learning support which they need to reach those situations (Hutchinson & Waters, 1987).

The needs data were taken from five closed-ended questionnaire items. The items focused on the importance of materials that match students' majors, English materials related to real-life situations in future jobs, clear explanations, practice activities, and career preparation. The response categories were grouped thematically under students' needs for digital learning materials. The results are presented in Table 6.

Table 6. Summary of Students' Needs for Digital Learning Materials

Questionnaire Focus	Answer	Frequency	Percentage	Interpretation
Digital learning materials that match students' major	Very important	90	78.3%	High need
	Quite important	25	21.7%	Moderate need
English materials related to real-life situations in future jobs	I really need them	87	75.7%	High need
	I sometimes need them	28	24.3%	Moderate need
Clear explanations and easy-to-understand materials	Very important	72	62.6%	High need
	Quite important	43	37.4%	Moderate need

Exercises, quizzes, or tasks in digital materials	I really need them	78	67.8%	High need
	I sometimes need them	36	31.3%	Moderate need
	I do not need them	1	0.9%	Low need
Materials that help prepare for future careers	Very important	86	74.8%	High need
	Quite important	29	25.2%	Moderate need

Table 6 shows that students had strong needs for contextual and vocationally relevant digital learning materials. The highest result appeared in the item about materials that match students' majors. A total of 90 students or 78.3% considered this very important, while 25 students or 21.7% considered it quite important. This means that major relevance was not a minor preference; it was a central need for the respondents.

The need for real-life and future job-related English materials was also strong. A total of 87 students or 75.7% stated that they really needed such materials, while 28 students or 24.3% stated that they sometimes needed them. This result deliberate vocational student's expectation of English learning to be connected with situations they may face outside the classroom, especially in their workplan career. Students also showed an explanation that is the material should be easy to understand. There are 72 students or 62.6% who considered very important, and 43 students or 37.4% considered them quite important. This finding assumption that digital learning materials should not only be attractive in form but also present instructions, examples, and language explanations in a clear and accessible to access.

The item about exercises such quizzes or any tasks also showed a high need. 78 students or 67.8% stated that they really needed practice activities in digital materials. Another 36 students or 31.3% said that they sometimes needed them, while only 1 student or 0.9% stated that such activities were not needed. This result is important because the perception findings showed that English skill improvement was still moderate in vocational high school. Practice activities may help digital materials to get clear explanation and support more active language in use. The final needs item related to future career preparation. 86 students or 74.8% considered this very important, while 29 students or 25.2% considered it quite important. This result shows that students expected that digital English materials can help them prepare for future workplan. Therefore, digital materials should include vocabulary, tasks, and examples that reflect students' vocational fields and future career plan.

Discussion

Discussion of Finding Students' Needs for Digital Learning Materials

The first finding revealed that most students regarded digital learning materials useful in learning English material. The data indicated that63 students or 54.8% said the digital materials helped them a lot in understanding English in lessons.Moreover,72 students or 62.6% said it was very effective,81 students or 70.4% said it motivated them, and68 students or 59.1% considered it as a great asset for them to study English. These findings imply most students did not look digital learning materials as an supplementary instrument but a support instrument to help learning them easier and efficient for vocational high school students. This finding supports Technology Acceptance Model's perceived usefulness formulated by Davis (1989) that any technology will be accepted to users if users believes it help to perform their task to them in effective. In this context of student's digital materials acceptance is demonstrated by positive student response on understanding, effectiveness, motivation and usefulness.

Therefore, it can concluded digital learning materials were very useful since they providing students access towards a wide variety of explanations, explanations, examples, movies, e-books, online platform, and exercise and activities that were effective in supporting the learning of English. For the case of Vocational high school students it provided easy access information since language learning required precise and adequate example of instruction, expression, and information

The strongest positive response about motivation appeared in the item. This suggests that digital learning materials which make English learning more interesting for students. Digital materials may attract students because they are closer to their daily learning habits and can include visual, audiovisual, and interactive elements. Students may feel more engaged when learning materials are presented through videos, online quizzes, digital slides, or platforms that can be accessed through their own devices individually. This finding supports the view of learning materials should not only present a content but also encourage learners to become involved in the learning process (Tomlinson, 2011). This moderate result indicates that English skill improvement requires more than access to digital materials, improvement in context of the material. Students need opportunities to practice, receive feedback, repeat language use, and apply English in meaningful situations that linier to their major. Digital materials help students understand vocabulary or complete tasks, but stronger skill development requires activities that involve active language use. Therefore, the usefulness of digital learning materials should be strengthened by adding practice-based tasks, contextual exercises, short quizzes, guided feedback, and activities that encourage students to use English for communication rather than only read or watch the content, it is not interest for the student.

The students' learning environment also supports the interpretation of perceived usefulness. Most students used smartphones as their main learning devices, with 112 students or 97.4% choosing smartphones, while only 3 students or 2.6% used laptops. Most students also reported that they have good internet access, but 9 students or 7.8% still had limited access. These conditions show that digital materials are useful only when they are accessible to open the material. Materials that are too large size, difficult to open on smartphones that not up to date, or dependent on stable internet connection reduce the usefulness by students. Therefore, digital English materials should be designed in mobile friendly, with readable layout, short videos, simple links, downloadable files, and low-data learning resources. Based on the first finding described, digital learning materials have a positive role in supporting vocational students' English learning. The materials help students understand lessons, increase motivation, and support the learning process through digital English learning material. Nevertheless, their role still needs to be improved especially in relation to English skill development. This means that digital learning materials should not only attractive and accessible, but also pedagogically organized to support vocational students practice, interaction, and meaningful language use.

Discussion of Finding Students' Needs for Digital Learning Materials

The second finding in this discussion section shows that students needed digital learning materials that were relevant to their vocational learning context. The strongest need found in the item about materials that match students' majors. With total of 90 students or 78.3% considered this very important. This result indicates that students expected English digital learning materials to be connected with their fields of study, not only with general English topics like other senior high school. Since the respondents came from Culinary Arts, Software Engineering, Fashion Design, and Visual Communication Design, their English learning needs were also different according to their vocational major.

This finding consists with English for Specific Purposes and needs analysis. Hutchinson and Waters (1987) explain that ESP should begin from learners' needs, especially the target situations in which learners will use the language in real life situation. In this study, the students' target needs appeared in their demand for English materials that related to their majors and future jobs. Culinary Arts students need material such as English for recipes, ingredients, menus, cooking procedures, and service communication. Software Engineering students need material such as English for technical instructions, application descriptions, programming terms, and digital communication. Fashion Design and Visual Communication Design students also need material English for product descriptions, portfolios, design concepts, presentations, and creative project communication. Students showed a strong need for materials related to real-life situations in their future jobs. 87 students or 75.7% stated that they really needed such materials. This fact data shows that students

wanted English learning to be practical and connected to future workplace communication. This need as student wanted is relevant to contextual teaching and learning. Johnson (2002) states that learning becomes meaningful when students can connect what they lesson content with real-life situations. In vocational English learning, this means that digital materials should include conversation such as workplace dialogues, customer interaction, job-related vocabulary, procedural texts, product presentation, interview practice, and other situations that students may face in their future job careers.

The need for clear explanation also appeared as an important finding in this finding. 72 students or 62.6% considered clear and easy explanations very important. This result shows that students not only need materials that are relevant, but also materials that are understandable. Digital materials may become ineffective when explanations are too long or not supported by examples they expected. For vocational students, clear explanation is especially important because they need to connect English expressions with practical tasks as vocational students. Therefore, digital learning materials should contain simple instructions, clear examples, visual support, and step-by-step activities. The students' need for practice activities also strong choices. 78 students or 67.8% stated that they really needed practice activities, quizzes, or tasks. This finding explains the result of English skill improvement in the first finding was more moderate. Students may perceive digital materials as useful, but they still need more opportunities to practice. Learning materials should support learners through meaningful use of language, not only delivery some content (Tomlinson, 2011).

The data also show that 86 students or 74.8% considered digital materials for future career preparation being very important. This result strengthens the argument that vocational students need English materials that have practical value for their future career plan. Career oriented digital materials can help students prepare for job interviews, workplace communication, customer service, product explanation, report writing, make a CV, portfolio presentation, and professional interaction. This kind of material is important because vocational education aims to prepare students for employment and professional worker after graduate. The second finding shows that students' needs can be grouped into two main substances. The first category is the target needs, which include materials that match students' majors, real-life job situations, and career preparation. The second category is learning needs, which include clear explanations, practice activities, and accessible. These categories show that students in the fact need digital learning materials that are both relevant and learnable. Relevant materials help students see the connection between English and their vocational fields, while make a learnable materials help them understand and practice the language more effectively.

The discussion of the second finding also shows the importance of designing digital materials based on students' actual conditions. Since most students used smartphones, the materials should fit on small screens. Since a small number of students had limited internet access, the materials should not contain a big size memory, and can downloaded to learn it when offline. Practical options include short PDF modules, compressed videos, simple online quizzes, downloadable worksheets, and offline-friendly tasks. These formats can make digital materials more inclusive for students with different accessible conditions. In sum, the second finding shows that students need digital learning materials that are based on their major, contextual, clear, practice oriented, accessible, and career related. These needs are connected one and other in the first finding. Students perceived digital learning materials as useful, but they expected the materials to become more specific to their vocational fields and more supportive of English skill material. Therefore, the improvement of digital English learning materials should focus not only on the use of technology, but also on the relevance, clarity, practice value, and career plan in the materials.

CONCLUSION

There are 2 conclusion in this research, the first conclusion is that vocational high school students had positive perceptions of the usefulness of digital learning materials in English learning. The closed-ended questionnaire data showed that 63 students or 54.8% stated that digital learning materials helped them a lot in understanding English lessons. In addition, 72 students or 62.6% considered the materials very effective, and 68 students or 59.1% considered the materials very useful. The strongest response appeared in motivation, where 81 students or 70.4% stated that digital learning materials made them more motivated to learn English. At the same time, the usefulness of digital learning materials still needs to be strengthened. The result on English skill improvement was

more moderate because 74 students or 64.3% stated that the materials improved their skills only a little. This means that digital learning materials help students to understand the lessons and feel more motivated, but they may not provide enough practice, feedback, and contextual tasks yet to improve English skills more strongly. Therefore, digital materials should not only present material. They should also guide students to use the digital material.

The second conclusion is students need digital learning materials that were relevant to their vocational majors and future careers. The strongest need was for materials that match students' majors, 90 students or 78.3% considering this very important. Students also needed real life and job materials oriented, clear explanations, practice activities such as exercises, quizzes, or tasks, and materials that help them prepare for future careers. These findings show vocational students need English digital materials that are practical, contextual, and connected to their plan future work. The findings also show that students' digital learning item should considered in developing materials. Most respondents, 112 students or 97.4%, used smartphones as their main learning devices. Most of them also had good internet access, but 9 students or 7.8% did not. Therefore, digital English materials for these students should be mobile friendly, easy to open, and not too dependent on high internet data. In sum, digital learning materials are useful for vocational English learning, but their quality depends on how well the material insist respond to students' learning conditions, vocational majors, and future job needs.

four suggestions are proposed. First, developer of the material in Indonesia suggested to select and develop digital learning materials that are relevant to students' vocational majors. The materials should not only contain general English topics because they’re not senior high school student, for examples and tasks related to Culinary Arts, Software Engineering, Fashion Design, and Visual Communication Design. For example, Culinary Arts students can be given materials about recipes, food ingredients, menus, and restaurant service. Software Engineering students can be given materials about technical instructions, application features, and digital communication. Fashion Design and Visual Communication Design students can be given materials about product descriptions, software to illustrated their ideas which the step use English language, portfolios, presentations, and creative project explanations.

Second, teachers are suggested to add more practice activities using digital learning materials. Since many students felt that digital materials improved their English skills only a little, the materials should include vocabulary exercises, short quizzes, reading tasks, listening activities, conversation dialog, short writing tasks, and contextual projects. These activities should simply understanding, Feedback should provide so that students know what they have done correctly and what still needs improvement. Third, the school is suggested to support the use of digital learning materials by providing stable internet access, in free way. Since most students use smartphones, but the accessible of the internet are low. The school can also support teachers through training or sharing sessions on how to design simple and clear digital English materials for vocational students. Fourth, students are asked to use digital learning materials actively. Students should not use digital materials only when they are asked to complete assignments. They can also use them to learn some materials and practice vocabulary which prepared their skill for future workplace communication. Students should also communicate their learning difficulties to teachers so that the materials can improved according to student needs.

In addition, for future researchers are suggested to conduct further studies with a wider and more balanced number of respondents from each major, because many majors in some vocational high school. Future studies may also focus on developing digital English materials based on the needs found in this study, such as major specific vocabulary, real life workplace conversation, interactive exercises, and career preparation tasks such as curriculum vitae. Since this study used a closed-ended questionnaire in a qualitative survey design, future researchers may add open-ended questions, interviews, or classroom observation to obtain deeper explanations of students' responses, and can use quantitative research to make the data more capable.

FUNDING STATEMENT

The author declares that this research received no external funding from any agency in public. This article was developed by the author final project and intendedly conducted as part of the academic requirement for degree completion

DECLARATION OF AI USE

The authors used AI tools to enhance the language, clarity, and readability of the manuscript. Following the use of this tool, the authors carefully reviewed and revised the AI-assisted content as necessary. The authors remain fully responsible for the accuracy, integrity, and final content of the publication.

REFERENCES

Aflalo, E., Vaknin, M., Harband, Y., & Safrai, M. Z. (2024). Using digital technologies to support active and self-directed learning. *Journal of Computing in Higher Education*. Advance online publication. https://doi.org/10.1007/s12528-024-09428-y

Aziz, A., & Hossain, M. T. (2024). Digital access, resources, and literacy: Mapping the digital divide and ICT learning challenges among undergraduate students in Bangladesh. *Asiascape: Digital Asia, 11*, 246–267. https://doi.org/10.1163/22142312-bja10064

Bali, C., Taşdelen, B., Bandi, S., & Zsidó, A. (2026). Understanding the cognitive cost of multimedia learning: Effects of visual load and language proficiency. *Cognitive Research: Principles and Implications, 11*, Article 2. https://doi.org/10.1186/s41235-025-00699-2

Balaman, F., & Baş, M. (2023). Perception of using e-learning platforms in the scope of the technology acceptance model (TAM): A scale development study. *Interactive Learning Environments, 31*(8), 5395–5419. https://doi.org/10.1080/10494820.2021.2007136

Baloochi Beydokhti, T., Heshmati Nabavi, F., Ilkhani, M., & Karimi Moonaghi, H. (2020). Information need, learning need and educational need, definitions and measurements: A systematic review. *Patient Education and Counseling, 103*, 1272–1286. https://doi.org/10.1016/j.pec.2020.02.006

Barz, N., Benick, M., Dörrenbächer-Ulrich, L., & Perels, F. (2024). Students' acceptance of e-learning: Extending the technology acceptance model with self-regulated learning and affinity for technology. *Discover Education, 3*, Article 114. https://doi.org/10.1007/s44217-024-00195-7

Blau, I., Grinberg, R., & Shamir-Inbal, T. (2018). Pedagogical perspectives and practices reflected in metaphors of learning and digital learning of ICT leaders. *Computers in the Schools, 35*(1), 32–48. https://doi.org/10.1080/07380569.2018.1427960

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Buabeng-Andoh, C. (2025). Investigating student–teachers' continuous intention to use mobile learning management system: The technology acceptance model and expectation confirmatory model. *Discover Education, 4*, Article 76. https://doi.org/10.1007/s44217-025-00447-0

Bundsgaard, J., & Hansen, T. I. (2011). Evaluation of learning materials: A holistic framework. *Journal of Learning Design, 4*(4), 31–44. http://dx.doi.org/10.5204/jld.v4i4.87

Chand, S. P. (2023). Constructivism in education: Exploring the contributions of Piaget, Vygotsky, and Bruner. *International Journal of Science and Research (IJSR), 12*(7). https://doi.org/10.21275/SR23630021800

Charisma, D., Hartono, R., & Wahyuni, S. (2025). Digital literacy attitudes among EFL pre-service teachers in the development of learning media. *Indonesian EFL Journal, 11*(2), 209–222. https://doi.org/10.25134/ieflj.v11i2.11675

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). SAGE Publications.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Davis, F. D., & Granić, A. (2024). *The technology acceptance model: 30 years of TAM*. Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-030-45274-2

Davtyan, R. (2014). *Contextual learning* [Conference paper]. ASEE 2014 Zone I Conference, University of Bridgeport, Bridgeport, CT, United States.

Dewanti, R., Febri, B., & Solihat, D. (2022). Digital literacy in vocational high school English learning materials. *English Review: Journal of English Education, 10*(2), 667–678. https://doi.org/10.25134/erjee.v10i2.6305

Dewi, S. L., Misnar, Syahid, A., Rahma, & Syahrin, A. (2025). Integrating digital reading module to enhance computational thinking skills via lesson study for EFL beginners: Case study of

a public senior high school in Indonesia. *World Journal of English Language, 15*(7), 69–79. https://doi.org/10.5430/wjel.v15n7p69

Dudley-Evans, T., & St John, M. J. (1998). *Developments in ESP: A multi-disciplinary approach*. Cambridge University Press.

Durmuş Çemçem, G., Korkmaz, Ö., & Kukul, V. (2025). Teachers' readiness for blended learning, digital competences and digital instructional material development self-efficacy. *Journal of Computing in Higher Education*. Advance online publication. https://doi.org/10.1007/s12528-025-09486-w

Fadlia, F., Asra, S., Zulida, E., & Santosa, M. H. (2022). Developing ESP based-digital learning materials support students' needs at Indonesian vocational schools: Perceived quality. *Englisia: Journal of Language, Education, and Humanities, 10*(1), 40–53. https://doi.org/10.22373/ej.v10i1.12166

Fang, S.-W., Hsu, H.-T., & Chen, K. T.-C. (2025). The effects of an e-book app on reading motivation and proficiency in young EFL learners. *TechTrends, 69*, 987–997. https://doi.org/10.1007/s11528-025-01091-z

Ferdiansyah, & Irfan, D. (2021). Interactive learning media based on website in vocational school. *Al-Ishlah: Jurnal Pendidikan, 13*(1), 755–762. https://doi.org/10.35445/alishlah.v13i1.591

Han, X., Zhou, Q., Li, M., & Wang, Y. (Eds.). (2024). *Handbook of technical and vocational teacher professional development in the digital age*. Springer Nature Singapore Pte Ltd. https://link.springer.com/book/10.1007/978-981-99-5937-2

Hebibi, F., Runge, I., Scheiter, K., & Lazarides, R. (2025). Combining technology acceptance model and situated expectancy-value theory to explore relations with technology-enhanced teaching behavior. *Education and Information Technologies*. Advance online publication. https://doi.org/10.1007/s10639-025-13795-z

Hover, A., & Wise, T. (2022). Exploring ways to create 21st century digital learning experiences. *Education 3–13, 50*(1), 40–53. https://doi.org/10.1080/03004279.2020.1826993

Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach*. Cambridge University Press.

Jarkiewicz, A., Krawczyk, A., & Szulewicz, E. (2025). The development of the participatory approach to digital learning: Research findings from Poland. *Technology, Knowledge and Learning*. Advance online publication. https://doi.org/10.1007/s10758-025-09848-4

Jeong, N.-J., Lim, J.-H., & Paik, S.-H. (2025). Effectiveness of a Pathway 3 technological pedagogical content knowledge professional development program for in-service secondary chemistry teachers. *Asia-Pacific Science Education, 11*, 332–369. https://doi.org/10.1163/23641177-bja10104

Jian, Y., & Abu Bakar, J. A. (2024). Comparing cognitive load in learning spatial ability: Immersive learning environment vs. digital learning media. *Discover Sustainability, 5*, Article 111. https://doi.org/10.1007/s43621-024-00310-6

Jiang, L. (2022). Facilitating EFL students' civic participation through digital multimodal composing. *Language, Culture and Curriculum, 35*(1), 102–117. https://doi.org/10.1080/07908318.2021.1942032

Johnson, E. B. (2002). *Contextual teaching and learning: What it is and why it's here to stay*. Corwin Press.

Jubhari, Y., Sasabone, L., & Nurliah, N. (2022). The effectiveness of contextual teaching and learning approach in enhancing Indonesian EFL secondary learners' narrative writing skill. *Journal of Research and Innovation in Language, 4*(1), 54–66. https://doi.org/10.31849/reila.8633

Kantanda, E. M. K. (2018). Perception-need theory of meaning: Definition and demonstration. *Communication and Linguistics Studies, 4*(2), 37–44. https://doi.org/10.11648/j.cls.20180402.13

Karademir, T., Alper, A., Soğuksu, A. F., & Karababa, Z. C. (2021). The development and evaluation of self-directed digital learning material development platform for foreign language education. *Interactive Learning Environments, 29*(4), 600–617. https://doi.org/10.1080/10494820.2019.1593199

Klapwijk, R. M., Gu, J., Yang, Q., & de Vries, M. J. (Eds.). (2023). *Maker education meets technology education: Reflections on good practices*. Brill.

Kurniadi, D., Yuliasri, I., Wahyuni, S., & Sakhiyya, Z. (2025). Contriving IT-based integrated skills approach (ITBISA) for students' English proficiency and digital literacy skills. *Qubahan Academic Journal, 5*(1), 782–797. https://doi.org/10.48161/qaj.v5n1a1595

Lim, C. P. (2004). Integrating ICTs into education: Lessons learned; A collective case study of six Asian countries (ICT lessons learned series No. 3). UNESCO. ISBN 92-9223-015-8.

Liu, C.-H., Horng, J.-S., Chou, S.-F., Yu, T.-Y., Huang, Y.-C., Ng, Y.-L., & Lin, J.-Y. (2024). How big data applications and digital learning change students' sustainable behaviours – the moderating roles of hard and soft skills. *Interactive Learning Environments, 32*(10), 6751–6773. https://doi.org/10.1080/10494820.2023.2282104

Marcus-Quinn, A., & Hourigan, T. (2022). Digital inclusion and accessibility considerations in digital teaching and learning materials for the second-level classroom. *Irish Educational Studies, 41*(1), 161–169. https://doi.org/10.1080/03323315.2021.2022519

McDonald, S. M. (2012). Perception: A concept analysis. *International Journal of Nursing Knowledge, 23*(1), 2–9. https://doi.org/10.1111/j.2047-3095.2011.01198.x

Mooij, T. (2007). Contextual learning theory: Concrete form and a software prototype to improve early education. *Computers & Education, 48*(1), 100–118. https://doi.org/10.1016/j.compedu.2005.01.002

Nilashi, M., & Abumalloh, R. A. (2025). i-TAM: A model for immersive technology acceptance. *Education and Information Technologies, 30*, 7689–7717. https://doi.org/10.1007/s10639-024-13080-5

Piaget, J., & Inhelder, B. (2000). *The psychology of the child* (H. Weaver, Trans.; J. Kagan, Foreword). Basic Books. (Original work published 1969)

Pikhart, M., Al-Obaydi, L. H., & Klimova, B. (2024). Does digital learning stimulate creativity? *Cogent Arts & Humanities, 11*(1), 2407103. https://doi.org/10.1080/23311983.2024.2407103

Reyes, G., Moury, S., Seeligmüller, E., Compton-Mcculloch, D., Jagadeesh, N., & Ostermann, T. (2025). Digital learning tools in the classroom: Comparing their impacts on student motivation to learn and academic achievement in post-secondary students from Canada, Germany, and India. *Educational Studies, 51*(5), 1074–1097. https://doi.org/10.1080/03055698.2024.2405809

Sabarun, & Qodir, A. (2022). *Exploring needs analysis on developing EFL paragraph writing materials*. Era Pustaka Utama.

Setiyawan, H., Suharno, & Pambudi, N. A. (2023). The influence of digital and vocational information literacy on student learning outcomes. *Jurnal Pendidikan Vokasi, 13*(2), 192–204. https://doi.org/10.21831/jpv.v13i2.53999

Steffe, L. P., & Gale, J. E. (Eds.). (1995). *Constructivism in education*. Lawrence Erlbaum Associates.

Tan, L.-P., Gong, S.-Y., Wang, Y.-J., Guo, X.-R., Xu, X.-Z., & Wang, Y.-Q. (2025). Enhancing academic performance through self-explanation in digital learning environments (DLEs): A three-level meta-analysis. *Educational Psychology Review, 37*, Article 20. https://doi.org/10.1007/s10648-025-10001-x

Tomlinson, B. (Ed.). (2011). *Materials development in language teaching* (2nd ed.). Cambridge University Press.

Van den Berg, E., Blijleven, P., & Jansen, L. (2004). Digital learning materials: Classification and implications for the curriculum. In J. van den Akker, W. Kuiper, & U. Hameyer (Eds.), *Curriculum landscapes and trends* (pp. 237–254). Kluwer Academic Publishers. https://doi.org/10.1007/978-94-017-1205-7_14

Van Drie, M., & Harris, A. (2020). The stethoscope goes digital: Learning through attention, distraction and distortion. *Gesnerus, 77*(1), 123–148. https://doi.org/10.24894/Gesn-en.2020.77005

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press.

Xu, L., Ng, D. T. K., Lee, C. S. Y., Peng, P., & Chu, S. K. W. (2025). A systematic review of digital literacy in lifelong learning for older adults: Challenges, strategies, and learning outcomes. *Educational Technology Research and Development, 73*, 3627–3674. https://doi.org/10.1007/s11423-025-10530-w