



Original Research

A Need Analysis on Developing English Interactive Multimodal E-Book Oriented to 21st Century Skills

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Article Info

Article history:

Received 13 November 2022

Revised 11 January 2023

Accepted 19 Feb 2023

Keywords:

21st century learning design

21st century skills

Electronic books

Multimodal technology

Need analysis



Abstract

The need toward availability of online and electronic textbooks (e-books) in language teaching and learning in digital age and 21st century is very considerable. To design and develop an electronic book, teachers should consider all students' needs. This study aimed to investigate and explore students' English learning needs, wants, and difficulties of primary education on developing English interactive multimodal e-book integrated with the skills of 21st century including communication, collaboration, critical thinking, and creativity. The case study research design was used to deeply investigate and describe the students' needs on development of English e-book. To collect data on the students' necessities, difficulties, and wants for a primary English course design and skills, the researchers used interview and questionnaire. The researcher interviewed one teacher and three students. For questionnaire, there were three main aspects asked: students' necessity, wants, and difficulties totally consisting of sixteen questions. Documentation of the teaching and learning activities photos was collected and the data were analysed using qualitative and quantitative analysis. The results included (1) the students' English skill was considered poor; they had little vocabulary mastery and low motivation toward learning English materials (2) the needs toward the 21st century skills to be included in e-book were very necessary to promote communication, critical thinking, and problem solving skills; (3) inserting various multimodal materials in each task of e-book was needed to increase students' references, reading comprehension, and digital literacy, and (4) inclusion of various online activities like synchronous and asynchronous mode was highly demanded.

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1. Introduction

The Covid-19 pandemic has changed and modified teachers' paradigms on teaching and learning in all levels of education starting from primary education to higher education even on the roles of teachers in supporting and mediating students' course comprehension. Many schools and institutions apply some policies such as full online (Work from Home) and blended learning as well to reduce spread of virus. For almost two years, this implementation of online learning in every school is happening. Several polemics are arisen from any parties like students' guardian especially of primary students who feels worried on this mode since their children face some difficulties when entering online meeting. For instance, they get troubles with internet connection in their area. Most teachers utilize videoconference method in reaching students' presence and transferring materials. Also, many tasks are shared immediately on WhatsApp group to be downloaded and read on students' device. With limited instructions and assistance by teachers, students only need to open and read materials given based on their comprehension. Principally, a successful learning should include any feedbacks and scaffolding from teachers to facilitate learners in understanding materials. In practice, it was found that interaction and communication both teacher and students are deficient. This

evidence is confirmed by parents' responses toward children's assignments which stress on just submitting tasks and exercises on WhatsApp media. Students are mostly charged with the online assignments rather than more direct feedbacks. Here, the parents' roles and involvement are very dominant. Consequently, students more depend on their parents in executing learning process than on their teachers. This case should be a significant concern by teachers to find out several solutions. Somehow, teachers should have adequate digital literacy to comply the model of innovative education for the future (Li & Yu, 2022). Some can be undertaken by designing blended and fun materials which can reach students' engagement and awareness. For instance, teachers should decide to develop online or electronic materials or books than paper books or textbooks.

In today's digital age, electronic or online materials are very necessary to facilitate learners in comprehending online subjects. Teaching material is one of key aspects or elements in the process of learning in the classroom. It helps teachers in transferring knowledge and achieving learning objectives. The term of online is identic to digital term. Effective online education comprise of online teaching and learning increasing concentrations on standard online course design, teaching, and learning (Hodges et al., 2020). Digital technologies have influenced diverse aspects of language learning including management systems of modern learning, collaborative learning, and language acquisition targeted on socio-constructivist (Alakrash & Razak, 2021). For teachers, technology is used to augment language classes due to very limited time for using a real language in typical language classes (Tomlinson, 2011). While paper books are still relevant and useful for mediating learning in the classroom, factors such as its limited content and heavy weight made books seem outdated for generation Z students who grew up with smartphones that have ever-expanding storage space and light portability (Al Musawi et al., 2017). The emergence of Covid-19 and the disruption of industrial revolution 4.0 designated by Internet of Thing (IoT) and digital technology enable teachers to reform their method in teaching such as developing materials, assessing, and evaluating learning by online. For instance, the use of e-book to mediate learners in virtual activities. Electronic books or e-books display interactive multimodal information such as written texts, spoken readings, music, illustrations, animations, which can be used with touch and pressure on the screen (touch screen) to produce sound and animation (López-Escribano et al., 2021). E-books contribute to the development of reading skills through digital reading because they contain designs that attract the characteristics of diverse learners (Ozturk, 2021). Several benefits offered by e-books include (1) accessibility (Woody et al., 2010); (2) portability, and (3) less space for storage (Kang et al., 2009). Some studies related to e-books for children result that it can escalate motivation and support in language development especially reading and writing skills (Korat & Shamir, 2007). In addition, e-books can assist children to learn meaning of new words, recognition of words, and words' reading (Korat & Or, 2010).

According to the term of multimodality, it presents platforms for students learning in diverse disciplines like semiotics, linguistics, media studies, new literacy studies, sociology and psychology, and education (Jewitt et al., 2016). This term is not recent. This multimodal concept was introduced by The New London Group in 1996 which changed what is called literacy pedagogy which includes six elements in the meaning process, namely linguistics, visuals, audio, gestures, spatial meaning, and multimodal interaction (Lotherington & Jenson, 2011). Actually, communication refers to multimodal because several semiotic resources are involved and all assist the process to make meaning in a given situational context in order to interpret message entirely (Bonsignori, 2018). Various types of multimodal technologies include Massive Open Online Courses (MOOCs), Serious Games, Artificial Intelligence (AI), Learning Management Systems (LMS), Mobile Applications and e-Books, Augmented/Virtual Reality (VR), and Classroom Technologies (Qushem et al., 2021). Multimodal e-books encourage students to develop literacy where teachers can provide guidance through the use of tools in a reading text. Also, it presents several visual words that can help students understand vocabulary, repetition of text, animations, and at the same time sounds that make students focus on meaning. Moreover, multimodal e-books also provide lots of benefits for students' reading comprehension, including aspects of pronunciation, vocabulary, and narration. The use of e-books in children's learning also has an impact on autonomous learning, where students can get a lot of new vocabulary that has not been known before (Morgan, 2013). Furthermore, e-books tend to be more flexible than their predecessors due to the enriched aesthetic multimedia effects they offer and the many options for personalization and customization (Qushem et al., 2021). For achieving the goal or objectives of learning, the content of a book should be embodied the students' needs and wants even activities to support English students' proficiency. Indeed, the needs toward the 21st century skills and learning design should be surveyed by English teachers to provide students skills to face future like digitalization and globalization.

The skills oriented to 21st century should be considered and put in the English curriculum in Indonesia. The world is more global and complex. It offers lots of challenges such as the use of technology in everyday life. The today's learning outcome is supposed to orient on how students can survive and live together with society even gain comfortable positions in their work. This is harmonious with the vision and mission of Indonesian government pointed to result superior and competent human resources. The 21st century skills including communication, collaboration, critical thinking, and creativity (Laar et al., 2020) enable students to improve and build their capacity in life and working. Besides the four skills mentioned, the term of digital literacy is also included and should be strengthened to students (Tohara et al., 2021). Indeed, the 21st century is also marked by the rapidly growing use of technology (Chu et al., 2017) such as networking and the internet (Farias-Gaytan et al., 2022).

Digital literacy refers to a set of competencies related to skills in using computers, digital media, and information technology (Leaning, 2019). In the world of education, this term has begun to be widely used in the development of electronic-based textbooks (e-books). There are three elements in children's digital literacy: operational, cultural, and critical. The operational element refers to the ability to write and read in various media. Some literacy educators also argue that the success of today's millennial students (generation Z) and future workers is linked to mastery of digital literacy (Kustini et al., 2020).

This study aims to explore the students' needs on developing English interactive multimodal e-book oriented to the skills of 21st century. This is the preliminary phase on designing and developing English primary e-book. Indeed, it refers to formulate current needs in developing friendly and contextual books. The whole content of book should representatively contain the students' needs in learning English well and fluently. By knowing their perceptions, needs, wants, and lacks toward learning English, hopefully, this analysis of needs can result well-structured English e-book.

In a course and textbook development, the term of need analysis becomes an inseparable part in helping teachers design and finish desired products like e-book. It mainly refers to contents and the goal of a course which examine what learners already know and need to know (Nation & Macalister, 2010). Indeed, it is the fundamental of curriculum practices including syllabus designs, material development, and instructional design (Renandya & Widodo, 2016).

In many cases, there were some available electronic books whose contents do not represent and support what students' needs and the students' ability. They are only in the form of Pdf which is static and not interactive. In today's digital era, lots of multimodal interactive e-book are very significant supporting students in learning due to some combination among audio, visual, animation, attached link like YouTube and so on. This study is very important to be organized to obtain the model of material development mainly for electronic books using some multimodal interactive tools. Detail and more comprehensive analysis of students' needs are necessarily established to result good electronic book. Hopefully, after conducting this study, the researcher can give some models or references in developing English interactive multimodal e-book for elementary students.

2. Literature Review

2.1 Multimodal technology

Digital technology enables for the framing of multimodal texts consolidating various modes of making meanings including language, images, sounds, gesture, and space. Also, it is an approach to address expanding learners' needs and it has been used in language class for purposes of diverse learning (Hafner & Ho, 2020). In English language teaching context, it has been used to encourage learners' autonomy and assessment modes. Some merits of using multimodality in learning English have been declared, such as (1) offering various modes for effective communication; (2) increasing semiotic consciousness; and (3) promoting self-monitoring in the process of multimodality design (Yeh, 2018). Furthermore, based on (Bradley, Joff P. N. et al., 2017) report, there are some benefits of digital multimodal for language students: it gives teachers independence to inquire what may seem probably at first glance a tangential relationship to the content of materials. Indeed, for students, it can add students' abilities to draw maps and to think for the target language.

2.2 Electronic Books

Electronic book or e-book is a book designed and developed electronically or digitally using multimodal tools like combination between audio and visual materials. It not only displays texts but also beyond texts such as audio and visual parts in contents. Furthermore, the terminology of electronic materials refers to material digitally designed which enables the user can access it through a single source, mostly a computer. In addition, e-books display interactive multimodal information such as written texts, spoken readings, music, illustrations, animations, which can be used with touch and pressure on the screen (touch screen) to produce sound and animation (López-Escribano et al., 2021). There are three major dimensions beneficial to second language learning including hypermedia, multimedia, and communication media (Tomlinson, 2014). Hypermedia naturally 'hypertext' points to the capacity to make links between some information. It means that hypermedia does not only contain text, but also photos, audio and video and computer graphics related to certain topics. Multimedia contains various media like static, animated, sound, voice, graphics (including diagrams, icons, maps, illustrations, photos), animated graphics, and video. Communication media refers to communication taking some forms: e-mail, discussion lists, bulletin boards, chat rooms, and video conferencing. E-book has also a positive influence on listening and reading comprehension. This is due to the effects of multimedia combination provided. Regarding to reading skills, the e-book interference generates in higher test scores contrasted to print book (Hsieh & Huang, 2019). Based on (Shamir et al., 2017) research on effectiveness of e-book on language retention among children, they show evidence that e-book offers long-term effects on language memory for children who have learning difficulties. Children are able to retain lots of new English words since e-book contains texts illustrated by some animations and sounds.

2.3 Digital Literacy

Today's English teachers and learners need to upgrade their skills specially to adopt the 21st century skills such as digital literacy. To define it more detail, the term of digital competence becomes preceded term should be elaborated. Digital competences are coinciding processes of what lots of authors understand as an Information and Communication Technology (ICT) and as a skill of information literacy. It is not only about the abilities to access, store, and regain information about knowledge but also capacity development to sufficiently use this information and alter it into knowledge (Sánchez-Cruzado et al., 2021). Based on (van Laar et al., 2017) term, they define digital competencies as assembly of cognitive, social, and emotional skills, critical effective learning with technology of digital in educational settings, workplaces, and in lifelong learning. Indeed, literacy refers to ability to read, understand, and reflect on written text critically. Since growing of digital technology, the needs toward literacy are also increased. Some competencies include abilities to think critically to information, to develop knowledge from various resources, to communicate, and to collaborate with fellow (Silber-Varod et al., 2019). Furthermore, transformation of digital and education 4.0 contrast with conventional education since they are supported by technology such as artificial intelligence, management of data, robots, cloud system, and sustainable technologies (González-Pérez & Ramírez-Montoya, 2022).

2.4 21st Century Skills

The 21st century skills are the main focus for increasing human resource capacity in every country including Indonesia. These competencies become guidelines for forming human beings who have the ability to compete in the world of work. Various warnings like globalization, liberalization, and the development of ICT address to this issue as well (Sulaiman & Ismail, 2020). To realize the fulfilment of these competencies to solve problems, it is necessary to be applied in the 21st century learning. Also, these skills are characterized by the dispersion of technology (Chu et al., 2017). It consists of three main domains of knowledge: (1) innovative thinking; (2) information, media, and ICT (collectively as a digital literacy), and (3) life and career skills. Based on The Centre of Curriculum Redesign (CCR) framework organized by (Fadel et al., 2015) visualised in figure one, there are four dimensions of education offered when they redesigned curriculum including knowledge, skills, character, and meta-learning. Knowledge refers to topics of teaching that denote the traditional and modern subjects. Skills here comprise of ability that espouse self-regulation, communication, and reflection. All are expected to construct communication, collaboration, critical thinking, and creativity. The third dimension is character which designates to character education to establish the foundation for long life learning, community, and workplace. This character includes mindfulness, curiosity, resilience, courage, ethics, and leadership. The last dimension is meta-learning which concerns on higher-level thinking processes and growth mindset internalization (González-Pérez & Ramírez-Montoya, 2022). In addition, (Chalkiadaki, 2018) on her research focusing on the systematic literature review of the 21st century skills and competencies in primary education investigates and concludes

the four categories of these skills namely personal skills, social skills, information and knowledge, and digital literacy. This study also addresses to four skills illustrated in figure two: communication, critical thinking, collaboration, and creativity to be integrated on English e-book (Laar et al., 2020).

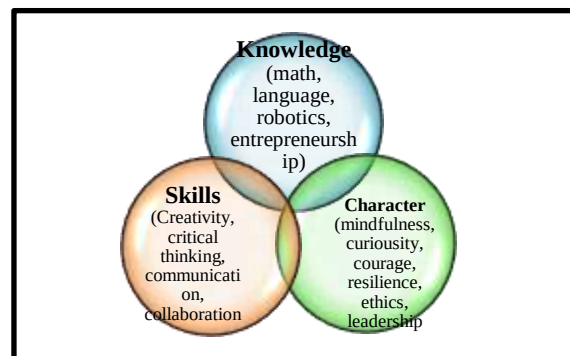


Figure 1. The CCR framework of meta-learning

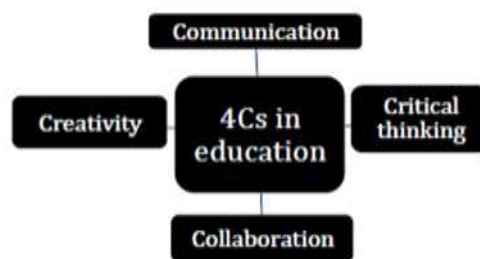


Figure 2. The 21st century skills

2.4.1 Communication

Communication is the ability to express thoughts and opinions clearly and persuasively in oral and written form. Communication skills are also embedded in information, media, and information and communication technology expertise. Nowadays, communication skills are very notable and of high value. It is supported by increasingly sophisticated technological advances. Good and clear communication, of course, will produce a good understanding as well.

2.4.2 Collaboration

Collaboration is needed for everyone to realize good team performance. With increasingly sophisticated digital technology, it will change the way teams work from face to face to remote collaboration or virtual meetings. Many digital media such as Google meet, Zoom, Cisco Webex are often used as communication media virtually. Work is becoming more knowledge-based, interdisciplinary and specialized, so the role of collaboration is very significant (Laar et al., 2020).

2.4.3 Critical Thinking

The third is critical thinking skills. It is the ability to access, analyse, and synthesize information. Also, it is known as the skill of conceptualizing, applying, analysing, synthesizing, and evaluating information resulting from observation, experience, thinking, consideration, and communication (Fadel et al., 2015). Also, the core of critical thinking skills is to strengthen learners to accomplish problems relate to processes of learning (Warsah et al., 2021).

2.4.4 Creativity

Creativity is defined as the ability to generate new ideas and solutions, express new opinions, and produce unexpected answers. It is also considered as a business or work that is closely related to artistic fields such as art and music (Fadel et al., 2015). In the context of global competition and task automation, individual capacity to innovate and get creative is viewed as a requirement for one's success. Creativity will greatly depend on one's creative thinking, namely the process of one's mind in creating new ideas.

2.5 The 21st Century Learning Design

All the 21st century skills have been discussed. Now, as a teacher should have strategies needed to realize these competencies in teaching and learning. The 21st century learning is defined as a pedagogical concept underlining skills and knowledge required by students in order to succeed life, work, and citizenship (The Partnership for 21st Century Learning, 2015). It also covers the way teachers construct their teaching known as multiliteracy pedagogy (Barrot, 2018). This learning model combines three 21st century competencies, namely learning skills, literacy skills, and life skills. For teachers, for instance, it is time to reform their models of learning by adapting more to digital technology. The notion of technology contributes and possess great impact for 21st century learning, especially when the pandemic Covid-19 has interrupted the existence of traditional learning. All teachers are forced to conduct online learning using various digital tools to help their teaching. Indeed, materials shared to students entails online such as pdf, power point (ppt), google docs, even electronic book (e-book). Curriculum should be clear and aligned to the principles of pedagogical 21st learning.

2.6 Need Analysis on Course Design

Basically, to design and develop learning materials, as a teacher or educator should notice the term of instructional design. There are several theories regarding with material development such as ADDIE model, Thomlinson, ASSURE, Borg & Gall, 4-D, Hannafin & Peck, Dick & Carey, and Gagne & Briggs. From these theories, all differ in the form of steps in explaining the processes preceded by need analysis to evaluation. However, in this study, the researchers use Thomlinson theory to develop English e-book. The most important step is analysing students' needs where teachers require their learning needs, wants, even lacks as a framework to develop courses or materials. It principally refers to contents and the goal of a course which verifies what learners already know and need to know (Nation & Macalister, 2010). The purpose of need analysis is to recognize the potential causes for a performance gap including (1) validating a performance gap (2) specifying instructional goals (3) analysing students (4) checking available resources, and (5) arranging plan of project management (Branch, 2009). Assessing learners' needs should be conducted by teachers otherwise they fail to produce valid materials. The materials designed by teachers should assess students' engagement, linguistics needs, motivation, aptitude, learning style, learning strategies, age, culture, and local needs (Zeraatpishe et al., 2016).

3. Method

This study employed qualitative approach with the content analysis design in describing, exploring, and analyzing the primary students' needs as a preliminary stage on development of English interactive multimodal e-book oriented to 21st century skills: communication, collaboration, critical thinking, and creativity. The researcher assigned the class five of public primary school at Percobaan 2 Depok Yogyakarta as a respondent due to several benefits: more conducive and practice in distributing questionnaire and convenience in taking samples and also preliminary object to be defined. Data collection techniques like interview and questionnaire were established to obtain detail information. For primary data, the researcher used deep interview technique. The researcher interviewed one English teacher in relation with English teaching and learning during in the class, the students' English proficiency, and the students' motivation toward English learning. Also, the teacher's explanation and description toward the teaching and learning methods used in the daily class was very important to be gained. Indeed, the researcher interviewed three students related their motivation and engagement in learning English in the classroom.

Then, the questionnaire was made by the researchers which contains lots of questions in relation with the needs on developing e-book was administered and distributed to about 30 students of class five as a supplementary data. It contained three main aspects asked namely the students' needs, wants, and difficulties in learning English. The total number of questions were sixteen questions. Furthermore, several English books and materials from teachers were checked as well as a supplementary data. Then, all obtained data was analyzed using both qualitative and quantitative analysis. In qualitative analysis, the researcher explored data qualitatively by describing any data from respondents, whereas for quantitative analysis, the researcher examined the data taken from questionnaire. The following is the details of questions' lists (Appendix 1) interrogated including (1) the instruction or guidance of questionnaire and (2) the questions linked to students' profile and demography, necessities, wants, and lacks.

4. Results

This part discussed the findings in relation with the need analysis on development of English interactive multimodal e-book oriented to the 21st century skills. These results were obtained from interview and questionnaire toward students' perceptions and needs. Quantitative and qualitative data were examined and analysed. The main data included four needs: the students' English profile and demographic, the students' necessities, the students' wants, and the students' lacks.

For the first needs, the researcher inquired some students' profile like name, date of birth, age, gender, parents' education, parent's work, and parents' monthly income. Also, the students' English proficiency in chart three was examined to figure out their skills in using English in daily life and other matters. . The following was the figure of students' demographic data.

Table 1. Students' Demographic Data

Variable	Category	Frequency	Percentage
Age	< 15 years old	19	
	> 15 years old		
Gender	Boys	13	6
	Girls		
Parent's education	SD	2	1
	SMP		
	SMA		6
	Diploma		2
	Bachelor		6
	Master		2
	Doctor		
Parent's work	Civil servant	1	2
	Entrepreneur		7
	Soldier		
	Police		1
	Salesmen		
	Farmer		1
	Businessman		3
	Banker		2
	Teacher		1
	Driver		1
	Doctor		
Parent's income	a. <500.000	5	
	b. 500.000 – 1.000.000		1
	c. 1.000.000 – 3.000.000		9
	d. 3.000.000 – 5.000.000		4
	e. > 5.000.000		

The second results pertained to the students' necessities in learning English mainly about their preference to English skills: Also, topics to be included and studied in electronic book. The following are the English students' figure of skills' representation. Based on the figure three, there were three levels of English proficiency including beginner, intermediate, and advanced. The picture showed that mostly the students were in the beginner level in the range 80%. The rest about 10% took place in both intermediate and advanced rank.

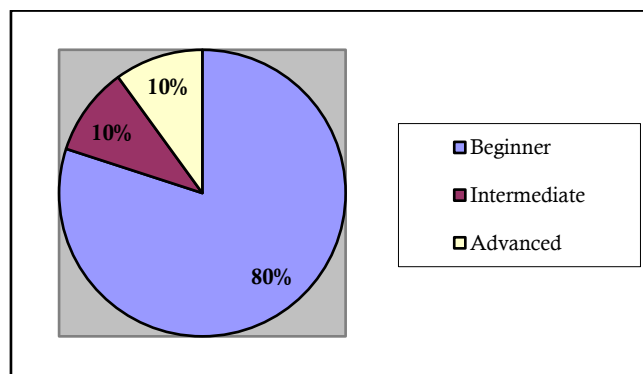


Figure 3. Students' English skill proficiency

Then, based on the figure four regarding with the students' daily English use, it included degree in Likert Scale using four words: frequently, occasionally, rarely, and never. The diagram showed us that about 70%, the students never used English language in their daily conversation. In the range 20%, sometimes, the students spoke with others using English. The remains in the range 5%, the students often and rarely used English.

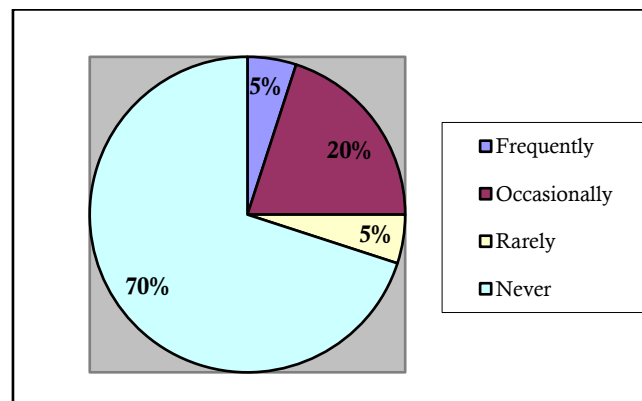


Figure 4. A daily English use

In the figure five, the researchers focused on the students' preferences toward English learning skills like listening, speaking, reading, writing, vocabulary, and grammar. In accordance with the chart, the most decided skills by the students were both reading in the range 30% and vocabulary in the range 30%. Then, about 20%, the students chose speaking ability in their learning. The writing skill placed the next in the range 10%. The rest was about 5%, the students preferred to both listening and grammar.

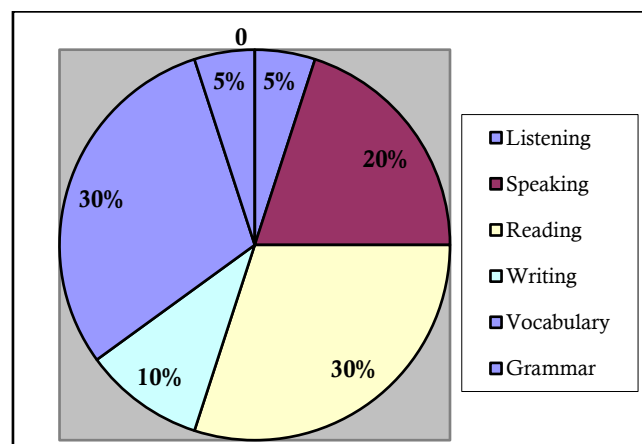


Figure 5. The skills' preferences in learning

The third finding was the students' wants. Here, students were asked about their learning activities and teachers' learning method implemented illustrated in figure six including teacher's lecture, individual assignment, group discussion, group presentation, games, simulations, role-plays, project-based learning (e.g., creating short stories, etc), problem-based learning, jigsaw, and telling stories. According to the chart, learning English by using games occupied the top position about 70%. Then, group discussion method took the second rank.

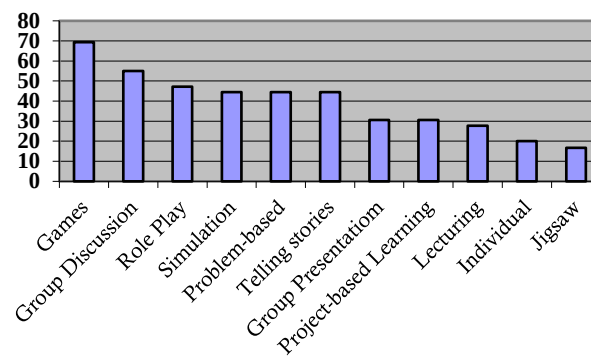


Figure 6. Learning method preferences

Moreover, criteria of learning materials for students figured out in picture seven were carried out such as aspects of contents and appearance of materials that can support students in learning English well. The other one was also discussed like the online media integrated in teaching and learning, the kinds of materials used, the contents of e-book, and the references or resources integrated. Some preferences had been provided in the questionnaire by the researchers like textbook, pictures, videos, YouTube, colourful, and animation. Based on the chart, both videos and YouTube were favourite option. The second rank was pictures as students' choice. The third rank was animation as a good alternative.

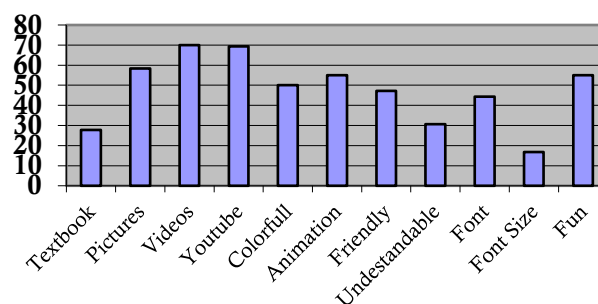


Figure 7. Criteria of e-book design

The next finding related to themes and topics learnt by the students to be included in e-book. Some decided topics illustrated in the figure eight were animals, vegetables, fruits, places, family, clothes, foods and drinks, pets, time, transportation, and profession. Most students chose the topic places, vegetables, and foods and drinks.

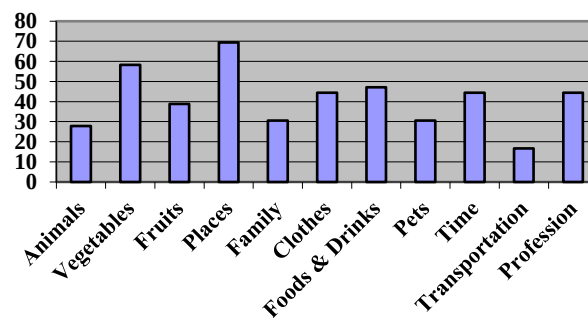


Figure 8. The topics of English courses

The fourth finding was the students' lack or deficiency in studying English. The Likert scale was administered to draw their whole English skills like listening, speaking, reading, and writing. Some learning difficulties visualised in figure nine included vocabulary, grammar, language use, diction, word meaning, semantic meaning, language structures, sentence structures, and language contents. The term of word meaning dominated the students' incompetence. Also, it connected with students' vocabulary mastery and semantic meaning. The lowest component was the term of structure which focused on sentence structures.

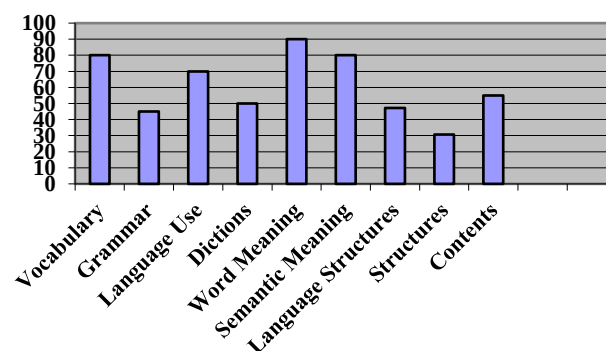


Figure 9. Students' difficulties on English

All having mentioned were data from questionnaire. Now the other was data resulted from interview using some questions with the topics including (1) the students' motivation in learning English (2) the English learning difficulties (3) the criteria of English materials learnt (4) the media used in learning, and (5) learning methods applied. The following were students' responses having been elaborated by the researcher based on the questions given in interview.

The researcher: what did you think about learning English in the classroom?

"I think for me English was difficult course that I studied beside others. I had little and limited vocabularies, so that I did not understand English given by my teacher both spoken and written language."

Student 1

"English was my unpleasant lesson in my classroom due to more difficult vocabularies, different pronunciation between word and soundings. I got trouble in sounding English words well and correctly."

Student 2

“For me, English was one of my difficult courses in the class. I very rarely read English books in my home after school. My environment and family were not native speakers.”

Student 3

The researcher: How teacher facilitate you in English language classroom?

“In teaching and learning English, mostly, my teacher used bilingualism language. She combined both English and Indonesian. She preferred to use lecturing method just reading English book and I listened to what teacher said in front of class.”

Student 1

“My teacher never utilized any digital tools in explaining English course. I just listen to what my teacher said in front of class. Sometimes, there were lots of exercise activities like answering the questions in pocket book given (LKS). After doing the exercise, my teacher asked me to come forward to write down the answers in white board.”

Student 2

“In explaining the course, my teacher asked me to read first the text in book and then answered the questions.”

Student 3

The researcher: What kinds of English materials used by your teacher in the classroom?

“My teacher used English pocket book from school (LKS).”

Student 1

“I more studied English in the form of vocabularies taken from pocket books.”

Student 2

“My English activities were mostly done in the classroom taken from pocket book such as reading the texts, answering the questions, and sometime practicing English in front of class.”

Student 3

were poor. This evidence was taken from interview transcripts. In the language classroom, the teacher more focused on explaining materials using talking model addressing on reading paper books in front of class then the students listened based on whatever the teacher said. Limited practices on speaking and reading activities enabled the students to be passive learners. There was no innovation in learning such as using or integrating online media.

The second topic of interview related with the English learning difficulties. It was dominated with the monotonous teacher method used. Moreover, for the students' perceptions, they assumed that learning English was difficult in terms of vocabulary mastery, understanding the words' meaning, the speech sound, the contents of texts, and writing activities. Regarding with the vocabulary, most students were poor in remembering meaning of English words. The limitation of English habituation in class led students complicated in receiving new words or dictions. Furthermore, the teacher's domination in using English in front of class did not provide opportunities them to try to use English fluently. The teacher just explained materials on paper books more and asked the students to do some exercises. There were also limited feedback and scaffolding activities to support them in learning. The following was the transcript of the second interview.

The researcher: In your opinion, what makes learning English difficult?

“I think English was difficult due to some factors including I never used English language in my daily life activities. I used it only when I studied English in the classroom with my teacher. Secondly, Both words and sounds were different in pronouncing.”

Student 1

"I got troubles in pronouncing English words well. Also, I had limited English vocabularies so that when I read English texts, I don't know the meaning."

Student 2

"When I spoke English, I was rather shy to express my idea. I had a hard time pronouncing English words. Indeed, I rarely read English text just in the classroom."

Student 3

The third one was the criteria of English materials included and learned. It related with the content of paper and electronic books served and applied. As we knew that it contained written texts and pictures or figures as well. The power of writing enabled students to more read and understand meanings word by word. Based on the interview transcript, there were some responses: (1) the students preferred to learn English with the combination of texts and pictures even audio-visual media. (2) the students selected visual materials like pictures and animation. The following was the transcript of the third interview:

The researcher: what kind of English learning and materials you want in classroom?

"I need fun English learning connected to native speaker for instance so that I was not bored in the classroom."

Student 1

"Maybe my teacher can give some English games to me in order that my friend and me can enjoyed in learning English not just doing exercise from book."

Student 2

"My teacher can support English teaching with some online or digital tools like software or maybe electronic books containing more diverse media like audio and visual. I like watching movie in YouTube Platform at home."

Student 3

The fourth part was the media used by the teacher in the classroom. The students said that the teacher used whiteboard as a media for explaining topics in the classroom. There was no projector as supporting media to show some materials. Combination both paper books and whiteboard seemed to be not effective and efficient for comprehending new language. The students sometimes wanted the teacher use online materials like video of YouTube. The following was the transcript of the fourth interview:

The researcher: What were media used by your teacher in the classroom?

"My teacher used English textbooks and whiteboard in explaining materials."

Student 1

"Sometimes, my teacher opened laptop to share some materials, but mostly just used English textbooks."

Student 2

"Everyday my teacher uses English textbooks in delivering materials, no supporting online media for instance to engage me in language classroom."

Student 3

The last topic asked to the students was learning method implemented by their teacher. The students said that the teacher always used lecturing method where the teacher just spoke up in front of class reading a book and the students just listened the materials. After reading a book, the teacher asked the students to practice in doing some exercise like answering questions in the form of matching words, multiple choices, filled in blanks, etc. There was no working group discussion. Individual project dominated in students' tasks. The next interview was addressed to one English teacher. Here, some questions related to the students' motivation and engagement during learning English in the classroom were inquired. Also, the teaching and learning processes were asked. The following was the transcript summary of the interview:

The researcher: Can you tell me how you facilitate your students in learning English in the classroom?

“Okay, thanks for this question. Firstly, I really taught English to my students using both language English and Indonesian due to students’ understanding toward materials. Everyday I used English textbook to facilitate students in learning English. There were lots of activities including doing written exercise, answering the questions given, and reading aloud. The book contained many vocabularies and activities. Indeed, in speaking activities, I ask students to come forward to make conversation in a group.”

Teacher

The researcher: Can you tell me how exactly students' perceptions of learning English in the classroom?

“Actually, most of students are still in basic level due to any factors like lacks of vocabulary mastery and their motivation in learning English. Sometimes, I give several online materials containing visual and audio or YouTube materials to engage them in joining fun learning. They need combination materials not only paper book but also maybe electronic books that can invite them in fun English learning.”

Teacher

The researcher: Can you describe your students' ability toward reading comprehension?

“Mostly students have low motivation in reading English texts or books. I often asked to them in early teaching about this condition that they infrequently read English books at home. Their answers were short enough. They are difficult to remembering English vocabularies. They did not know the meaning and lazy to open or search in dictionary. Activities that they did more at home were watching television, playing games and playing gadget.”

Teacher

5. Discussion

This part examined and analysed the findings related with the four outlines including students’ needs, wants, and difficulties on developing English e-book oriented to the 21st century skills. For the first aspect was the students’ English skills level. Based on the figure three, it can be concluded that most students were still beginner in English mastery in the range 80%. About 10% the students were in intermediate and advanced level. This connected to the results of teacher’s interview declaring that the students’ English ability was poor or basic due to any factors like little mastery about vocabularies and low motivation toward learning English. Also, this case indicated that there were some factors influenced on language mastery especially in Indonesia learning contexts where English was seen as foreign language or even second language. Also, the learners’ background and demographic were interference in learning processes.

The second finding was about the students’ daily English use. The responses showed that about 70%, the students never behaved to use English language in their daily life: for communication, for making transactions, for interacting others, and so on. This data was supported by the reason that English was not their mother tongue. Only about 20%, they periodically tried to use English in their family environment. Some were from bilingual and prosperous family so that they can acquire lots of English language from their father and mother. The rest data indicated about 5% students often used English and even infrequently spoke English.

The third part visualized about the students’ preferences on learning English in the classroom. According to the picture, they equally preferred to learn all skills: listening, speaking, reading, and writing. However, the data revealed that the students preferred to reading comprehension, vocabulary mastery, and speaking activities. Then, in the range 10%, they choose to learn more listening comprehension and writing skills. This indicated that they needed to increase English literacy. This also correlated with the results of teacher’s interview stating that students’ ability regarding with reading comprehension and vocabulary mastery was still poor. The students were mostly lazy to open English book. They were difficult in remembering lots of English diction. Programme for International Student Assessment (PISA) 2018 declared that Indonesian scores of literacies were still poor. This fact was a good perspective for the promotion of the quality of education in Indonesia. Through a different perspective, Indonesia was invited to see how other people, other countries saw the education system in Indonesia, as well as provided objective input on improvements that needed to be made in the future. Indeed, to facilitate

Then, referring to the figure six in relation with the students' learning method preferences including teacher's lecture, individual assignment, group discussion, group presentation, games, simulations, role-plays, project-based learning (e.g., creating short stories, etc). Based on the findings, the most learning method preferred by the students were by using games, role-plays, simulations, telling stories, and problem-based learning. For the games, this corresponded with the students' interview result stating that students needed fun English more in the classroom than just listening lectures from teacher only. Teaching elementary school level was seen as teaching English for young learners. The teacher should recognize lots of young learners' factors when they learned English. Some related to psychology how the teacher supposed to know deeply the students' learning styles and characteristics. There were kinds of learning styles based on (Knoll et al., 2017) research. This division was based on that learning style referred to an individual preference for how materials were conveyed including visual, auditory, or kinaesthetic presentation. Based on the early finding, the term of "games" became the first students' preference. Today's learners were in Z and alpha generation where the element of playing digital tools in any online devices was so advanced. The game offered visual context to teach meanings of vocabulary (Cheng et al., 2017).

The next finding related to criteria of electronic book of English served for learning. Based on the early results, there were seven criteria simplified into two main aspects including both the content and book's appearance. The students mostly preferred to use Video and YouTube to be integrated in materials. There was no doubt that video contributed to learning. Combination both visual and audio enabled learners to engage in learning activities. The development of video in education has been expedited due to comprehensive use of portable devices and the raise of numbers of internet users and massive online open course (MOOC) (Sablić et al., 2020). Also, the application of video enabled learners to process information obtained over both auditory and visual channel (Lange & Costley, 2020). In addition, nowadays the use of video YouTube in any activities including teaching and learning should be considered due to some benefits. Some made YouTube as a worth learning resource for students to invite them into meaningful learning and work everyday life with cheap and high smoothness in time and location (Zhou et al., 2020). Moreover, the frequency of using YouTube in online learning increased significantly. It suited with the (Sutanto et al., 2022) research which resulted that YouTube provided positive impacts and developed English literacy skills for students of junior high school during online learning. Teachers were more enthusiastic as well. For increasing the students' vocabulary, video YouTube can be alternatively used to engage them in learning (Hariyono, 2020).

The finding regarding with the topic selection to be included in e-book offered diversity. A learning topic was seen a vital aspect because it contained knowledge and insight. Also, it was drawn from curriculum and syllabus. Teachers should accurately determine some topics which were associated with the learners' level of education. Today's curriculum of English in Indonesia's context was based on the scientific approach consisting of five stages in learning processes including observing, questioning, associating, experimenting, and networking. Unlike the predecessor curriculum like genre-based approach in English stressing on understanding the text types, curriculum 2013 or scientific approach tried to engage students in problem solving learning and even critical thinking. There was no specific genre in English, but it served more themes and topics in each unit like sports, vegetables, animals, profession, etc.

The last finding was the students' difficulties toward learning English. This part was so important since it was used for screening the students' needs. Each student differed in understanding materials. Based on the previous result, the term of word meaning, and vocabulary mastery became the most obstacles when learners understood English texts. This response equally has correlation with the previous finding declaring that the students' skill was in beginner level. The students had limited English words in nature. Because English was not as a mandatory language in daily life and school environment, it was clear that they did not have retention toward English vocabulary. This result was also similar to the research conducted by (Alkhalwaldeh & Khasawneh, 2021) declared that challenges to master English were reading comprehension where there was necessary skills to be elaborated such as rapid recognition of words and abundance of linguistic vocabulary. Furthermore, several students assumed English as the most difficult course at school than others. The utterance of spoken English which differed from written words made the students seemed difficult to pronounce each word. In addition, they rarely behaved to use English in daily life conversation. The other skill like reading including literacy may seemed to be more attention by teachers. There was limited time for students in school to increase literacy skills like reading books, magazines, mapping, etc. They preferred to spend their time only for playing with friends in or outside of class during pause. Some studies in relation with literacy showed that literacy culture of Indonesian has been in an extremely frighten condition. This case was due to some factors: limited time for reading lots of books at home and in spare time. The research

conducted by (Juliah et al., 2021) in regard with home literacy environment to promote English teaching for class four, five, and six of primary school resulted about 31,68%, the students frequently practicing some activities of literacy with their parents at home tended to make active, cheerful, and enthusiastic learning. This result can be a model to support students' literacy. This study still has limitations related to the design of research. The researchers could interview only with three students. Future researchers should explore this or other context in more depth to explore more about the students' 21st skills.

6. Conclusion

Clearly, this study has shown that there are lots of the students' needs, wants, and difficulties regarding with the development of English interactive multimodal e-book for primary education. For the need, it includes: (1) the needs on providing integrated skills in language learning especially for increasing reading, vocabulary, and speaking competences; (2) the needs to appropriate criteria of English learning which can encompass the students' necessity like fun appearance of e-book containing more colourful pictures, animations, and link of YouTube; (3) the needs toward learning methods applied by the teacher like using games, group discussion, and role play; and (4) the needs to integrate any digital tools and the 21st century skills into electronic book as a supplementary features. Furthermore, for the students' difficulties in learning English include (1) most students are in beginner level shown by limited vocabulary mastery and poor pronunciation toward English words; (2) the students rarely even never use English in daily life communication; (3) mostly students do not know about meaning in each English word even sentence.

For a future research and improvement, the needs on digital materials in supporting language learning should be considered by many parties like schools, stakeholders, and certainly teachers to facilitate learners in comprehending online or even blended learning. Moreover, teachers should concern students' literacy skills like reading a lot of information from diverse resources such as online like e-journals, e-books, and others. Millennial young students' generation is identic with the frequency on how they play gadget and search anything on online media in every daily life. Electronic book here is not just Pdf in the form but real digital books that contains combination multimodal interactive form like audio, visual, animation, attached link, video, and so on. Consequently, they can learn more resources and enjoy learning English even from native speakers. The example of real electronic book would be in the form of digital. The teacher can use some digital platform like bookcreator.com and Flip Pdf Professional in creating digital books. Furthermore, the most matters addressed are teachers should know the students' needs, wants, and difficulties before conducting teaching and learning and creating online materials. Also, teachers should be familiar with the online materials. Furthermore, English interactive multimodal e-book can increase students' digital literacy, reading comprehension, and technical skills even engage them in meaningful English learning. Also, it can facilitate and covering students' needs appropriated with their era that is millennial generation identically doing some online activities toward their device and digital platforms.

Acknowledgment

This article is based on research grant from Ministry of Education, Culture, Research, and Technology, the Republic of Indonesia (Dikristek). The researchers would like to acknowledge with gratitude. We are very grateful to all those who have provided academic support and assistance for finishing this research and article well and on time.

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Appendix

Appendix 1. Questionnaire.

Students' demographic questions

- ☐ Name: _____
- ☐ Date of Birth: _____
- ☐ Age: _____
- ☐ Gender: _____
- ☐ Parents' Education: _____
- ☐ Parent's Work: _____
- ☐ Parents' Monthly Income: _____

The Students' English Profile

1. How long have you been studying English?
2. Have you attended any English program/course/private before?
3. How long do you usually spend in an English language development program?
4. At what level was your English last?
5. When do you usually use English to communicate?
6. How often do you use English to communicate in everyday life?
7. In what situations do you usually communicate in English?

Students' Necessities

1. In your opinion, how important are your English language skills to support your studies? Put a tick (✓) in the column provided.

Language skills	Very important	Important	Quite important
Listening			
Speaking			
Reading			
Writing			
Vocabulary			
Grammar			
Pronunciation			

2. Among the criteria for the following textbooks (e-books), which ones do you need most to support your English language learning skills effectively? Choose according to the criteria by writing a sequence of numbers 1-5 (1-Really need, 2-need, 3-need enough, etc.) according to the priority scale of your needs.
 - a. Have clear objectives, indicators, structure and scope of learning (.....)
 - b. Using a communicative learning approach (.....)

- c. Based on the 21st Century Skills (Communication, Collaboration, Critical Thinking, Creativity) (.....)
 - d. Integrating the use of Digital Tools (like Kahoot, Padlet, Flipgrid, Prezi, etc.) (.....)
 - e. Have an effective target language model and input (.....)
 - f. Containing various types of activities or learning activities (.....)
 - g. Have attractiveness in terms of content and visuals (.....)
 - h. Displaying lots of practice examples in each unit/theme (.....)
 - i. Displaying lots of pictures and colors (.....)
3. Among the following English learning topics, which do you think are the most important and interesting to learn? Circle 5 numbers of your choice. Give a sequence of numbers 1-5 (1-very important, 2-important, 3-moderately important, etc.) on choices A-K according to your priority scale.
- a. Animals
 - b. Vegetables
 - c. Fruits
 - d. Places
 - e. Family
 - f. Clothes
 - g. Foods and Drinks
 - h. Pets
 - i. Time
 - j. Transportation
 - k. Profession
 - l. Other _____

Students' Wants

1. Among the following forms of learning activities, which do you think are the most effective for learning English? Select 5 activities by ticking (✓) in the column provided. If there is still an effective way that is not available in option a, write it in option g.
- a. Teacher's lecture (.....)
 - b. Individual assignment (.....)
 - c. Group discussion (.....)
 - d. Group presentation (.....)
 - e. Games, simulations, role-plays, etc. (.....)
 - f. Project-based learning (e.g. creating short stories, etc) (.....)
 - g. Others (write down)
2. Among the following learning material criteria, which one do you want the most to support your language skills? Choose 3 aspects in the following options A-F by ticking (✓) in the column provided.
-

- a. Interesting learning material in terms of appearance and content (.....)
- b. Contextual and communicative learning materials (.....)
- c. Learning materials that can stimulate learning interactions (.....)
- d. Learning materials that motivate students to develop learning strategies (.....)
- e. Learning materials that do not only focus on grammatical structure (form), but also on its use in communication (function) (.....)
- f. Learning materials that provide opportunities for students to use the four language skills in an integrated manner (listening, speaking, reading, and writing) (.....)
- g. Learning material containing visual images and audio/sound (.....)

Students' Difficulties

Listening Skills	Always	Often	Occasionally	Never
Difficult to understand or capture the main idea of an oral conversation				
Difficult to understand long oral explanations				
Difficult to record oral learning materials				
Reading Skills	Always	Often	Occasionally	Never
Difficult to understand a written text as a whole				
Difficult to read a written text quickly to determine main ideas (skimming)				
Difficult to read a written text quickly and carefully to find certain information (scanning)				
Difficult to guess the meaning of special words/terms in a written text				
Difficult to understand text to be able to respond critically				
Difficult to understand main ideas/ideas from various types of reading texts				
Writing Skills	Always	Often	Occasionally	Never
Difficult to develop ideas for writing				
Difficult to put ideas into a written text clearly				

Difficult to maintain coherence between sentences and paragraphs

Difficult to use proper grammar

It's hard to find the right choice of vocabulary to write

Inconsistent in the use of punctuation in writing

Speaking Skills	Always	Often	Occasionally	Never
Difficult to give oral presentations				
It's hard to say quickly what you want to convey.				
Worried about making mistakes when speaking English.				
Don't know how to convey an idea in English.				
Difficult to pronounce words in English correctly.				
Difficult to participate in group discussions.				
