

# Need Analysis on Developing of Teaching Materials on the Basis of Students' Learning Styles in Higher Education

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**Abstract.** Recently, teachers and students are witnessing the shift to online language learning. This paper examined data from 16 questionnaire respondents and 6 interviewees to investigate the English language needs of developing teaching materials, the extent to which teachers shaped their beliefs, students' reading skills, and students' learning styles. The results suggested that while most students singled out visual learning style, some were categorized as auditory learners. Most students agreed that their learning styles exerted some influences of their beliefs, understanding and practices, but their personal experiences were named as influential sources. Teachers stated that the reading material should cover students' needs such as the suitable passage readability and could facilitate students' learning styles. Then, it could be said that students' reading skills fell at an unsatisfactory level and needed to be improved. This paper concludes by adjusting English teaching material at higher education level based on students' learning styles.

**Keywords:** Need analysis, teaching material, learning style.

## 1 Introduction

In the past several years, the COVID-19 epidemic has necessitated that students and instructors continue to be creative and inventive in the learning process. Students' language abilities are expected to increase as a result of the employment of technology in the language-learning process. With the use of technology, teachers will be able to replicate learning, such as the explanation of a term in learning English, with relative ease. It will be simpler for English students to comprehend the topic if explanations and simulations are delivered through films or audio recordings.

Reading, as one of the primary abilities in learning and teaching English, has been one of the primary foci of several research due to its primary characteristics, such as "to attain learning goals, to acquire knowledge and self-potential, and to play an active part in development.

society" [1] and "to become successful and productive individuals" [2]. In line with this, [3] asserted that, to date, reading activities have become the most essential component of foreign language proficiency tests and have played a significant role in education and professionalism because they can serve as a source of knowledge for students. In order to acquire knowledge and information that may be utilised in the worlds of education and careers, it is thus anticipated that students will become proficient readers.

The aforementioned statistics indicate that English instruction in Indonesia is ineffective and requires improvement. A factor contributing to this condition is the employment of less effective and engaging instructional materials. In addition, no ICT-based instructional resources were ever offered or utilised. The use of information and communication technology, such as the creation of web-based instructional materials, is an alternate method for overcoming this issue.

If students feel comfortable utilising web-based teaching resources for learning, and if the teaching materials are legitimate, practical, and successful, then web-based teaching materials are deemed usable. In addition to being engaging, web-based teaching materials can make it simpler for students to access a variety of learning resources since they offer several types of information, such as text, photos, sound, animation, and video. The flexibility provided by the use of web-based instructional resources makes it simple for students to access instructional materials whenever and wherever they want.

In addition to the availability of high-quality instructional resources, [4] assert that the person is a unit with unique traits; hence, no two individuals are same. Each other is unique. Some learners are slower than others. There are also differences in individual learning methods. There are some who are better suited to particular learning styles and those who are not suited to particular learning types.

The above explanation implies that each student has unique skills and learning styles. The manner of learning is often referred to as the learning style. A student's learning style is how they acquire knowledge throughout learning activities. Learning style as unique and visible behaviours that give information about the mediation abilities of individuals and how their minds link to the outside world, and hence how they learn. Learning styles may be regarded as unique and visible actions that give indications about an individual's talents and the way he or she thinks in relation to the environment, and hence how pupils learn.

Obviously, preparing instructional materials in accordance with student learning styles will increase learning results. Student learning results are related to a student's learning style. This conclusion is supported by the findings of [5] study on the association between visual, auditory, and kinaesthetic learning styles and academic accomplishment. The study found a correlation between visual, auditory, and kinaesthetic learning styles and student success of 38 percent.

Based on the needs analysis at the time of the first survey at the English Education Study Program, FKIP Sriwijaya University, it can be observed that there are various barriers that arise in the process of reading activities, namely: (1) lecturers and institutions have restrictions in offering learning resources, which leads students to continue to encounter trouble in seeking for teaching resources; (2) students have not been given the freedom to study according to their own interests; and (3) students have not been given the freedom to study according to their own interests.

In response to the identified concerns, the researcher intends to produce web-based instructional resources for the Literal Reading course that are focused on student learning styles. The significance of teaching materials that correspond to student learning styles is to facilitate student comfort in studying and to expedite the process of comprehending the offered teaching materials. To determine student learning styles utilizing learning style instruments, the researcher utilized the Kolb technique to identify student learning types. This learning type assessment will eventually be available on the being created product. After determining students' learning styles, the product will route them to the relevant instructional resources.

It is anticipated that the web-based instructional materials created for the Literal Reading course will enhance students' reading abilities. In addition, these instructional resources are created with the variety of student learning styles in mind. With this instructional material, it is hoped that students will become more active and independent in their efforts to improve their reading abilities. Ease of studying and availability to learning materials in accordance with student learning styles would positively influence the knowledge development of students. The study presented here addresses the following research questions:

- 1) What are the students' learning styles?
- 2) How are the students' reading ability?
- 3) What are teachers' and students' viewpoints about the teaching material?

## **2 Methods**

The approach underpinning the methodology of the study was mixed method. In addition, the method proposed that students brought their own emotions and a certain degree of prior learning experience to the learning situation. They also possessed learning mechanisms that they had employed in the past. In other words, learning strategies are conceptual frameworks that evolve with time as a result of positive prior experience [6]. The design of this study was based on these perspectives. In accordance with the triangulation research methodology, semi-structured interviews and questionnaires were utilized. All of the aforementioned concerns concerning the students' learning methods and reading level, as well as the teacher's perspective, were covered in the questionnaires and interviews. In other words, the emphasis was primarily on the significance and efficient use of instructional materials linked to learning styles in second language acquisition.

The questionnaire was distributed to 16 students who were selected via convenience sampling. The participants of this study were voluntary and no sensitive participant data were collected. Then, the participants for the semi-structured interviews were also selected conveniently. Two teachers working at the same faculty of the university and four students participated in the interviews. While the purpose of the study was also to collect data from teachers of varying ages and levels of experience, the sample size was insufficient to do any group comparisons. It is acknowledged that the sample may not be representative. However, the results may be applicable and useful to similar educational situations.

**Table 1.** Questionnaire participants background information (N=16)

		<b>Number</b>	<b>Percentage (%)</b>
Gender	Male	2	12.5
	Female	14	87.5
Age	18-19	16	100
Studying English	0-5 years	1	6.25
	6-10 years	14	87.5
	11-12 years	1	6.25

The participants completed an online questionnaire that examined their learning styles. The modality (learning channel preference) questionnaire reproduced here was by [7]. The questionnaire consisted of 30 open-ended questions and the responses were examined to find out students' preferences. The modality type with the highest score indicated students' preferred learning channel. The higher the score, the stronger the preference. If students had relatively high scores in two or more sections, they probably had more than one strength. If the scores in the sections were roughly equal, they probably did not have a preferred learning channel; they were a multi-sensory learner.

In addition, four students and two teachers were interviewed to obtain more in-depth responses to the third research question. Teachers were asked to state their views about how to handle various learning styles of students, the effective teaching material, and their expectation of the developed teaching material. Teachers' personal experiences were also dug that significantly influenced their views of the developed teaching material. Then, students were asked to state their preferred learning style, their barriers in reading comprehension, their perceptions of the learning process and their expectation of the developed material.

**Table 2.** Interview participants background information (N=4)

	<b>Gender</b>	<b>Age</b>	<b>Teaching Experiences</b>	
Teacher 1	Female	37	14 years	
Teacher 2	Female	32	8 years	
		<b>Number</b>	<b>Percentage (%)</b>	
Students	Gender	Male	1	25
		Female	3	75
	Age	18-19	4	100
	Studying English	0-5 years	4	100

During the interview with the students, they were permitted to respond in either English or their native language, allowing them to express their thoughts freely and without linguistic constraints. The interview was videotaped, transcribed, and translated into English. The gained data were then qualitatively examined. [8] mentioned that the phases of data analysis included organizing and preparing the data, going through the data, categorizing the data into categories, developing themes, representing and reporting the findings, and interpreting the data. The obtained data from questionnaire and interview were utilized to validate the

authenticity of the data from many sources in order to increase the reliability. Member checking, then, was conducted to validate the credibility and control for biases by returning the transcribed interview material to the participants and requesting their confirmation of its authenticity. These phases were also arranged during the interview with the teachers.

Some major themes were established deductively during the interview with the teachers: (1) personal experiences regarding students' problems in reading comprehension; (2) teaching materials, (3) teaching media, (4) suggestions of developing teaching media, and (5) expectations of the developed teaching media. Themes taken from the gained data of the interview with the students were on the basis of (1) their reading ability, (2) their perception about the reading materials in their textbook; (3) their barriers in reading comprehension; (4) their perception of the learning process and (5) their expectations on the developed reading materials. Here, the interview data underwent a thematic, inductive analysis, during which special codes emerged under each of the five categories. After that, the codes were grouped under sub-themes.

### 3 Findings and Discussions

In response to the three research questions, the results of the analysis of the questionnaire and interview data are presented in the following three parts. First, we discuss the key topics that came from the questionnaire results, and then we conduct interviews to gain a deeper knowledge of instructors' and students' viewpoints, reading ability, learning styles, and the generated teaching materials. This section concludes by displaying the general reading level patterns among students.

#### 3.1 Students' learning styles

The presented table below displays students' learning styles, namely visual learner, auditory learners and kinaesthetic learners in detail.

**Table 3.** Statements in visual learning styles

No.	Statement	Never applies to me (1)	Sometimes applies to me (2)	Often applies to me (3)
1	I enjoy doodling and even my notes have lots of pictures and arrows in them.	1	12	3
2	I remember something better if I write it down.	0	8	8
3	I get lost or am late if someone tells me how to get to a new place, and I don't write down the directions	2	10	4
4	When trying to remember someone's telephone number, or something new like that, it helps me to get a picture of it in my mind.	1	7	8
5	If I am taking a test, I can "see" the textbook page and where the answer is	1	11	4

	located.			
6	It helps me to look at the person while listening; it keeps me focused.	0	8	8
7	Using flashcards helps me to retain material for tests.	2	11	3
8	It's hard for me to understand what a person is saying when there are people talking or music playing.	0	11	5
9	It's hard for me to understand a joke when someone tells me.	3	10	3
10	It is better for me to get work done in a quiet place.	0	4	12
	Total	10	92	58

**Table 4.** Statements in auditory learning styles

No.	Statement	Never applies to me (1)	Sometimes applies to me (2)	Often applies to me (3)
1	My written work doesn't look neat to me. My papers have crossed-out words and erasures.	1	13	2
2	It helps to use my finger as a pointer when reading to keep my place.	3	10	3
3	Papers with very small print, blotchy dittos or poor copies are tough on me.	1	15	0
4	I understand how to do something if someone tells me, rather than having to read the same thing to myself.	0	9	7
5	I remember things that I hear, rather than things that I see or read.	3	10	3
6	Writing is tiring. I press down too hard with my pen or pencil.	3	10	3
7	My eyes get tired fast, even though the eye doctor says that my eyes are OK.	4	9	3
8	When I read, I mix up words that look alike, such as "them" and "then," "bad" and "dad."	4	8	4
9	It's hard for me to read other people's handwriting.	2	14	0
10	If I had the choice to learn new information through a lecture or textbook, I would choose to hear it rather than read it.	2	8	6
	Total	23	106	31

**Table 5.** Statements in kinaesthetic learning styles

No.	Statement	Never applies to me	Sometimes applies to me	Often applies to me
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		me (1)	me (2)	(3)
1	I don't like to read directions; I'd rather just start doing.	7	8	1
2	I learn best when I am shown how to do something, and I have the opportunity to do it.	0	8	8
3	Studying at a desk is not for me.	7	8	1
4	I tend to solve problems through a more trial-and-error approach, rather than from a step-by-step method.	3	11	2
5	Before I follow directions, it helps me to see someone else do it first.	0	10	6
6	I find myself needing frequent breaks while studying.	1	11	4
7	I am not skilled in giving verbal explanations or directions.	1	14	1
8	I do not become easily lost, even in strange surroundings.	4	11	1
9	I think better when I have the freedom to move around.	0	9	7
10	When I can't think of a specific word, I'll use my hands a lot and call something a "what-cha-ma-call-it" or a "thing-a-ma-jig."	1	11	4
	Total	24	101	35

To sum up, Table 6 below presents what type of learning styles students have applied.

**Table 6.** Students' learning styles

Type of learning styles	Number of students
Visual	11
Auditory	2
Kinaesthetic	3
TOTAL	16

From the result of the questionnaire, it can be interpreted that the sort of modality with the highest score is student's favourite learning channel. More points indicate a stronger preference. If the students get reasonably high ratings in two or more parts, it is likely that they have more than one strength. If the section scores are fairly equivalent, it is likely that they do not have a favourite learning channel; they are a multisensory learner. To shorten, in the specific research settings, majority of the students preferred visual learning other than other two types.

As mentioned by [7], to be specific, each type of learning styles has divided into 10 modalities; they are preferred learning styles, spelling, reading, handwriting, memory, imagery, distractibility, problem solving, response to periods of inactivity, and responses to new situations. For visual students, preferred learning style means that students prefer learning

by seeing or watching demonstrations, while auditory students prefer learning through verbal instructions from self or others and kinaesthetic students learn by doing or direct involvement. Visual students recognize words by sight in spelling while auditory students use a phonic approach and tend to have auditory word attack skills and kinaesthetic ones are commonly known as poor spellers and tend to write words if they “feel” right. Then, when visual students are reading, they like descriptions, sometimes stop reading to stare in space and imagine scene and intense concentration. Auditory students enjoy dialogue and plays, tend to avoid lengthy descriptions, unaware of illustrations and move lips or sub-vocalizes while kinaesthetic students prefer stories where action occurs early, fidgets while reading, and not an avid reader. Visual students are good at handwriting when they are young, spacing and size are good and they believe that appearances are important. Auditory students see handwriting as difficult in initial stages while kinaesthetic ones are good initially, deteriorate when spacing becomes smaller and push harder on writing instruments. In terms of memory, visual students remember faces, but forget names, write things down and take note when auditory students do reversely. Kinaesthetic students remember best what was done, but not what was seen or talked about. Imagery for visual students tend to do vivid imagination, thinks in pictures and visualises in details. It is different from auditory and kinaesthetic students. Auditory students sub-vocalise, imagine things in sound and believe that details are less important and kinaesthetic ones believe that imagery is not important and images that do occur are accompanied by movement. Next, focusing on the distractibility, visual students will be unaware of sound and be distracted by movement while auditory students will get easily distracted by sounds. Kinaesthetic students are not attentive to visual or auditory presentation so may seem distracted. Visual students are good at problem solving as they deliberate, plans in advance, organizes thought by writing and list problems. Auditory students talk problems out, try solutions verbally or sub-vocally, and talk self through problems when kinaesthetic students attack problem physically, are impulsive and even often select solutions involving greatest activity. Moreover, response to periods of inactivity, visual students stare or doodle, and find something while auditory students will hum and talk to self or others. Kinaesthetic students will fidget or find reasons to move. The last point is about response to new situations. Visual students look around or examine structure while auditory students will talk about situation and discuss pros and cons of what to do and kinaesthetic students try things out, touch, feel or manipulate.

To correspond to the findings of this study, [9] reported that even though most language learners had multimodal learning style preferences, various teaching strategies needed to be used in the classroom to accommodate learners with diverse learning styles, making learning more engaging and meaningful to students. Thus, teachers must accommodate the various learning styles of their students in order to urge them to participate in the learning process. This would not only improve the classroom learning environment but also encourage students to pursue and accomplish academic goals.

### **3.2. Students’ reading level**

Looking at the results of the study in detail, students’ reading levels were very good (one student), good (six students), fair (four students), and bad (one student). It can be inferred that most of students could handle with or have capability in comprehending English reading



passages even though they also encounter problems during reading activity, like, lack of vocabulary knowledge, less motivated to read, and inability to do fast reading. Students' experiences in reading English passages gave contributions to their reading ability as they seldom got involved in English reading texts. Moreover, students stated that reading class activity run ordinarily or no enjoyment as they saw reading class as a requirement, not as an enjoyable activity. Long duration to operate computers might be one factors of students' reading level.

Then, regarding the applications of interactive multimedia in web, most of students agreed that multimedia will positively assist them during reading activities as it fits with their learning styles. Students' responses on the use of web-based learning materials will affect their performance in positive ways as it may include direct feedback toward student' answers of some questions.

### 3.3. Teachers' and students' interview

The following table illustrates the obtained data from the interview. Their interview responses were classified and organized into themes and subthemes.

**Table 7.** The coding categories from the interview with the teachers

Themes	Sub-themes	Codes
Problems in reading	Linguistic features	Lack of vocabulary Lack of grammar mastery
Teaching activities	Reading skills Frequency of teaching methods	No experience in fast reading Maximize lecture strategy Balance individual work and online learning resources
Students' differences	Learning styles	Maximize visual and auditory teaching media No kinaesthetic teaching media
Teaching media	Forms	Maximize sound and moving images Balance use of online learning platforms
Developed reading material	Requirements of reading materials	Suitable readability level Fit with students' learning styles Various text genres Interesting activities

**Problems in reading.** The first research question aimed to investigate the English language needs of developing teaching materials, the extent to which teachers and students shaped their beliefs. Based on teachers' responses in the semi-structured interview, it showed that they had the same main points which can be described in one theme, namely problems in reading comprehension. These problems were divided into sub-themes namely linguistic features, such as lack of vocabulary and lack of grammar mastery, and reading skills, such as no personal experiences in fast reading. Teachers' statements were as follows:

“Their reading speed still needs to be improved as well as their vocabulary mastery.”  
(Teacher 1)

“Students' problems in reading were that they were lack of vocabulary and grammar mastery. They are also not accustomed to fast reading of English texts.” (Teacher 2)

In response to the results of the interview, [10] mentioned that teachers were in agreement that terminology is the most troublesome issue. They reported that new terminology hampered the students' understanding of the reading text. One participant noted that "the biggest challenge that the pupils experience is their incapacity to read English texts", ascribing this difficulty to language in general. Another one believed that "the students think that reading is merely to learn the meaning of the words". Additionally, majority of them claimed new vocabulary is frustrating to students. One of them argued that "students' failure to locate meanings of the new vocabulary will make them frustrated and they might leave the reading task". In the same line, another interviewee suggested that "many students do not know how to use dictionaries and if they do, they do not know which dictionary entry to choose". Moreover, in addition to vocabulary, numerous interviewees cited students' difficulties with grammar and syntax. According to them, students frequently complained about grammatical constructions causing confusion. One respondent stated, "sometimes meaning is expressed through grammar. Our students have difficulty with grammar and language in general." Yet another respondent indicated that students struggled to comprehend unified device functionalities. This respondent stated, "They lack the fundamental syntactic and lexical frameworks to combine phrases. For instance, they do not comprehend the function of terms such as however."

**Teaching activities.** This part focused on the frequency of teaching modes if the teachers conducted lecture strategy as the main core of the teaching activities and whether individual work, group work and online learning resource can be balance.

"Most of the time I applied lecture method, used simple media and multimedia to support teaching activities." (T1)

"In each meeting, I usually gave lecture and used additional materials from Google and YouTube. They listened to my explanation during my lecture, read the attached materials and watched Youtube videos that I had already prepared for them on e-learning." (T2)

**Students' differences.** In addition to the variety of teaching modes, students were also various. Students' learning styles were different from individual. It was stated that it was necessary to maximize visual and auditory learners. However, no kinaesthetic students were found as the recent condition forced to conduct online learning.

"..... by providing various learning resources and activities." (T1)

"I only make variations in terms of class activities and reading materials. My lecture and additional teaching videos are probably matched with those who belong to visual and auditory. However, since it was online class, the learning activities for kinaesthetic learners are not fully facilitated as they mostly sat still in front of their laptop." (T2)

Teaching strategy variations require the teachers to adjust with the students' conditions, needs and expectations. Diverse learning style also effects the way how the teachers manage the classroom activities. In this case, online learning can be one of the alternatives. To correspond to the findings of this study, [9] reported that even though most language learners had multimodal learning style preferences, various teaching strategies need to be used in the classroom to accommodate learners with diverse learning styles, making learning more engaging and meaningful to students. Thus, teachers must accomodate the various learning

styles of their students in order to urge them to participate in the learning process. This would not only improve the classroom learning environment but also encourage students to pursue and accomplish academic goals. [11] reported that lastly, a number of students shared the opinion that e-learning provided a variety of learning experiences. They felt that having the same exercises throughout the course would be tedious. and [12] also supported that ICT use and learning attitude contributed 11.4% to the academic English paragraph writing of the students.

**Teaching media.** Finally, both teachers agree that teaching media should meet the students' needs and be designed on the basis of students' preference. Teachers usually used sounds and moving images in order that students were enthusiastically participated during the teaching time. Then, another teacher mentioned the balance use of all provided online learning platforms.

“... padlet, VoA news, kahoot, jamboard.” (T1)

“It was only in the form of video which has sound and moving images.” (T2)

[10] stated that, certainly, the teaching approach employed by language teachers played a crucial role in preparing students for language tasks. Adopting the audio-lingual method in the classroom, for instance, would emphasise listening and speaking skills at the expense of reading and writing. Thus, students were asked if obtaining training (or not) and the manner in which they were instructed contributed to their reading difficulties.

**Developed reading materials.** This section was concerned with the requirements of reading materials. Some rules to fulfil was there was suitable readability level, in accordance with the students' learning styles, the availability of various text genres, and the development of interesting activities in reading.

“We should concern with what students' need, provide wide range of text genre, facilitate the students with interesting activities to help them comprehend the reading.” (T1)

“The reading material should cover students' needs such as the suitable readability of the used passages. Besides, the learning activities of reading class must facilitate students' learning styles.” (T2)

Concerning instructional materials, [10] agreed that textbook content was a possible cause of reading comprehension difficulties. Another study also resulted on the same finding, as shown by [13]. [13] indicated that some difficulties arose as a result of reading materials that were uninteresting to the students due to their lack of relevance to their lives.

To get in depth discussion from the students' responses, the transcript was broken down into themes, sub-themes, and codes. These three points assisted the writers to draw a bottom line.

**Table 8.** The coding categories from the interview with the students

Themes	Sub-themes	Codes
Printed textbook	Characteristics	Systematic Imaginative Writing techniques Simplicity

Problems in reading	Linguistic features	Lack of vocabulary Lack of grammar mastery
Learning activities	Reading skills	No experience in fast reading
	Timing	Extend the credit hours
Developed reading material	Kinds of task	Balance individual and group work
	Presence	No teachers
	Requirements of reading materials	Include course objectives Suitable readability level Fit with students' learning styles Various text genres Interesting activities Include summary Various types of questions

**Printed and digital reading textbook preference.** The result of this study reported that students' viewpoints toward printed textbook and digital textbook. Some reasons supported the students' viewpoints on the basis of the characteristics of the book themselves. One of the characteristics of the books should fulfil is the systematic arrangements of the book content, for instance, the availability of effective explanation, the samples, and the portion of exercises. Imaginative pictures, images, or display of graphs, charts or pies are other characteristics of interesting printed textbooks. Simplicity, in this case, refers to the ways how to describe a certain discussion effectively by using the effective word choice, the absence of confusing word meaning, suitable font choice, the use of proper figures, etc.

"I like the book we were using as it contains pictures. But, I preferred the colorful books. The book also has to contain imaginative as I belong to visual students. The simplicity of the book let me know the contain more easily." (S1)

"In my own opinion, the book must be systematic, like, there is title, explanation, and exercises. The pictures are OK, but it must be visible and not too small font. It is more on the technical writings." (S2)

"I agree with the previous students if the book simple. It provides the discussion from the easiest one to the most difficult ones. It has proper pictures in order that we easily understand the material. The use of visible fonts and word choice should be paid attention, too." (S3)

Then, talking about the digital reading textbook, some ideas come up as follows.

"It contains colorful pictures, short passages. It should provide summary only." (S1)

"Digital reading textbook must have no longer paragraphs in one page. It should contain audio only." (S2)

"It contains video, the margins should be well-spaced. It must be simply and easy to understand and interesting so that the students are motivated to read." (S3)

The objective of this section was to evaluate if digital or printed textbooks are more beneficial to student learning. There is a vast selection of electronic textbooks, with features ranging from simple annotation capabilities to advanced e-textbooks with interactive multimedia. Here, Evidently, both printed and digital textbooks have advantages and downsides. Some depend on the user's perspective or certain textbook features, but the majority are format-

dependent. Both types of textbooks are suitable for educating students. However, many still prefer print over electronic formats. This preference could be a result of how each medium is read.

Cost, convenience, and interaction are among the primary motivating factors for the shift towards digital format. Digital textbooks are typically less expensive than their printed counterparts. However, the majority have restricted licences and will not be accessible indefinitely. This can be somewhat frustrating. [14] stated, "When students discover useful material, they want to keep it on their personal computer or in a computer network to ensure its longevity." They do not view an e-book as a permanent repository for important information" (p. 71). Print textbooks, however, are always available. Nevertheless, the accessibility and interactivity of an e-textbook, such as multimedia links and searchability, can sometimes convince consumers to move from printed textbooks.

***Problems in reading.*** This section was concerned with the students' problems in reading. The problems were divided into sub-themes namely linguistic features, such as lack of vocabulary and lack of grammar mastery, and reading skills, such as no personal experiences in fast reading.

"I am concerned with my vocabularies and fast reading." (S1)

"I had problems with my reading speed as I had no experiences on it." (S2)

"My problems are lack of vocabulary and grammar mastery. I also had problems with fast reading. I need much time to finish my reading task." (S3)

"I didn't find any difficulties. My laziness were my reading barriers as longer passages mostly cover the books. (S4)

***Learning activities.*** In a good textbook, both printed version and online version, learning activities may be one of the requirements to complete. A variety of learning activities allow the students to experience distinctive learning activities. Monotonous activities or the repetition of some kinds of learning activities caused boredom to the students. Time constraints should be set proportionally considering the course objectives, material discussion in depth, learning activities, and evaluation. Here, one of the participants suggested to adding the allotted time. Then, kinds of task, both individual and group work, should be balance numbers so that no boredom was experienced during learning activities. Above all, the absence of teacher presence happened during the learning classroom, especially during online learning. Here, it is suggested that learning experience stated both in printed and digital textbook should include teacher-student and student-student interaction.

"Literal reading class is enjoyable and the activities should be designed with more interaction in the classroom." (S1)

"In literal reading class, the activities can be applicable, interesting, well-structured. The activities should be fit with the learning objectives. Both printed and digital reading textbook should be properly designed." (S2)

"Reading class is a bit interesting as I am not keen on reading. Then, uninteresting activities are not big deal unless the teacher gives enough explanation of a certain

material. The explanation itself should be simply. Time constraints can be extended to be four credit hours. Next, types of classroom activities are suggested to be reduced and need more interaction.” (S3)

“The classroom activities were enjoyable by using proper media. The interaction with other students had enough, like in discussion. Allotted time is enough in three credit hours. The books are suggested to have balance number of activities, both in individual and group work. I personally prefer individual work in because I found no problems in it.” (S4)

From the result of study above, it revealed that students were exposed with the monotonous activities. Students frequently listened to the teachers’ explanations that may cause their boredom. This result was in correspondence with a study conducted by [15]. Their study investigated that according to the research of present curricula and course materials, they are not developed with students’ needs and expectations in mind. The majority of sessions are dominated by lecturing, explaining sentence structure and grammar, or asking students to write; yet, students’ demands and expectations demonstrate the need for collaborative learning and instruction. In this instance, students anticipate learning-enhancing tools created by incorporating technology.

***Developed reading materials.*** This section focused on the expected developed reading materials. The requirements of reading materials should include course objectives, suitable readability level, in accordance with the students’ learning styles, the availability of various text genres, the development of interesting activities in reading, summary and cover various types of questions for the evaluation, for instance, multiple-choice questions, essay questions, and some other types of questions from low level of thinking skill (LOTS) to high order thinking skill (HOTS) questions.

“I choose multiple choice since such kind of questions are easy to answer. The questions should also be designed from the easiest to the most difficult questions. I prefer scientific references, such as, recent technology advancement. The reading passages also fit with students’ reading level.” (S1)

“I prefer multiple choice and short answer as multiple choice has an exact answer with no various answer from the students. Then, genres are about global information in order that those can be reference and broaden our knowledge about recent updates.” (S2)

“I suggest to create more multiple-choice questions. I like legend textbook due to the fact that it recalls about our historical news and it can be such entertaining references.” (S3)

“The developed reading materials need more pictures since the books cover more as I belong to visual learner . Activities are enough. The explanation is well-structured so that I can easily understand. I also suggest to provide audio and videos to ease the students learn. The topic of passages is more on recent news updates. Types of questions prefer short answers.” (S4)

On the basis of the findings above, the advantages of web-based learning materials were leading the students to feel enjoyment, satisfaction, and flexibility. This study was in line with as reported by [15]. Their study reported that the students believe that Web-based English training is contemporary. They acknowledge that Web-based learning is beneficial. Students

say that it is convenient for them to learn utilising Web-based instruction because the method permits them to review the materials whenever and wherever they choose. Learning through Web-based learning is a technique to improve their self-directed learning, and this method of learning can aid them in remembering more new terminology, thus this statement is true. Students agree that studying via Web-based training is pleasant and simple to comprehend. With a score of 74.5 percent, they agree that Web-based English learning tools provide clear explanations of content and tasks. The students state that studying English through Web-based educational tools does not make them feel alone or isolated. The students' perceptions toward learning English through Web-based learning material were overwhelmingly positive. Possessing positive attitudes and being highly driven are signs of autonomous learning attitudes.

#### **4 Conclusion**

The needs analysis done results in information about the teachers' and students' views of the developed teaching materials, students' reading level and reading ability, and students' learning styles. This study leads the writers to move forward to the next study about designing the blueprint of the teaching materials.

**Acknowledgments.** The research/publication of this article was funded by DIPA of Public Service Agency of Universitas Sriwijaya 2022. SP DIPA-023.17.2.677515/2022. On December 13, 2021. In accordance with the Rector's Decree Number: 0110/UN9.3.1/SK/2022, On April 28, 2022. Also, the writers wish to thank to the respondents for their warm assistance.

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