

# **Integrating 21st-century skills in English material development: What do college students really need?**

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## **ABSTRACT**

The 21<sup>st</sup>-century education emphasizes a number of indicators that teachers, students, parents, and other education stakeholders should completely understand. English teachers should be encouraged to be able to integrate the intended 21<sup>st</sup>-century competency indicators into instructional materials that are preceded by a needs analysis stage. Needs analysis is crucial in designing English materials as it serves as a valuable tool for practitioners to create English materials aligned with students' target and learning needs. As a consequence, needs analysis is seen as a necessary component of the teaching practice. The purposes of this study are to examine and reveal the numerous types of students' target needs and learning needs for English material development. This study examined two English lecturers and 206 students enrolled in the primary education department. The data collection instrument was a questionnaire and the data were analyzed using a software program, namely an excel chart data series. Findings indicated that the students' target needs included necessities, lacks, and wants,

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whereas learning needs included input, procedure, setting, learner's role, and lecturer's role in the teaching-learning process. Students' target and learning needs emphasized the importance of developing English materials that boosted 21<sup>st</sup>-century education skills. English materials should be adjusted to meet the needs of students' future careers, with a particular emphasis on the eleven sub-skills of 21<sup>st</sup>-century education.

**Keywords:** *English material development; Needs analysis; Teaching; Twenty-first-century skills*

## **1. Introduction**

Needs analysis is one of the pedagogical efforts carried out by educators in the learning process. Learning needs are an essential component (condition) of learning and play an essential role in teaching and learning activities. Needs analysis is the first stage that must be fulfilled by teachers/educators, both in designing and developing teaching materials and implementing them in the teaching and learning process. Teachers, as designers or developers of instructional materials, are expected to be able to discover all of the target needs, wants, necessities, and shortcomings of instructional material users through the use of appropriate instruments in order to provide reliable and valid needs analysis (Chen, Chang, & Chang, 2016; Ulum, 2015). The outputs of the needs analysis assist teachers and students in developing more relevant and effective teaching-learning processes (Axmedovna, Gapporovna, & Rozmatovna, 2019; Khan, 2020). By conducting an adequate needs analysis, teachers can identify the learning components that students prefer, such as teaching techniques, required linguistic components, types of activities, media, and assessments. Moreover, students will be more responsive towards the learning process.

Several previous studies have confirmed the vital role of needs analysis in developing teaching materials that facilitate an interactive, joyful English learning process and address learners' target needs (Kong, 2018; Panggua, Fitri, & Patanduk, 2020; Poedjiastutie & Oliver, 2017). They claim that needs analysis is the first step and reflection space for teachers to accommodate all students' wants and needs in supporting students' English competence achievement. On this basis, instructional materials must be developed in accordance with students' wants and needs, including English language skills, language components, teaching methods, media, themes and topics, time allocation, the role of students and teachers in the teaching-learning process, assessment, and other learning components.

However, these studies only focused on the urgency of needs analysis in designing English teaching materials that fulfil the learners' needs and preferences (Adam, 2018; Padmadewi & Artini, 2017; Yahya, Said, & Masruddin, 2019). They have not presented valid findings related to the concept of developing English teaching materials for students majoring in primary education program, which should be integrated with a number of 21<sup>st</sup>-century educational skills. The twenty-first-century educational skills are an urgent need for today's students (Heinrichs, 2016; Tindowen,

Bassig, & Cagurangan, 2017). This gap is the focus of this paper's analysis. The concept of needs analysis is clearly demonstrated in this article in order to boost 21st-century education skills for students majoring in primary education program in Indonesia.

According to previous researches, it is essential to do a need analysis process of developing English teaching materials that are geared toward a variety of 21<sup>st</sup>-century educational skills for college students (Limbong, 2017; Luciana, Padmadewi, Artini, & Budiarta, 2020; Menggo, Budiarsa, & Padmadewi, 2019a; Rakhmawati & Priyana, 2019). These researchers argue that today's students cannot rely on a single skill but must possess a wide range of skills to compete in diverse career opportunities. The intended multi-skills include effective communication abilities, critical thinking, creativity and innovation, digital literacy, self-regulation, social and intercultural interaction, and the ability to demonstrate excellent leadership and responsibility (Bell, 2016; Komlayut & Srivatanakul, 2017; Stehle & Peters-Burton, 2019). Lecturers as learning developers are encouraged to integrate a number of skills through the creation of English teaching materials that meet the demands of future primary school teachers.

The above description inspired researchers to consider the following two research questions:

1. What are the target needs of college learners for English material development in the primary education program?
2. What are the sorts of college learners' needs for English material development in the primary education program?

Based on these two questions, the purpose of this research is to reveal scientific findings related to college learners' target needs and learning needs toward English material design in the primary education department.

## **2. Literature review**

### *2.1. Multi-literacy in English material development*

English communicative competence is a fundamental requirement for today's learners. For this argument, through the ministry of education, culture, research and technology, the government of Indonesia ratified a policy of English as a mandatory course for all majors in higher education, both in diploma and undergraduate programs, including in the primary education department (Kementerian Riset, Teknologi, dan Pendidikan Tinggi [Kemendikbud], 2012). The learning outcomes of English courses in this study program have been limited to communicative competence. Students are encouraged to be able to express their thoughts, both spoken and written, into various English communication functions, such as informational, expressive, representational, textual, personal, imaginative, and many more functions (Halliday, 1973; Menggo, Suastra, Budiarsa, & Padmadewi, 2019b). These language functions have implications for lecturers' capacity to select acceptable linguistic components in designing teaching materials. Indeed, the learning outcomes of English courses mandated by the Indonesian government are still mono-skill, which has not met the current learners' needs. Thereby,

integrating a variety of 21<sup>st</sup>-century education skills into teaching materials development is an excellent way to guarantee for ensuring the students' achievement of multi-literacy or multi-skills of primary education department as well as enabling them to take a more active role in various fields of life at a global level.

Recently, the term literacy has been a great issue for many people since literacy is defined as a person's capacity to manage and comprehend something (Rintaningrum, 2009). The meaning of literacy keeps evolving in accordance with mankind's development so that literacy has been adopted in various fields of science and gives sense according to the context of the area used. This understanding then implicates the creation of the terminology of multi-modals, multi-competent, multi-years, multi-skills and finally resulted in the concept of multi-literacy (Giampapa, 2010). Multi-literacy is synonymous with multi-skills in the context of this article. Multi-literacy is a fundamental requirement for college students since it simultaneously affects their preparation as professional and competent workforce candidates and enables them to interact with people from diverse backgrounds in a larger area. Multi-literacy is a practical path for college students to address today's global challenges (Hong & Hua, 2020; Kohnen & Adams, 2019; Nabhan, 2019). They claim that multi-literacy is a crucial integrative skill. This ability requires the college students to present original concepts, analytical sharpness (critical-logical thinking), and apply them according to the needs of workplaces.

## *2.2. What do college students really need?*

English teaching material should be designed by a lecturer based on what college students want to learn. For non-English majors, the English Specific Purposes (ESP) is generally referred to as an English course. The ESP is an approach to language acquisition in which all decisions regarding the content of teaching materials are based on why learners learn English (Hutchinson & Waters, 1987). Learning needs are stated by Hutchinson and Waters (1987) as target needs (what the learner must perform in the target outcomes) and learning needs (what the learner must do to acquire new knowledge) (p. 54). Hutchinson and Waters (1987) further argue that target needs include students' necessities, lacks and wants. Necessities can be regarded as the learner's desire to perform adequately in the target outcome. Additionally, students' lacks refer to learners' inability to meet their target needs. Wants are associated with the learners' expectations following completion of the English course.

Additionally, learning needs are composed of seven components: language input, the procedure of completing numerous assignments, the setting of learning activities, the learner and lecturer roles during the teaching-learning process, the media used, the types of exercises performed, and the type of assessment (Nunan, 2004). The purpose of this current study was to explore target needs and learning needs in order to ascertain the English materials development needs of students enrolled in the primary education department in the Indonesian context.

### *2.3. 21<sup>st</sup>- century education skills*

Knowledgeable and multi-skilled people are the orientation of the 21<sup>st</sup>-century educational paradigm. The college students' cognitive space is filled with a combination of excellent knowledge and applicable skills in awakening their enthusiasm for the competitive phenomenon of a more complicated and real world of work. 21<sup>st</sup>-century education offers a challenging educational process for students. A challenging education requires educators to educate the college students to have critical, creative, innovative, literal and systematic thinking skills in solving various problems. Additionally, challenging education places considerable emphasis on students' social literacy (collaboration, communication) and media literacy, which is believed to promote optimal self-development (Howard, 2018; Kim, Raza, & Seidman, 2019). They add that college students must fulfil these skills to help them understand ways of thinking, ways of working, media for working, and methods for living together in this world.

Prior studies (Erol, 2021; Tan, Choo, Kang, & Liem, 2017; Trilling & Fadel, 2009) highlight three key skills for twenty-first-century education: career and life skills, digital literacy, and learning and innovation skills. They further develop these three major skills into the eleven sub-skills necessary for success in twenty-first-century education, including career and life skills (communication and collaboration, critical thinking and problem-solving, and creativity and innovation skills), digital literacy skills (information, media, and ICT literacy), and learning and innovation skills (flexibility and adaptability, initiative and self-direction, social and cross-cultural, productivity and accountability, and leadership and responsibility skills). These eleven sub-skills can be achieved by designing appropriate English teaching materials for mastery of the material, linguistic components, types of exercises, students' roles in the teaching and learning process, media used, and assessments expected by students.

The purpose of this current study is to ascertain college students' desires regarding the eleven sub-skills required. Proficiency in these sub-skills ensures college students' access to global job opportunities. As a result, the development of English materials is done under the sub-skills required.

### **3. Method**

The design of this study was a cross-sectional survey. It was done in April 2021 at the primary education department, Universitas Katolik Indonesia Santu Paulus Ruteng, Indonesia. This research design was chosen since the research population was diverse in terms of age, gender, and grade level, as well as the researchers intend to examine students' needs in terms of courses, projects, and involvement in the teaching and learning process (Cohen, Manion, & Morrison, 2007).

The research population was 706 students and four English lecturers who taught at the primary education department, Universitas Katolik Indonesia Santu Paulus Ruteng,

Indonesia. There were 206 students and 2 English lectures from this department were selected as a sample by using a multistage random sampling technique.

A questionnaire was used to collect the data in this research. The questionnaire used was adapted from Hutchinson and Waters (1987) and Nunan (2004) on needs analysis instruments. The questionnaire covered 15 items consisting of closed questions with four answer choices. A survey was sent out asking respondents to select one of four choices stated on the survey. Before the questionnaire items were submitted to the respondents, they were examined by three experts to check and assess the relevance and non-relevance regarding the contents of the questionnaire items. Due to the continued high prevalence of the COVID-19 at the research locus, this questionnaire was distributed through Google.

The researchers distributed the questionnaire concurrently to all respondents through a Google link. The respondents spent almost 30 minutes answering the survey questions using their digital devices such as PCs and smartphones. After the respondents completed the questionnaire, the data were then analyzed quantitatively and qualitatively—the quantitative analysis using excel chart software application, while qualitative data used qualitative descriptive analysis.

#### **4. Findings and discussion**

To address RQ 1 and 2, the researchers distributed a needs analysis questionnaire regarding English courses' target needs and learning needs for two lecturers and 206 students at the primary education department, Universitas Katolik Indonesia Santu Paulus Ruteng. The questions in the questionnaire were fifteen numbers and were semi-closed. Each question had four answer options and the fifth option was given the opportunity for respondents to write directly an alternative offer that supported the achievement of the college students' target needs and learning needs.

##### *4.1. Target needs*

Target needs are the types of knowledge and skills needed by students to be actively involved in learning (English) following their learning outcomes targets. The results of the target needs can be classified into three components, namely needs, lacks and wants. Each of these components is described in more detail below.

##### *4.1.1. Necessities*

The necessity is a wide target of college students to program English courses, as illustrated in Table 1 below.

**Table 1**

Students' necessities to program English courses.

<b>Statement</b>	<b>Answer options</b>	<b>N</b>	<b>f</b>	<b>%</b>
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1. My goal in programming English courses is...	a. Meet the requirements for taking other courses	208	26	12.5
	b. Assists me in communicating effectively in English with foreigners	208	125	60.10
	c. Obtain a respectable grade	208	37	17.79
	d. Contribute to my continuous learning	208	20	9.61
	e. Others	208	-	-
2. The form of exercise I'm interested in is...	a. Exercise for each language skill	208	140	67.30
	b. Integrated exercise of all language skills	208	33	15.87
	c. Exercises that focus on language components	208	27	12.98
	d. Integrated exercises between language skills and language components	208	8	3.85
	e. Others	208	-	-
3. At the end of each exercise, I would be pleased if I could demonstrate a greater understanding of...	a. Pronunciation accuracy	208	71	34.13
	b. Text content	208	100	48.07
	c. Grammar	208	25	12.04
	d. Writing	208	12	5.76
	e. Others	208	-	-

Note: N = The number of respondents

f = The number of scores

According to statement number 1, 60.10% of respondents answered that their purpose for enrolling in English courses was to improve their ability to communicate in English with foreigners. The second choice of 17.79% was to obtain better marks, 12.5% was to fulfil prerequisite requirements for taking other courses, and 9.61% was to support their ongoing studies in the study program.

Moreover, 67.30% wanted exercises for each of the four skills (listening, speaking, reading, and writing) during the teaching-learning process. Meanwhile, 15.87% required integrated language skills exercises. Respondents who wanted language components exercises was 12.98%, whereas 3.85 % desired integrated exercises between language skills and language components. Another component needed by students at the end of each exercise was an understanding of course content (48.07%), pronunciation accuracy in speaking English (34.13%), grammar (12.04%), and proficiency in English writing (5.76%).

#### 4.1.2. Lacks

Lacks are gaps between what the college students already know and what they do not know about their linguistic and non-linguistic competencies. To understand the gap intended, the researchers could compare the students' level of language mastery at the beginning when following an English course to their target level of language mastery at the end of the course. The results can be presented in Table 2 below.

**Table 2**

The college students' lacks.

<b>Statement</b>	<b>Answer options</b>	<b>N</b>	<b>f</b>	<b>%</b>
4. My current level of English proficiency is...	a. Novice	208	52	25
	b. Intermediate	208	127	61.07
	c. Advance	208	20	9.61
	d. Superior	208	9	4.32
	e. Others	208	-	-
5. My challenge in achieving the requirements of this course is...	a. Vocabulary and Grammar	208	37	17.79
	b. Speaking	208	97	46.63
	c. Reading comprehension	208	52	25
	d. Writing	208	22	10.58
	e. Others	208	-	-

Table 2 showed that 61.07% of students' ability for English courses at the beginning of their study was at the intermediate level, followed by 25% at the novice level. Meanwhile, 9.61% of respondents reported having an advanced level, while 4.32% reported to have a superior level. The difficulty of the college students in meeting the demands of the learning outcomes of this course was micro-linguistics, such as English speaking (46.63%) reading comprehension (25%), vocabulary and grammar (17.79%) and writing (10.58%).

#### 4.1.3. Wants

Wants is the expectation of the college students after taking this English course. The results are summarized in Table 3.

**Table 3**

The college students' wants.

<b>Statement</b>	<b>Answer options</b>	<b>N</b>	<b>f</b>	<b>%</b>
6. My desired learning outcome after completing this course is...	a. Capable of communicating accurately, clearly, and exactly, as well as collaborating with classmates	208	88	42.31
	b. Capable of solving a variety of issues in English	208	40	19.23
	c. Capable of utilizing appropriate digital applications to aid in the improvement of English communication competence	208	52	25
	d. Capable of working efficiently in a variety of diverse communities	208	28	13.46
	e. Others	208	-	-

The diversity in students' expectations for English courses is illustrated in Table 3. Students' highest expectation (42.31%) after completing this course was being able to

communicate and collaborate. The second expectation of the college students referred to digital literacy, 25%. They wanted that after taking this course, they were able to create or use relevant information technology applications to support the achievement of their English communication competence. The third expectation, 19.23%, was that the college students were allowed to provide unique solutions to various themes/topics during the teaching-learning process. Furthermore, 13.46% of students expected to work and interact in diverse communities through the use of their English communication skills.

#### 4.2. Learning needs

The term "learning needs" refers to what college students require and do to complete English courses successfully. By understanding what students require and how to meet those needs, lecturers can foster an interactive, attractive, harmonious, and meaningful learning atmosphere. The learning needs in this course are grouped into five categories: input, procedure, setting, learner role, and lecturer role. Each of these components is discussed in greater detail in the following sections.

##### 4.2.1. Input

The term "input" refers to the type of data that college students use during the teaching-learning process. The data obtained in this course are types of digital applications in learning, types of texts, types of writing, and various topics. The four types of data can be presented in Table 4 below.

**Table 4**  
Learning input.

Statement	Answer options	N	f	%
7. My preferred learning application while attending courses in the Covid-19 era is...	a. YouTube Channel	208	26	12.5
	b. Moodle, Webex, and Canvas	208	20	9.62
	c. Google Meet	208	41	19.71
	d. Zoom	208	113	54.32
	e. Others	208	8	3.85
8. The type of text I'm looking for is...	a. Descriptive	208	27	12.98
	b. Narrative	208	37	17.79
	c. Argumentative	208	52	25
	d. Persuasive	208	92	44.23
	e. Others	208	-	-
9. The type of writing I want is...	a. Descriptive	208	28	13.45
	b. Narrative	208	50	24.1
	c. Argumentative	208	41	19.70
	d. Persuasive	208	89	42.75
	e. Others	208	-	-
10. I am pleased if the range of	a. Global awareness of inter-	208	71	34.14

themes covered in text and writing is based on a global demand or development, such as...	religious tolerance and lifestyle			
	b. Financial literacy and entrepreneurship	208	50	24.1
	c. Digital and health literacy	208	48	23
	d. Environment and citizenship	208	39	18.76
	e. Others	208	-	-

Table 4 indicates that the most preferred digital application media by students was Zoom (54.32%). Meanwhile, Google Meet was 19.71%; YouTube Channel was 12.5%; Moodle, Webex, and Canvas were 9.62%, and other applications, such as Google Classroom, Edmodo, WhatsApp, and Busuu, were 3.85%. The data in statement number eight showed that the type of text desired by the college students was persuasive at 44.23%, argumentative at 25%, narrative at 17.79%, and descriptive at 2.98%.

Meanwhile, the writing genres wanted by the college students were persuasive at 42.75%, argumentative at 19.70%, narrative at 24.1%, and descriptive at 13.45%. Additionally, the diversity of topics included in the learning process demanded by college students was based on global demands and advances. Issues dealing with global awareness, such as religious tolerance, adolescent lifestyles, marriage in other cultures, or religions were 34.14 %. Cases dealing with the theme of financial literacy, economics, business and entrepreneurship (personal financial management, entrepreneurship productivity, product propaganda, and business plans) were 24.1%. Topics covered digital literacy and health (online shopping, internet exploitation of children's lives, health service, healthy diet, and many more) were 23%. And at last, topics dealing with the theme of environmental and citizenship (flood, water and air pollution, good citizenship, and good governance) were at 18.76%.

#### 4.2.2. Procedure

Procedures are guidelines for lecturers to ensure the types of activities carried out in the teaching-learning process are based on students input. The data obtained in this course were the types of activities and assessments listed in Table 5 below.

**Table 5**

Learning procedure.

Statement	Answer options	N	f	%
11. The type of learning activity that I expect is...	a. Small group discussion	208	57	27.40
	b. Role-play	208	82	39.43
	c. Peer-tutoring	208	42	20.19
	d. Lecturing	208	27	12.98
	e. Other	208	-	-
12. The type of assessment I prefer during the learning	a. Individual performance-based	208	88	43.30

process is...	b. Peer assessment	208	40	19.24
	c. Portfolio assessment	208	35	16.83
	d. Rubric-based	208	45	21.63
	e. Others	208	-	-

Table 5 indicates that the types of activities wished by the college students in improving their English communication skills were role-playing at 39.43%, small group discussion at 27.40%, peer-tutoring at 20.19%, and lecturing at 12.98%. Meanwhile, respondents coveted the types of assessment: individual performance-based at 43.30%, rubric-based assessment at 21.63%, peer-based assessment at 19.24%, and portfolio-based assessment at 16.83%.

#### 4.2.3. Setting

The setting is a classroom arrangement that accommodates students' preferences for completing the course's numerous exercises and assignments. The following table summarizes the many activities and tasks that students seek to achieve.

**Table 6**

The college students' learning setting.

Statement	Answer options	N	f	%
13. What I like best is when several exercises and tasks are completed in...	a. Small group	208	100	48.1
	b. Individual	208	50	24
	c. Pairs	208	45	21.65
	d. All classmates	208	13	6.25
	e. Others	208	-	-

Table 6 summarizes that the exercises and tasks accomplished in a small group (48.11%), individually (24%), in pairs (21.65%), and as a whole class (6.25%).

#### 4.2.4. Learner's role

Recognizing students' roles enables lecturers to encourage students to participate actively and responsibly in the teaching-learning process. This idea is essential for creating a comfortable and exciting learning atmosphere. Table 7 below summarizes the roles preferred by students.

**Table 7**

The college students' role.

Statement	Answer options	N	f	%
14. My favourite role in the learning process is...	a. English speaker	208	107	51.45
	b. Problem-solver	208	50	24
	c. Active-thinker	208	41	19.73
	d. Language learning sources	208	10	4.83

e. Others 208 - -

Table 7 shows that the most preferred roles by college students during the teaching-learning process were as an English speaker at 51.45%, problem-solver at 24%, active-thinker at 19.73%, and English learning resource at 4.83%.

#### 4.2.5. Lecturer's role

The lecturer's role is defined in this study as the students' expectations about the lecturer's manner of teaching. The role of lecturers desired by students in English courses can be presented in Table 8 below.

**Table 8**

Lecturer's role.

Statement	Answer options	N	f	%
15. The lecturer's role that I like is...	a. Facilitator	208	40	19.23
	b. Evaluator	208	32	15.38
	c. Model	208	97	46.64
	d. Motivator	208	39	18.75
	e. Others	208	-	-

Table 8 shows that lecturers favored by students in the teaching-learning process were a model of pronunciation accuracy at 46.64%, facilitator in guiding students at 19.23%, motivator at 18.75% and an evaluator of the college students' communication ability at 15.38%.

The data in Table 1-8 above indicated that the target needs and learning needs are inter-dependence. Target needs include three components: needs, lacks and wants (Hutchinson & Waters, 1987, p.55-58), and learning needs covered five components: input, procedure, setting, learner's role and lecturer's role (Nunan, 2004). The results showed that the college students' target needs and learning needs of English course for the primary education department, Universitas Katolik Indonesia Santu Paulus Ruteng, not only focus on encouraging students to be able to communicate and collaborate but also to be able to think and solve various problems, develop or utilize digital technology, and are capable of working efficiently based on their command of the English language.

The target needs (statements one and six) and learning needs (statements seven, ten, twelve, and fourteen) are stated in accordance with the orientation of twenty-first-century education, which emphasizes knowledge and varied skills as key drivers in solving life's challenges. Indeed, the students are required to have original knowledge and a number of skills as their foundation in meeting the desired demands. Referring to the analysis of a number of questions in the questionnaires revealed that the learning components, such as the content of teaching materials for each language skill, themes and topics in learning activities, methods, media, learner roles, digital media, and the

type of assessment needed by the respondents were in line with the orientation of 21<sup>st</sup>-century education. There are three major skills in the twenty-first-century education (van Laar, van Deursen, van Dijk, & de Haan, 2017; van Laar, van Deursen, van Dijk, & de Haan, 2020; Trilling & Fadel, 2009). The researchers integrate eleven sub-skills from three essential 21st-century education skills which must be integrated into the development of teaching materials, as outlined below.

### *4.3. Learning and innovation skills*

#### *4.3.1. Communication and collaboration skills*

These skills are required in today's work environment. Therefore, instructional materials are designed to persuade and train college students to act responsibly. Each unit or sub-unit of the intended teaching materials provides an exercise space that encourages college students to explore and share their experiences, thoughts, and solutions to issues related to English learning. By providing these spaces in the material designed, the students' communication and critical thinking skills are gradually improved (Aliyu, 2017; Janssen & Wubbels, 2018; Rao, 2019).

#### *4.3.2. Critical thinking and problem solving*

Lecturers, as developers of teaching materials, must provide an exercises space in which college students can acquire these skills. Numerous tasks from each unit or sub-unit of the teaching materials explicitly exemplify these skills, both language skills and language components. For instance, reading comprehension exercises/tasks necessitate students to identify critical discourse spaces within a text. The same strategy can be done for various exercises or assignments on other language skills or language components. The practice space is intended to have a valuable impact in stimulating critical thinking awareness for college students. Excellent critical thinking enables college students to enhance their problem-solving skills in learning English (Gandimathi & Zarei, 2018; Tuzlukova, Al Busaidi, & Burns, 2017; Yamin, Setiawan, Anam, & Kurnia, 2020). Further, these researchers highlight that critical thinking and problem-solving skills are needed by college students today. Therefore, teaching materials as one of the learning components must provide space to achieve the skills needed.

#### *4.3.3. Creativity and innovation*

Creativity is defined as a person's capacity to create something original, distinct, uncommon, and capable of developing creative but logical solutions to a variety of problems encountered (Widyaningrum, Hasanudin, Fitriarningsih, Novianti, Saddhono, & Supratmi, 2020). Numerous exercises and assignments from English teaching materials are designed to allow college students to demonstrate distinctive or original abilities through their performance, both in language skills and language components exercises. Additionally, college students are given the opportunity to criticize and

propose unique but logical alternative solutions to a variety of learning components, such as the content of the teaching materials, the teacher's methods, the relevance of completing the exercises to the theme or topic of learning, media, how to complete assignments or exercises, and the type of assessment. Designing creative English teaching materials means accommodating ways of completing various assignments according to the uniqueness of each college student (Hana & Hacèn, 2017; Pardede, 2020).

#### *4.4. Digital literacy skills*

##### *4.4.1. Information literacy*

This information literacy is defined as the capacity to access and utilize information in daily life (Mulla, 2014). Several assignments in teaching materials are designed to encourage students to access, evaluate and use this information as a reference in completing the assigned tasks (Gu, 2020; Gündüzalp, 2021; Yan-xia, 2017). Information literacy educates college students to act as information reviewers in the appropriate context, avoiding the proliferation of invalid information sources. Strong information literacy skills for college students also serve as a preventative strategy against hoaxes occurrence found in everyday life lately.

##### *4.4.2. Media literacy*

This media literacy is defined as the capacity to discover and utilize electronic or print media in daily life (Menggo, Midun, & Pandor, 2021; Omar, 2018; Suryani, 2016). Media literacy is described in this research as the capacity to comprehend the primary functions of hardware components and software programs, such as the ability to utilize Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, as well as video editing, web design, and anti-virus scanning tools in completing coursework given. Numerous assignments in the English course materials are designed to bolster students' abilities to operate various hardware components and software programs as stated.

##### *4.4.3. ICT literacy*

ICT is defined as the ability to create or use specific applications within studying English. Numerous assignments and exercises in the teaching materials are oriented toward assisting students in utilizing a variety of relevant applications during the learning process, including YouTube, Speech Recognition Software, Corpus Linguistics Software, Moodle, Podcasts, File Sharing Sites, Google Classroom, Google Meet, Edmodo, Webex, Canvas, WhatsApp, Busuu, Zoom and many more (Hamad, 2017; Menggo, Suastra, & Padmadewi, 2019). These applications are incredibly engaging, provide a positive and enjoyable learning atmosphere, improve motivation to learn English, and assist students in developing into autonomous English learners through the use of the applications mentioned (Liu, Wu, Ye, Xu, & Jiao, 2020; Sherine, Seshagiri, & Sastry, 2020; Zhang, 2020).

#### 4.5. *Life and career skills*

##### 4.5.1. *Flexibility and adaptability*

Numerous exercises and assignments in English teaching materials are designed to encourage college students to learn and adapt. For instance, by adapting to various roles in English conversation exercises, adjusting the schedules of fellow group members when completing course assignments, and adapting to various limitations in English knowledge when performing exercises or completing course assignments. In addition, the design of teaching materials also allows students to be flexible towards input and can balance various perspectives in discussing the various assignments given. Flexibility and adaptability are crucial parts of the learning process because they generate college students' adaptive attitudes in the workplace (Al-seghayer, 2017; Bao, 2015; Kivunja, 2015).

##### 4.5.2. *Initiative and self-direction*

Numerous exercises or assignments included within teaching materials are designed to educate college students in demonstrating a strong sense of initiative when completing various tasks or exercises. For example, at the end of each unit or sub-unit in the teaching material, several reflective questions are provided, encouraging the college students to answer them. Commitment and student initiative are needed in determining the time to complete various course assignments or do exercises. Self-regulation skills and an initiative mindset play an important role in enhancing college students' English proficiency (Buitrago, 2017; Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2020; Hawkins, 2018). Initiative and self-direction are motivational tools for college students to discover the best solution to numerous challenges encountered when studying English.

##### 4.5.2. *Social and intercultural interactions*

Numerous exercises and projects in the instructional materials are aimed to assist students in developing their ability to interact effectively with colleagues, including understanding when to listen and talk and being receptive to varied cultural perspectives—numerous English exercises and assignments dealing with intercultural inter-religious issues. For instance, in the context of speaking, the English material designer might provide the topic of marriage in different cultures or religions and religious tolerance. The variety of topics available assists college students in developing awareness for cultural diversity, empathy, cross-cultural collaboration, and cross-cultural communication skills. Through cross-cultural interaction, college students can develop intercultural competencies and understanding. Therefore, cross-cultural comprehension should be taught in classes (Lwanga-Lumu, 2020; Menggo, Ndiung, & Pandor, 2021; Róg, Moros-Palys, Wróbel, & Książek-Róg, 2020).

#### *4.5.3. Productivity and accountability*

Numerous exercises and assignments included in instructional materials are aimed to push college students to complete assigned tasks and present them confidently in front of the class. A number of exercises and assignments are designed to ensure that each college student actively participates and works in a solid team. Personal responsibility and commitment are crucial parts of completing various English assignments successfully (Albino, 2017; Astuti & Lammers, 2017). Additionally, they reveal that when students are regarded to be handling several English assignments, they produce more English and receive intelligible inputs.

#### *4.5.4. Leadership and responsibility*

Throughout the teaching materials, numerous activities and assignments are meant to enable college students to use their interpersonal and problem-solving skills to strengthen, guide, and accept responsibility for others in completing various English tasks. From an early age, college students are taught to be responsible leaders by designing tasks in the teaching materials. This strategy enables college students to receive feedback on problem-solving, teamwork, conflict management, cultural awareness, confidence, integrity, and willingness to work hard both within and outside the classroom to ensure academic achievement and preparing them for future employment (Al-jammal, 2015; Parlar, Türkoğlu, & Cansoy, 2017).

### **5. Conclusion**

Teaching material is an integral part of the learning process. Teachers as designers of teaching materials are expected to recognize students' target needs and learning needs (Hutchinson & Waters, 1987). A needs analysis is required for teachers or teaching materials developers to guarantee that students' needs are fulfilled. By conducting a valid needs analysis, teachers might determine the appropriate target needs and orientation of learning activities that students wanted.

The analysis results of the target needs and learning needs of college students demonstrate that the characteristics of the model of teaching materials for English courses reflect the fulfilment of 21<sup>st</sup>-century educational skills. There are three key skills for the twenty-first-century education: career and life skills, digital literacy, and learning and innovation skills. These three major skills should be further elaborated into the eleven sub-skills necessary for success in twenty-first-century education. All components of instructional materials, including learning outcomes, material content, language functions used, learning media, learning strategies, themes and topics in learning activities, activity procedures, exercises, and assessment systems for English language competence can reflect a real-life literacy for college students, so enabling them to survive and compete in a variety of situations of 21st-century educational demands.

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