BRIDGING TECHNOLOGY AND LANGUAGE LEARNING: ICT LITERACY IN INDONESIAN EFL COURSEBOOKS

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Abstract

Nowadays, the knowledge of ICT becomes necessary for language learning since with it we access a range interactive tools and resources that enrich vocabulary acquisition, grammatical practice or communicative skill. This paper reports on a study that explored ICT literacy incorporated in the latest English Course book published by Indonesian Ministry of Education, Culture, Research and Technology for senior high school students. The texts and images provided in the English coursebook were taken by means of data selection based on reviews. The analysis grouped the ICT literacy representation suggested by Tomlinson (2014), which are hypermedia, multimedia and communication media. Secondly, the study examined the ICT literacy attributes identified by Educational Testing Service (2023), which indicates seven essential proficiencies including defining and accessing information; managing and integrating data for use across contexts; evaluating how this all maps to a goal or context as required in/for understanding before creating appropriate documents toward that aim within any area of interest. Results showed that development of ICT literacy in the coursebook was predominantly made by hypermedia and multimedia as well, normalizing a use in digital tools to identify information needs. The broader application of hypermedia and multimedia elements, combined with an enhanced range of ICT literacy skills could greatly contribute to improve the efficiency in education as well enabling students to attain better proficiency levels when it comes to language acquisition in digital age.

Keywords: EFL coursebooks , ICT literacy, ICT literacy representation, ICT skills

Introduction

Nowadays, with the development of Information Communication Technologies (ICTs), language learning has been facilitated by an array of entertaining and efficacious resources which occasionally surpass traditional teaching methods in learners' motivation to learn new content. Vocabulary learning instruments (MALL) on mobile applications are easy to use and cater for the individual needs of learners (Surani et. 2023;Tahmina et al., 2022). In the case of exercises on the web, this can be done with individual feedback and game elements (Gulozer 2021). In addition to vocabulary and reading ability, CALL (Computer Assisted Language Learning) can also take advantage of corpora as tools that provide learners with examples of genuine language use in order to improve the accuracy. deployed grammar from Miryanti et al, 2024). Secondly, ICT promotes intercultural dialogue via online collaborative platforms where students engage with multiple others (De Hei et al, 2019). Furthermore, it is possible that social media networks may provide a platform for more authentic language and cultural immersion but the issue of privacy still needs to be addressed (Haque 2023). As a means of integrating language and culture, gamification can

motivate learners to engage in vocabulary acquisition as well as listening comprehension which support the communicative approach (Zhang 2023) Blended learning techniques, where online activities are accompanied by classroom instruction offer greater flexibility and enable more personalized learning (Pratiwi, et. al, 2023). Lastly, Podcasts provide extensive listening practice and exposure to authentic language in different contexts (Gonulal, 2020). Another beneficial aspect of ICT would be its ability to integrate and link various factors, facilitating new opportunities for the acquisition of engagement, motivation towards learning languages through authentic language in practice.

The second area that is attracting a lot of attention in relation to the connection between ICT-literacy and language learning. There is some evidence to suggest that using ICT in language learning has much potential. Mobile applications (MALL), for example, can improve both L2 vocabulary learning and students' information retrieval and communication processes through ICT skills training (Lei et al., 2022). Despite this, most English language teaching materials do not focus on the development of ICT literacy (Alrishan, 2022). This underscores the importance of pedagogical methodologies that combine language and ICT literacy skills. Digital Storytelling Projects, according to research in this field can enhance L2 writing skills and at the same also advance ICT literacy developments such as multimedia creation technologies and information evaluation (Perumal et. al, 2022). blending standard schoolroom 'face-to-face' delivery with on-line ICT parts are effective in direction of English proficiency and ability to use ITC among adult learner as well (Pratiwi, et. al, 2023). Moreover, university students who have better ICT literacy will tend to use more efficient self-directed language learning resources strategies (Sharis Al-lazidah et al., 2024). Extending to online collaborative practice within the curriculum offers another potential of language learning journey and communication/collaboration development using cloud-based platforms (Wimpenny & Jones 2020). Tahmina (2022) demonstrated that the integration of ICT literacy skills in CALL activities tailored for young learners can not only affect language learning outcomes positively but also engender responsible use of technology. In the same vein, playing games can elicit better L2 vocabulary learning outcomes and develop ICT skills like problem-solving or critical thinking (Saleh & Althafaqi 2022). Teachers must also be ICT literate. The development of pre-service teachers' ICT literacy skills influence the design and integration process to their language teaching in classroom (Simanjuntak., 2023). The research highlighted that instructional strategies should be differentiated as such, and the efficacy of ICT-based reading comprehension could depend on their own levels of lCT literacy among L2 learners (Simbolon, et. al, 2022). To sum up, indeed ICT literacy can contribute writing (language learning). Incorporating ICT as part of language learning task would play an important role in a more interactive and conducive educational environment for learners with any age, through promoting awareness on ICT literacy competencies.

The importance of ICT literacy at English Language Teaching (ELT) in coursebooks is looked upon with interest. Research in most countries has shown a sober reflection - that few activities are being integrated into teaching and learning processes to support capacity building of key ICT skills (Haerazi, 2024). Studies of ELT coursebooks in China, Malaysia and Saudi Arabia report that there is no coherent strategy for the building of ICT skills (Haerazi, 2024; Ran et al., 2024; Al-alami &

Alhammai, 2024). For example, in Vietnam, despite the utilization level of 24 out of 100 integrated technology components over most conventional barriers (Nguyen et al. Indonesian senior high school textbooks tend to put ICT in basic skills while ignoring the existence of higher-end development opportunities (Rinekso, 2021). Alrishan (2022) stated that "one area in which coursebooks fail is the importance of age-appropriate ICT activities for very young language learners. Simanjuntak (2023) stressed the need for a holistic approach in improving the capacity of teachers to integrate ICT into English language learning and an effective use of technology through curriculum and course books. Notable among these trends is the development of frameworks to evaluate how ICT integration has been done in ELT coursebooks such as task design and learner support (Manzoor & Nawaz, 2024). Other research studies are in progress considering the relation between the coursebook design and ICT literacy development of students (Alrishan, 2022) as well researching into new ideas what can be done with technology to encourage learner engagement and develop their ICT skills for further imformation give Pham a call on 20-45. In sum, although there has been some development in the ELT coursebooks currently available (Young and Ware 2010:49; Leask et al.

Including some of the ICT literacy in ELT coursebooks has a range of advantages for learners. ICT integrated, well-designed coursebooks can play a vital role in engaging learners and motivating them for learning. ICT projects can help to build an active learning environment and a more interactive learning ecosystem (Tahmina, 2022). In addition, using ICT-rich coursebooks can support learner autonomy and allow learners with opportunities for self-directed learning or independent practice (Haerazi 2019). Coursebooks with integrated online activities by means of this new learning and development opportunity through which students can form their intercultural communication skills, develop an understanding of highly diverse viewpoints, crucial for the globalized world that we live in (Wimpenny & Jones 2020). Strategic ICT integration can be leveraged to incorporate not only language skills development but also indispensable digital literacies and competencies for the 21st century learner (Pham, 2022). Blended learning coursebooks with online components provide additional benefits by developing ICT skills and promoting personalised instruction to support diverse learner styles (Stehle & Burton, 2019). The advantages can also expand to a few language related skills. Interactive ICT activities in coursebooks can also provide multimedia resources to enhance EFL learners' reading comprehension, and offer them personalized feedback (Simbolon,. et. al, 2022). Writing tasks that are properly aligned with ICT utilization can be useful for enhancing the L2 writing such as collaboration, and peer review (Manzoor & Nawaz, 2024). ICT activities can also be effective in engaging students as they use their fundamental language abilities and develop creativity, critical thinking, and problem-solving skills (Simanjuntak et al., 2023) within the context of ELT. Furthermore, integration of technology (ICT) can support inclusivity through differential instruction and responsive intervention to diversity learning needs [40]. This can be seen in ICT-based coursebooks that feature learner autonomy activities and enable learners to develop the necessary skills and resources as a lifelong language learning process (Rinekso, 2021). Based on the above reasons, we can see that incorporating ICT literacy into ELT coursebooks is both promising and advantageous allowing for more engaging, learner-centered and future-oriented language learning.

One area that has received increasing research attention is the portrayal of ICT literacy in ELT coursebooks. Current studies are indicating the positive and negative aspects of some frameworks encouraging such skills in coursebooks (Alrishan, 2022). Studies also aim to investigate teachers' perspective towards the contribution of coursebook in assisting ICT integrated, and eventually enhancing literacy in learners with respect to ICT (Saleh & Althafaqi, 2022). The research questions are based on the type of ICT activities that presented in coursebooks and their potential to develop students' ICT-literacy skills (Rinekso, et al) In viewing learner interest as paramount, also models have been developed to measure the extent of student engagement in terms of how long coursebook ICT tasks can hold students' attention (Pham, 2022), including factors such as task design and the level of autonomy that works against a requirement for competency with using ICT. Likewise, the interrelation on coursebook design and how these affect ICT literacy of learners continues to be investigated mostly among secondary school students (Stehle & Burton; 2019). Curricula focus more on literacy and numeracy improvement; Questioning beyond foundational scientific-technological-literature skills would move the locus of conversations to a new terrain as well (Simanjuntak., 2023). In doing so, due stresses of teacher training with coursebook development is correlated aiming to develop Learner autonomy highly based on ICT literacy (Manzoor & Nawaz 2024; p.88). Similarly, in the case of national ICT standards for coursebook activities studies are being carried out to check alignment and proposed improvement of coursebooks are also being researched (Pham, 2022) for their potential in utilizing ICT to bridge the difference between learners who have weak or strong ICT literacy skills and including a widely diverse range of learning styles.

A major need for all countries is to improve ICT literacy, not only among its citizens but also within K-12 education. Understanding this significant shift, the development of ICT skills is paramount to our ability as Indonesians able to partake in a larger job market space and hence contribute better within today's digital ecosystem. ICT literacy not only advantages students in future economic gain, but also leads to necessary 21st-century skills such as critical thinking and information assessment. This evidence, according to Rinekso (2021) and Alrishan (2022), suggested that we should go further than just using computers in language learning because of the potential ICT offers. Wimpenny & Jones (2020) research and Drajati, et al. (2023) promised incorporating ICT for the cultivation of 21st-century competencies intercultural capability via collaborative online events coupled to digital storytelling. Moreover, to capitalize the potential of ICT for Indonesian language learning in practice, as pointed out by Stehle & Burton (2019), we need bridge digital divides that focuses on how traditional teaching is far from what people really needed which would occur system wide across many different dimensions like advanced skill development or teacher training and diversity in terms of choosing appropriate tools matched with inclusivity and real-world application.

To bridge this gap, further studies are needed that analyse recently published ELT coursebooks. Specifically, research should investigate whether these coursebooks effectively present ICT literacy as a crucial 21st century skill (e.g., Pham, 2022). However, simply including ICT activities is not enough. Researchers must also delve into the specific ICT literacy skills targeted by these activities. What are the intended learning outcomes? Are the activities designed to promote basic skills like using online resources, or do they aim for higher-

order skills like critical thinking and information evaluation (Simanjuntak., 2023)? Understanding the intended skills is essential for assessing the effectiveness of ICT integration in ELT textbooks. This knowledge can then be used to inform coursebook selection and development practices, ensuring that students are exposed to rich and diverse ICT literacy. This study explored the depiction of ICT literacy in the latest English Language Teaching (ELT) textbook used by students in Indonesia, published by the Indonesian Ministry of Education, Culture, and Technology. The focus was on both visual representations and textual content related to ICT representation and ICT literacy skills.

Methodology

Therefore, this study aims to investigate how Information and Communication Technologies (ICT) are integrated in an English as a Foreign Language (EFL) textbook published by the Ministry of Education, Culture, and Technology. Qualitative research is an exploratory mode of inquiry that focuses on in-depth knowledge building using unstructured data (Hammersley, 2013). This allows for a fine-tooth comb examination of the textbook and how it represents ICT (Gonzales, as cited in Cohen et al., 2018). Using content analysis as a qualitative research method, the coursebook is examined (Krippendorff 2018), which allows for reviewing written sources such as this specific one in more depth for pattern and theme collection. This makes principal of a new aspect to the content in textbook and representation on ICT (Krippendorff, 2018) The person engaging in the research is both an instrument and analyst for collecting data (Cohen et al, 2018). Additionally, an analysis table is used to organize and categorize the data extracted from the textbook. This data may include words, sentences, paragraphs, or overall structures relevant to the research questions (Mayring, 2014).

Data collection for this study involves document analysis, specifically focusing on the images, passages and instruction activities in the coursebook. The researcher identifies content related to ICT integration based on frameworks from Tomlinson's (2014) theory on Developing Materials for Language Teaching namely hypermedia, multimedia and media of communication. The study also encompassed ICT literacy competencies as outlined by ETS. These competencies include: Defining (Using digital tools to recognize and depict an information requirement), Accessing (Gathering and/or obtaining information in digital settings), Managing (Utilizing digital tools to implement an established organizational or classification system for information), Integrating (Analysing and portraying information, for instance by utilizing digital tools to integrate, condense, compare, and contrast information from various sources), Evaluating (Assessing the extent to which digital information addresses the requirements of an information issue, which includes ascertaining authority, bias, and currency of materials), Creating (Modifying, utilizing, designing, or forming information in digital contexts), and Communicating (Disseminating information pertinent to a specific audience in an effective digital manner). This analysis was conducted to identify the representation types and component skills of ICT literacy portrayed in the coursebook. The findings will be presented in tables categorized by the relevant research questions.

Finding and Discussion

The analysis of cultural content in the English coursebook is condensed into two main areas: firstly, identifying type of ICT literacy representation which Tomlinson's (2014) proposed namely hypermedia, multimedia

and media of communication, second, The examination also encompassed seven ICT literacy competencies suggested by ETS, including Defining, Accessing, Managing, Integrating, Evaluating, Creating, and Communicating.

Types of ICT literacy Representation

Table 1
The Frequency of Occurrences of ICT Literacy in the Coursebook

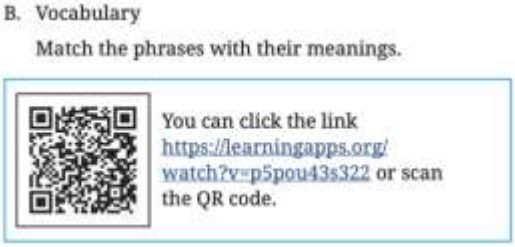
Category	Frequency
Hypermedia	12 (48%)
Media of Communication	1 (4%)
Multimedia	12 (48%)
Total	25

Referring to Table 1, it is evident that hypermedia and multimedia predominantly feature in the coursebook, comprising 52% and 44% of the content respectively. The hypermedia is represented in 12 items from the 23 total numbers of ICT representation in activities.

From the table above, it can be seen that the kinds of ICT integrated in the textbook, all three electronic materials are represented. Hypermedia appears to be the most used technology in the coursebook and the least is communication media of communication. Hypermedia appears mostly in the form of hyperlink or QR code and mostly for the video learning materials and quiz.

Figure 1
Video Link

Figure 2
Application Link



Multimedia is represented in the form of document tools like google docs, presentation maker, drawing application, podcast and audio. According to the analysis table, multimedia is the second kind of ICT that is represented 12 (twelve) times in the coursebook.

Figure 3
Multimedia use

Communication media is represented in the form of making a post on social media.

According to the analysis table, communication media is the least ICT form that is represented 1 (one) times in the coursebook. Activity that represent communication media in this coursebook use social media to share about the information and engage with the followers.

Figure 4
Communication Media use

What ICT Skills are Represented in the Coursebook

The measurement of ICT literacy is the ability of accessing, managing, understanding, integrating, communicating, evaluating and creating information).

Table 2
Frequency of ICT skills

Category	Frequency
Accessing	11
Managing	-
Understanding	2
Communicating	3
Evaluating	4
Integrating	1
Creating	4
Total	25

From the table 2 it can be seen that the coursebook does not cover all indicators of ICT literacy. Based on the data collected and data analysis process, there are 25 student activities that integrate ICT in five chapters of the textbook. The analysis showed that the dominant representations are Accessing. According to the table, it can also be seen that Managing, understanding, and integrating are the least represented indicators in the textbook.

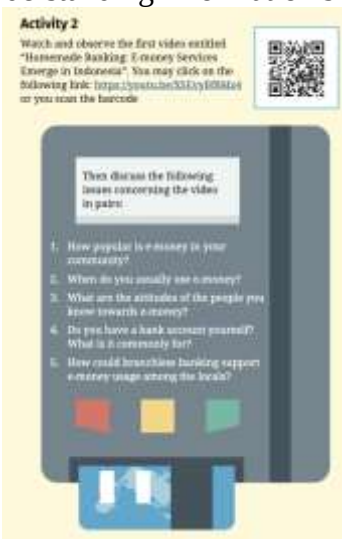
Accessing information appears to be the most represented indicator in the textbook. Accessing appears 11 (eleven) times. In this kind of activity, students are required to access certain link or scanning the QR code. This activity supports familiarity of ICT usage and gaining basic technology knowledge by only visiting the video link, watch it, and filling the table or matching pictures for the exercise

Figure 5
Accessing information Skill

Managing information do not appear in this coursebook. This activity requires students to manage the information they get from the internet, to support familiarity of ICT usage and competency to find, select and sort information.

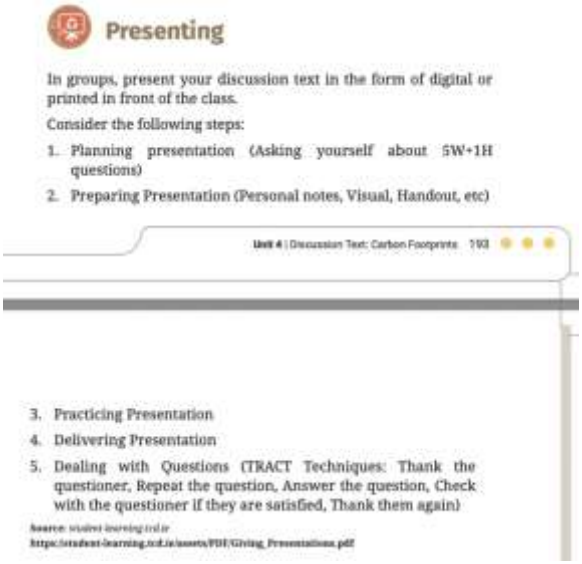
Understanding information appear 2 (two) times in the coursebook. This activity supports familiarity of ICT usage and understanding information in which students need to figure out the information given in the video and the thing students will do if they were in similar situation.

Figure 6
Understanding Information skill



Communicating activities are represented 3 (three) times. In terms of communicating, students are required to use their social media and engage with the followers through the post they make. In another activity students are asked to present their group results of discussion and present it using digital presentation. These kind of activity represents real-world situation.

Figure 7
Communicating information skill



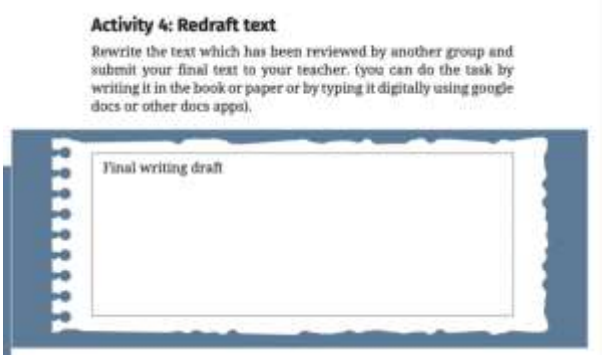
Evaluating information is represented 4 (four) times. Evaluating required to evaluate their own or other students work through digital tools. The evaluation can be done through the content analysis or the technology use in the presentation, like choice of template, audio, chart, etc.

Figure 8
Evaluating information Skill

Integrating activity appear 1 time only and represents integrating information they get from previous activity and gaining basic technology knowledge by finding information. This activity required students to integrate their writing and access the

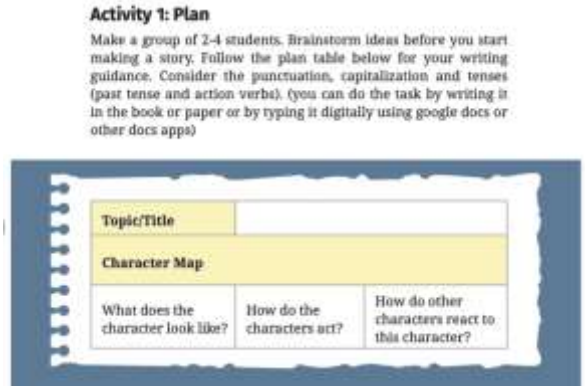
evaluation given by another group and integrate both of them into a new writing.

Figure 9
Integrating information skill



Creating information skill appear 4 (four) times. In this activity, students are required to create digital (or non-digital if not possible) certain topic. It can be seen on the picture that students are required to create future actions for a better environment.

Figure 10
Creating information skill



The rapid changes nowadays make technology becoming the inseparable part of every aspect of life, including in the educational field. The development of technology brings information and communication technology (ICT) as an essential tool to facilitate various activities, including learning activities. In meeting the needs of the era that is rapidly increasing, the adjustment of teaching and learning activities and tools is required to be conducted. The adjustment of learning material is also required to meet the compatibility with the learning outcomes targeted to be achieved. Analysing and evaluating learning material is important to be conducted to find out whether the material meets the needs of the learning activity outcomes. One of the outcomes that the Ministry of Education and Culture intended to achieve is teachers and students are adept in using technology. Therefore, the discussion below will discuss how textbook as the primary learning material in the classroom is integrated with ICT.

Based on the description of the findings provided earlier, there are several key points to highlight. The assessment of the Indonesian EFL coursebook released by the Ministry of Education, Culture, and Technology in 2023 indicates that ICT competencies are incorporated into the modules through Hypermedia, Multimedia, and Communication Media. This analysis underscores the importance of language learning materials that emphasize the ICT skills necessary for students. Specifically, the examination shows that Hypermedia plays the most significant role in promoting ICT competencies compared to other forms. Given that hypermedia establishes connections between discrete pieces of information (Tomlinson, B., 2014), it is logical that hypermedia is predominantly utilized in electronic resources. It is found that the link is embedded in two forms, link and barcode, so that by clicking on the link, it will take the reader to the video or quiz application related to the material. In accessing other sources from hyperlink and hypermedia, students are implementing the ICT competencies to enrich their knowledge. A Sukmawati and Majiri (2022) highlight the importance of information and communication technology (ICT) skills for students in the 21st century, stressing the necessity for them to be exposed to a wide

range of information and sources By having this competency, students will get equal chances and channel to unlimited information and knowledge out there. In accordance with UNESCO (2018), ICT competencies are defined as "a set of knowledge and skills that enable individuals to effectively utilize ICT to acquire, process, and present information to support activities among diverse groups for collaboration." Multimedia, the second form of ICT competencies, is only referenced twelve times. In this module, students are expected to demonstrate proficiency in listening to audio recordings and podcasts. Their ICT competencies are implicitly enhanced through exposure to digital information presentation examples and engagement with document applications and presentations. The UNESCO (2018) highlights the importance of identifying and describing the functions and purposes of audio as part of ICT competencies. Lastly, media communication is exemplified through the use of social media platforms. Students are tasked with sharing content on their social media accounts, with both teachers and peers providing feedback. This representation in line with Hu and Yu (2021) which stated that smartphone and social media used can give positive impact in improving students reading and critical thinking. By integrating the use of media of communication, can enhance students ICT literacy in critically analyze, share and discuss information (Abbas, 2024).

Related to ICT literacy skills presented in the coursebook, the most frequent to be appeared is accessing information. In the coursebook, students are asked to access link for watching video to get clearer illustration about the material or to answer certain assessment activities such as matching pictures or fill in the gap. Accessing skills are crucial in ICT literacy for students to effectively utilize them in resolving technological challenges in their learning tasks and are often linked to higher academic performance (Handayani et al., 2022). The ability of using the tool to access information and complete assessments such as links to videos and activities, could embrace students willingness to learn.

The next most frequent skill represented in the textbook is evaluating skill. This skill require students to evaluate their own work or other students work through digital document application. The competency of evaluating information is important for students as stated by Abbas (2024) which highlight the critical thinking skill will be much improved when students' get used to access information from digital sources. They will sort, select, analyse and do a cross checking information. For creating skills, students are asked to write texts in digital document application and to record podcast. This skills which emphasise of students competency to develop their own digital product is beneficial to support their productivity. Kholis & Azmi (2023) directly addresses the need for interactive books to boost students creativity. Coursebook should expose student to various types of digital tools to improve students ICT literacy, and promote students not only access it, but also create something with it. Communicating information skill appear 3 times in the coursebook which emphasize the students competency of sharing their work to others in form of presentation or social media post. Those activities could boost students competency in having real world communication by engaging with audiences and followers. Getting comment and feedback are the key components of communicating information skill. This is align with Rinekso (2021) which directly addresses the importance of communication skills in a 21st-century context. Today's coursebook should emphasizes communication and collaboration skills, which can be represented through

sharing work through presentations and social media. Social media and presentations inherently involve audience engagement through comments, feedback, and interaction.

The next skill is understanding information competency which emphasize on how students able to access certain information and understand the content which then will be applied in other context. This skill is very important in ICT use to make students aware of certain information given and how to relate it to their life. As Aboderin (2019) stated in his research that education which promote digital literacy can helps students to achieve independent learning. ICT literacy could make students not only access and understand information but also apply it in new situations related to their own situation. Managing skill is not represented in the textbook since this is a skill which emphasize on how students find information using digital tools, select and sort the information by themselves. Students require this skill as highlighted by Hu and Yu (2021) who suggested that enhancing students' capacity to retrieve and organize vast amounts of information contributes to improved digital literacy. This process raises students' recognition of the value of information and communication technology (ICT) resources in facilitating their navigation of complex information and filtering out relevant content.

Conclusion

The research was conducted to find out ICT integration in Indonesian EFL coursebook grade 12th. The English textbook contains 25 ICT integration were found. In answering the first research question about levels of ICT integrated in the textbook, theory and framework from Tomlinson (2014) and ETS (2003) were used. In answering the first research question about kinds of ICT integrated in the textbook, theory from Tomlinson was used. Based on the findings, the writer would like to conclude kinds and skills of ICT integrated that had been found after the analysis. The analysis of the coursebook revealed some points. First, in terms of kinds of ICT integrated, there are three forms were found such as Hypermedia, Multimedia, and Communication Media. ICT in the coursebook were dominantly represented in the form of Hypermedia. From the aforementioned results, the English textbook for twelfth-grade senior high school effectively integrates ICT. This provides students to compete in 21st century era that prioritizes the use ICT tools for learning and in general life. Second, the findings showed that not all indicators of ICT Literacy skills are represented. Accessing Information become the most dominant ICT levels found in the English textbook and managing information is not integrated. Several suggestions proposed to the teachers and publishers. Both coursebook publisher and educator should consider that integrating ICT literacy is undeniable. Coursebook development and selection should take into account the inclusion of ICT literacy as a crucial 21st century skill that students need to acquire in order to effectively compete in a global environment. The coursebook development should consider all types and skills of ICT literacy and presented it in proportional way. Providing too dominant of certain types and skill while neglecting other must be avoided to. Further research might explore teacher and students perceptions with the coursebook implementation.

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