

CHAPTER II

LITERATURE REVIEW

This chapter is divided into two major parts that presents a discussion about theoretical framework and previous study. Theoretical framework comprise related the theorist in this study, while previous studies discuss the implementation of that related theorist in prior studies.

2.1 Theoretical Framework

This section discusses a lot of literature reviews on digital comics such as the use of technology in the EFL context, technological pedagogical content knowledge (TPACK) framework in learning, interactive online learning, the use of audio-visual in the EFL context, and digital comics as teaching platforms.

2.1.1 The use of Technology in EFL Context

The use of technology in the learning process to help teachers convey learning material to students is good and useful for students, this is in line with Oxford (1993) contends technology will be beneficial under certain circumstances, such as (a) if it takes into consideration students' needs and interests and tries to promote motivation (b) if the most suitable technology is used for each part of language learning and acquisition taking into account the goals and the type of learners, (c) if it can face the difficulties that learners may encounter.

The use of technology can be combined with various things to help students understand learning material, such as making learning media familiar to students so that they are interested in learning. In this case, Miyazoe and

Anderson (2010) used three online writing activities courses: forums, blogs, and wikis to help assess students' understanding of writing. Aufi and Crystal (2015) use social media as a learning medium to help students learn informal communication. Bledsoe (2013) uses multimedia tools (videos and audio clips), the use of multimedia tools to promote student learning and engagement in online settings. Wang et. al (2020) demonstrated instructor-present video to attract students' attention in online classes so that the class atmosphere becomes more active and students are more focused in the online class learning process. In this case, the use of technology in the classroom depends on the creativity of the teacher and what students need to study effectively. Furthermore, concerning the activities that the educator will use or design through the use of technology, Sadik (2008, p.488) argues that “the key in using educational technology is to utilize meaningful activities that may engage students to construct their knowledge in different ways, not available before the technology was introduced.”

There have been various advantages of using technology in the foreign language classroom. Warschauer & Healey (1998) support that the use of technology has benefits like: multimodal practice with feedback, individualization in a large class, pair and small group work on projects, either collaboratively or competitively, the fun factor, variety in the resources available and learning styles used, exploratory learning with large amounts of language data, real-life skill-building in computer use.

The use of digital technology by teachers from early years in primary education makes learning a more familiar experience for students today (Spiteri & Chang Rundgren, 2020). Using digital technology is also seen as the application

of information and communication technology (ICT) by researchers and teachers in the field of education, where ICT is defined as “forms of technology that are used to transmit, process, store, create, display, share or exchange information by electronic means” (UNESCO 2007, p.1). Information and Communication Technologies (ICTs) are very important in the field of education because they can change the environment of the classroom and allow the subject matter to become more accessible to the learner (Mishra & Koehler, 2006). Teachers’ use of digital technology is also recognized as important for children’s future employment and participation in society (Leu et al, 2004; UNESCO, 2011).

However, although we are living in a technology-dominated society, the school might be the only place for some children to use digital technology since they have different family backgrounds and cultures (Fedro, 2010). Still, such technology-savvy students must be appreciated and this requires new attitudes from the teachers such as learning with and from the students, and further, knowing how to facilitate learning with technology (UNESCO, 2011; Wake and Whittingham, 2013). The development of new technologies has extended many opportunities in assisting language learning at all levels of education (Pelet, 2014). In fact, technology is widely used nowadays in order to improve the education system at all levels, which means that its effective use, combined with professional learning, can promote and enhance collaboration in foreign language teaching (Solano et. al 2017).

Through a variety of communicative and interactive activities, effective use of technology can help foreign language learners strengthen their linguistic skills and learning attitude, as well as build their self-instruction strategies and

self-confidence (Lai and Kritsonis, 2006). Dudeney and Hockly (2008) mention that technology is significant in the EFL classroom because it provides new ways of practicing language and endorses students' performance. In addition, Barani et. al (2010) also explains that through the use of media, teachers have the chance to expose students to multiple input sources and can enrich their language learning experience instead of becoming dependent on their teacher's dialect or idiolect.

In this study, the use of technology is to assist EFL learners in preparing and designing digital learning media, in this case, digital comics. Where the use of technology in preparing digital comics will be very useful because every tool in digital comics is technology such as instructions, videos, and assessments. Wherefore knowledge of EFL learners in using technology is a challenge because everything in preparing digital comics uses technology and this research also measures the ability of EFL learners in using technology.

2.1.2 Technological Pedagogical Content Knowledge (TPACK) Framework in Learning

For quite a while, pedagogical content knowledge (PCK) has been acknowledged as a key element of effective teaching (Shulman, 1986). In 1986, Shulman opined that the usual idea of knowledge in teaching which is that teachers have a set of content knowledge specific knowledge about the subject they are teaching and a set of pedagogical knowledge, knowledge about how to teach including specific teaching methods. Santos & Castro (2021) contends technology in the 21st century plays a major role as a tool in helping the teachers in the delivery of lesson and students in learning which completes the model of

PCK and this is Technology Pedagogy Content Knowledge (TPACK). Context is also an important aspect of educational research and the technology pedagogical content knowledge framework (TPACK) (Rosenberg & Koehler, 2015). Teachers seem to appreciate that technology is available to students as a means to enhance education and make it more authentic for students (Ruggiero & Mong, 2015).

In an era where students are exposed to technological advances, they find it is not only a tool for teaching but helps them to learn. Pedagogy refers to the interaction between teachers, students, and the learning environment and learning tasks. Learning depends on the pedagogical approach that the teacher uses in the classroom (UNESCO, 2018). Effective pedagogy relies on teacher strategies for lesson development and effective pedagogy creates authentic activities that will bring out the best in each learner and help them enhance their learning experience (Santos and Castro, 2021). Content Knowledge refers to the body of knowledge and information taught by teachers and that students are expected to learn in a particular subject area or content (The Glossary of Education Reform, 2016).

Technology Pedagogical Content Knowledge (TPACK) is a theory developed to explain the set of knowledge that teachers need to teach their students, teach effectively, and use technology (McGraw-Hill, 2019). It attempts to identify the nature of knowledge required by teachers for the integration of technology in their teaching while addressing the complex, diverse, and situated nature of teacher knowledge (Santos and Castro, 2021). The TPACK framework extends the primary content knowledge (PCK) focus by also incorporating technology as a knowledge field (Mishra & Koehler, 2006).

Koehler and Mishra (2006) summarize the TPACK framework built on the seven elements and describe the seven areas of teacher knowledge that serve as the core of good teaching. First, pedagogic knowledge (PK) refers to teaching methods and processes and includes knowledge in classroom management, assessment, lesson plan development, and student learning. Second, technological knowledge (TK) refers to knowledge of various technologies, from simple technologies such as pencil and paper to digital technologies such as desktop computers, internet connections, laptops, monitors for projection/television, printers, projectors, scanners, speakers, tablets, etc. Third, content knowledge (CK) is "knowledge about the actual subject matter to be learned or taught". Teachers must know about the content they are going to teach and how the nature of knowledge differs for different content areas.

Fourth, pedagogical content knowledge (PCK) refers to content knowledge related to the teaching process. Pedagogical content knowledge differs for different content areas, as it blends content and pedagogy intending to develop better teaching practices in content areas. Fifth, technological pedagogic knowledge (TPK) refers to knowledge of how various technologies can be used in teaching, and to understanding that the use of technology can change the way teachers teach. Sixth, Technology content knowledge (TCK) refers to knowledge of how technology can create new representations for certain content. This suggests that teachers understand that, using certain technologies, they can change the way students practice and understand concepts in certain content areas. Seventh, Technology Pedagogical Content Knowledge (TPACK): Technology pedagogical content knowledge refers to the knowledge needed by teachers to

integrate technology into their teaching in any content area. Teachers have an intuitive understanding of the complex interactions between the three basic components of knowledge (CK, PK, TK) by teaching content using appropriate pedagogical methods and technologies.

In this case, TPACK is the foundation of EFL learners in preparing digital learning media because digital comics must have pedagogic knowledge, technological knowledge, content knowledge, pedagogical content knowledge, technological pedagogic knowledge, technological content knowledge, and technological pedagogical content knowledge. As a result this research has a relationship with TPACK, because digital comics are digital learning media that represent TPACK itself, in this case applying the TPACK method to digital comics is a challenge for EFL learners and is the reason for researchers to conduct this research.

2.1.3 Interactive Online Learning

Online learning and classes are increasingly becoming part of the education system worldwide, online channel has made education convenient and easily accessible by one and all (Nambiar, 2020). Interaction and engagement are closely related and even used interchangeably, student engagement is developed through interaction (Anderson, 2003), and fostering interaction is important in online learning (Martin and Bolliger, 2018).

Martin and Bolliger (2018) explains three things that happen in online learning engagements, namely learner-to-learner engagement, learner-to-instructor engagement, and learner-to-content engagement. First, learner-to-learner

interaction is extremely valuable for online learning and leads to student engagement. To prevent online students from experiencing potential boredom and isolation in the learning environment, it is essential to build activities that enhance engagement. These activities assist students in feeling connected and can create a dynamic sense of community. Second, Learner-to-instructor interaction leads to higher student engagement in online courses (Dixson, 2010; Gayton & McEwen, 2007). The use of multiple student-instructor communication channels may be highly related to student engagement. It is recommended that online instructors pay special attention to student-instructor interactions because they may affect learning outcomes (Dixson, 2010; Gayton & McEwen, 2007).

Martin and Bolliger (2018) contend rapport and collaboration between students and instructors in an interactive and cohesive environment, including group work and instructive feedback, are important for student engagement resulting in learning success. Students often contact instructors about assignments and course materials; but to be more effective, online instruction should include opportunities for students to interact with one another and instructors pertaining to what makes their learning meaningful (2018). Dixson (2010) and King (2014) also agree that there must be cooperation and collaboration between students and instructors in online courses in order to increase online student engagement.

Third, learner-to-content engagement is the process of intellectually interacting with the content, which can change a learner's understanding and perspectives (Moore, 1993). Abrami et al, (2011) contends student-to-content interaction can occur while watching instructional videos, interacting with multimedia, and searching for information. Both synchronous and asynchronous

delivery is seen as effective options that help online students in accessing content for critical interactions (Banna et al, 2015).

Online instructors are advised to invest sufficient time searching for scholarly reading and interactive instructional materials and designing well-thought-out assessments to encourage student-to-content engagement (Abrami et al, 2011; Banna et al, 2015). Online instructors should be critical in choosing material and content when they wish to engage students more in their courses. Online students should not merely be given a list of resources, but instead instructors should design authentic activities that provide opportunities to examine the tasks from different perspectives and that encourage students to wisely use relevant information in the process (Martin & Bolliger, 2018). Dixon (2010) reports that students found a variety of activities made them feel engaged, including course management system features, effective communication, and course facilitation strategies.

Digital comic learning media is made based on technological development in the current era, selecting comics as digital learning media to make students interested in learning effectively. Making digital learning media interactive is a challenge for teachers or prospective teachers so this research exists to explain the challenges that occur in preparing digital learning media.

2.1.4 The Use of Audio-Visual in EFL Context

Learning and teaching are the concern of the trained teacher. But learning is a complex process. Learning can occur as a result of newly acquired skills, knowledge, perception, facts, principles, new information at hand, etc (Rezaie &

Barani, 2011). In this case, incorporating technology into the learning process can be useful and help the learning process, this is appropriate with Ranasinghe and Leisher (2009) contend integrating technology into the classroom begins when a teacher prepares lessons that use technology in meaningful and relevant ways. Technological aids should support the curriculum rather than dominate it. Ranasinghe and Leisher say that technology should assist the teacher in creating a collaborative learning environment (2009). In addition, Koç (2005) says that the integration of technology into the curriculum means using it as a tool.

In the application of technology to assist the learning process for students, it can be started by using digital learning media, in this case, audio-visual can be useful to assist the learning process. As assumed Rezaie and Barani (2011), stated that audio-visual education emerged as a discipline in the 1920s, when film technology was developing rapidly. A visual instruction movement arose, which encouraged the use of visual materials to make abstract ideas more concrete to students. As sound technology improved, the movement became known as audio-visual instruction. The following audio-visual devices are all commonly used to enhance presentations: Handouts, flipcharts, whiteboards, slide shows, overhead projectors, illustrations, computer graphics, audio tapes, videos, multimedia, physical objects, 3 D models (2011).

Audio-visual aids have varying degrees of complexity and more than one type can be combined to create a sophisticated presentation (Rezaie and Barani, 2011). However, this may create a distance between the presenter and audience-who may be left with an overriding impression of a very fancy show but who may have missed your message (Hollinger, 2007). Developments in technology gave

scope for innovative practices in the classroom. Technical advances in the production of audio-visual aids for classroom use have been remarkable (Mathew & Alidmat, 2013). In the technological world, Audio-visual materials are an important aspect of teaching and learning in all stages of education (Kwegyiriba et al, 2022). They are considered as essential means of increasing effectiveness in teaching and learning, they make learning more interesting thereby contributing to the depth and way of learning (Mcnaught, 2007).

Therefore, audio-visual materials are teaching aids using both sight and sound which could be informed of models or video (Kwegyiriba et al, 2022). They exist to support the goals of teaching and learning in our schools, thereby making teaching and learning to be more effective (Johnson et al, 2016). Kwegyiriba et al (2022) also stated that audio-visual materials are those devices that are used in the classroom to encourage the teaching-learning process and makes it easier and interesting. They are techniques that involve the sense of vision as well a sense of hearing in classroom experiences (Rasul et al, 2011).

The concept of audio-visual material has been defined by various researchers. For Instance, Dike (1993) viewed audio-visual materials as those materials which do not depend solely upon reading to convey messages; they present information through the sense of hearing as audio materials or through the sight as visualized materials or it could be through the combination of both senses. Kwegyiriba et al. (2022) stated that the purpose of audio-visual materials in teaching and learning includes, best motivation, clear image, save energy and time, an antidote of the disease of verbal instructions, capture attention, reinforcement to learner, positive transfer of learning, gain and hold student

interest, increase understanding and retention, stimulate the development of understanding and attitudes. In another development, Shabiralyani et al. (2015) define audio-visual materials as any instructional materials such as maps, charts, models, projector, television, and so on used in the classroom to aid learning and thereby making it easier and interesting to students to understand.

The following statements by Celce-Murcia (2002) summarize the rationale for using media in the classrooms. First, given the role media play in the world outside the classroom, students expect to find media inside the classroom as well. This fills in students interested in participating in the learning process in class because there is something they recognize outside of the classroom that becomes a model of learning in class. Second, Audio-visual materials provide students with content, meaning, and guidance. This build students' knowledge about the learning material. Thirdly, media materials can lend authenticity to the classroom situation. Fourth, since the learning styles of students differ, media provide us with a way of addressing the needs of both visual and auditory learners. Fifth, the role that input plays in learning is virtually uncontested. By bringing media into the classroom, teachers can expose their students to multiple input sources. Finally, research suggests that media provide teachers with a means of presenting material in a timeefficient and compact manner, and of stimulating students' senses, theory helping them to process information more readily.

Visualization is part of digital comics because visuals help digital comics to look attractive, due to this determining the right concept to make digital comics look attractive is a challenge for EFL learners in preparing digital comics. Meanwhile, audio is useful in giving instructions in digital comics so that the

learning process in digital comics is directed correctly, in this case adjusting the tone of voice and text to be good instructions is a challenge that needs to be considered.

2.1.5 Digital Comics as Teaching Platform

Learning media is a tool provided by the teacher in a planned manner to explain, present, and convey messages or learning materials to students so that they are stimulated to learn (Muhsetyo, 2009, p. 23). Digital learning media can be formulated as a large collection of computers in networks that are tied together so that many users can share their vast resources (Williams, 1999). Understanding digital learning includes aspects of hardware (infrastructure) in the form of a set of computers that are interconnected with each other and have the ability to transmit data, either in the form of text, messages, graphics, video or audio (Munir, 2017).

There are three functions of digital learning, namely: additional functions (supplements), there is freedom in choosing, not being required to use electronics, even though using electronics can increase knowledge. Complementary function (complement), supporting to complete the material that is lacking. Substitution function, various alternative learning models are available such as face-to-face or through digital (Munir, 2017, p. 10).

Digital learning media contains various forms that are useful to assist the learning process and can help students understand the learning process. In digital learning media, there is a learning media, namely digital comics, which teachers often use to help the learning process. Learning media in the form of digital comics can be used during the thematic learning process (Sari, Arofatinajah &

Fajarianto, 2022). Comics are considered to be children's favorite reading material. The combination of pictures with words is the key characteristic of that type of texts (Georgaka & Pouroutidi, 2016).

Yunus et. al (2011, p. 53) defined the comic as “a sequence of discrete, juxtaposed pictures that comprise a narrative, either in their own right or when combined with text.” The benefits of using comics and digital comics in the classroom are numerous (Georgaka & Pouroutidi, 2016). Drolet (2010, p. 124) argues that “one of the strongest benefits of using comics to teach is the ability to motivate students”. Creating comics digitally is a way that will enable students to use text and images in combination (Georgaka & Pouroutidi, 2016). It is important that language as well as arts teachers become aware that children are both visual and verbal learners and research supports the fact that visuals enhance learning (Bruning et al, 1999).

Rodolphe Töpffer, known as the father of comic books, defined the comic book as “a sequential communication art tool on a paper with text and picture, one being non-functional without the other” (Yağlı, 2017). Mccloud (2019) stated that digital comic is points out that there are sequential visual or different images in the adjacent order. The use of comics as an educational material has been increasing in recent years. Some of the studies on the subject of comics in education are as follows; Brown, (1997); İlhan, (2016); Topkaya, (2014). The study results of İlhan (2016), Şentürk, Ö. Ç. (2020) and Şentürk, M. (2020), Topkaya and Şimşek (2015), Ünal (2018) show that comics books increase academic success in education.

Educational comics are one of the materials designed in a digital environment and suitable for use in the learning environment (Ilhan et al, 2021). Educational comic materials have educational competencies as follows; it increases the permanence of learning, enables learning with fun, increases academic success, appeals to more than one sense organ due to its being given with the harmony of visual and text (Topkaya, 2014; İlhan, 2016; Mutlu, 2019; Kurt, 2019; Şentürk, Ö. Ç., 2020; Şentürk, M., 2020).

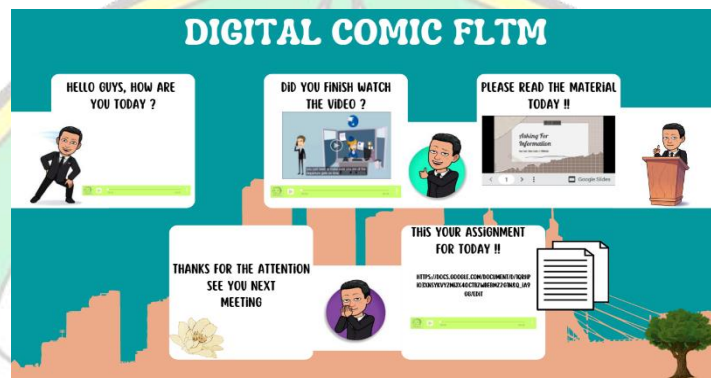


Figure 2.1 The example of Digital Comic

2.1.5.1 Steps in Making Digital Comic

In making a digital comic in the foreign language teaching media class, five steps are given which must be done one by one and this cannot be done simultaneously because each step has its own task. The steps are modeling the digital comic, instructing to make teaching scenarios, making storyboards, considering and providing learning sources, moreover, designing templates, and the digital comic platform. The learning content considered in making teaching scenario and learning source, includes of aims, topic, students level, brainstorming, material, assessment and reflection.

The theoretical analysis used in this research, including those of Akcanca (2021), Dewi and Harini (2021), and Wright and Sherman (1999), is included into each stage of the creation of digital comics. In the theoretical analysis, three references are employed.



Figure 2.2 The first step in preparing digital comic, example of modelling digital comic using Google Slide

The first is modeling the digital comic, at this stage students are directed to choose what digital comic concept they want because several templates have also been distributed directly from the lecturer via group chats on telegram, but students are also given the freedom to create their own concepts. At the digital comic modeling stage, the students have started to have an idea of what kind of concept they will use in their digital comic or what can be called a scripting story and design process. According to Wright & Sherman (1999), the first step in the process of developing a comic strip is the scripting of the story. The digital comic they want doesn't need to be based on the template distributed by the lecturer. At this stage students have done it design process, the stage where the creation of digital learning media is made from determining the theme, concept and character in a digital comic (Akcanca, 2021). In the first step also have to determine where their digital comic will be displayed, whether to use Google Slides or Canva.

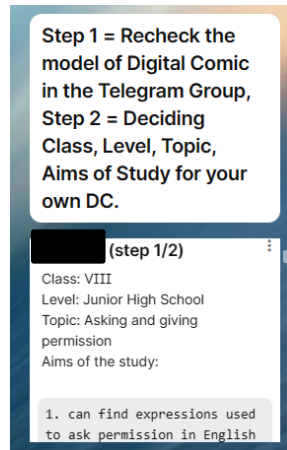


Figure 2.3 The second step in preparing digital comic, Uploading lesson scenario

After finishing determining the digital comic model that students want, they will proceed to the second step, namely teaching scenarios. In teaching scenarios, students must determine the topic, level, aims of study and allotted time to make the learning process using the platform run well. At Akcanca (2021) research called subject-acquisition, when students determine appropriate learning topics and can be loaded into digital comics. Teaching scenarios contain teaching material which is an important matter and must be worked on seriously, so that the content in digital comics can be useful for learning. Teaching materials are one of the frequently used resources for the effectiveness of education. When properly designed and used, it brings advantages such as increasing the effectiveness of teaching, providing retention in learning, and making the learning process fun (Ilhan et al, 2021).

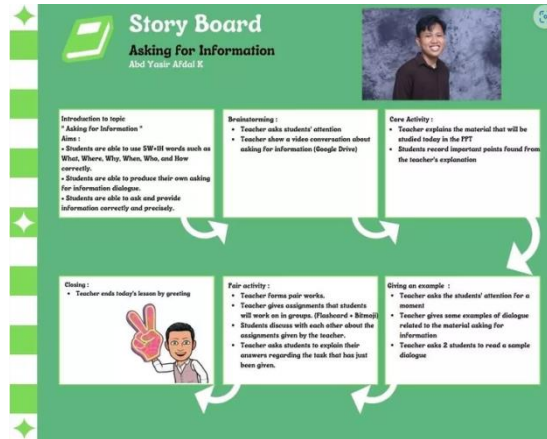


Figure 2.4 The third step in preparing digital comic, Making Storyboard

In the third step, students attempted to make storyboards. Basically storyboards are also useful as lesson plans, because a storyboard already contains all the activities that will be included in a digital comic such as pre-activities, core activities and past activities. The digital comic set by engagements from teacher-student, student-material, or student-student. The storyboard that is made must look attractive because it is based on the creativity of each student and at this stage students have also started learning to design according to what they want because they are given freedom from the lecturer.

Activity	Link/Application/Source
Greeting	Picture: By Bitmoji
Brainstorming	Pictures: From a book with the title "When English Rings a Bell" Voice Instruction: https://drive.google.com/file/d/1-26Ozc7b5D2mzjk_3_d9K7Dnmo0K_J/view?usp=driveedit Submit the answers at Kwiksurveys: https://kwiksurveys.com/s/MAIA4Kva
Reading the Material	Google Slide: https://docs.google.com/presentation/d/10eW37sfuilkwvw3PmNhrct42HXvPLVh/edit?usp=sharing&ouid=101804246716947507820&rtreef=trux&ed=trux
Making a dialogue	Submit at Google Classroom: https://classroom.google.com/c/NDU2NDgwMTQ2MzEva/NDU2NDgwMTQ2MzEva/details
Practicing a dialogue	Submit at Google Classroom: https://classroom.google.com/c/NDU2NDgwMTQ2MzEva/NDU2NDgwMTQ2MzEva/details
Answering Multiple Choice Questions	Submit at Google Classroom: https://classroom.google.com/c/NDU2NDgwMTQ2MzEva/NDU2NDgwMTQ2MzEva/details
Reflection	Answer it at Kwiksurveys: https://kwiksurveys.com/s/XQTCcks2
Closing	Picture: By Bitmoji

Figure 2.5 The fourth step in preparing digital comic, making learning sources

The next step is making learning sources. Learning sources are very useful for helping students in designing a digital comic because the learning source

contains links about material that will be taught in digital comics, videos that will be displayed, and assessment materials that are interesting and have a time limit. Material can be made in PPT to make it easier for students to learn, and videos must also be made sure that they are in accordance with the material being taught. In the last digital comic slide, the lecturer directs that each digital comic must have assessment material or worksheets and must be as creative as possible to determine the theme of the assessment, whether using a quiz theme, multiple choice, or essay.



Figure 2.6 The example of designing digital comic

After step four has been fulfilled, students can start designing the digital comic they want, whether it is according to the template that was distributed or their own template. Of the existing steps, designing a digital comic is the most difficult thing to do because students have to combine the four steps into one place, namely in a digital comic. In Akeanca's study conducted in 2021, it was identified that students encountered challenges during the process of designing digital comics. These challenges encompassed issues related to technology-oriented difficulties, digital-program oriented difficulties, and the creation of visual content.

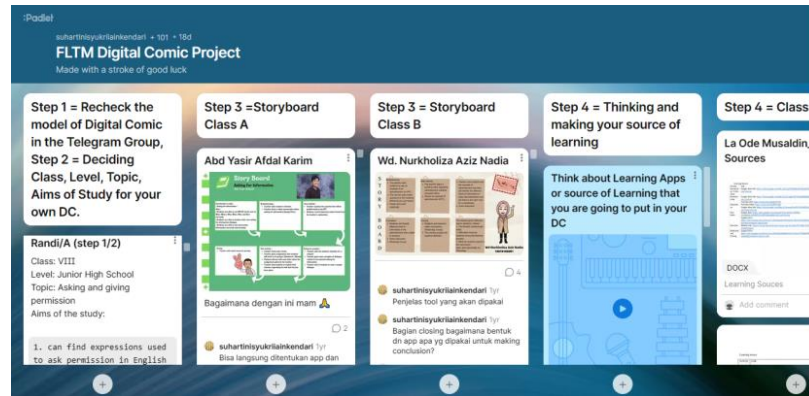


Figure 2.7 The last step in preparing digital comic, directed to upload all the steps in Padlet.com

The last step is students are directed to upload all the steps they have completed into the Padlet.com as learning platform according to the lecturer's directions additionally giving reflection based on the activities. In this particular stage, as elucidated by Dewi and Harini (2021) in their research, students conducted assessments to determine the suitability of the media they had crafted before putting it into use, a procedure commonly referred to as design validation. After all the steps have been uploaded to the Padlet, the digital comic project is completed.

2.1.5.2 Some Tools for Designing Digital Comic

When preparing a digital comic students are directed to create a character, template, and theme. To make these things, a lot of tools are used which will be very useful in helping students to design a digital comic, in displaying and sharing a digital comic, tools are needed because digital comics must be shared and accessed online. In this case the researcher share dseveral tools that can help create a digital comic and can be accessed free of charge. Canva and google slides, this app or website can help to design their own templates that students want, especially for Canva. Canva, a website graphic design tool, is a visual

technology medium with a drag-and-drop format and provides access to over a million photos, graphics, and fonts (Anwar, 2021). In Canva there are many features that can really help to design a digital comic and basically Canva is a platform for sharing digital comics that have been designed by students in foreign language teaching media classes.

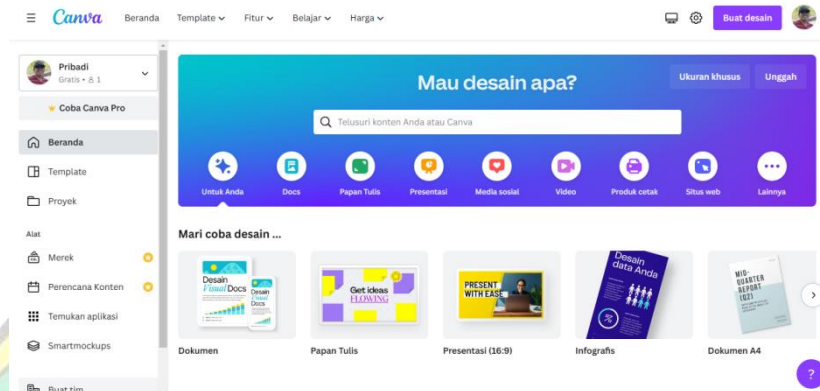


Figure 2.8 The Front Page of Canva

In making characters that will be in digital comics, researchers recommend using Bitmoji, this application can help make characters as free as possible because it provides many features such as clothes, facial styles, hairstyles, and skin colors. Bitmoji, lets users make custom stickers with the Bitstrips character and use them in messaging apps (Parker, 2015).



Figure 2.9 The Example of Bitmoji

(Picture Source : <https://th.bing.com/th/id/OIP.QDGO4a-1marhdPdMNhFxBgHaFj?pid=ImgDet&rs=1>)

During compiling a digital comic, students are directed by the lecturer to record sound which is useful as a direction for teaching, in this case, tools that can help record voices, researchers recommend using websites such as Vocaroo which can be accessed online and can also be shared directly with Canva or Google Slides by attaching by link.



Figure 2.10 The Example of Vocaroo

(Picture Source: https://th.bing.com/th/id/OIP.sLYUKsBNtMaYQX6vC6_IvAHaEK?pid=ImgDet&rs=1)

For assessment materials, you can use websites like Quizziz which also provide many interesting features. The user may use the concepts in the EFL classroom to create a quiz on a specific topic, for instance by providing a word or

phrase in the language and asking students to choose the most accurate English translation (Chaiyo & Nokham 2019). If you want to use videos in digital comics, researchers recommend using apps like YouTube which provide lots of video teaching materials and can be shared in digital comics via a link.

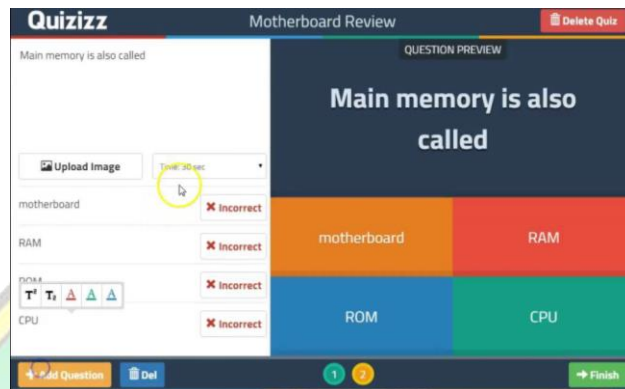


Figure 2.11 The Example of Quizizz

(Picture Source: https://i.ytimg.com/vi/UpXN_B-dWfU/maxresdefault.jpg)

2.1.6 Challenges in Preparing Digital Comic Content

In the process of creating a digital comic, educators encounter various obstacles unique to each teacher. These challenges encompass several aspects, including story scripting, technological difficulties, the design process, visual content, and subject acquisition (Wright & Sherman, 1999; Akcanca, 2021).

Scripting story involves a preliminary phase where students employ their imagination and creativity to determine the concept that will be implemented in the comic (Wright & Sherman, 1999). In her study, Şentürk (2020) suggested to the teachers that they should pay attention to the point of preparing their stories in a way that does not distract from the outcome while designing educational comics. In contemporary terms, visual content plays a crucial role in education as a significant portion of the human brain is dedicated to processing and interpreting

visual information, as well as synthesizing visual stimuli (Paivio, 2010). Visual design entails a systematic approach through which a designer effectively communicates a specific message to the intended audience by utilizing visible forms of artistic expression, with the ultimate aim of achieving the desired purpose (Bian & Ji, 2021).

Another challenge lies in selecting an appropriate learning topic for a digital comic, which is referred to as subject acquisition. The choice of learning topics should be aligned with the students' age level to ensure effectiveness (Akcanca, 2021). Integrating subject acquisition and visual content poses a challenge in designing digital comics for students, as visual content relies on the relationship between visual elements and the acquisition of knowledge (Akcanca, 2021).

The combination of the three steps, namely scripting story, subject acquisition, and visual content, is an important aspect to consider during the preparation of a digital comic. The stage of combining these three steps is referred to as the design process. Gülersoy and Türkal (2020) underscore the significance of a substantial knowledge base in the development of educational comics. They emphasize the importance of effectively incorporating instructional elements within the comic medium. The design process presents as a significant challenge during the preparation of digital comics, demanding additional research and attention from both students and educators. In line with Akcanca study (2021), prospective teachers undergo a four-hour training program designed to equip them with the essential knowledge and skills required for the creation of digital educational comics. The training program offers a comprehensive understanding

of the fundamental aspects of comics, their significance within educational environments, as well as their practical application in the digital realm (2021).

One of the challenges encountered in the preparation of digital comics is the difficulty in utilizing and comprehending technology, often referred to as technology-oriented difficulties. According to Akcanca (2021), prospective teachers expressed experiencing certain issues due to limitations within digital comic design programs, such as a restricted selection of characters and backgrounds, as well as the need to pay for access to various characters and backgrounds. Consequently, prospective teachers face limitations in utilizing technology for digital comic preparation.

2.2 Previous Study

Research related to digital comics as a learning medium that helps in the process of teaching English in EFL countries has been widely carried out such utilizing digital comics in college students' grammar class, creating digital comics to motivate young learners to write, the challenges of pre-service teacher in creating visual instructional media, and the opinions of prospective teachers on the design and use of digital educational comics as a technological teaching material in science education (see Ahsanah & Utomo, 2020; Akcanca, 2021; Alfin et al, 2020; Georgaka & Pouroutidi, 2016). However, less has been said about the challenges in creating digital comics as a teaching medium.

Regarding the effect of utilizing digital comics in college students' grammar classes, Ahsanah and Utomo (2020) proved that the use of digital comics as a medium in learning grammar is very effective, it can be seen that 80%

of the data from students were surveyed using a questionnaire. The participants of this study were 36 students in the second-semester nursing study program, especially in transfer classes. In their second semester, they had to enroll in grammar class before taking TOEFL preparation class in the third semester. They were selected to be the participants of the study because they had to go through grammar class in online classroom. In addition to the effectiveness of learning grammar using digital comics, the positive side also comes from the response of students who enjoy learning grammar using digital comics because the online learning process does not feel boring (Ahsanah & Utomo, 2020).

As for Georgaka and Pouroutidi (2016) research on creating digital comics to motivate young learners to write which research was conducted in a private language school classroom situated in a small village in Central Greece. The participants of the study were 9 students aged 12 years old in the 6th grade of primary education. The findings of their study revealed that creating a digital comic makes students enthusiastic in learning to be better, this cannot be separated from the use of technology in the learning process to be more interesting. The fact that they would practice the writing skill in a different way using technology made all students enthusiastic even before the beginning of the lesson. Fortunately, their enthusiasm also remained after the accomplishment of the tasks. They liked the fact that they were using computers. They preferred the specific alternative way of practicing writing than the traditional book-based method used before (Georgaka and Pouroutidi, 2016).

Akcanca (2021) in his research on the opinions of prospective teachers on the design and use of digital educational comics as a technological teaching

material in science education where this research is based on 129 prospective teachers participants. This study focuses on examining the opinions of prospective teachers about the design of digital educational comics designed within the scope of science education and their use in educational environments. In this study, it was determined that the prospective teachers had difficulties at the point of designing visual and graphical elements in the digital environment during the digital educational comic design process and that they were negatively affected by technological insufficiencies. In addition to this, the prospective teachers expressed their views on the need to pay attention to the digital educational comic's subject-acquisition relationship, scientific knowledge, and the relationship of this knowledge with daily life. It is recommended to increase the use of technology-oriented alternative teaching materials such as digital educational comics in science education from preschool to undergraduate level instead of traditional teaching materials (Akcanca, 2021).

In other studies, the challenges of pre-service teachers in creating visual instructional media (Alfin et al, 2020). This research is based on 5 students in the PPL 1 class as a pre-service teacher that has some experience in creating instructional visual media. The reason these students use instructional media is that where they do pre-service activities do not provide the technology, such as LCD, Projector, Computer, and so on, to make them creative by making learning media that can introduce technology to students, which they teach. The challenges they get in making visual instructional media include 3 challenges. First, such as the materials are too common, second, takes a long time the preparation of the visual media, and last, expansive in the budget of creating the visual media.

Fortunately, despite the challenges they get while making visual instructional media, they still find ways to overcome the challenges they get, such as how to overcome the second challenge, which is to take a long time the preparation of the visual media and how to overcome this challenge, the pre-service teacher stated that they could directly search for ready-made visual instructional media such as on the [pinterest.com](https://www.pinterest.com) website or use authentic media materials.

Digital comics have been frequently employed as a learning medium in EFL nations to teach English (Ahsanah & Utomo, 2020; Georgaka & Pourotidi, 2016). Despite their success in demonstrating the value of using digital comics in education, there is little published literature on the problems of preparing digital comics as a teaching medium. Akcanca (2021) was successful in performing a research on prospective teachers' thoughts on the creation and usage of digital educational comics as a technology teaching resource in scientific education. In another study, Alfin, Nadhiroh, Imani, and Vadhillah (2020) observed the challenges of pre-service teachers in creating visual instructional media. The present study is basically similar to previous research by several researchers who previously observed challenges in preparing digital comics as learning media. However, Ahsanah and Utomo (2020), Georgaka and Pourotidi (2016) are focused on applying digital comic as learning medium meanwhile Akcanca's (2021) observation on digital comic as teaching medium was done on scientific education rather than English education.

Moreover, in Alfin, Nadhiroh, Imani, and Vadhillah (2020), although the investigation is in English education field, the visual instructional media did not include the digital comic. To fill this gap, the current study conducts a qualitative

investigation into the obstacles faced by EFL learners while creating digital comic content for use as a teaching medium. Several EFL students from EFL Islamic universities participated in the study. Furthermore, the data gathered through reflection and interviews. The outcomes of this study will contribute to a better understanding of the problems involved in generating digital comics, as well as practical insights to help educators use digital comic successfully to improve English language acquisition in EFL situations.

