

# CHAPTER I

## INTRODUCTION

### 1.1 Research Background

Indonesia has social issues that are still rife in our surrounding today. A lot of cases about bullying are reported in the mass media. The most recent cases of bullying led to violence happened to youth, especially in middle school or high school level of students. The data from a news report shows that at 2024 there had been 141 cases of bullying, 35% of which occurred in schools or educational units (Putra, 2024). Apart from bullying, there are corruption cases as problems around us. The latest news is about the tin company causes loss 271 T state finance due to doing illegal tin mining activity. Then, the previous year, abuse from the son of tax's official in Indonesia who always acted hedonistic because of his parents' income from the results of corrupt behavior (Setiawan, 2023). With these issues "Many critics point at finger at education, in their judgement, education has failed to provide people with knowledge, skills and wisdom" (Alwasilah, 2014, p. 260).

One of the ways to gain knowledge through literacy. Literacy contributes to the enrichment of previously unknown knowledge or skills and broadening horizons that makes people be opened to new experiences (Rouli, 2020, p. 3). However, the fact is that Indonesia's literacy ability is low. This proven by the latest result of Indonesia's PISA survey in 2022. According to our Minister of Education, Nadiem Makarim, in the forum live streaming KEMENDIKBUD RI "*Indonesia's PISA ranking in the fields of literacy, numeracy and science increased by 5-6 places from 2018*" (KEMENDIKBUD RI, 2023, 17:12). However, even though Indonesia's ranking has risen, the score is the lowest. If we look at Indonesia's PISA score from 2000 to 2022, the 2022 PISA score is the lowest, especially in reading (359) (Napitupulu, 2023). The score shows that Indonesia is far below the average International Standard Score at the 500 points. This is initiated by Organization for Economic Co-Operation and Development (OECD). The following is data of literacy scores according to Indonesia's PISA from year to year:

The score in 2000: 371

The score in 2012: 396

The score in 2003: 382

The score in 2015: 397

The score in 2006: 393

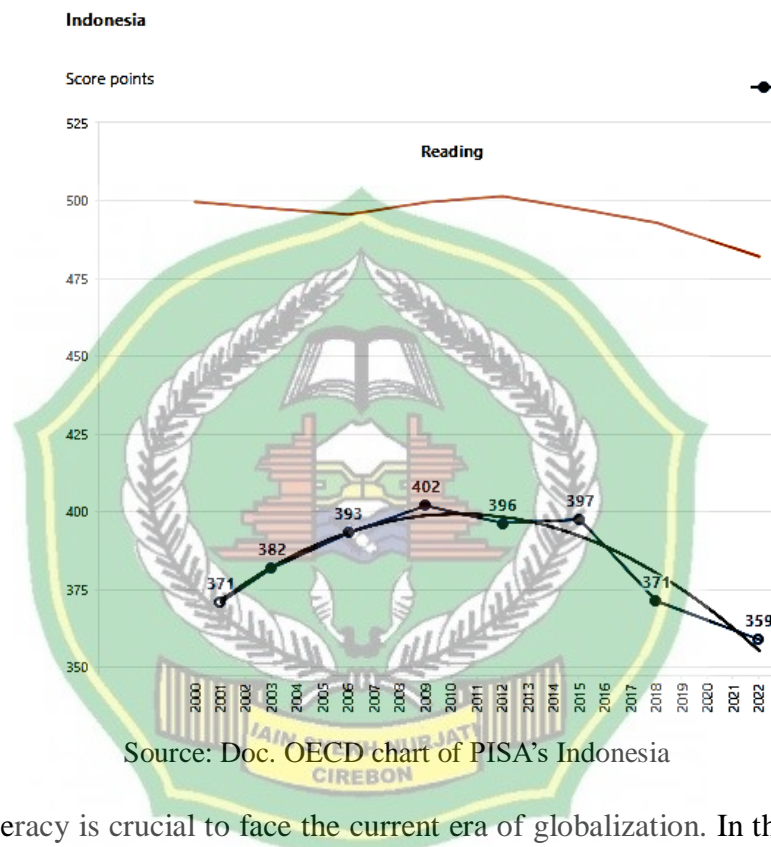
The score in 2018: 371

The score in 2009: 402

The score in 2022: 359

(Pristiandaru, 2023)

**Figure 1. 1** Indonesia PISA's Score Chart in Reading from 2000-2022



Source: Doc. OECD chart of PISA's Indonesia

Literacy is crucial to face the current era of globalization. In this situation, every educational institution must prepare its literacy skills with a new orientation in the field of education (Sabaruddin, 2022, p. 44). Globalization has the great impact on all sectors, including Technology, Education and Science. English also changes the position as the international language, which means it must be studied as a foreign language for non-native countries, including Indonesia. However, the fact also proven that the results of Indonesia's English Proficiency Index (EPI) in 2023 is ranked 79 runs out 113 countries with the “low ability” category, especially for the younger generation because based on the large number of test participants whose age

range is estimated to be 18-20 years old. (Widhoroso, 2023). Meanwhile, our closest Asian country, Singapore & Malaysia is in the “high ability” category.

**Figure 1. 2** EPI Indonesia’s result 2023



In addition, the rapid flow of globalization has caused a cultural shift in Indonesia. The hit of foreign knowledge such as Korean, Japanese, English brought its own culture and it has led to the younger generation being westernized, hedonistic, consumeristic, and apathetic towards their communities (D. Indriyani et al., 2023, p. 104). The sense of patriotism by loving local culture and preserving it is like fading among the younger generation, they tend to glorify foreign cultural trends, such as Korean or Western. Based on informal interviews with younger learners, they didn't know about culture, tradition, heritage place, history around them. Actually, foreign education such as English is a way to prepare individual in the global world and a carrier of understanding, not as a tool to replace local cultural values.

Today, in Indonesian education, Merdeka curriculum as the learning concept introduced by our minister as part of an effort to improve the quality of education in Indonesia (Rasyid & Aisa, 2020, p. 3). The criticism of curriculum changes in Indonesia was expressed “Indonesia has experienced many curriculum changes, this is like our educational policies have not been

based on well-defined visionary goal and change” (Alwasilah, 2014, p. 266). Merdeka's curriculum in its implementation is not yet mature. Even though the Merdeka curriculum, which supposedly promotes a constructivist view, has recently become the new national curriculum, it is difficult to shift from traditional instructional practices rooted for decades to a more modern learning approach (Ibnus, 2022, p. 114). Traditional English learning still widely applied at school, which teacher-centered, relying on textbook, memorizing and grammar-based material. The teacher basically holds the full authority in the classroom, where the teaching-learning process is directed solely to conform to the grammatical lists or linguistic descriptions created by the linguists (Helyanti, N., Bumela, L., & Ikawati, L., 2022b, p. 2). This learning model doesn't give students chance to explore their learning process and tendency on one part of brain. The left hemisphere is responsible for language, logical and analytical operations, mathematics, and verbal memory functions (Sholihah, 2022, p. 222).

To truly improve education, Indonesia must also embrace transformative learning, an approach that prioritizes critical thinking and student-centered learning (Ellen & Sudimantara, 2023, p. 165). In implementing transformative learning, the English curriculum needs to be revised. The supporting statement states that “Curriculum not to be perceived as a sacred text, allowing no room for differences” (Alwasilah, 2014, p. 260). In addition, the English lecturer at Syekh Nurjati State Islamic Institute Cirebon, speaking about Merdeka's Curriculum in his podcast entitled “The Key to Successful Implementation of the Independent Curriculum is Here!” (Dr. Lala Bumela, 2023, 2:23) *“Merdeka's curriculum will work if there are innovative mechanisms developed by teachers and principals in schools. Without innovation, it is impossible to run. In the context of this curriculum, we are required to develop a new pedagogy of learning and new assessment”*. So, we need to create English learning with the new paradigm that interdisciplinary, promoting holistic, rhizomatic and differentiated learning supporting by multisensory and multimodal concept with integrating the technology. It is

enhancing student-centered learning, brain-compatibility, critical thinking, cultural awareness and digital competencies for students.

Story can really support in teaching and learning. Story wasn't just for telling, something far more fundamental and thinking (Fletcher, 2023, p. 3). When we hear or tell the story, we use our motor cortexes as well as our emotion and visual image processing centers to imagine sensations and process emotional responses that means we are using more of our brains, making us more engaged in the story (Helyanti, et al., 2022a, p. 188). Emotion has a connection with learning, because emotion as the form of cognition so it cannot be separated (Salma, 2023, p. 15). The last, English education must also empower cultural awareness and life-long learning competencies. The view about promoting cultural education was expressed that "Education should not only maintain the existing knowledge and culture, but also generate new knowledge and culture" (Alwasilah, 2014, p. 261). So, the use of local culture-based materials will offer the familiarity to the English learners, they can achieve better understanding and enhance performance in learning English (Aminullah et al., 2019, p. 195).

Some clusters of research exist in this field are multimodal approach in English learning (Saputro et al., 2023; Djamdjuri et al., 2021; Ajayi, 2012), the use CEFR in learning English (Anton & Yodi, 2021; Iskandar et al., 2021; Miqawati et al., 2023), English learning media of literacy (Helyanti, N., Bumela, L & Ikawati, L., 2022a; Jeni, 2020; Oktarina et al., 2020; Restanto, 2016). There are some gaps from previous research with a similar study area. First, the multimodal approach in English learning by Saputro et al., (2023) The research is not explaining the way of the emotions arise and are released by the brain. The only emotions highlighted are excitement, interesting, focused and enjoyable in learning, not promoting empathy. It does not combine with other sensory of human, because using the pict of Graffiti art, so it only activates visual sensor. Then, research from Djamjuri et al., (2021) quite similar to the previous one. The research results only aim to attract enjoyable and student's interest in learning English. It is not highlighting

arouse students' empathy sense. It also does not explain how teachers check the extent of their critical thinking regarding the morals presented in the video either explicitly or implicitly. The research also not implementing differentiated learning by diagnosing the respondent's initial English level, so that different Islamic teaching video input can be given for each suitable level of student. A more attractive video with the same Islamic teaching themes could be given but for students who have a lower-intermediate level of English. The last, the research by Ajayi (2012) The product form is not digital. So, it is not integrating technology and still uses manual textbook, and audio & video from cassettes. It does not explain the theory of how human nature learning that actually occurs in the right brain first when a stimulus comes in, even though it is stated "*Students can start interpretations of texts from captions, images, colors, layouts, or words*" (Ajayi, 2012, p. 18). This multimodal text-based research accommodates students to gain meaning-making in their learning. However, it does not explain theory about multisensory learning which will later be related to the multimodal approach.

Second, the use of CEFR by Anton & Yodi (2021) is only to assess students' basic English language skills (Grammar, vocabulary, structure), but after that, there is no follow-up steps to direct students in learning activities. Meanwhile, this study accommodates students into differentiated learning based on the results of their CEFR level assessment. Digital learning resources are provided that are suitable with their CEFR level. This will support students to access the input knowledge. Research by Iskandar et al., uses CEFR just in assessment to find out the level's students listening skill, while this study applies CEFR as an assessment to diagnose students' initial English abilities and then aligning in content stories for the learning resources. Research by Miqawati et al., implemented English language learning using CEFR but at the Universities level. Meanwhile, each CEFR level has different categories based on age and school level. Therefore, this study adapts to the CEFR level for middle school students. For example: the B2 level of middle school students are different from the B2 level of

university students, starting from the choice of language or the flow of content.

The last, the learning media of literacy by Helyanti et al., (2022) adopts a story science approach but only for a narrative text and using the fiction stories. Meanwhile, this study provides several other text genres for each chapter, such as recount text, descriptive text, report text which can explore student's English learning further and the content is about local wisdom, that is more real and more empower to the cultural awareness for students. Then, research by (Oktarina et al., 2020; Restanto, 2016) also use picture book as media for learning English, but this study creates it in the form of digital products and aligning CEFR levels in the content to accommodate student's learning. Meanwhile, they haven't. Their learning resources also use story fiction. The product of this study uses local-culture based materials. The pictures available in both books are also in cartoon form, while researcher's product presents original images of objects that have been changed into illustration by the help of AI. So, students can easily use their visual sensors to imagine how the original shape is.

So, this research was created to enhance the quality of Indonesian education, enhance students' English proficiency and literacy, prioritizing students' learning and well-being, preserve culture as well as empowering civic engagement for youth as the foundation for the country's development by creating CEFR-based digital English learning resources and highlighting content about local wisdom in Cirebon, especially the heritage site "Masjid Keramat Megu" for middle school students.

## **1.2 Identification of the Issues**

This study explains that the contemporary education landscape in Indonesia has several pressing problems that impact on learning process. These problems include:

### **1) Student's Low Literacy & English Ability**

The PISA's Indonesia 2022 shows that the score of young learners' literacy is the lowest from all PISA's survey in Indonesia. Then, English proficiency is also low among young people.

## **2) Immaturity of the Merdeka's Curriculum**

Based on research by Hulu et al., (2023, p. 6042-6044) The results show that the implementation of the Merdeka curriculum is not yet mature. First, the survey results prove that school infrastructure is still inadequate. Second, there is a lack of human resource (teacher) capacity, and there is no clear socialization from the government regarding this curriculum. Meanwhile, the English lecturer at Syekh Nurjati State Islamic Institute Cirebon, give a point of view about Merdeka's Curriculum in his podcast entitled "The Key to Successful Implementation of the Independent Curriculum is Here!" (Dr. Lala Bumela, 2023, 14:07) *"Today's Merdeka curriculum must be comprehensive, physically the school infrastructure must be good and the pedagogy must also be good. The classroom arrangement must be changed because the key to the Merdeka curriculum is innovation."* In addition, *"The role of the teacher must be prioritized, no matter how good the curriculum is, if the quality of the teacher is bad, it's bad. So, there is a need to develop teacher agency as a new concept in universities and schools"* (6:57). In addition, in live forum podcast series of "Tadarus Hasil Riset Dosen" from LP2M IAIN Syekh Nurjati Cirebon (Lala Bumela, Ph.D., 2024) *"The current curriculum in this era, should produce fluid intelligence: Where students' ability is to be ready to learn new things, be adaptive to the environment and world, solve problems, and think abstractly, because critical thinking will not work when there is no abstract thinking"*.

## **3) Lack of Learning Resources**

It is still a lack of resources in schools where teachers and students are not yet ready to face independent learning (Oktavia, 2023, p. 17)

## **4) Cultural Loss in Young Learners**

The rapid flow of globalization has led to the younger generation being



westernized, hedonistic, consumeristic, and apathetic towards their communities (D. Indriyani et al., 2023, p. 104). The globalization has brought significant changes in technology and information development to the world, it indicates that local cultures, which are essential components of the community's identity, are slowly disappearing, as the younger generation perceives them as outdated (D. Indriyani et al., 2023, p. 105). It is essential to reinforce local cultural values by implement the learning model that can be used as a tool to transform local wisdom values into the world of education, so that young students can continue to thrive and become the identity of the Indonesian nation.

**5) Tendency on Traditional Learning in English Class & Lack of Integration Technologies**

Learning in Indonesia is still traditional teaching that focuses on rote memorization, students seem to be required to be able to memorize material (including grammar), even though English is not only a matter of grammar (Helyanti et al., 2022b, p. 2). In addition, there is still lack of integration technology in learning, because the challenge is teachers cannot operate many platforms that can be used as learning media (Fitra & Tiarina, 2023, p. 797)

**6) Lack of CEFR's Role as a Reference Guide for English Learning Levels**

The result of the research from Helyanti, et al., (2022a) that English teachers at the school target have never mapped out student literacy levels by using any reading framework and the notion of CEFR is a foreign concept for English Language teachers even though the school is categorized as "*Sekolah Penggerak.*", while The CEFR is the standard by which a person's English language proficiency is evaluated (Rifiyanti, 2023, p. 3)

**7) Tendency of Use the Non-authentic Material in English Class**

Non-authentic materials are teaching materials which are made and designed for teaching purposes only based on the curriculum and policy in

each country. It can be called textbooks (Febrina, 2017, p. 3). The materials used in the classroom that provide standard information of English language to meet the needs and requirements of the learners are considered monotonous (Rao, 2019, p. 2). One of the authentic materials which can empower students in studying English is literary texts (Marlina, 2013, p. 42).

Based on the problems above, the researcher developed digital English learning resources including illustrated story books as authentic materials. This book is about local wisdom in Cirebon, especially heritage site which have a lot of insight, then adapted to the CEFR & Reading for Emotion level for text development and presented illustrations as a multimodal learning tool that can maximize the brain-compatible learning, so that students can increase the willingness to learn English, foster critical thinking, creativity and character building, promote differentiated learning in accordance with the concepts in Merdeka's curriculum and provide a rich learning experience for students.

### **1.3 Delimitations and Focus of the Study**

This research has delimitation, it just focuses on developing a CEFR-based digital illustrated book about the heritage sites in Cirebon to improve holistic, exploratory, and differentiated approach in English learning. By taking one of heritage sites in Cirebon (Masjid Keramat Megu) as the local-based material, the researcher chooses Students in a middle school level because they are in critical phase of cognitive and cultural development. There are also limitations in time, cost and activities for researcher to conducting this research.

### **1.4 Research Questions**

This section formulates several questions which are the central focus for the direction of this research, which must be answered during the research. This research wants to raise the digital learning resources that were created by researcher for English language learning. So, several key questions are:

- 1) How is the CEFR-Based digital Illustrated Book of 'Masjid Keramat Megu Cirebon' developed as English learning resources for Middle school?
- 2) How do teachers integrate the digital learning resources into their English classroom?
- 3) What are the teacher's perspectives regarding the digital learning resources for their English language teaching?
- 4) How are the students' experiences and perspective regarding the digital learning resources in English class?

### **1.5 Aims of the Research**

The purposes of this research to explore more about the CEFR-based digital illustrated book 'Masjid Keramat Megu Cirebon' as an English learning resource for middle school students, listed as follow:

- 1) To explain how the process of creating and developing English digital learning resources including the book 'Masjid Keramat Megu Cirebon'.
- 2) To find out how teachers adapt the digital CEFR-based illustrated book of 'Masjid Keramat Megu Cirebon' in their classes.
- 3) To gather teachers' perspectives regarding the digital learning resources including the CEFR-based Illustrated book of 'Masjid Keramat Megu Cirebon'.
- 4) To find out what students' perspectives & experiences when using the digital learning resources including the illustrated book 'Masjid Keramat Megu Cirebon' in English class.

### **1.6 Significances of the research**

This section explains the significance of this research which is expected to produce useful contributions to the public. Useful for the development of science or theoretically and useful for the objects involved or practically.

#### **1.6.1 Theoretical Significances**

First, the theoretical significances of research provide broadened insights which are expected to be useful in developing the area of English

language learning for teachers, learners and researchers in the future, as described:

### **1) Teachers**

The research can provide teachers with a new approach to teaching English language skills to their students. By using the digital learning resources include a CEFR-based digital illustrated book, teachers can help their students to develop their English ability in a more engaging and interactive way. Teachers can use the book to teach their students both of Language and Culture, which can help to develop their cultural awareness and appreciation.

### **2) Learners**

The research can benefit learners by providing them with an engaging and interactive way to learn English language. The CEFR-based illustrated book can help learners to develop their language skills and critical thinking by providing them with real-life values. The book can also help learners to develop their cultural awareness by introducing them to the one of heritage sites in Cirebon. This support learners to have civic and sense to adapt the world with the values.

### **3) Researchers**

The research can contribute to the field of language education by providing insights into the development of CEFR-based materials for teaching English language skills. The research can also provide insights into the use of digital illustrated books as a tool for language learning. Researchers can adapt the findings of this research to develop something new for teaching English language.

## **1.6.2 Practical Significances**

Then, the practical significances of research by the creation and development of this product. It is expected to be a solution for teachers, learners and the public from the issues behind this research, such as social & cultural issues as well as education, especially in English language learning. As explained below:

### **1) Teachers**

This digital learning resources can serve as a practical and digital tool for English teacher in class. Teachers can assess their students' English levels. Then, by using the book, teachers can evaluate their students' language ability based on the CEFR levels and adjust the appropriate teaching strategies. Teachers can also use the book to teach about Local culture, which can help to develop their cultural awareness and appreciation. From the story stages also, teacher can evoke emotion in learning that will be led to equip students with the best values for life.

### **2) Learners**

This digital learning resources can have practical benefits for learners by providing them with a clear understanding of their English proficiency levels. Learners can assess and improve their level based on the CEFR-illustrated book. The book can also help learners to maximize their whole brain when the learning occurs because of the illustration and the line of stories. The book can also support learners to develop their cultural awareness, critical thinking as well as empathy, more adaptable to the world with the provision they have from the story.

### **3) Preservation of Cultural Heritage**

The CEFR-based digital illustrated book can contribute to the preservation of Cirebon cultural heritage by promoting “Masjid Keramat Megu” to a wider reader. The book can help to raise awareness of preserving cultural heritage and encourage people to visit the place.

## **1.7 Theoretical Foundation**

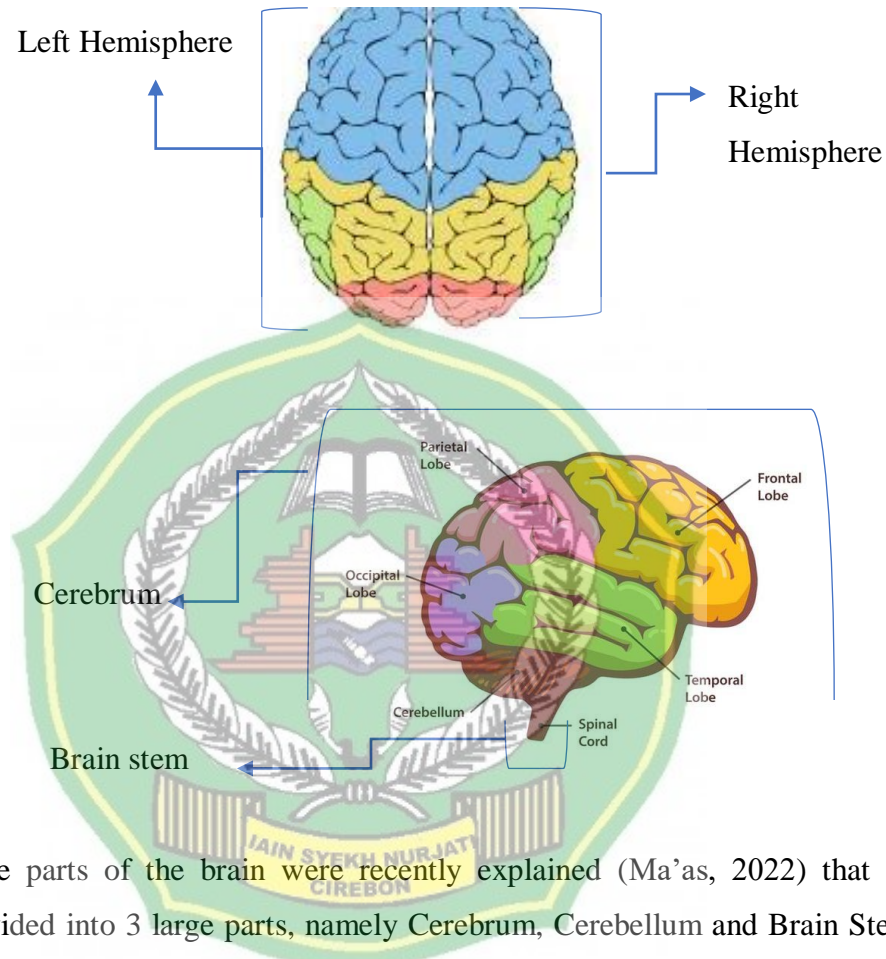
This section contains the concepts that become grounded theories to support transformative learning which is the focus of this study. The theories as follows:

### **1.7.1 The Part of Brain and the Nature of Learning Process**

The human brain is a complex organ in our body. The brain controls all human activities, such as thinking, learning, reading, speaking

and others. The brain has two hemispheres, the right hemisphere and the left hemisphere. You can be seen as in the image below:

**Figure 1. 3** The Human Brain from Top View & Side View



The parts of the brain were recently explained (Ma'as, 2022) that are divided into 3 large parts, namely Cerebrum, Cerebellum and Brain Stem. At the top of the cerebrum there is the cerebral cortex as the covering layer. According to the recent article (Evans, 2023), the cerebral cortex which is the outer surface of the brain is associated with higher level processes such as consciousness, thought, emotion, reasoning, language, and memory.

- 1) Cerebrum (big brain) consists of four areas (“Brain Structure and Function”, 2012): Frontal (at the top of brain) for Planning, decision, speaking (motor cortex), Parietal (Middle brain) for Sensory (sensory cortex), Temporal (side of the brain) for visual area (visual cortex),

Occipital (back of the brain) to receive auditory information (Auditory cortex).

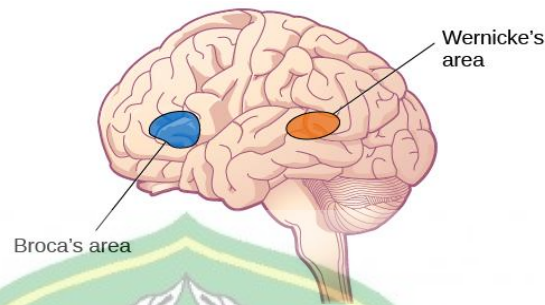
- 2) Cerebellum (little brain) is responsible for controlling body movements and maintaining balance in the human body. This part also plays a role in controlling a person's fine movements, such as the ability to write and paint.
- 3) Brainstem. According to a recent article (Ma'as, 2022), the brain stem functions to send and receive messages to various parts of the human body and brain.

Humans have different tendencies. Some tend to use the right brain or use the left brain, there are also those who maximize the whole brains. It can be seen from the first picture that the left hemisphere and the right hemisphere above look the same and are mirrors, but there are differences. According to Gabriel (2007) in (Oflaz, 2011, p. 1510) the right brain is artistic, musical, spatial, intuitive, and holistic; the left brain is linear, rational, analytical, and linguistic. The right hemisphere seems to be involved more with new experience, new events, things, ideas, words, skills or music, or whatever it may be, it is still fresh, original and unique, by contrast the left hemisphere's world takes over once whatever it is represented – literally 're-presented' after the fact: once it is familiar and known, as an instance of something, a concept (McGilchrist, 2012, p. 11).

The learners' character who tends to use the right brain use mostly their feelings about something to decide, they need to see the whole picture then examine and learn about all the parts, they are creative and imaginative, they are easy to singing, music, art, writing, designing or anything creatively, they view their opinions through their own personal experiences and backgrounds, while the left brain, learners are more serious, have analytical thinking, make lists and schedules, always want to know the rules and follow them, take in information through analysis and thinking (Thaha & Mohammed, 2019, p. 76). The left hemisphere of the brain is the center of language. According to Steinberg et al., (2001) in

(Sholihah, 2022, p. 222) The language center is the Broca region, in the front part of the brain and the Wernicke region in the back of the brain. Broca's function is to produce language and Wernicke's for word comprehension.

**Figure 1. 4** The Left Hemisphere, especially Broca & Wernicke's Location



However, in the context of language learning, especially English, we cannot directly activate or tend to the left brain. Because natural human learning begins when foreign stimuli or information enters our brain. Learning aims to create experience. According to Peterson (2017) in A. Lian, (2018) When a conflict or an unfamiliar context is detected, the initial response is to freeze, then to imagine what the context may involve, next the brain engages in an exploration of the context, differentiates information and then masters that “which worked”. In short, the process of learning goes through 5 stages: Freeze, imagine, then explore, differentiate, and master. When the foreign things come in, first our brain will be in the freezing step, then imagine what the foreign thing is and try to explore to find out more about it. After that, differentiate or classify or map the things that have previously been explored, finally students will reach the mastering stage.

If we talk about traditional teaching English in class that emphasizes memorizing and grammar, it means we leave the four processes above and go straight to the mastering stage, because learners are instructed directly to remember the structure (grammar). So, in conclusion what human process in learning, it must be from the right brain



first, then move to the left brain. The maximizing both brains can form meaningful learning for students. To obtain learning activities, it is necessary to involve students' right hemisphere to trigger a process of hypothesis building, pattern generation, evaluation of those patterns and, finally, key pattern formation and mastery. When ready, the "final" pattern is then "transferred" to the left hemisphere for use (Peterson, 2017; Maryanti, 2023, p. 8).

Most of the traditional educators also give lessons without considering the different interests of the learners in homogenous learning groups (Oflaz, 2011, p. 1509). Meanwhile, each student has different brain tendencies which cause different learning styles. So, it is important for teachers to adapt the methods, strategies or materials that can strengthen the learning environment, attract student motivation so that they can develop positive interactions in learning. One of the solution approaches is multisensory. The ways humans learn, for example, not only use cognitive ability, such as thinking, but also other ways, such as embodiment (Nashruddin & Mustaqimah, 2020, p. 80). Multi-sensory learning is a learning process that involves the use of all the senses so that students can understand learning easily and usefully for their lives (Koniah, 2023, p. 31). The senses are smell, hearing, touch, sight, movement. Information obtained through that senses and all contribute to the way in which people experience their external world (Itagi & D'Mello, 2019, p. 78). The multisensory learning model based on the theory of multiple intelligences, requires highlighting the strengths of the students and designing educational processes in accordance with their individual characteristics (Yalap & Gazioğlu, 2023, p. 44). The multisensory approach, which combines several senses in learning activities can be an effective way to facilitate the meaning-making process in students by engaging multiple senses and individual characteristics. The differences among students might be attributed to their senses and ability of perception in the brain

because senses and perception contribute to learn and save the memory (Itagi & D'Mello, 2019, p. 77).

Perception is the process by which a person receives information or messages entering the brain (Azizah, 2023, p. 17). However, perception isn't an isolated operation in our brains, but part of an ongoing process inside an ecology, by which the relation of things to the things around them, and how they influence each other (Lotto, 2017, p. 20). This can also be called the meaning-making mechanism. Meaning-making is a process that involves interpreting experiences, events, and sensory input to understand the world. This means that the brain uses sensory input captured from the world outside the skin and sensations captured from within the body to create meaning.

In addition, as modern science reveals that the human brain has evolved, so that humans are emotional and social beings. Emotions and feelings have greatly impact on the student performance and learning. Emotions are a part of the meaning-making process, guiding the formation of mental representations (learning) and interpretations of experience. The human brain has the extraordinary ability to functionally and physically change or reconfigure its structure in response to environmental stimuli, cognitive demand, or behavioral experience (A.-P. Lian et al., 2020, p. 4608). The brain processes information and learns in ways that are closely linked to emotion, understanding, and creativity. Therefore, emotions play an important role in the cognitive and affective aspects for shaping the way to interpret and respond to the world around them.

### **1.7.2 Human emotion, Story Science & Reading for Emotion**

The brain consists of neurons. Neurons as the cells that make up the brain, being the nervous system. It is fundamental units that send and receive signals that allow us to move our muscles, feel the external world, think, form memories and more (da Costa et al., 2018, p. 91). In other words, neuron is a type of cell in the nervous system that is responsible for

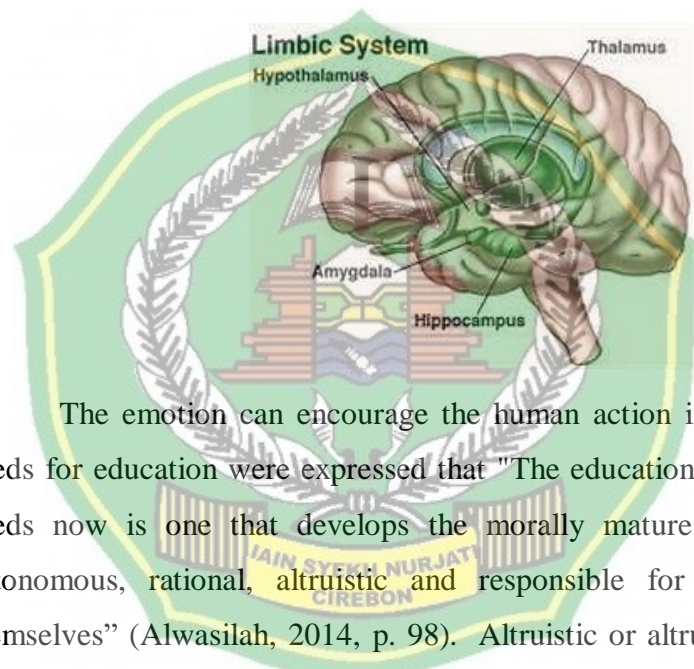
transmitting information. *“We have around 100 billion neurons, each of which has connections with other neurons creating neural pathways, or ‘roads’ within the brain”* (Sentis, 2012, 0:37). There are patterns from neural responses and chemical whose function is the preservation of life, survival; activating a set of brain structures, the great part being responsible for the monitoring, and regulation of the body states around physiological values, called emotion (da Costa et al., 2018, p. 91). In other words, *“The brain works with emotion through a complex interplay of neural circuits and chemical messenger”* (LAPU Digital Learning Solutions, 2023, 2:05).

The brain also has chemical messengers or can be called neurotransmitter. A neurotransmitter is a brain chemical that relays messages between brain cells and affects emotions, behavior, thoughts and regulates moods (A Tale of Two Genes, 2017). The chemical messenger are Dopamine, Serotonin, Cortisol and Oxytocin. Cortisol is to reduce our adrenaline or stress levels. This release though is weakened when a person is exposed to ongoing or prolonged stress. Oxytocin as the bonding hormone, makes us feel love, empathy and trust. The brain releases oxytocin through touch, emotional warmth and food intake. Serotonin as the happiness hormone to stabilise wellbeing and happiness. It helps regulate sleep, helps us think and controls arousal. Dopamine is important for both our brain and body. It stimulates emotional arousal, pleasure and the feeling of reward. Because of it makes us feel good (the reward), it motivates us to repeat behaviours that previously made us feel good. Dopamine is also connected with movement, attention, memory and learning (“Our emotional brain”, 2019).

Then, the parts of the brain that regulate emotions are called the Limbic system. The anatomical structure of the limbic system is responsible for processing our emotions and regulating us (Meilani, 2023, p. 14). The limbic system consists of: thalamus, hypothalamus, amygdala, hippocampus (Hotmaria, 2018, p. 17). Hippocampus as memories

formation, learning and navigation. The amygdala is shaped like a small almond, as the center of emotion & memory (brain's reward system, stress, "fight or flight" response when there is a treat). Thalamus & Hypothalamus are in the center of the brain, relaying sensory and motor signals, regulation of consciousness, sleep and alertness (LAPU Digital Learning Solutions, 2023, 0:37). The brain plays a crucial role in processing & experiencing emotions that can move us to respond to the world around us in a meaningful way.

**Figure 1.5** The Limbic System



The emotion can encourage the human action in society. So, the needs for education were expressed that "The education that nation badly needs now is one that develops the morally mature people who are autonomous, rational, altruistic and responsible for society and for themselves" (Alwasilah, 2014, p. 98). Altruistic or altruism was recently explained (Adinda, 2021) as the one of emotion's forms. Altruistic is from the word "Altruism", this is a good action generated by feelings of concern for other person to help them without expecting in return. In other words, it is similar to empathy.

To evoke the emotions, stories are powerful. Stories can transport us into other's world. When we hear or tell the story, we use our motor cortexes as well as our emotion and visual image processing centers to imagine sensations and process emotional responses that means we are using more of our brains, making us more engaged in the story (Helyanti,

et al., 2022a, p. 188). Emotion has a connection with learning, because emotion as the form of cognition so it cannot be separated (Salma, 2023, p. 15). The professor at Charles Darwin University (CDU) Australia and an expert of Neuroscience, speaking about her perspective in the forum podcast entitled “The Reading for Emotion Model Explained” (Dr. Ania Lian, 2023) “*Emotion also helps us to remember every incident of our life*”. Brain chemicals also play a role in causing emotion and empathy to feel what another person feels. So, we can respond to the situation. It's like making a decision. Human brain will remember the information given in a longer period of time if that information is provided in the form of a story (Salma, 2023, p. 15). “*Real learning depends on being able to retrieve information from long-term memories*” (Academic Success Center at Texas A&M University, 2019, 2:48). Stories and their associated narratives provide the means for children to make sense of their world and create their sense of self (Landrum et al., 2019, p. 2). The story creates empathy, and empathy as the highest level of critical thinking that does not just listen, but an action to encourage problem solving (Jayanti & Sudimantara, 2023, p. 111). According to a recent article that I studied (Zak, 2013) Empathy is powerful for social creatures like humans because it allows us to rapidly estimate whether the people around us are angry or kind, dangerous or safe, friends or foes.

Story can really support in teaching and learning, because “*Story is a sequence of emotions to get the message*” (Dr. Ania Lian, 2023) in the forum podcast entitled “The Reading for Emotion Model Explained”. So, it promotes student’s critical thinking. Story can be oral or written. If written, it’s in the form of combination text. Based on an expert of Neuroscience’s perspective, Dr. Ania Lian (2023) said “*A text is about communicating emotion and problem to someone.*” and “*Every text also has moral.*” in the forum podcast entitled “The Reading for Emotion Model Explained”. However, according to her “*These two things (problems and morals) usually don’t appear in student texts, because they*

*only taught to see text as a collection of words and grammar*". In addition, not all stories can attract learners' attention. Stories with the flat plot not attract them. The plot of the story was recently highlighted (Zak, 2013) that the way to keep an audience's attention is to continually increase the tension in the story. Stories must have a particular structure (Zak, 2012, 4:14).

Nowadays, Reading for Emotion stages has emerged that can be a tool for story. It's proposed by Dr. Ania Lian. The RFE model approaches texts as emotional constructs, designed to evoke emotions in readers (Lian, 2017, p. 9). RFE model offers a change from the story using genre-based approaches into language and literacy pedagogy research. In this transformative learning era, students need more action and be critical thinkers. The professor at Charles Darwin University (CDU) Australia, speaking about the definition of transformative learning in the forum podcast entitled "Understanding Transformative Pedagogy" (Dr. Ania Lian, 2022, 15:01) "*Transformative learning focuses on individual student and how they interact, how they understand themselves, how they understand the world around them*". So, attention to emotions enables students to engage with texts from the perspective of their personal experiences, analyze texts by comparing and contrasting what they see in texts and why from the perspective of emotions (Lian, 2021, p. 249). In other words, the goal of reading for emotion is to help learners analyze the actions, thoughts, reasons, and perspectives of characters, rather than simply identifying the text's structure (Indriyani & Sudimantara, 2023, p. 44). The learning approach that the RFE model creates is exploratory and resource based (Lian, 2020, p. 445). This is in line with the needed to improve education today. In RFE, there are six stages that can we implement: Focus, Disturbance, Dialogue, Development, Resolution and Moral.

**Table 1. 1** The Stages in RFE

No	Stages	Explanation
1	Focus	The part that appears at the beginning of a sentence, which indicates the hook of the story
2	Disturbance	The part that raises problem in the story, it evokes the reader feeling
3	Dialogue	Interaction or conversation between the characters in the story
4	Development	Part that makes students think to find the solution of the problem that exist before
5	Resolution	The part that makes reader feel relieved because the solution has been found
6	Moral	The part where the reader feels and took the lessons that can be drawn from the story

Source: (Lian, A.B, 2017; Azizah, 2023, p. 29)

### 1.7.3 OECD Learning Compass 2030

Learning compass 2030 is a framework of learning that was created by the Organization for Economic Cooperation and Development (OECD) recently. The OECD Learning Compass 2030 indicates the knowledge, skills, attitudes and values of students are not only to change our lives and the environment, but to shape our future (OECD, 2019a, p. 15). Considering the rapid progress in this era, education looks slow and weak. Not only the curriculum structures and delivery often remain static. Linear and rigid, but also the industrial form of schooling means that students were often expected to be passive participants in classrooms (OECD, 2019a, p. 22). Therefore, the OECD Learning Compass 2030 was created which offers a broad vision of the types of student competencies need to be developed in 2030 for their future lives.

However, the OECD is not a curriculum framework, it is just a reference, and its implementation requires cooperation from all stakeholders, government, teachers, students, parents, academic experts (OECD, 2019a, p. 23). The OECD Learning Compass 2030 was adopted to emphasize that students learn to navigate their own learning, find their learning direction in a meaningful and responsible way, and the teacher will play a supervisory and directing role (Ayuningtyas, 2023, p. 17). This is what is called a Students Agency.

The OECD Learning Compass 2030 components consist of attitude, Skills, Knowledge, Values, Core-Foundation, Transformative Competencies and Student agency. Transformative competencies are divided into three, namely creating new value means innovating to shape better lives, such as creating new jobs, developing new knowledge, insights, ideas, techniques, strategies and solutions, and applying them to problems both old and new. Then, reconciling tensions and dilemmas, through this process, students acquire a deeper understanding of opposing positions, develop arguments to support their own position, and find practical solutions to dilemmas and conflicts. The last is taking responsibility to reflect and evaluate own actions in the light of one's experience and education, and by considering personal, ethical and societal goals (OECD, 2019b, p. 2).

**Figure 1. 6** OECD Learning Compass 2030





#### 1.7.4 Digital Learning Resources & Illustrated Book about ‘Masjid Keramat Megu’

Technology is developing rapidly in all fields today, including Education’s field. The revolution of the Internet has had profound effects on education-related matters, including learning, teaching, assessment, communication, and participation (Thienthong & Lian, 2014, p. 107). In the 21st century learning context, addressing the role of modern technology to foster a personalised language experience is the pre-requisite for creating a better pedagogical approach (Bumela, 2020, p. 5). So, why we use technology to support language learning? the English lecturer at Syekh Nurjati State Islamic Institute Cirebon and the dean of Nova College at Vietnam give a reason about integrating technology for education in the forum podcast entitled “CALL purposes and Developments” (Dr. Lala Bumela, 2023, 35:22) *“I use the Technology with my students to help them develop internet connection of concepts ideas and CALL also as a digital building, an integration between technology and pedagogy.”* and (Mr. Quang, 2023, 19:50) *“Technology in language education is for counterbalance the idea, without native teachers, we can still provide effective courses for some students by using technology, especially when schools lack native teacher resources”*.

Education must accompany digital transformation. The English lecturer at Syekh Nurjati State Islamic Institute Cirebon, speaking about the project with his students at Cirebon in the forum podcast entitled “CALL history, Developments and Future directions” (Dr. Lala Bumela, 2023, 14:34) *“The general finding we actually have, more than 20 schools in our study, No Schools have mentioned the importance of digital transformation for this era. So, the role of CALL or TELL is actually missing. The school setup panel of teachers will function as expert, but the students who are not trained in adaptive learning procedures. Transformative education will never be achieved if CALL or TELL is*

*missing from school context.*” This is quite worrying, students are not be explored, and technology have not been maximized.

Meanwhile, The Professor of Second Language at Suranaree University of Technology (SUT) Thailand and also the President of AsiaCALL (the Asia Association of Computer-Assisted Language-Learning, a research and professional association focusing on the uses of technology to enhance second/foreign language learning in Asian contexts) give a view about the essence of learning and about learner centered in the same forum (Professor Andrew Lian, 2023, 56:27) *“So, let’s make if we’re going to have classroom, let’s do the best we can instead to doing repetitive stuff. It is in essence in what we do in rhizomatic system, it is an essence what we do in self-managed or self-organized environment, because what we do is we let people experiment or get challenge with something, and then we give them some help and guidance if they require it”*. From those statements, it can be concluded that learning is a process. Students must be able to explore, get involved, be trained in order to get the essence of learning itself. So, digital learning resources are proper to be created to accommodate students towards meaningful learning. Meaningful learning may be described as a process of relating and anchoring new material to relevant established entities in cognitive structure (Brown, 2014, p. 83).

A well-planned digital learning resources supports students' learning exploration directly to gain their own learning experience, it is the essence of learning. The English lecturer at Syekh Nurjati State Islamic Institute Cirebon, speaking about the essential learning in the forum podcast entitled “Global Horizons podcast #6 with Luqman Baehaqi” (Dr. Lala Bumela, 2023, 24:55) *“Essential learning goes through a long process, a process of behavior until the students feels bored, but from that boredom they discover something that they didn't realize they got, this process is not traced by linguistics. Learning has cognitive & non-cognitive aspects, mental and non-mental aspects”*. Digital learning

resources refer to educational materials, tools, and content that are delivered and accessed through digital technologies.

Moreover, the increasing interest in foreign language learning and the integration of technology in learning highlight the need for computer and electronic literacy among teachers and learners alike (Sudimantara, 2023, p. 610). In this study, researcher develop digital learning resources in the form of illustrated book. Illustrated books are similar to picture books, which have been exist. The combination of pictures and texts in the picture book are suitable to arouse students ' capability in reading (Wardini et al., 2021, p. 165). Picture books create a way for pupils to interconnect and have a better understanding of the world (Oktarina et al., 2020, p. 77).

However, the different here is that the material developed is related to local wisdom in the form of story. The researcher chose one of heritage sites in the surrounding environment as the object in the form of the historic mosque "Masjid Keramat Megu" and packaged it into material for English learning resources. English is a foreign language that brings foreign culture into Indonesia, while Indonesia is a multicultural country. So, there is a need to strengthen Indonesia's local values by bringing local wisdom into learning. It is made student can filter and select the foreign cultural value, but not lose their own cultural identity. In addition, inserting of local wisdom in language teaching and learning aims at introducing local wisdom to the learners, conserving the local wisdom as well as respecting the local wisdom (Giyatmi, 2020, p. 49). The use of local culture-based materials will also offer the familiarity to the learners, so they can achieve better understanding and enhance performance in learning English (Aminullah et al., 2019, p. 195).

English teaching should be redesigned to promote new forms of knowledge and culture and this would require a great deal of flexibility to prepare students for the future (Alwasila, 2014, p. 266). It is clearly that educational systems need to focusing less on knowledge and more on the intellect, thus empowering learners to act more flexibly and constructively

in all possible situations in their lives, to become more flexible, more adaptive and better able to cope with the unpredictable changes in society (A. Lian et al., 2017, p. 291). Bringing cultural material in this product for English learning also applies an interdisciplinary approach, because in 21<sup>st</sup> century, it's necessity to create new connections between fields and disciplines: essentially we will be moving automatically toward interdisciplinarity (A. Lian et al., 2017, p. 289). It is not only teaching English, but also studying arts & culture and religion.

This learning resources were developed with Reading for emotion and CEFR Level as a tool. So, students can access English learning according to their needs and abilities. Students can also arouse their emotions when reading the story text and derive value from what happens in the storyline. Students not only get input knowledge about foreign languages, but also by being emotionally aroused it can help students become critical thinkers and become intellect people in responding to all situations and problems that they will face in the future. Students can become responsible people when making decisions in their life. This learning resources are also equipped with original photos from the heritage sites which are converted into illustrations in the form of sketches. It is to help students' multisensory learning process in the form of visualizations which can be a stimulus in the right hemisphere for students to imagine and think creatively apart from the emotions mentioned above. For both the reading of pictures and the reading of words the related procedures that would arise be prediction, using our existing knowledge or patterns (schema or repertoire), and signalling in to several contexts (Restanto, 2016, p. 50).

When the process creating this digital learning resources, researcher integrated the use of technology in the form of Artificial Intelligence to assist the process of writing and illustrating pictures. However, with the ease of technology, the professor at CDU Australia and the Professor at SUT Thailand as the President of AsiaCALL remind about

the role of human in the technological era on the forum podcast entitled “Chat GPT in CALL Research” (Dr. Ania Lian, 2023, 1:10:24) *“As a civilization would actually be happy with. So, being careful, being happy using systems within their limitations but not overdoing and being aware of limitations.”* & (Professor Andrew Lian, 2023, 49:22) *“What happens when we get innovation in the world, we’d have to adapt, we have to learn what to do with it and in the end we will survive. We will live through it and it will get better”*. So, from those statements, it can be concluded that as civilization including educators must remain careful and smart in using AI. We have to keep learning and correlating with our insights to survive, this is what is meant by education being perfected by technology.

**Figure 1. 7** The Digital Learning Resources & Illustrated Book



### 1.7.5 Holistic Learning

The holistic education focused on the learning process that enabled learners to have self-discovery, which occurred from the inner stimulus to understand the meaning and the goals of life, build awareness, self-understanding and emphasized in physical, spiritual, emotional, arts and creative development (Sukhonthachit & Rattanawicha, 2022, p. 6671). A holistic approach utilize a valuing process, which takes into consideration the cognitive, affective and behavioural powers of the learner (UNESCO, 2002, p. 24). In short, holistic learning is a learning approach that activates

the learner's intellect, emotions, imagination and body for more effective and comprehensive learning. Holistic approach is in the era of transformative learning. It was not emphasized in the traditional learning. Holistic learning creates the person's intellectually, emotionally, physically, and spiritually. The benefits from holistic learning are:

- 1) Improved Academic Achievement
  - 2) Enhanced Mental and Emotional Well-Being: In a supportive environment, where social and emotional learning is emphasized along with academics, students have a better chance of emerging with self-awareness, confidence, and a sense of social responsibility.
  - 3) Increased Problem-Solving Ability: Students given by the real-world problems that exist in their communities. So, students will apply critical-thinking skills and the capability to their adult careers, such as how to gather, analyze, and how to collaborate with others.
  - 4) Reduced Impact of Injustice: Students can reduce the psychological impact of issues such as violence, abuse, or poverty on academic achievement
- (“What is Holistic Education?”, 2020)

The holistic learning also has some characters:

- 1) Holistic Learning is Experiential: It involves an experience when absorbing information or being introduced to new concepts. Instead of learning through rote memorization.
- 2) Holistic Learning is Personalized: Students can learn anywhere and from anything sources. They will have own strengths, challenges and interests, and often use different learning styles that reflect their personalities.
- 3) Holistic Learning is Both Teacher-guided and Self-guided: It is still the guidance from the teacher. Self-guided learning just to builds curiosity in learning. It gives student's confidence in their ability to do something on their own.
- 4) Holistic Learning Includes Social-emotional Learning: By interacting with others and navigating through their emotions, student learns what is

set out for them. Beyond academic achievement, there is a need to support the social and emotional of students.

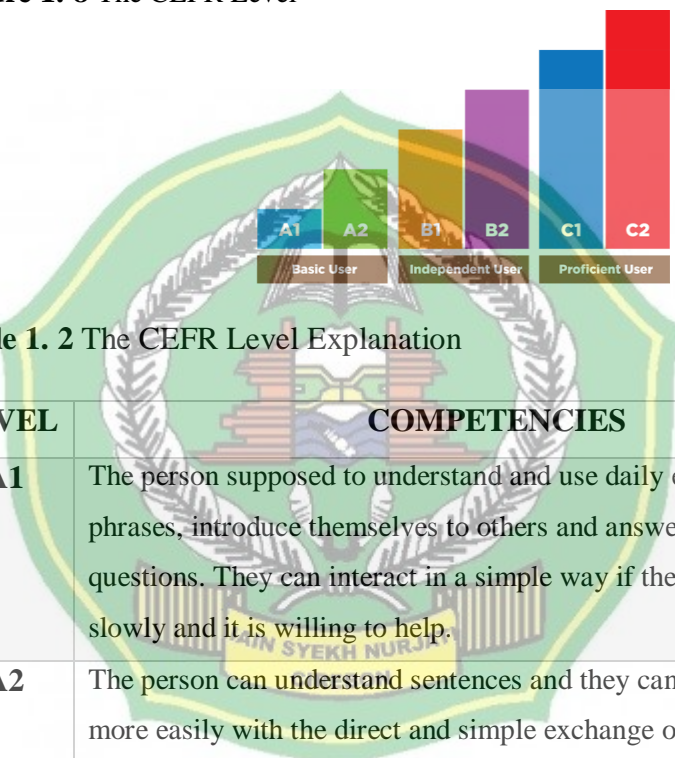
- 5) Holistic Learning is Culturally Sensitive: Culture and language are influential in any learning approach. Given that Indonesia and Europe have different cultures, it's important to be mindful, respectful and accommodating when teaching. It's important that students see their culture in the material that is being used in the classroom.
- 6) Holistic Learning is Interdisciplinary: Future learning success depends on a solid foundation of early literacy and numeracy skills. Literacy concepts are interwoven with all subject matters, such as historical stories. There are opportunities to customize learning to individual interests.
- 7) Holistic Learning is Equal Parts Indoors and Outdoors: It offers indoor and outdoor activities and lessons to promote student's learning. The different of scenery helps to negate boredom and keep receptive to learning new concept.
- 8) Holistic Learning is Focused on Formative Assessments: The assessments can happen every day. It provides ongoing feedback to the student that quickly addresses any challenges (“15 Characteristics of Holistic Learning”, 2021).

#### **1.7.6 CEFR Level and Differentiated Learning**

The Common European Framework of Reference (CEFR) first published in 2001 by the Council of Europe. The CEFR framework was to facilitate critical reflection on the various dimensions of language education – curricula, syllabuses, textbooks and examinations – and to promote common understanding across the education systems (Figueras et al., 2022, p. 10). The CEFR is a set of principles that provides not only the foundation upon which the framework itself is built, but guides practice to effectively develop proficiency in a foreign language (Nagai et al., 2020, p. 4). It can be referred to as an internationally recognized standard for

describing language skills in reading, listening, and speaking (Ayuningtyas, 2023, p. 16). A person's English skills, both passively and actively, can be measured by this standard (Khofifah, 2023, p. 15). CEFR view language learners into three major categories, which can be divided into six levels: **Beginner users/Basic** (A1 and A2 levels), **Independent users** (B1 and B2 levels) and **Competent users/Proficient** (C1 and C2 levels).

**Figure 1. 8** The CEFR Level



**Table 1. 2** The CEFR Level Explanation

LEVEL	COMPETENCIES
<b>A1</b>	The person supposed to understand and use daily expressions and phrases, introduce themselves to others and answer personal questions. They can interact in a simple way if the other person talks slowly and it is willing to help.
<b>A2</b>	The person can understand sentences and they can communicate more easily with the direct and simple exchange of information or familiar matters.
<b>B1</b>	The person is supposed to understand the main points on matter (deal with most situation when he travels to areas where that language is spoken). They also able to produce simple connected text on familiar topics or personal interest and can describe experiences, events, dreams and give reasons and explanations for opinions and plans.
<b>B2</b>	The person is supposed to be able to understand and communicate on text regarding concrete and abstract subject. They also can communicate fluently with other native speaker without any stain on



	either side.
<b>C1</b>	The person is supposed to understand longer and demanding text of wide range and also recognize implicit meaning; express opinion and ideas on a certain topic without searching for expressions; use the language in both social, academic and professional areas; produce clear, well-structured, detailed text on complex subjects.
<b>C2</b>	The person is supposed to understand basically anything he/she reads or hears; can summarize information from different spoken and written sources and express him/herself spontaneously, very fluently and precisely.

Source: Gostudylink. <https://gostudylink.net/en/blog/cefr-levels-explained>

Adaptation of CEFR in foreign language learning has been carried out in several countries that are non-native English speakers. However, the CEFR role in Indonesia does not seem to be a well-known trend in English classes. In fact, the use of CEFR in English learning will provide opportunities for students and teachers to apply 21st century learning in the classroom (Miqawati et al., 2023, p. 2). The opportunities are communication skill as a part of 21st century skill can be mastered, critical thinking, and be more creative person because of student's active participation, independently and working together. In addition, to prepare students for specialized careers and life skills, teachers must ensure that CEFR aligns with 21st-century concepts and fosters high-level learning (Indriyani & Sudimantara, 2023, p. 44). So, it is necessary to align CEFR, because CEFR will lead to the differentiated learning. Differentiated learning is a learning practice that adapts curricula, teaching strategies, assessment strategies, and classroom environments to the needs of all students (Ellen & Sudimantara, 2023, p. 175). In other words, differentiated learning is learning that accommodates students according to

their level of ability and needs. So, after the teacher provides an English assessment aligned with CEFR as the initial diagnostic of students, they will know at what level each student's abilities are. Teachers can group students based on the capabilities. Then, continued by implementing teaching strategies such as media and teaching materials according to student needs.

In this study, researchers created learning resources with story content that has been aligned with CEFR according to each level and have integrated technology to make it easier for students to access, because in the 21st century learning context, addressing the role of modern technology is foster a personalised language experience (Bumela, 2020, p. 5). By CEFR alignment, the Precision language education occurs. It gives the access of information that is as detailed and accurate as possible about learner characteristics and performances in order to support the most effective students' learning (Lian, A-P & Sangarun, 2017, p. 3).

#### **1.7.7 Digital Literacy and Rhizomatic Learning**

Learning in the 21st century makes students able to learn automatically and independently. The teacher is here as a facilitator in terms of guiding and directing students in the learning process (Helyanti, et al., 2022b, p. 2). Today, students can no longer simply memorize a collection of facts to pass an exam since, in the 21st century, the skills needed are beyond (Nurjanah, A., Nashruddin, W., & Priajana, N., 2021, p. 2). One of them is Digital literacy skill. Digital literacy was first interpreted as the ability to understand and use information in various forms from a wide variety of sources that are accessed through computer devices (Gilster & Glistler, 1997; Sagitaa et al., 2019, p. 112). In addition, Casey and Bruce (2011) defined digital literacy as the ability to use, understand, evaluate, and analyse information in various formats from various digital sources (Montebello, 2016; Sagitaa et al., 2019, p. 113). There are four core competencies need to be possessed in someone who

have the ability in digital literacy: aspects of searching on the internet, aspects of hypertext guidance, aspects of information, content evaluation, and aspects of a compilation of knowledge (Gilster & Glistler, 1997; Sagitaa et al., 2019, p. 113). In other words, digital literacy involves kind of skills, such as searching for content online, reading the digital content, assess the reliability of sources, creating digital content, and communicating effectively in virtual environments. It is an essential skill in today's society where technology is rapidly. The benefits from digital literacy skills are:

- 1) Improved writing, reading, listening and speaking skills
- 2) Ability to identify authentic materials
- 3) Increased frequency and ability to use digital technology
- 4) Enhanced ability to collaborate with teachers and peers
- 5) Enhanced engagement
- 6) Improved academic performance

(University of Sandiego Professional and Continuing Education, 2020).

The Dean of Faculty of Letters and the President of TEFLIN at Malang State University speaking about reading and it's benefit in the forum podcast entitled "Challenges of Teacher Education Programs: Research and Reality" (Professor Utami Widiati, 2022, 1:10:58) *"If we can read a lot, we can have more access to the input language. The more input, the more we have better. Then, on the developing reading habits, students can read anytime and not need partners, so they can improve themselves. They could just do it by themselves. Reading provides them to access language that they are learning"*. This statement also points towards digital literacy skills which can be done anytime, anywhere, and cand do by yourself to get a lot of input. Digital literacy is important for students, professionals, and individuals in general, as it enables them to interact with others in digital environments, use information appropriately, and create new ideas and products collaboratively. Digital literacy can be concluded to be personalized. This is in line with the goal of learning in

the 21st century makes students able to learn automatically and independently. Digital literacy can be combined with Rhizomatic learning approach.

Rhizomatic learning is suggested as the opposition to the traditional authoritative learning based upon behavioral views (Ibnus, 2022, p. 113). Rhizomatic is from the term of “Rhizome” originally derived from botany and adopted by postmodern thinkers Gilles Deleuze and Félix Guattari (1987) and used to represent a dynamic, open-ended, self-adjusting personal learning network constructed by the learners themselves to meet perceived and actual needs (Lian A-P & Pineda, 2014, p. 21). Students navigate through nodes of knowledge representations or relevant challenges and, in turn, construct personal knowledge organically rather than according to some arbitrarily predetermined external pedagogic sequence such as a curriculum mandated by an authority structure such as school or government (Lian A-P & Pineda, 2014, p. 21-22). In other words, rhizomatic learning lets students grow by themselves following their needs and aspirations because every student has different background knowledge and experiences which are incomparable to each other (Ibnus, 2022, p. 112-113). In addition, the English lecturer at Syekh Nurjati State Islamic Institute Cirebon speaking about Rhizomatic learning in the forum podcast entitled “Global Horizons podcast #6 with Luqman Baehaqi” (Dr. Lala Bumela, 2023, 21:19) *“Rhizomatic learning does not use certain standards, does not use sequences, and does not require recipes at all”*.

### **1.7.8 Life-long Learning Concept by European Union**

The European Union (EU) is a political and economic union of 27 member states that are located primarily in Europe. The concept of lifelong learning has been endorsed as an instrument of policy by the EU since the early 1990s. Lifelong learning has become a necessity for all citizens in this globalization era. We need to develop our skills and competences throughout our lives, not only for our personal fulfilment and

our ability to actively engage with the society in which we live, but for our ability to be successful in a constantly changing world of work (Communities, 2007, p. 1). The lifelong learning concept has concluded by Kaplan (2016, p. 45) as follows:

- 1) Lifelong learning contains all life processes from birth to death.
- 2) Lifelong learning is based on the personal and occupational needs, interests and learning requirement of individuals.
- 3) Lifelong learning contributes to the development of skills and talents of individuals.
- 4) Lifelong learning is an approach which includes comprehensive components.
- 5) Lifelong learning has become a compulsory aspect of individuals' lives as a result of changing world conditions and developing technology.
- 6) Lifelong learning provides equal opportunities to individuals and removes restrictions such as learning, age, socio-economic status and educational level.

As globalisation continues to confront the EU with new challenges, each citizen will need a wide range of key competences to adapt flexibly to a rapidly changing and highly interconnected world (Communities, 2007, p. 3). The key competences are a combination of knowledge, skills and attitudes. Knowledge is composed of the concepts, facts and figures, ideas and theories which are already established, and support the understanding of a certain area or subject. Skills are defined as the ability to carry out processes and use the existing knowledge to achieve results. Attitudes describe the disposition and mindset to act or react to ideas, persons or situations (European Union, 2019, p. 5). The key competences are developed throughout life, through formal, non-formal and informal learning in different environments, including family, school, workplace, neighbourhood and other communities.

A Paper (Europaea, 2018) explain that the Recommendation for Key Competences for Lifelong Learning was first adopted by the European Parliament and the Council in 2006. Then, following a consultation and review of this framework in 2017, a revised framework was proposed and adopted in 2018. In 2018, the Recommendation identifies eight key competences essential to citizens for personal fulfilment, a healthy and sustainable lifestyle, employability, active citizenship and social inclusion: Literacy competence, Multilingual competence, Mathematical competence and competence in science, technology and engineering, Digital competence, Personal, social and learning to learn competence, Citizenship competence, Entrepreneurship competence, Cultural awareness and expression competence (European Union, 2019, p. 5).

### **1.8 Previous Study**

There have been several research with similar topics about English learning media of literacy. Among them are research belonging to Helyanti et al., (2022a), Jeni, Y. (2020), Oktarina et al., (2020), and Restanto (2016). The first previous research was conducted by Helyanti, N., Bumela, L., & Ikawati, L conducted in 2022. This research is entitled *Developing Digital Literacy Resources for Middle School Students: A Highlight on Literacy Level*. The purpose of this study is to develop digital English learning resources to enhance students' literacy ability and achieve the goals of transformative education in the 21st century. This research promotes a new pedagogy that activates the whole brain approach (Including right brain), autonomous learning (student-centered) as the opposite of traditional learning (Teacher-centered), integrates technology in learning, and uses fiction stories as English content in digital learning these resources. The advantages of this digital learning resources are that they have implemented CEFR, so students can access learning resources according to their needs and abilities, and apply the Reading for Emotion approach to engage with the storytext creation to evoke emotion. In addition, this research also provides a brief overview of

Neuroscience with Story and how the human learning process occurs naturally, this provides new insights for readers. This research results provides many benefits for teachers and students. Teachers feel that these digital literacy resources can empower student-centered learning in schools, these digital literacy resources can also be a future reference for teaching in a fun way, because story-based learning feels enjoyable but still enforces students' critical thinking. Students also feel helped by the CEFR diagnostic test, they know where their English language level are, and can adjust learning according to their needs. They also like stories because it is easier to understand the context of English learning because they feel the text is alive and arouse their feelings when reading.

The Second research was from Jeni, Y. (2020) entitled *The Using of Short Stories to Enhance Students' Reading Comprehension*. The purpose of this study is to help improve students' reading comprehension in English learning using a short story text. Because according to this research, students find it difficult to understand English language learning, and they quickly become bored with the teaching and learning material system which only goes through textbooks. Researchers provide short story texts to be tested on students when learning English. The researcher invited students to read first, and discuss together afterwards. The researcher gave question points to check students' comprehension, after that the researcher gave a test to measure students' understanding. The results of this research say that the problem can be resolved, because stories can enhance students' reading comprehension in learning English. it helps students to gain knowledge from what they have read and increase their test score.

The Third and the last research conducted by Oktarina et al., (2020) and Restanto (2016) have similar research. The purpose is for applying picture books as a medium to enhance English learning, especially in teaching reading. These researchers are still using the manual picture book, it's in the form of a book. In addition, Restanto's research used a fictional story book about *Dr. Seuss: "The Lorax."* The results of these two studies indeed reveal

that picture books in teaching reading are very helpful for teachers & students in reading narrative activities. The use of picture books supports students achieving better comprehension to the narrative story in the reading activities.

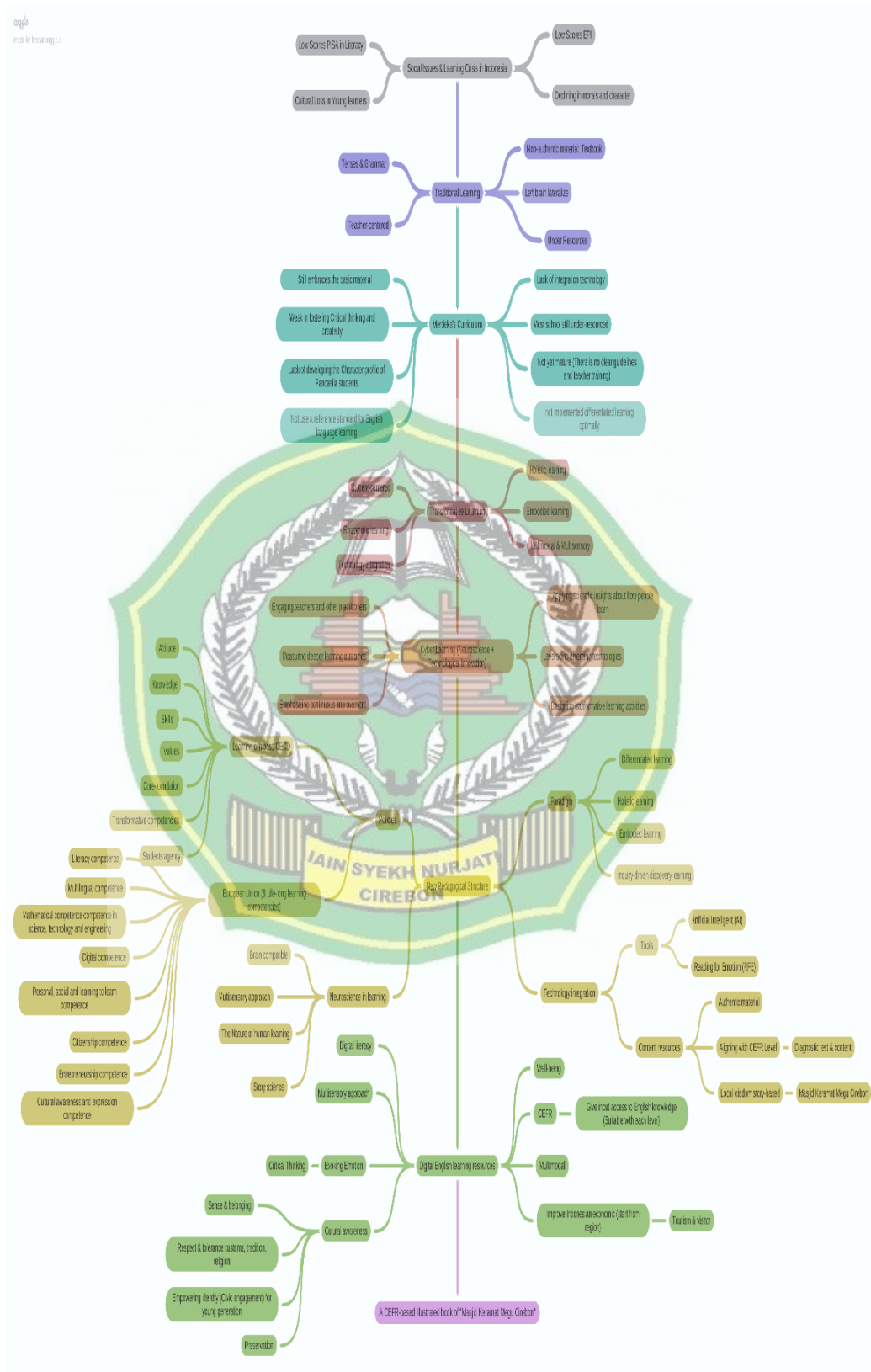
There are differences between this study and the previous research. This research is similar to Helyanti's research. However, this research creates a digital learning resource not only containing one text or just narrative text, but also the researcher creates other genres-text in each chapter such as recount text, descriptive text which can explore students' English learning further. Then, the content is about local wisdom in the surrounding environment, which is more real and more empowering critical thinking and enhancing the cultural awareness for students.

Second, this research is adding the illustrated picture to stimulate students' visual sensors. From the images provided, students can activate their right brain in learning to imagine the picture, this will maximize the whole brain approach. In addition, the use of story in this research is to promote critical thinking. It is useful as a provision for students' future lives in solving future problems. Not only to improve reading comprehension and measure the level of student's ability depending on the scores.

The last difference is that this research has integrated technology, so it takes the form of digital product, not a manual book. This research has also applied CEFR levels for the initial diagnostic test to facilitate grouping students' English abilities and apply CEFR engage with the story text content to accommodate student's learning. Meanwhile, Restanto and Oktarina's research haven't. Their learning resources also use external story content. Whereas this research is an authentic material because it is made by self and uses local-culture based materials. The pictures in both books are also in cartoon form, while this product presents original images of objects that have been changed into illustration form using the help of AI. So, students can easily use their visual sensors to imagine how the original and real shape is.



# 1.9 Frame of Thought



## 1.10 Research Method

This section explains the way of conducting this research. starting from the research design, research approach, data sources, data collection techniques used and how to analyze them.

### 1.10.1 Research Design and Step

The researcher applying Qualitative research. Qualitative is research that aims to gather and analyze non-numerical data and to explore an issue or phenomenon. The characteristic of Qualitative research is focus on process, understanding, and meaning; the researcher is the primary instrument of data collection and analysis; the process is inductive; and the product is richly descriptive (Merriam, 2009, p. 14).

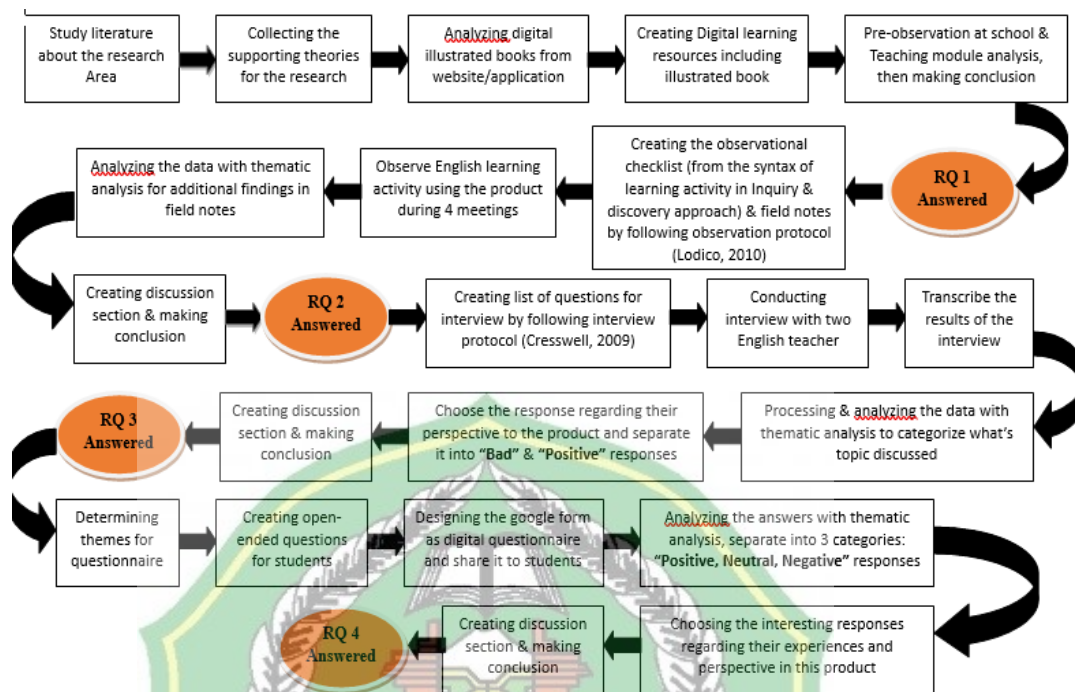
Then, Researcher choose the Research & Development (R&D) as the design. R&D comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge (OECD, 2015, p. 44). R&D are always aimed at new findings based on the previous concepts. According to (OECD, 2015, p. 28) R&D activities must satisfy five core criteria: novel, creative, uncertain, systematic, transferable and reproducible.

- 1) Novelty means the R&D activity within the project must result the new findings not already in use in the industry. R&D project aimed at creating knowledge of new concepts and ideas related to the design of new products or processes. Novelty can result from a previous project and processed again (reproduce) with bring out the differences.
- 2) Creative means that R&D project must have as an objective new concepts or ideas hat improve on existing knowledge. R&D need human input for the product or process of creativity. The contribution of a researcher is need for creating the project. This is creativity.

- 3) Uncertainty means that R&D project have uncertainty about the process like the costs & time required to achieve the expected results. There is a possibility that not all of the goals expected at the beginning are achieved, maybe just a half of them is achieved.
- 4) Systematic, The R&D activity must be carried out systematically. It is carried out in a planned manner, and keeping records of the process followed until the results. The records or notes in R&D projects aimed at meeting specific needs.
- 5) Transferable or Reproducible is to lead the R&D results could be possibly reproduced in another research. R&D project must produce transfer potential new knowledge, ensuring its use and enabling other researchers to reproduce the results as part of other R&D activities (OECD, 2015, p. 46-48).

There are 3 types of R&D research by Frascati manual: Basic research, Applied research and Experimental research. This research is included in applied research that involves considering the available knowledge and its extension in order to solve actual problems (OECD, 2015, p. 51). This research is also leads to postmodernism research which adapts Rhizomatic theory, it lets students grow by themselves following their needs and aspirations because every student has different background knowledge and experiences which are incomparable to each other (Ibnus, 2022, p. 112-113). So, the researcher carries out personalized learning during the research so that the research's steps are flexible, but still keep records of all processes and activities until finished, following the R&D criteria by Frascati manual, Systematic. This is the research steps scheme carried out by the researcher:

**Figure 1. 9** The Scheme of the Research steps



### 1.10.2 Source & Type of Data

This study using two sources of data. It is primary and secondary data. Secondary data is every dataset not obtained by the author, or “the analysis of data gathered by someone else” (Boslaugh, 2007; Martins, F., Cunha, J., Serra, F., 2018, p. 2). So, the secondary data of this research is from books, websites, Thesis, journals, Youtube that related for this topic of research that are needed. Then, Primary data is data found or created directly by the researcher. In this study, the source of data focused on two English teacher that using merdeka’s curriculum in English class and an 8<sup>th</sup> grade middle school students that also using Merdeka’s curriculum. The sources are to find out the student-teacher responses and feedback, teacher and student’s perspective, interactions and student engagement with the illustrated book during the learning activity

### 1.10.3 Data Collection Techniques and Instrument

In this study, the researcher applied 4 techniques to collecting the data. For Primary data using (Observation, Interview and Questionnaire techniques) and secondary data using study literature.

#### 1) Observation

Observation method is “a data collection method in which a person (usually trained) observes subjects of phenomena and records information about characteristics of the phenomena” (Sproull, 1988; Kumar, 2022, p. 1). The researcher doing Observation at school and class target to see and record findings when the digital learning resources and digital illustrated book about “Masjid Keramat Megu” is implemented by teacher in English classes. Being an observer also need skills and competencies to conduct the carefully observation.

For the observation guide, researcher using observational protocol as a tool to collecting the information when observing. A well - designed observational protocol includes a set of questions and a recording sheet (Lodico et al., 2010, p. 116).

Figure 1. 10 The Observational Protocol (Lodico et al., 2010, p. 117)

**EXHIBIT 5.1**  
**Sample Observational Protocol and Recording Sheet**

Date of observation:  
Time of observation:  
Setting:  
Participants:  
Observer:  
Research Question: How does a cognitively advanced preschool student interact with peers and teachers in his preschool?  
Subquestions:

- What types of interactions does Max have with other students in his preschool?
- When and how does Max interact with his teachers?

Max's Behaviors and Comments	Teacher's Behaviors and Comments	Peers' Behaviors and Comments
Observer's Reflections:		

Header

Field notes

At the top of the first line, there is a header that provides space to record background information such as the date, setting, participants observed, and observer's name. Below the header is our case study research, brief phrases or research questions are listed, identifying the focus of the observation (e.g types of actions by teachers or students, features of the setting, or interactions). After that, researcher should create the sub-questions for the study to identify categories or areas that will be observed. The first-time observation might differ for the next observation results and new protocols might be developed to fit the goals of the latest observation. The bottom part of observational protocols usually includes an organized space for recording the details of what happens in a particular setting on a specific day.

It is called Field notes, which are written descriptions of what the researcher observes in the field and his/her reactions and feelings (Lodico et al., 2010, p. 118). Field notes divided into two, descriptive field notes summarize what the researcher sees and hears in the setting; they describe what happens in the setting during the observation in as much detail. Then, Reflective field notes include descriptions of the observers' feelings and thoughts about what he or she is observing. These are often recorded as observer comments. Usually, qualitative researcher uses both of them, and write onto the protocol's recording sheet and typed up later (Lodico et al., 2010, p. 118).

## **2) Interview**

Interview is one-on-one conversations in which questions are directly asked of participants (Ugwu & Eze, 2023, p. 24). In qualitative research the purpose of interviews is to encourage interview partners to reveal their construction of reality (their

internal picture of the world) as openly and fully as possible (Cropley, 2022, p. 144). In addition, Interviewers can also show awareness of respondents' world view and point of view, as well as of their feelings and concerns, not only responding appropriately to these but also allowing them to be thematized in the interview (Cropley, 2022, p. 145).

Interviews can be classified as formal or informal (Adhabi & Anozie, 2017, p. 88). The formal can be called a structured interview, the informal can be called an unstructured interview. However, there are also semi-structured interviews. This research using semi structured interview which combines elements of both structured and unstructured interviews. Interviewers frequently have the flexibility to make changes, even though they might stick to a general plan and set of questions, so that the interview may be more creative in gathering the information they require for their studies (Ugwu & Eze, 2023, p. 26). The researcher conducted an interview with face-to-face using open-ended questions for the candidates of English teacher at the school to know how the teacher's perception in implementing this digital learning resources, what's the challenges, how they integrate the cultural education in English learning, what's the benefit of this product, and so on.

The good interview using interview protocol for the guidance, because it helps guide the collection of data in a systematic and focused manner (Lodico et al., 2010, p. 124). The interview protocol should be about two pages in length. There should be some spaces between the questions for the interviewer to write short notes and quotes in case the audio-recording device does not work. The total number of questions should be somewhere between 5 and 10, although no precise number can

be given (Creswell & Creswell, 2018, p. 305). This protocol includes the following components:

- 1) Heading: Date & time, place, name of interviewer & interviewee
- 2) Introduction: Introduce the interviewer self (researcher), give the purpose of the study and how the results will be used, give general explanation about this interview activity (how many the number of questions, what the question is about, etc.)
- 3) The questions (typically an ice-breaker question at the beginning followed by 4-5 questions that are often the sub-questions in a qualitative research plan, followed by some concluding statement or a question.
- 4) Probes for the 4-5 questions, to follow up and ask individuals to explain their ideas in more detail or to elaborate on what they have said.
- 5) Closing statements: A final thank-you statement to acknowledge the time the interviewee spent during the interview (Creswell, 2009, p. 170)

So, there are three types of questions for the interview protocol. Opening questions, Content questions and Probes. In a good interview, the interviewee should talk in natural way. For the opening, most interviewers start with a broad question that invites the interviewee to talk in a general way, and it's called **the grand tour question** because it asks interviewees to answer as if they were introducing someone to their setting or life (Lodico et al., 2010, p. 126). Then, content questions are about the research topic. The sub-questions about this study are also provided to make the discussion richer and the interview questions will sound like a natural conversation (Lodico et al., 2010, p. 127). The last, is using **probe**. A probe is a follow - up



question that is asked to get clarification about the respondent's answer or to ask for more information in detail. The researcher saves the information from interviews by making notes and audio recording.

### 3) Questionnaire

A questionnaire is a list of written questions to be answered by respondents of a particular study. When designing a questionnaire, it is important to ensure the questions are clear and easy to understand. This is because respondents need to understand the questions clearly before answering. There are about four different types of question design for a survey according to the purpose of the survey:

- 1) Contingency questions/Cascade format
- 2) Matrix questions
- 3) Closed-ended questions
- 4) Open-ended questions (Roopa & Rani, 2012, p. 273).

Closed ended and open ended are popular type of questions. Literatures illustrate close ended as **structured** and open ended as **unstructured ones** (Acharya, 2010, p. 3). This research using open ended question and shared by google form to find out the student's perspective and experience during the learning activity using the product. They are free to answer based on their experience and researcher will collect it to be categorized and analyzed.

The researcher must be familiar with the vocabulary of respondents, because understanding vocabulary of target population makes questions simple and easily answerable (Acharya, 2010, p. 7). Furthermore, a questionnaire might contain items related to more than one general topic. The topics of questionnaire can be categorized into sections to make more practical and easier to administration (Acharya, 2010, p. 7). So,

the topic for this research's questionnaires is about CEFR in learning English, technology in learning, multisensory & multimodal approach, Story & emotion, Reading for emotion, critical thinking, English learning, Culture and local content.

#### **4) Secondary data**

Secondary research also known as desk research, uses data that has already been collected (Ugwu & Eze, 2023, p. 27). Research that has already been published and other similar documents is considered secondary research. These documents may be made available through online resources, public libraries, surveys that have already been completed, etc (Ugwu & Eze, 2023, p. 27). It can also be called as study literature. The steps involved in conducting secondary research:

- 1) Identify the topic of research
- 2) Identify research sources
- 3) Collect existing data
- 4) Combine and compare
- 5) Analyze data (Ugwu & Eze, 2023, p. 28)

Here, the researcher applies this technique to add the research's insight. The data obtained from journals, theses, books, websites, social media that related to the topic being researched. The topics are CEFR level, Media in teaching English, Neuroscience about human brain and emotion, Transformative learning, Story, Culture, Digital book, Reading for Emotion, multisensory and multimodal approach, empathy, and so on.

#### **1.10.4 Data Analysis Technique**

The data that has been obtained needs to be analyzed to reduce and make relevant the results with the problem formulation at the beginning to suit the research objectives. To analyze the data, as follows:

## 1) Interview & Observation

The Interview transcript and field notes observation can use the thematic analysis technique to analyze the data obtained. Thematic analysis is a data analysis procedure that centres on identification, description, explanation, substantiation and linkages of themes (Kampira, 2021, p. 5). In other words, Thematic analysis is the process of identifying patterns or themes within qualitative data (Maguire & Delahunt, 2017, p. 3352). The goal of a thematic analysis is to identify themes, i.e. patterns in the data that are important or interesting, and use these themes to address the research or say something about an issue (Maguire & Delahunt, 2017, p. 3353). Thematic analysis is useful for summarizing key features of a large data set, as it forces the researcher to take a well-structured approach to handling data, helping to produce a clear and organized final report (King, 2004; Nowell et al., 2017, p. 2). Thematic analysis is generally a five-step process (Kampira, 2021, p. 6): Familiarisation with the data, Coding, Generating initial themes, Reviewing themes, Writing up.

### 1) Familiarisation with the data

The first step is reading, and re-reading the transcripts. You should be very familiar with your entire body of data or data corpus (i.e. all the interviews and any other data you may be using) before you go any further. At this stage, it is useful to make notes and jot down early impressions (Maguire & Delahunt, 2017, p. 3355).

### 2) Coding

The process of identifying different segments of the data that describe related phenomena and labelling these parts using broad category names. It is an inductive process of data analysis that involves examining many small pieces

of information and abstracting a connection between them (Lodico et al., 2010, p. 183). Coding can be conducted by hand or by computer. Whether the researcher uses a computer program or manual, coding involves a process of continual elimination and refinement of data to producing a more coherent view of the patterns in the data.

### 3) Generating initial themes

A theme is a pattern that captures something significant or interesting about the data and/or research question (Maguire & Delahunt, 2017, p. 3356). Themes are typically “big ideas” that combine several codes in a way that allows the researcher to examine the qualitative sub-questions guiding the research (Lodico et al., 2010, p. 185). In this case, we examined the codes and some of them clearly fitted together into a theme. For example, we had several codes that related to perceptions of good practice and what students wanted from feedback. We can create the initial theme called “the purpose of feedback” (Maguire & Delahunt, 2017, p. 3356).

### 4) Reviewing themes

During this phase, we will review, modify and develop the themes that we identified before. At this point it is useful to gather together all the data that is relevant to each theme. We match the data and each the previous theme, whether the data really did support it. The next step is to think about whether the themes work in the context of the entire data set (Maguire & Delahunt, 2017, p. 3358). Themes should be coherent and they should be distinct from each other. We will be eliminated, create a new theme, combining themes in this stage.

### 5) Writing up

writing report is including the researcher's interpretations of what the data mean. Most qualitative research is reported in a narrative way, so makes it enjoyable to read. The research report may be organized using any of several different report formats. The choice of format may be determined both by the results of the data analysis and by the researcher's philosophical framework and purpose in conducting the research (Lodico et al., 2010, p. 192).

Then, for the interpreting data from field notes observation is similar to the interview analysis. It is involve analyzing the researcher's written record, experiences, and insights gained during conducting research. The general steps are:

- 1) Familiarize with the Field Notes: Review the field notes to understand the context, content, and themes present in the observations.
- 2) Identify Themes and Patterns: identify the themes, patterns, and concepts in the field notes according to sub-questions at Research question #2. This can involve highlighting common behaviors, social interactions, or cultural practices observed in the field
- 3) Coding the Data: Organize the data by coding the themes and patterns identified in the field notes.
- 4) Consider the Context: It is like the reviewing themes in the explanation before, keep in mind the context in which the field notes were taken, as well as the researcher's reflections and experiences.
- 5) Compare and Contrast: In this stage, researcher can use triangulation to confirming evidence is often obtained. Triangulation is the process of comparing different sources of data (for example, interviews and observations) or

perspectives of different participants to gain a more comprehensive understanding of the research topic (Lodico et al., 2010, p. 189)

- 6) Report the Findings: The last, it is the writing up stage. Present the results of analysis in a clear manner, highlighting the key themes, and insights gained from the field notes.

**2) Questionnaire**

In the analysis of questionnaire results regarding students' views and experiencing on the implementation of this product, the data is presented in the form of each response with their answers. Researcher identified statements with the same way, applying thematic analysis. Identify the responses from students. Then, organize the data by separating positive, neutral and negative responses. Then, take the sample of each category of responses and discuss it and giving additional insights if there is needed, thereby can enhance the areas requiring improvement.

**1.10.5 Research Timeline**

This section describes the scheme of research's' planning from this research was created, then following the initial proposal, continuing with revisions, taking research data, analyzing the data, then interpreting the research results.

**Table 1. 3** The Thesis Rundown

	Activities	Month																			
		January				February				March				April				May			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Research																				

	Proposal Stages	■	■	■	■																	
2	Data collection					■	■	■	■	■	■											
3	Data Analysis											■	■	■	■							
4	Arranging Finding & Discussion														■	■	■	■	■			
5	Making Conclusion																				■	■

