

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### A. Theoretical Background

##### 1. Reading Comprehension

One of the parts of English skill is reading in which students should master in order that they understand the information from the written text. Generally, reading is also the ability to get the message and to find a meaning of information. According to Johnson, reading is the practice of using text to create meaning.<sup>10</sup> In addition, Harmer defines that reading is an incredibly active occupation where we have to understand what the words mean, see the pictures the words are painting, understand the arguments, and work out if we agree with them.<sup>11</sup> Caroline says that reading is a set of skills that involves making sense and delivering meaning from the printed word.<sup>12</sup> Students use their sense to read information from the written text and their thinking skills to get the knowledge of the text.

Furthermore, when students are able to understand the argument, information, message that involve the sense and showed by text, it can improve their reading comprehension. It involves higher-order thinking skills and is much more complex

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<sup>10</sup> Andrew P. Johnson, *Teaching Reading and Writing A Guidebook for Tutoring And Remediating Students* (New York: Rowman& Littlefield Education, 2008), 3.

<sup>11</sup> Jeremy Harmer, *How to teach English* (Essex: Longman, 2001), 70.

<sup>12</sup> Caroline T. Linse, *Practical English Language Teaching: Young Learners* (New York: McGraw-Hill, 2005), 69.

than merely decoding the specific word.<sup>13</sup> According to Mikulecky and Jeffries, the comprehension is more than just recognizing and understanding a text but true comprehension means making sense of what students read and connecting the ideas in the text to what they already know.<sup>14</sup> Reading comprehension means remembering and thinking what students being read from the written text.

#### **a. Reading Strategies**

Students can improve their reading comprehension when in learning process use strategies to support learning activities. Commonly, the strategy that is used in the reading process is top-down and bottom-up. In top-down processing, the reader gets a general view of the reading passage by, in some way, absorbing the overall picture. Harmer also says that in bottom-up processing the reader focuses on individual words and phrases and achieves understanding by stringing these detailed elements together to build up a whole.<sup>15</sup>

Furthermore, Brown writes that are ten strategies for reading comprehension.<sup>16</sup> The first identify the purpose in reading, use graphemic rules and patterns to aid in bottom-up decoding (especially for beginning level learners. Next strategies are using efficient silent reading techniques for relatively rapid

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<sup>13</sup> Ibid., 71.

<sup>14</sup> Beatrice S. Mikulecky and Linda Jeffries, *Advanced Reading Power: Extensive Reading, Vocabulary Building, Comprehension Skills, Reading Faster* (White Plains, NY: Longman, 2007), 74.

<sup>15</sup> Jeremy Harmer, *The Practice of English Language Teaching* (United Kingdom: Longman, 2001), 201.

<sup>16</sup> H. Douglas Brown, *Teaching by Principles An Interactive Approach to Language Pedagogy Second Edition* (California: Longman, 2000), 306.

comprehension (for intermediate to advanced levels), skim the text for main ideas, scan the text for specific information, use semantic mapping or clustering, guess when students aren't certain, analyze vocabulary, distinguish between literal and implied meaning, and the last is to capitalize on discourse markers to process relationships.

On the other hand, the main reason that teachers teach reading is students can learn independently in the classroom activities. By using the strategies, teachers can apply in their classroom techniques and the goal of learning activities is attainable.

#### **b. Scope of the Reading in Senior High School**

Based on KTSP 2006 and Curriculum 2013 in SMA, reading does not stand alone, but rather become part of English lesson. There is about part of KTSP syllabus to guide teaching the process such as Standard Competence and Basic Competence. Standard of competence (SK) is minimal ability qualification of student that figured the controlling of attitude, knowledge, and skill that expected to be achieved in every level and/ or semester. Basic competence (KD) is a capability that has to be owned by students in some subject as a reference to arrange indicator of competence.<sup>17</sup> There is the example of scope reading lesson in the tenth grade second semester.

<b>Standard of Competence (SK)</b>	<b>Basic Competence (KD)</b>
<b>Reading</b>	

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<sup>17</sup> Aulia Yushlihanisa Adnin, *Developing Learning Media Mind-Mapping Accounting Based on Android for XI IPS SMA Students* (Undergraduate Thesis, UNY, Yogyakarta, 2015), 13.

11. Understanding the idea of short functional text and simple essay in the form of narrative, descriptive, and news item in daily life contexts and to access knowledge.	11.1 Responding the idea in short functional text (e.g. announcement, advertisement, invitation, and so on) in an informal situation accurately and fluently using various kinds of written language in daily life.
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Based on the above standard of competency in reading skill of tenth grade on the second semester, students have an ability to understand the idea of the short functional text and simple essay in the form of narrative, descriptive, and news item in daily life contexts and to access knowledge. The basic competence students have skills to respond the idea in short functional text (e.g. announcement, advertisement, invitation, and so on) in an informal situation accurately and fluently using various kinds of written language in daily life. The SK and KD is a main basic to design and develop material, learning activities and indicator.

## **2. English Instructional Media**

It is widely recognized that media plays an important role to assist the learning process in order to improve the quality of education. Generally, media is a tool of communication. However, there are various definition media by some expert. Heinich state that a medium (plural, media) is a channel of communication. Derived from the Latin word meaning “between,” the term refers to anything that carries

information between the source and a receiver.<sup>18</sup> According to Richards and Schmidt, the medium is the means by which a message is conveyed from one person to another.<sup>19</sup> Furthermore, media is the main means of communicating with the large numbers of people especially television, radio, and newspaper.<sup>20</sup> Media are the means for transmitting or delivering messages and in teaching-learning perspective delivering content to the learners, to achieve effective instruction.<sup>21</sup> Media in the learning process is a tool of communication by which a material is conveyed from teachers to students to help students to understand the lesson easily and it can improve their achievement. It influences the quality of learning activities effectively and interestingly.

In addition, Gagne et.al states that instruction is a set of events that effect learners in such a way that learning is facilitated.<sup>22</sup> Heinich confirms that these are considered instructional media when they carry messages with an instructional purpose. The purpose of media is to facilitate communication.<sup>23</sup>

Moreover, instructional media and technologies for learning can help provide a learning atmosphere in which students actively participate. When instructional

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<sup>18</sup> Robert Heinich, ed., *Instructional Media and Technologies for Learning*, 7th ed (Upper Saddle River, N.J: Merrill, 2002), 9–10.

<sup>19</sup> Jack C. Richards and Richard W. Schmidt, *Longman Dictionary of Language Teaching and Applied Linguistics*, 4th ed (Harlow: Longman, 2010), 356.

<sup>20</sup> Albert Sydney Hornby and Jonathan Crowther, *Oxford Advanced Learner's Dictionary of Current English*, 5. ed., 2. impr (Oxford: Oxford Univ. Press, 1995), 727.

<sup>21</sup> Ahsan Akhtar Naz and Rafaqat Ali Akbar, "Use of Media for Effective Instruction its Importance: Some Consideration", *Journal of Elementary Education A Publication Of Deptt. of Elementary Education IER, University of the Punjab, Lahore-Pakistan*, Vol. 18(1-2) 35-40.

<sup>22</sup> Robert M. Gagné, Leslie J. Briggs, and Walter W. Wager, *Principles of Instructional Design*, 4th ed (Fort Worth: Harcourt Brace Jovanovich College Publishers, 1992), 207.

<sup>23</sup> Heinich, *Instructional Media and Technologies for Learning*, 10.

media and technology are used properly and creatively in the classroom, it is the machines that are turned on and off at will, not the students.<sup>24</sup> Aini writes that instructional media is all materials that can be used by the teachers to conduct teaching learning activities and support students in reaching instructional objectives.<sup>25</sup>

In short, English instructional media is all conceptual plans or events in the English lesson that establish situation in the teaching learning activities used by teachers to support in instruction to attain English material objectives, improve knowledge, increase comprehension, ability, and engage students in English lesson.

#### **a. Kinds of Instructional Media**

Using English instructional media is very important to help students improve new concepts of their skills and language competence. It is also assisted students to comprehend the material easily. There are many kinds of instructional media which can be used by teachers in English teaching learning process. According to War and May, it is such as print, audio, audio-visual and multimedia.<sup>26</sup> The print media is composed of newspaper, magazine, book, and photography. Next, audio is made of radio, recorded music, and it is also audio-visual such as video production, film, and television. Then, it is multimedia such as web pages, computer games, the linking of a range of media together including the visual and the performing arts.

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<sup>24</sup> Ibid., 9.

<sup>25</sup> Wildan Nurul Aini, *Instructional Media in Teaching English to Young Learners: A Case Study in Elementary Schools in Kuningan*, *Journal of English and Education*, Vol. 1(1) 2013, 196.

<sup>26</sup> Markham May and Sue Warr, *Teaching Creative Arts and Media 14+* (New York: McGraw Hill Open University Press, 2011), 5.

Furthermore, according to Naz and Akbar, they mention several types of media such as print media, graphic media, photographic media, audio media, television/video, computer, simulation and games.<sup>27</sup> Print media refers to the copy of material such as news paper, magazine, digest, journals, bulletins, handouts, and poster. Secondly, graphic media consist of overhead transparencie charts, graphs models, dioramas, maps, globes. Next, photographic media is composed of still pictures, slides, filmstrips, motion pictures, and multi-images. Audio media produce a sound and it is just to listen for example audiotape, audiocassettes, records, radio, and telecommunication. Fifthly, television/video refers to audio visual that is for instance broadcast television, cable television, (videotape, video cassettes, videodiscs, teletext, and videotext. Then, computers media may consist of minicomputer and microcomputer. The last is simulations and games for example boards, written, human, interaction, machine etc.

Moreover, Gerlach and Ely write that the six types of media, it is important to note that more than one presentation mode usually can be used to distribute the same medium.<sup>28</sup> They are still pictures (textbook illustration, as bulletin board materials, as slides, filmstrips frames, or overhead transparencies), audio recording (magnetic tape, on disc, or on motion picture sound tracks), motion pictures, television, real things,

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<sup>27</sup> Ahsan Akhtar Naz and Rafaqat Ali Akbar, "Use of Media for Effective Instruction its Importance: Some Consideration", *Journal of Elementary Education A Publication Of Deptt. of Elementary Education IER, University of the Punjab, Lahore-Pakistan*, Vol. 18(1-2) 36-37.

<sup>28</sup> Vernon S. Gerlach, Donald P. Ely, and Rob Melnick, *Teaching and Media: A Systematic Approach*, 2d ed (Englewood Cliffs, N.J: Prentice-Hall, 1980), 247–249.

simulations, and models (this category includes people, event, objects, and demonstrations), programmed and computer-assisted instruction.

Additionally, one of the characteristics good teachers is using instructional media in the teaching process. Teachers should be selective when choosing the media. Branch mentions that the process for selecting media or developing new media based on the context, expectations, performance conditions, available resources, culture, and practicality.<sup>29</sup> Choosing media may related to the purpose of teaching, material, method and strategy, available of a tool used, characteristic of teachers, condition, proclivity, and skill of students, learning environment.<sup>30</sup>

#### **b. The Function of Instructional Media**

One of the main functions of instructional media is to assist in teaching process more creativity and it can stimulate students' motivation in learning activities. According to Naz and Akbar, the functions of instructional media help students gained knowledge, motivate the learners, give classroom instructions in an organized way, can be appropriate teaching tools for teacher, enhance comprehension skills and the clarity of communication, help in stirring the imaginal, serve as ideal tools to review the learning outcome and to evaluate the completeness of certain

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<sup>29</sup> Robert Maribe Branch, *Instructional Design: The ADDIE Approach* (New York: Springer, 2009), 98.

<sup>30</sup> Hujair AH Sanaky, *Media Pembelajaran Interaktif-Inovatif* (Yogyakarta: Kaukaba Dipantara, 2013), 7.



learning, open out greater scope for interactive learning and offers opportunities for individual learning.<sup>31</sup>

Additionally, Ely and Gerlach explain that instructional media play a key role in the design and use of systematic instruction. It means that is any person, material, or event that establishes conditions which enable the learner to acquire knowledge, skills, and attitudes.<sup>32</sup> Furthermore, Branch writes that instructional media can extend the capability of the teacher and extend the capability of the student.<sup>33</sup>

Moreover, the function of instructional media can clarify message and information, increase and direct attention, overcome the limitation senses, space and time, can the similarity of students' experience, learn to be more interesting, students to do more learning activities, teaching methods will be more varied.<sup>34</sup>

In short, the benefit of using English instructional media is to help and to facilitate students and teachers in teaching and learning process. It is an important tool to support learning situation, and it can influence the climate, condition, and the learning environment that is created and styled by the teachers more effectively, creatively, and easily.

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<sup>31</sup> Ahsan Akhtar Naz and Rafaqat Ali Akbar, "Use of Media for Effective Instruction its Importance: Some Consideration", 38-39.

<sup>32</sup> Gerlach, Ely, and Melnick, *Teaching and Media*, 241.

<sup>33</sup> Branch, *Instructional Design*, 98.

<sup>34</sup> <https://educationlearning.wordpress.com/2009/01/16/function-and-benefits-of-learning-media/> ( accessed on June 5, 2017)

### **3. The Feasibility of Instructional Media**

The general meaning of feasibility in education is to find out if the product possible and comfortable to use in teaching and learning activities. According to Katharine Bause, et.al, feasibility studies aim to point out chance and risk of projects, which are planned or already in process. The focus of feasibility studies are five areas such as: technical, economic, legal, operational and scheduling.<sup>35</sup> A feasibility study is conducted to obtain an overview of the problem and to roughly assess whether feasible solutions exists prior to committing substantial resources to a project.<sup>36</sup> In addition, the feasibility uses in the product development process. It is to know the potential success of product development.

Furthermore, the importance of the instructional media feasibility is to find and to know the quality of media product. It is to measure the feasible of media based on suggestion and critics given by experts, teachers, and students that can know the advantages and disadvantages of the instructional media. Based on the result of feasibility of the instructional media, it can to find out that the media is effective, comfortable, and efficient to support learning and teaching in the classroom.

#### **a. Measurement of Instructional Media Feasibility**

It is the importance role of product development process to measure the product that is to know the product better and feasible before its use for in the

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<sup>35</sup> Khatarine Bause., et.al, "Feasibility Studies in the Product Development Process", *Procedia CIRP Design Conference*, 21 (2014) 473-478.

<sup>36</sup> Rodney Overton, *Feasibility Studies Made simple* (Australia; Martin Books, 2007), 6.

educational activities. According Romi Satria Wahono, there are several aspects and criteria on feasibility of learning media based on Information and Communication Technology (ICT) as follows<sup>37</sup>:

#### 1) Aspects of Software Engineering

It is such as effective and efficient in development and utilization of instructional media, reliable, maintainable (can be maintained/ easy managed), reusability (easy to use and simple in operation), appropriateness of application type selection/software/tool for development, compatibility (instructional media can be installed/run in various existing hardware and software), integrated instructional media program packaging and easy execution, and completely instructional media and reusable ( it can develop in other instructional media).

#### 2) Aspects of Instructional Media Design

The aspect is composed of clarify of learning objectives, the relevance of learning objectives, the scope and the depth of learning objectives that arranged, the appropriateness of learning strategies utilization, interactivity, provision of learning motivation, conceptuality and actuality, completeness and quality of learning assistance substance, compatibility material with learning objective, the depth of material contained in media, material easily to be understood even presented as a game, presented material systematically arranged, coherent, and clear logical flow, the clarity of description,

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<sup>37</sup> Romi Satria Wahono, Aspect Rekayasa Perangkat Lunak dalam Media Pembelajaran, <http://romisatriawahono.net/2006/06/23/media-pembelajaran-dalam-aspek-rekayasa-perangkat-lunak/> (accessed on August, 04 2017)

explanation, examples, simulations, exercise, consistency between evaluation with learning objectives, the appropriateness and permanence of evaluation tools, and giving feedback or response to evaluation results.

### 3) Aspects of Visual Communication

It consist of communicative, creative, simple, visual (layout design, typography, color) based on the theme and attract attention, moving media (animation, movie, interactive layout (navigation icon).

## 4. Mobile Learning

Mobile learning (M-Learning) appears from the outside to learn via mobile device especially smartphones. In English language teaching context, it is called the mobile assisted language learning (MALL) that is derived from the concepts of computer assisted language learning (CALL). CALL is a term used by teachers and students to describe the use of computers as part of a language.<sup>38</sup> Additionally, technological advances have made CALL a wide field that includes the use of the internet (multimedia sources, online dictionaries); communication tools such as MOOs, email, chat rooms, and audio/videoconferencing; software and applications designed specifically for language learning, the authoring and publication of web,

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<sup>38</sup> Nazh Gunduz, "Computer Assisted Language Learning", *Journal of Language and Linguistic Studies*, Vol. 1 (October 2005) 197.

digital audio and video materials, etc., all of which seek to enhance and promote language learning.<sup>39</sup>

Furthermore, according to Hanafi and Samsudin, M-Learning is a type of E-Learning that delivers educational contents and learning support materials through wireless communication.<sup>40</sup> E-Learning is networked, which makes it capable of instant updating, storage/retrieval, distribution and sharing of instruction or information. It is delivered to the end-user via a computer using standard internet technology. It focuses on the broadest view of learning solutions that go beyond the traditional paradigms of training.<sup>41</sup>

Nowadays, the demands of teachers must be have technology skill based on the need of students in learning process. The MALL is one of impacts of technology development as an English instructional media to support teaching process. The MALL applications have gained a universal acceptance in the learning context of improvising English language skills of English as Foreign Language (EFL) students.

On the other hand, mobile learning is defined as all “knowledge in the hand” and by using mobile communication, it can include the use of mobile devices to perform any of the following:

- Deliver education/learning.

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<sup>39</sup> Michael H. Long and Catherine Doughty, eds., *The Handbook of Language Teaching*, Blackwell Handbooks in Linguistics (Chichester, U.K. ; Malden, MA: Wiley-Blackwell, 2009), 351.

<sup>40</sup> Hafizul Fahri Hanafi and Khairulanuar Samsudin, “Mobile Learning Environment System (MLES): The Case of Android-based Learning Application on Undergraduates’ Learning”, 1.

<sup>41</sup> Lantip Diat Prasajo, *Teknologi Informasi Pendidikan* (Yogyakarta: Gava Media, 2011), 209.

- Foster communications/collaboration.
- Conduct assessments/evaluations.
- Provide access to performance support/knowledge.<sup>42</sup>

The application of mobile learning can be developed using a variety of mobile technologies and platforms. Each implementation of mobile learning has a different characteristic. The application of mobile learning consists of: 1. Mobile Devices, 2. Software, 3. Content of application.<sup>43</sup>

Interestingly, mobile device plays an important role to support quality of learning and teaching activities. Nurul and Zaidatun write that mobile device has transformed the way people communicate, access, and giving information.<sup>44</sup> By using mobile devices in learning English as a second language gained positive feedback from both teachers and learners, provide more interesting learning environments, allow collaborative activities, immediate feedback to students, close interaction for students, and increase learning performance.<sup>45</sup>

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<sup>42</sup> Kwang B. Lee and Raied Salman, "The Design and Development of Mobile Collaborative Learning Application Using Android", *Journal of Information Technology and Application in Education*, Vol. 1 (2012) 2.

<sup>43</sup> Kurniawan Teguh Maetono and Oky Dwi Nurhayati, "Implementation of Android Based Mobile Learning Application as a Flexible Learning Media", *International Journal of Computer Science Issues*, Vol. 11 (May 2014), 170.

<sup>44</sup> Nurul Farhana Jumaat and Zaidatun Tasir, "Integrating Project Based Learning Environment into the Design and Development of Mobile Apps for Learning 2D-Animation", *Social and Behavioral Sciences International Educational Technology Conference* 103(2013) 527.

<sup>45</sup> Nadire Cavus, "Development of an Intelligent Mobile Application for Teaching English Pronunciation", *Propedia Computer Science 12<sup>th</sup> International Conference on Application of Fuzzy Systems and Soft Computing*, 102 (29-30 August, 2016), 366.

### **a. The Advantage of Mobile Learning**

The rise of mobile device such as smartphone and tablet has sparked a mobile learning revolution. Those are the benefits using mobile learning to improve the quality education as follows: learning flexibility, improved completion and retention, online learning communities, learning on multiple devices, better performance, and a clear path to learning.<sup>46</sup>

Moreover, the advance of mobile technology assists the development of “situated classroom” which is an augmented knowledge context environment pertaining to students’ daily life.<sup>47</sup> It means that mobile learning can support students in learning process related to their situation. M-Learning is able to make learning more engaging. Because when students are engaged and they are interested in learning activities, that’s where learning take place.

Additionally, according to Garry, there are the benefits using mobile learning as follows:<sup>48</sup>

Improved retention: Because it is just in time, just enough for the task at hand, and personalized for the learner, the information that the learner takes in is more likely to be retained, especially when the learner knows that she will encounter similar situations in her work.

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<sup>46</sup> Jayme Jenkins, 6 Mobile Learning Benefits: The Mobile Learning Revolution, <https://elearningindustry.com/6-mobile-learning-benefits-mobile-learning-revolution> (accessed on June 6, 2016)

<sup>47</sup> Yu-Lin Jeng, et.al., “The Add-on Impact of Mobile Applications in Learning Strategies: A Review Study, Educational Technology & Society, 13 (2010), 8.

<sup>48</sup> Gary Woodill, The Mobile Learning Edge (New York: Mc Graw Hill, 2011), 24-25.

**Efficiency:** Mobile learning is very efficient because of the portability of information sources provided by anytime, anywhere connectivity. It allows access to information sources and assistance in a very flexible way that is also empowering and engaging for learners. Mobile learning can also be efficient in that it has the potential to leverage the “idle time” of professionals on the move that would likely otherwise be non-productive.

**Cost savings:** Mobile learning has cost benefits to large organizations that deploy this approach, because the mobile devices needed are, in most cases, already in the pockets of potential users. (But, to counter this, there is a growing tendency on the part of larger companies to require employees to only use company-issued mobile devices for work). Of course there are also savings because of reduced requirements for classroom space and for travel by both staff and learners.

**Time savings:** Mobile learning is also immediate—there is usually little or no waiting for the answer to a question. There is no need to schedule classes on a topic or to wait for a presentation. Learning happens following the learner’s own time schedule. For example, if an employee can access mobile learning while he is also working with a customer, the customer is better served and doesn’t have to wait long for answers. Better still, as we demonstrate in Chapter 4, mobile learning can be delivered directly to a customer in the form of customer education or as an immediate answer to a question.

**Increased collaboration and community:** Mobile learning can foster collaboration between colleagues in a company and/or between employees and clients of that



company. Together they can form a community of practice that supports all participants with timely information as it is needed.

More granular design: Mobile learning content is, by necessity, formatted differently from e-learning delivered on laptop or desktop computer screens. What is sent to the learner must be produced in small, discrete pieces of information (sometimes called mobile learning objects), which may be easier to digest. For example, in Japan, Masayasu Morita evaluated the use of English language lessons formatted differently for computers and cell phones. He found that 90 percent of cell phone users were still accessing the lessons after 15 days, compared to only 50 percent of computer users (Prensky, 2004).

Up-to-date information: Mobile learning is dynamic. It is today's content, not old news. Online experts and up-to-date sources are often available.

Personalization: Mobile learning is individual. Learners select activities from a personal menu of learning opportunities most relevant to their background at the moment of their choosing.

Comprehensiveness: Mobile learning is comprehensive. It provides learning events from many sources, thus enabling learners to select a favorite format, learning method, or training provider.

## **5. Android-based Application**

### **a. Android**

Android is a comprehensive open source platform designed for mobile device. It is championed by Google and owned by Open Handset Alliance. The goal of the alliance is to “accelerate innovation in mobile and offer consumers a richer, less expensive, and better mobile experience.” Android is the vehicle to do so.<sup>49</sup>

Generally, android is an open-source operating system used in touch screen mobile device such as smartphones and tablet computers. Those are android systems that have been released as follows<sup>50</sup>: starting from version 1.0 (alpha), version 1.1 (beta), version 1.5 (cupcake), version 1.6 (donut), version 2.0 (eclair), version 2.2 (froyo), version 2.3 (gingerbread), version 3.0 (honeycomb), version 4.0 (ice cream sandwich), version 4.1 (jelly bean), version 4.4 (kitkat), version 5.0 (lollipop), version 6.0 (marshmallow), version 7.0 (nougat).

The android version is always update new features every years, for example android 6.0 marshmallow release October 5, 2015 and the new features are contextual search from keywords within apps, introduction of Doze mode, app standby feature, native fingerprint reader support, app permissions now granted individually at run-time, not all or nothing at install time and so on.

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<sup>49</sup>Marko Gargenca, Learning Android (America: O'Reilly Media, 2011), 1-4.

<sup>50</sup> Android version history - Wikipedia.html, accessed on 27 March 2017.

## b. Developing an Android-based Application Using Adobe Flash Professional CS6

Adobe flash professional CS6 is an authoring tool that you can use to create games, applications, and other content that responds to user interaction.<sup>51</sup> Adobe Flash Professional CS6 provides a comprehensive authoring environment for creating interactive and media-rich applications. Use Flash to build innovative and immersive Web sites, to create stand-alone applications for the desktop, or to create apps to distribute to mobile devices running on the Android or the iOS system.<sup>52</sup>

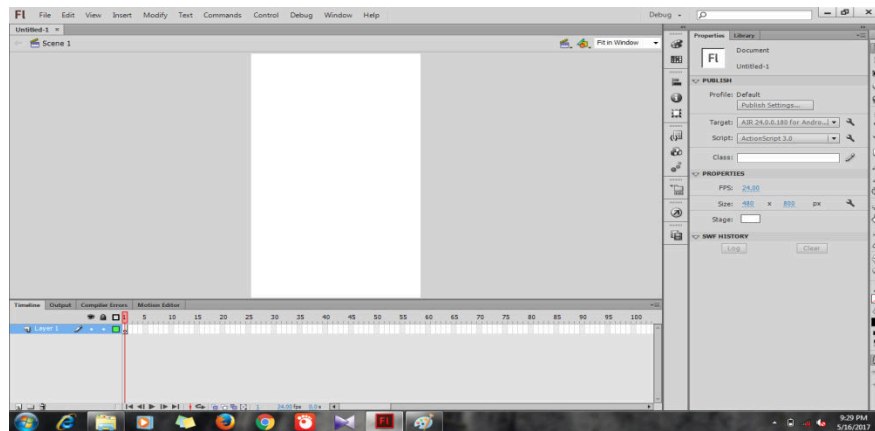


Figure 1. Interface Adobe flash professional CS6

Furthermore, adobe flash professional CS6 user interface is compared of five main parts. They are:

<sup>51</sup> Adobe. (<http://www.adobe.com/devnet/flash/articles/create-first-flash-document.html>, accessed on 12 March 2017)

<sup>52</sup> Russel Chun, Adobe Flash Professional CS6 Classroom in a Book (USA: Adobe Press Books, 2012), 1.

- The Stage is like the canvas that defines the visible area during playback. It can arrange graphics, videos, buttons, and other elements on the Stage while authoring projects.
- The timeline controls the timing that specifies when elements in the movie appear on the Stage. The play head begins at Frame 1 and moves from left to right as the movie proceeds through the frames. Drag the layers in the Timeline to arrange the layering order of graphics on the Stage. Graphics in the higher layers appear to be placed on top of the graphics in the lower layers.
- The Tools panel contains the tools used to select objects on the Stage, create text elements, and draw vector graphics.
- The Property inspector displays contextual information about the attributes of any selected object. It can edit these options to adjust an object's settings.
- The Library panel contains media elements and symbols that are stored for a project. Use this panel to manage and organize the project's elements. When you publish a SWF file, only the Library items you actually use are included in the published file; you don't have to "clean out" unused elements that weren't used because they won't increase the published SWF file's size (although they do increase the size of the master FLA file).<sup>53</sup>

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<sup>53</sup> Adobe. (<http://www.adobe.com/devnet/flash/articles/create-first-flash-document.html>, accessed on 12 March 2017)

## **B. Previous Research Findings**

There are some studies which are relevant to the study the researcher conducts here. This study can be supported by android-based reading applications as an instructional media.

Aulia Yushlihannisa in a research entitled is “Developing Learning Media Mind-Mapping Accounting Based on Android for Xi IPS SMA Students’.<sup>54</sup> The objectives of her research were to develop learning media mind-mapping accounting service company based on android for XI IPS SMA students, to know the feasibility of learning media mind-mapping accounting based android for XI IPS SMA students, and to know the opinion of students about using learning media mind-mapping accounting based android for XI IPS SMA students. The result of the research presented that media is feasible to use, and proven by validation from material expert got score 4,75 with “Very feasible” category, from media expert got score 4,38 with category “Very feasible”, and from Accounting practitioner got score 4,10 with category “Feasible”. Responses from the students of this media are interesting and practically, the mind-map appearance simplify students in learning and encourage the curiosity to learn Accounting, increase the understanding about Accounting, and increase the students interest in learning Accounting.

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<sup>54</sup> Aulia Yushlihannisa Adnin, *Developing Learning Media Mind-Mapping Accounting Based on Android for XI IPS SMA Students’* (Undergraduate Thesis, UNY, Yogyakarta, 2015)

The similarity of this research conducted by her is same model using research and development the ADDIE model and her media is developed based on android too. While the difference is related to the material that she presented is mind-mapping accounting but in this research is reading application.

Moreover, the research study by Nadire Cavus in research titled “Development of an Intelligent Mobile Application for Teaching English Pronunciation”.<sup>55</sup> In the research study the originality of the developed application is that a speech recognition engine has been used on the mobile phone to recognize spoken words so that any pronunciation errors can easily be identified and then corrected. The feature of the mobile application increases the motivation of the learner and makes learning easier and more enjoyable than the traditional learning methods.

Another researches by Shanmugapriya M. and Tamilarasi A in a research titled “Design and Development of Mobile Assisted Language Learning (MALL) Application for English Language using Android Push Notification Services”.<sup>56</sup> The main goal of this paper is based on the research work of designing and developing M-learning framework which supports the ubiquity principle of learning anytime, anywhere and through any device. The finding of the research the 'Push' notification

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<sup>55</sup> Nadire Cavus, “Development of an Intelligent Mobile Application for Teaching English Pronunciation”, Propedia Computer Science 12<sup>th</sup> International Conference on Application of Fuzzy Systems and Soft Computing, 102 (29-30 August, 2016).

<sup>56</sup> Shanmugapriya M. and Tamilarasi A, “Design and Development of Mobile Assisted Language Learning (MALL) Application for English Language using Android Push Notification Services, International Journal of Research in Computer and Communication Technology, Vol 2 (June, 2013).

model saves the battery usage of the device, data accessing costs in terms of mobile network, minimized the 'Pull' effort of the learner and ultimately enhances the learning experience, improved learning with rich collaborative facilitation.

The next is a research by Kwang B. Lee and Raied Salman in a research titled “The Design and Development of Mobile Collaborative Learning Application Using Android”.<sup>57</sup> The research examines that the adapted four-layer architecture can provide an efficient and fast way of delivering the contents to mobile devices. The design and development of MCL using client-server based architecture should be a fast and secure method to share and deliver contents. The implemented the MCL application prototype with recommending and explaining valuable suggestions on how to use Android operating systems and how to meet course objectives. And the MCL user requirements by conducting a usability test to design and develop a new MCL application to meet the pedagogical requirements of students, teachers, teaching assistants, and administrators.

Another researches by Hafizul Fahri Hanafi and Khairulanuar Samsudin in a research titled “Mobile Learning Environment System (MLES): The Case of Android-based Learning Application on Undergraduates’ Learning.”<sup>58</sup> They examine that the respondents were very receptive to the interactivity, accessibility, and convenience of the system, but they were quite frustrated with the occasional

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<sup>57</sup> Kwang B. Lee and Raied Salman, “The Design and Development of Mobile Collaborative Learning Application Using Android”, *Journal of Information Technology and Application in Education*, Vol. 1 (2012) 2.

<sup>58</sup> Hafizul Fahri Hanafi and Khairulanuar Samsudin, “Mobile Learning Environment System (MLES): The Case of Android-based Learning Application on Undergraduates’ Learning”.

interruptions due to internet connectivity problems. Overall, the mobile learning system can be utilized as an inexpensive but potent learning tool that complements undergraduates' learning process.

The last is a research by Kurniawan Teguh Maetono and Oky Dwi Nurhayati in a research titled "Implementation of Android Based Mobile Learning Application as a Flexible Learning Media".<sup>59</sup> They confirms that the result obtained from the research is that 95% of user from university students enjoy in using the application of mobile learning and it is only 5% does not enjoy. At last, it can be concluded that the use of the mobile learning application can make the learning process more flexible.

Related to this research, these research findings become valuable contribution and reference to the researcher. This research study is applying research and development (R&D). The research procedure adopts ADDIE (analysis, development, design, implementation, and evaluation). The researcher realizes well that conducting a research to develop an android-based reading application as an English instructional media in teaching and learning reading skill.

### **C. Theoretical Framework**

Instructional media is one of important tool to assist teaching and learning activities. It can improve the students' knowledge, skill, and it possible increase students' achievement. The teacher can use media to teach the material easily and

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<sup>59</sup> Kurniawan Teguh Maetono and Oky Dwi Nurhayati, "Implementation of Android Based Mobile Learning Application as a Flexible Learning Media", *International Journal of Computer Science Issues*, Vol. 11 (May 2014)



effectively. The kinds of media is various, the teacher must be selected the media related the environment of the class.

In line with the development of technology, there has been a shift of using media in the classroom. Teachers use technology to support the teaching by using multimedia such as LCD, Projector, Computer, and Laptop. Moreover, the rapid development of technology has encouraged them to integrate the teaching skills through computer based language learning and it is known as computer assisted language learning (CALL).

On the other hand, the user of smartphone android is known as rapidly growing trends among students in senior high school. Nurul and Zaidatun write that it is quite a challenge for instructional designer to adapt with specific instructional learning setting in the design and development of mobile apps.<sup>60</sup>

The mobile learning (M-Learning) can be solution in this era to change the education activities more interesting. M-learning is a platform of learning to learn via mobile device such as smartphone android. In addition, mobile devise can facilitate human interaction and access to information resources anytime and anywhere.<sup>61</sup>

The challenge of teachers in this era are not many teachers are aware and know how to use and to develop android-based learning application, it is likely true that android-based learning application has many challenges to apply in the

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<sup>60</sup> Nurul Farhana Jumaat and Zaidatun Tasir, "Integrating Project Based Learning Environment into the Design and Development of Mobile Apps for Learning 2D-Animation", Social and Behavioral Sciences International Educational Technology Conference 103(2013).

<sup>61</sup>Jan Nealbert et.al, Ubiquitous Learning Environment Using Android Mobile Application, International Journal of Research in Engineering & Technology Vol.2 Issue 2, Feb 2014

classroom. On the other hand, the need of information and the acquisition of technology skills are increasing. Students should have adequate knowledge and skill related to information and technology.

In this study is research and development using ADDIE model, however the steps is limited until implementation step. The researcher try to develop an android-based reading application, want to know the feasibility of the application related to expert questionnaire data, and to know students' perception using this application.