

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In the process of conducting this research, the researcher reviewed various materials and references related to the topic. During the review of the library materials and internet resources, researchers found that the development of comics in education was fairly widespread in other countries compared to Malaysia. However, the study on the development of comics in teaching and learning the Al-Quran and Sunnah Education subject has not yet emerged among researchers in Malaysia. Therefore, it was desirable to know the studies related to the development of digital comics in teaching and learning.

2.2 Comics

Comics can be defined as a combination of visual images and text. McCloud Vie & Dieterle (2016) stated that the interplay of visual and textual elements at play in comics are frequently considered multimodal texts, including the gutter, pages, panels, frames, images, while texts (1993) and Eisner (1985) define the term comics as "juxtaposed pictorial and other images in deliberate sequence". This implies an interesting means to convey information as they include narrative and pictorial forms of representation that deal with the arrangement of pictures or images and words to narrate a story or dramatize an idea (Sousanis, 2015). This definition allows various genres such as graphic novels,

Japanese manga, Internet webcomics, and others to be considered under the overarching umbrella of comics.

2.2.1 Types of Comics

There are several types of comics such as follows:

2.2.1.1 Printed Comics

Generally, comics are published in the printed form. In the 20th century, comics were published in newspapers for entertainment and political purposes, either daily or weekly (Perry & Aldridge, 1971; Sabin, 2001; Farah Nadia et al., 2014). From gags to political cartoons, to newspaper "funniest", to comic books and finally graphics novels, the narrative form of "sequential art" has evolved as a storytelling vehicle (Eisner, 1985; Romagnoli, 2014). Although some comics may be used purely for entertainment, several could enhance learning (Jee & Anggoro, 2012). It is specifically used in academic topics, communication, or research (Lawson, 2006; Tatalovic, 2009; Vanderhaegen, 2013).

Nowadays, classical printed books are sharing space with digital forms of comics, such as webcomics, including comics published on a website, are now exploring new forms of comics, like narrative branching structures known as hyper comics and animated panels with sounds, also known as motion comics (Soares *et al.*, 2013).

2.2.1.2 Digital Comic

At present, the genre of comics is rapidly expanding by computer technology. Batinic (2016) denotes comics as a combination of visual and textual components that offer many ways to be reshaped and presented in a new light. All events in comics, such as texts and pictures, can be easily created, reproduced, and ported using digital delivery. As McCloud (1993) defines a comic as "juxtaposed pictorial and other images in a deliberate sequence," the digital comics can easily transgress on the definition of comics as they may have moving images, audio tracks, or even narratives in true multimedia (Jakob, 2012).

Other terms that refer to digital comics include webcomics, online comics, and Internet comics (Melor *et al.*, 2012). Digital comics may be understood as comics published on the internet known as webcomics but still resembling their initial printed form. They preserved the layout dimensions in print and merely reproduced them on the computer screen (Batinic, 2015).

Meanwhile, a motion comic is an appropriate original comic book narrative and artwork as the primary source of visual material for its creation and typically appropriate narrative and 'static' artwork of a comic book. It is then manipulated by animation software such as Adobe's After Effects to create an impression similar to paper-cut animation (Smith, 2015).

2.2.1.3 Interactive Comic

Opposed to passive digital comics with static visuals, interactive comics incorporate rich multimedia elements consisting of video, audio, animation, as well as

accepting mouse click, drag, text, and touch input (Lai *et al.*; 2002; Steinke, 2004; Rall, 2013; Farah Nadia *et al.*, 2014). In addition, the 1970s have witnessed the creation of new comics form into digital interactive content (Soares *et al.*, 2013).

There are some interactive experiences based on comics designed. For example, Zhang-Kenned *et al.* (2017) developed an online educational interactive comic designed to improve cyber security and privacy. The evaluations of the comic showed positive learning effects on adults; children found interactive comics very engaging and fun. In addition, Amresh *et al.* (2015) evaluated the utilization of interactive comic-book-style storytelling technology to enhance knowledge regarding healthy nutrition. They agreed that interactive comic books could capture their attention more than any other media and can be easily designed for combined play with a parent, thus encouraging shared learning.

2.2.2 Elements in Digital Comics

McCloud (1993) has outlined some of the characteristics of comic features: ideas, forms, idioms, structure, surface, and craft. From the storytelling side, McCloud (1993) also suggested several ways of conveying storytelling in comics, namely: specific word, specific picture, duo-specific, specific additive, parallel, montage, and inter-dependent. Moreover, Ekram & Zaffran (2016) listed infinite canvas in McCloud, who has outlined several specific criteria in addition to the traditional comic, namely: trails, distance pacing, narrative subdivision, sustained rhythm, and gradualism.

Shakirah *et al.* (2017) said that digital comics could be designed using optional software such as Paint Tool Sai, Adobe Photoshop, Adobe Flash, Audacity Sound Editor,

and Format Factory. Farah Nadia *et al.* (2015) have analyzed several digital comic authoring systems based on the Dimension Star reference model; Bitstrips, Comic Life, Pixton, Make Belief Comix, and Cambridge University Comic Builder.

These elements are also in line with the model of multimedia learning cognitive developed by Mayer (2001), which integrates words and images that make up the meaning in a multimedia presentation (Nur Najmeen, 2014; Ekram & Zaffran, 2016). Moreover, according to McCloud (1993), the production of comics involves visual iconography with many styles of art images to form a realistic representation of a simple cartoon that integrates the power of visuals and text to convey a story.

2.2.3 Comics in Education

The use of comics for educational purposes, especially in printed form, began in the USA in the middle of the 20th century. However, this practice expanded into a worldwide trend over the subsequent years (Symeon, 2008). Since the early 1940s, many educators in the USA have conducted studies into the use of comic books in education and have provided data regarding their usefulness in this respect (Retalis, 2008; Melor *et al.*, 2012).

Comics have long been implicated in education as variously deleterious and beneficial to learning (Duffy, 2016) and have been shown to improve reader engagement while enhancing comprehension and retention (Monnin, 2017). Thus, they could be used as an intermediate step to learn about complex subjects and concepts (Yang, 2016; Zhang-Kenned *et al.*, 2017). Besides, comics as educational tools also play a vital role in critical

thinking skills and leadership (Krusemark, 2015) and are effective in helping low motivated learners (Sigit Dwi, 2015).

Therefore, there are several purposes for using comics in education. First, they have been used as tools for educational settings and gaining readers' critical thinking in the course of instruction (Krusemark, 2015). For instance, comics have been used for medical health studies (McNicol, 2015; Furuno & Sasajima, 2015; Tsao & Yu, 2016; Sridha *et al.*, 2017). Second, comics have also been used in teaching and learning vocabulary (Gorjian & Branch, 2016) and EFL's reading literacy (Cimermanova, 2015; Mei-Ju *et al.*, 2015). Third, there are also comics for special education to teach Malay languages subject (Abdul Murad, 2013). Besides that, they have been used as a medium to teach about knowledge of cyber privacy and security notices (Knijnenburg & Cherry 2016; Zhang-Kenned, 2017).

2.2.4 Comics in Malaysian Education

Farah Nadia *et al.* (2016) said the use of comics in Malaysian education seems something very new compared to other countries; however, an element of education has long existed in the development of comics in this country, despite the comic is not centered on learning. Besides, Siti Zaharah *et al.* (2015) claims that the advantages of digital comics as one of the mediums in education have the potential to be studied and developed even though it is quite new in Malaysia.

Several studies have been made regarding comics in Malaysian education. For instance, Masariah (2010) research shared her perspectives, where she developed the use of comics in teaching and learning History subjects. She saw the potential of this tool in

History subjects; students would be able to change their perception in teaching and learning history in order to increase their interest, understanding, and reading. Other than that, the History subject is no longer boring or stiff; thus, the subject will be rich with ideas, creativity, humor, color, and thinking skills.

Moreover, Abd Murad (2013) developed research on digital graphic comical storytelling in the Malay Language for special needs classes. The researcher states that these special students with learning disabilities have difficulties in language proficiency classrooms during learning sessions. They face weakness in reading and writing and find difficulty remembering what they have learned. This research is carried out to help these students to provide appropriate teaching and learning styles.

This digital comic storytelling concept is developed based on the A.D.D.I.E design supported by the Constructivist Theory concepts of Mastery Learning and the Thematical Approach. This comic was developed using various programs consisting of an online program called Pixton.com, Adobe Photoshop, and Microsoft Publisher and was presented for the teaching process using Microsoft PowerPoint. As a whole, digital comic storytelling can improve the level of communication and group work involvement.

Besides, research by Farah Nadia *et al.* (2014) aims to explore the growing potential of digital comics and graphic novels as an edutainment tool. They discussed few essential issues related to comics for learning. As a whole, they delineated the challenges of developing an accessible comic viewing system for diverse levels of readers on desktop and mobile platforms.

The authors also highlighted the mixed academia's response towards establishing graphic novels in elementary, secondary schools, and higher institution communities. Their subsequent research in 2016, which aims to identify how the educational element is integrated into comics, has concluded that the educational comic embraces the potential to become the primary choice among children and adolescents. This is because the content meets the intellectual and emotional needs of these groups within the classroom environment.

Apart from that, Nor Sakinah (2015) studied the effectiveness of comics in the Arabic Language for secondary school. The problem stated by these researchers is that students who learn Arabic still need appropriate methods that encourage their interest in learning the Arabic Language. They also identified that the case gets more complicated when Arabic students have memory problems, blocking their ability to speak fluently. To overcome this problem, they have carried out this research to fulfill students' benefits in learning Arabic.

The theory used in this research is the Arabic comic module by Constructivism theory, Visual Language Theory by Neil Cohn, and Dual Coding Theory by Allan Paivio. The data collected is based on three methods: questionnaires on students, teacher interviews, and tests on students. They were analyzed using SPSS version 18.0 software. As a result, they gain the teachers' perspective towards this, which concludes that the use of comics is a good and fresh initiative to overwhelm Arabic learning.

A recent study by Ekram & Zaffwan (2016) aims to identify the theoretical and methodological development of the motion comic for Form Four History subject. The

problem statement stated by the researcher is to provide a different experience for students to understand the history content as a teaching aid. Therefore, they developed a theoretical framework and methodology for the development of motion comics.

This is based on the adaptation and combination of cognitive theory of multimedia learning (Mayer, 2001), A.D.D.I.E model, McCloud's (1993) principle of comic and infinite canvas by McCloud (2000). The construction phase of motion comics is divided into 3 phases: the preproduction process, production, and postproduction. As a result, the researchers will produce a theoretical framework through the comic principle, cognitive multimedia learning, and A.D.D.I.E model to link the combination in the development of motion comics.

Most studies about comics in the Malaysian education system have been covered in subjects like History, Arabic Language, and Malay Language. However, the study of comics in Al-Quran and Al-Sunnah subjects has not emerged yet. Moreover, Hadi Akhbar (2014) claims that comics' success in education in the USA, Korea, and Japan showed that the collaboration between comic artists and academics had been successfully achieved.

However, Malaysia also has the capability of this sort but has yet to be applied. This is due to the lack of ties between the comic artist community and academicians in Malaysia. Therefore, these problems can be carried out as long as there is mutual understanding between comic artists and academics. This cooperation can be formed through storyboards that are appropriate according to the scientific subjects to be served.

2.2.5 Teachers and Students Perceptions of Using Digital Comic in Classroom

Many researchers and educators in the West have developed comic instructional media. In addition, a few experimental researches are based on the use of comics in their education designs in several academic genres. For example, Negrete (2013) has studied the use of comics in science education and communication. He shared his perspective, which stated that using comics can enhance good performance and make learning quite effective. Moreover, Furuno & Sasajima (2015) evaluated medical comics as a tool to study if the use of comics helps a patient obtain information in case of time efficiency and applicability to face other medical cases. As a result, medical comics could be a new communication tool for information and more helpful for patients.

McGrail *et al.* (2017) reported pre-service teachers' perceptions about the effectiveness of the comic book series known as TOON comics in guided reading with struggling readers and writers, from kindergarten through fifth grade. Based on their result, pre-service teachers have expressed positive views on using these comic books in guided reading instruction with struggling readers and writers.

Apart from that, Rajendra (2015) concluded that using graphic novels in the classroom with careful planning of the acquisition of vocabulary and grammatical and communicative competencies can be increased. Moreover, Duffy (2015) stated that using comics of socio-cultural effects in the classroom could emphasize how students' connection with comics empowers them as learners.

Meanwhile, Supriyanta (2015) agreed that learning through comics will allow the students to provide attentive learning, facilitate learning, and stimulate students to

remember materials more easily. The use of cartoons for both teachers and students is positive to use as teaching tools. The appropriate technique can help students' motivation increase and be understandable even at a difficult level (Cho, 2012).

2.2.6 Advantages and Disadvantages of Teaching Using Comic

Comics are beneficial for teaching and learning in the classroom and not just a fun enrichment activity. Comics can probably combine story and information simultaneously, more effectively and seamlessly, than almost any other medium (Blake, 2013). For example, Haines (2012) stated that as schools struggle to maintain enrollment and ensure that students are not left behind in the learning process, teachers must adapt their classrooms to their students' developing needs, which means utilizing different teaching methods and tools. Moreover, Price (2013) said as a recent study confirmed from the University of Oklahoma shows that graphic novels may improve memory and be more effective in teaching students than a traditional textbook.

There are many advantages of using comics in education. They have been used as an instructional tool in teaching, such as Sousanis (2015) study. The latter shared his experiences as a teacher at Columbia University, has used comics as an activity in his public talk. He wanted to explore making comics among his academic audiences, educators, college, and high school. He endeavors to develop their audience's skills in making comics by themselves since they typically self-describe themselves as non-artists and open their new thoughts. As well, this activity has engaged and provided a meaningful outlet for individual expression.

Besides, educational comic plays an essential role as a tool which has the function of conveying the message of learning or knowledge (tool for communication process) between teachers and learners (Sigit Dwi, 2015), also as a pedagogical tool to motivate students to read and help them remember the content (Muzumdar 2016). In addition, educational comics can motivate students highly by making the lesson more joyful (Topkaya & Simsek, 2016) and be very motivating for students as the story-line is reinforced by the visual element, which can make them easier to understand (Bowen, 2011) also to facilitate the reading comprehension of students at the intermediate level (Gorjian & Branch, 2016).

Moreover, Haines (2012) claims that the benefits of using comics in the classroom are great, increasing literacy and addressing differentiated learners' educational needs. Therefore, Marianthi *et al.* (2016) believe that comic books can be valuable teaching aid. Moreover, comics can be very effective in academic settings, especially in library instruction, due to their engaging and participatory nature and ability to model behaviors and imbed lessons within a greater narrative (Upson & Hall, 2013). Thus, comics can provide reluctant readers with nonthreatening practice material and experienced readers with inspiration and confidence (Melor *et al.*, 2013).

Therefore, in terms of advantages of digital comics in education, digital comics which integrating multimedia elements such as text, images, animations, and sounds to attract children can be diversified in teaching aids, and this technology integration can also enhance educational excellence (Siti Zaharah *et al.*, 2015). According to Mayer and Moreno (1998), by using digital comics in teaching, the educator introduces concepts

indirectly, using cartoons and narrations simultaneously because the visual quality offered in comics can assist low- and middle-achieving learners and enhance learning appealing multiple intelligences. (Melor *et al.*, 2012).

2.2.7 Advantages and Disadvantages of Teaching Using Comic from Islamic Perspective

From the Islamic perspective, Subramanian (2012) stated that despite using comics as instructional tools of the academic genre, it also benefits the teaching of Islam as it consists of many stories about Islamic teaching that can illustrate the eternal spiritual truths in the teachings of Islam. For instance, Sufi Comics emerged in 2012, one of the Islamic comics with short stories of Islamic teachings. It aims to simplify spiritual wisdom from Islamic history and tradition to illustrate values in the teachings of Islam, hence, to make the learning of spiritual wisdom easy, fun, and practical.

Thus, several studies have proven the effectiveness of comics towards the preaching of Islam. For example, Saputro (2016) points out in his study that the use of comics to preach the propagation of Islam and Prophet Muhammad contains spiritual messages, which can be one of the effective tools. Moreover, Atiyah *et al.* (2016) analyzed the comics that delivered a moral message of Islam as a mass media of dakwah, concluding that this comic contained spur moral messages of Islam to the readers. Furthermore, Huriyah (2015) produced an attractive Aqidah moral comic. The author concluded that this comic could be used as a feasible and effective tool to teach about *Aqidah* morals, which deliver the messages to the student to have a noble character.

Behind the values mentioned above, the comic also had an adverse impact to watch out for and need to be wary of. Indeed, not all the contents of the comics provide positive teaching. The weakness of comics is that not everyone can learn through effective visual styles because everyone has their individual learning styles. Moreover, comics can also make people lazy because people tend to want to see a picture that interests them without understanding the material as a whole.

2.3 Visual Art of Comic from The Perspectives of Islamic Syariah

Visual art is related to the perspective of visual, philosophical, comprehension, media innovation, material, and others. Visual art must also be based on strong fundamentals in Islamic teachings. As a Muslim artist, any visual art cannot turn away from the teaching and learning of Islam. In Malaysia, visual art does not follow the Islamic guideline and Shariah compliance in terms of ideas and innovation, even though local Islamic organizations have already created a rule for references. In relation to the guidelines, it must be in line with the rapid environmental changes in Malaysia (Ishak Ramli *et al.*, 2017).

Based on the Islamic view, visual art is linked to the Islamic Shariah division, under the field of fiqh muamalat that relates to human social relationships. According to Hanifah & Mashita (2012), the intent of Maqasid Shariah is something that leads to maslahah (good) and preservation from mafsadah (bad) through Islamic guidelines. Maqasid shariah or masalih have several levels of significance that are classified by Muslim scholars, which

are 1) the essential (Ad Dharuriyat), 2) the complementary (al Hajiyyat), and 3) desirable or the embellishment (at- Tahsiniyyat or al Kamaliyyat). The essential (Ad Dharuriyat) is masalih, based on the basic requirements for human life in this world. If this masalih is not maintained in the hereafter, human life will be crippled, causing destruction.

The masalih essentials are enumerated as five: religion, life, intellect, lineage (honor), and property, which should be handed in the right way. The complementary (al-Hajiyyat) is a thing desired in terms of pleasure and lifting difficulties. If it is not maintained, it will cause trouble and hardship, but it is not up to the severe damage to public masalih. The desirable or the embellishment (at Tahsiniyyat) are things commanded by Allah to enhance human lives that guide betterment and perfection (Abdul Azib Hussain, 2012, p. 208 - 213).

In Maqasid Shariah, visual art is detected as being under improvement or the inclusive to perfection [at-Tahsiniyyat or al-Kamaliyyat] that is a chance to improve human lives (Syamsul Anuar, 1995). Nevertheless, when there is a denial (mafsadah) in the use of visuals that are inapposite in their production, the visual art will take a middle position into "premier uses" [ad-Dharuriyyat]. Conditions that are stated previously have made a difference to the production of visual art in the scope of Maqasid Syariah (from the Islamic law views) from the stage of improvement and inclusive to perfection [at- Tahsiniyyat or alKamaliyyat]" to the essential [ad-Dharuriyyat] to be reviewed. Visual art from Maqasid Syariah's view focuses on fixing and boosting the betterment of human life.

Current instructions and guidelines were composed in 1987, based on the resolution made by Majlis Kebangsaan Hal Ehwal Ugama Islam Malaysia (MKI) (now known as

JAKIM – Malaysian Islamic Development Department) through one conference related to visual art. Decisions made by Fatwa members showed an accomplishment that formed a "Guidelines and Explanation on Visual Art from the Islamic's Perspective" (Jabatan Kemajuan Islam Malaysia, n.d.). Nevertheless, after 30 years passed, the guidelines have to be re-investigated from the overview of visual art professionals and a specialist in Islamic Shariah based on current issues (Ishak Ramli, Mohamad Noorman Masrek & Muhamad Abdul Aziz Ab Gani, in press; Ishak Ramli et al. 2014; Ishak Ramli et al. 2012). Based on the latest situation in Malaysian visual art, the researcher believes that the guideline can be further improved.

2.3.1 Guidelines and Explanation on Visual Art of Comic from the Islamic Perspectives

There is an existing guideline provided by JAKIM (Malaysian Islamic Development Department), focusing on two major areas: 1) Hukum/Regulation that is listed must be *Harus* and *Haram*; 2) Different types of art, namely painting (two dimensions) and the sculpture/carvings (three dimensions). As mentioned, visual art must follow Shariah Compliance and avoid anything against it. However, the guideline from JAKIM must reevaluate due to constant changes.

JAKIM has stated that the ruling is *Harus*/encouraged when visual art draws something related to acknowledged icons for history. On the other hand, it's also *Harus* if the picture does not contain living things like views and trees. Besides, drawing a picture of living objects to be worshipped and idolized containing objects that are not prohibited

are considered *Harus*. Meanwhile, any pornographic picture or material/humans that shows the *aurah* is considered as *Haram*. A drawing that shows non-Islamic religious belief is also viewed as *Haram*. Moreover, any drawing of angels, prophets, and the *Sahabah* also intends to venerate them to cleanse sins from the soul and draw pictures whose subject goes opposed to the *Shariah* and demeanor cannot be done.

As for carve of humans and animals, it is *Harus* if it's protecting their *aurah* and for the purpose of children's toys, education, teaching, and learning. Then, any non-living carve such as trees and buildings are also considered *Harus*. On the other hand, any carve of humans and animals, even if it protects their *aurah*, is considered *Haram* if the purpose is not related to teaching, learning, education, or toys.

2.4 Drawings, pictures, and images from Islam Perspective

The fundamental nature of beauty in Islam arises, technically, not to be perfectly in contention to the deliberated and qualified delegation of humans, but given that humans are also Allah's beautiful creation filled with signs that clearly express to Him, just like everything else: "*On the earth are Signs for those of assured Faith; as also in your own selves: will ye not then, see?*" (51:20-21).

According to a set of fatwas (formal legal opinions), there is nothing wrong in drawing human beings in a reasonable and qualified way, as long as such images do not illustrate nudity and other immoral portrayals repulsive to the Islamic Tawhidic perspective. This includes the conception of falsity, individuality, self-awareness and man's animal devotion and is not used for adoration or deification of the images' material by either

the artist or the perceiver. It should also not fall short of promoting constrain and dignity rather than absurdity, egotism, aloofness and the misuse of one's time, resources and energy. What is unqualifiedly wrong and thus resolutely prohibited is making, creating, building custody status, such as complete, solid figures that have not been deformed or demolished (Spahic Omer, 2012).

However, ruling on drawing in Islam is divided into two categories. Firstly, drawing pictures of living things or animate beings. It says that this is not permitted in the Sunnah and is not allowed to draw anything that represents animate beings because the Prophet said so, according to the saheeh hadith. Besides, 'Abd-Allah ibn Mas'ud said: I heard the Messenger of Allah say: *The people who will be the most severely punished before Allah on the Day of Resurrection will be the image-makers.* He said: *"The most severely punished of people on the Day of Resurrection will be the image-makers, those who tried to imitate the creation of Allah."* (Narrated by Al-Bukhari, 5606; Muslim, 2109).

Secondly, drawing inanimate objects. The Prophet cursed those who eat up Riba (interest, uncertain) and those who profit from it, and he cursed the imagemakers. This explains that making images is forbidden, and the scholars already interpreted that as indicating images of animate beings that come from animals, people and birds. There is no sin in this category, such as drawing non-living things such as mountains, trees, planes, cars, and others. The scholar agreed that there is nothing wrong with that because these nonliving things do not have any soul.

Al-Nawawi also said: *Our companions and other scholars said: making images of animate beings is extremely haram and is a major sin because severe warnings have been*

issued against it in the Al-Hadith. Whether the image is made to be used in a disrespectful fashion or for other purposes, it is Haram to make in all cases, because it implies that one is trying to match the creation of Allah, whether the image is to appear on a garment, carpet, coin, vessel, wall or whatever. With regard to pictures of trees, camel saddles, and other pictures in which no animate beings appear, these are not Haram. This is the ruling on making images (Sharh Muslim, 14/81).

Making images and pictures of animate or living things is forbidden at all times, except when there is a necessary reason for doing so, such as a photo for a passport and recognition documents. Besides, it is necessary to show pictures of suspects of criminals to be identified for testing purposes and the use of photos in applying for jobs, and other ways in which deception may be prevented or secured. All of the mentioned is allowed, just as much as is essential (Fatwa al-Lajnah alDa'imah, 1/478).

With concern to prohibited kinds of pictures, an exclusion is made in cases of necessity, such as drawing pictures of criminals so that they can easily be recognized and get caught or drawing a picture for identity cards which are essential and cannot be acquired otherwise, and other cases of urgency. If the monarch determines that producing images of criminals is necessary due to the seriousness of their violation and to secure the Muslims from their crimes when they are known, or for other reasons, there is nothing wrong with that.

Moreover, it seems that images that do not have entire features, which do not have a nose or eyes, are not included under the description of Haram images because they cannot be said as images. These images do not include copying the creation of Allah. Shaykh Faraz

Rabbani stated that drawing an outline of the human body, without complete features, and designating the numerous parts, or drawing the details of a particular part (such as the heart) allows for an appropriate purpose such as education for teaching and learning.

Faraz Rabbani (2011) stated it is declared in Imam `Ala al-Din al-Haskafi's al-Durr al-Mukhtar said that among the types of pictures that are not restricted to have are those which are: "(Small) such that the details of their limbs are not seeming to someone who looks down at them standing while they are on the ground, as Halabi stated (or with their head or face separate) or with an organ scratch out that the body cannot live without, (or of an inanimate object)."

Islam acknowledges that the basic fundamental related to drawings and pictures of animate beings is Haram as things go with the many al-Hadith, which said they are forbidden and warn against them. However, it is recognized in the principles of Fiqh in which there is consent that in cases of necessity, forbidden things are allowed. Hence, this ruling may switch from banned to acceptance if that lead to accomplishing one of the five obligations that Islam came to conserve, which are: religion, life, physical health, honor and wealth.

In conclusion, the law draws the picture depending on the drawing and its purpose. Dr. Yusuf Al-Qaradhawi points to the view presented below in his book *al-Halal was al-Haram Fil-Islam*. These details are as follows;

a) If the paintings are pictures of God or worshipped other than God, such as idols and so forth, the painter is an infidel. Such paintings are threatened with torture by Allah as the Prophet S.A.W:

b) It is forbidden to paint in order to compete with God's creation, which is to feel that it creates and creates the creation of God. This is back to the artist's intention. This painter was also threatened with severe torment by the Prophet S.A.W. with His sayings;

It was narrated that 'Aishah, the wife of the Prophet SAW, said:

"The people who will be most severely punished on the Day of Resurrection will be those who try to match the creation of Allah."

c) It is forbidden to paint pictures of angels, Prophets, and companions who are glorified in religion because they fear that their picture draws their glory as well as a forgery as no one lives today who has ever seen them.

d) It is forbidden to paint pictures of those who are disbelieving, unjust, or wicked people, such as leaders who oppose Islam, hostile to the Shari'ah, singers or actors who drive people to evil, worship false, and so forth. Drawing on their pictures is a cult to them while they are people who are hated by religion.

e) Forbidden also is drawing pictures that reveal aurat, pornographic, excitement and so forth, which are prohibited by Shari'ah.

2.4.1 Hukum on drawings, pictures, and image as learning tools in Islam.

The original law of the matter is based on the hadith of the Holy

Prophet:

"Whoever makes a picture will be punished by Allah till he puts life in it, and he will never be able to put life in it."

In another narration mentioned:

“Every picture maker will dwell in the fire of Jahannum. Allah Ta'ala will create one creature for every picture he made, and it will then punish him in Jahannum.”

Shortly after this hadith was mentioned, Ibn Abbas states:

“If you wish to draw a picture, then draw the picture of a tree or a lifeless creation (for this is permissible for you).”

Based on Mufti Federal Territory of Malaysia (2018) in *Irsyad Al-Fatwa series:213* stated this can understand if the painting is anything other than an animate creature such as a tree painting, a sea, a mountain, it is permissible. The prohibition mentioned by the Prophet saw aims to manufacture statues of masses and shadows and resembling animate beings in which they are made as gods. It is also dictated to the paintings drawn by the living creatures as it is also worship.

Nevertheless, the issue of animated drawings and cartoons is one of the most famous educational issues that have been discussed even of its use for film because of the enormous outcome that these films have on children's developing characters. Moreover, this is because they have become a primary educational tool in many countries nowadays. In a Fatwa announced by the scholars of the Standing Committee, there is proof which points out that it is permissible to make pictures in cases of necessity, such as pictures to prove the identity of a person. Hence, it is also permissible to use drawing and pictures in education, such as studying medicine. Based on all this and similar evidence, modern scholars have permitted images, pictures, photography, and cartoons if used for a good purpose.

Besides, it is justified if the painting is not conflicting with syara 'as used for learning, education, or da'wah purposes. Syeikh Dr. Yusuf al-Qaradhawi has said: "The law of drawing something that is as human beings and animals becomes a khilaf among the scholars. Jumhur says that it is illegal, and some scholars say it is permissible. In any case, the use of paintings in the mass media to preach and learn is not considered forbidden, even if it is claimed by syara. This becomes a very important medium in delivering da'wah and knowledge that is beneficial to man. This is not an illustration to him as illustrated. Instead, it is a picture that raised something immoral, tyrannical and indecent pictures.

He then gave some justification to his opinion, and briefly as follows:

1. Indeed, cartoon paintings are not perfect paintings, even those pictures with their characteristics and do not have the essential features of the picture.
2. Its use is to preach and educate (tarbawiyah) small children to accept it, follow it, and be impressed with it. Therefore, it is right for us not to ignore this issue, and we need to use it to teach children what should be learned through faith.
3. The other man has been using this method for so long, and if looking at the existing trend, it seems to have been a 'staple food' for children who are growing up all day with animated programs on television. Thus, if there is no initiative to replace it with more Islamic animations and full of information, it would be harmful.

The strongest position which we advocate and see as closest to the intentions of Allah and His Prophet is that the making of three-dimensional representation is not allowed except where it is used as an educational tool or children's toys. So, for other forms of

drawn pictures, we do not see any harm in them, particularly where they serve a useful purpose (Abu Amina, 2013).

Therefore, if we do not see any harm in images, pictures, and photography, it serves a useful purpose such as education, identification, and entertainment for children. However, if there is no need for the use of images, then it may be better for Muslims to be cautious and avoid them, as done by some of the companions.

In conclusion, Sheikh Abd al-Wahab al-Turayra said that images used by children for playing and learning are lawful. So, the paintings drawn for such purposes are not forbidden because they are made not for worship, but it is one of the forms of education and da'wah; for children in particular and is regarded as a common cause. Indeed, the production, distribution, and showing of Islamic animated cartoons according to Islamic teachings are ways a Muslim can seek Allah's reward.

2.5 Al-Quran and Al-Sunnah Education Subject (PQS)

The Al-Quran and Al-Sunnah Education subject (PQS) is one of the elective subjects of Islamic studies offered to all SPM high school students for Form Four and Five students at *Sekolah Menengah Agama (SMA)*, *Sekolah Menengah Kebangsaan Agama (SMKA)* and *Kelas Aliran Agama (KAA)*. This subject is offered as much as four times a week with the provision's minutes for 40 minutes at a time (Rabiatul Adawiyah, 2008).

This subject is one of the core subjects, especially on the topic *Pengajian Al-Quran and Al-Hadith, Ulum Al-Quran, and Ulum Al-Hadith*. Furthermore, these particular topics has discussed on the factual issues related to the Quran and Al-Hadith. However, as one of

the elective subjects offered at Islamic secondary schools in Malaysia, according to Rabiatal Adawiyah (2008) in her research, the level of PQS mastery among the students still does not reach a satisfactory level. Besides, there are lack of instructional media used during teaching and learning sessions of this subject.

According to Ustazah Fairuz Adibah, a PQS teacher, students who take this subject usually prefer to use memorization techniques rather than reading, understanding, and appreciating. Based on the early experimental visit made by a researcher, the teacher said that most of these students actively participated and listened in their class and communicated with their teacher as well. However, even though many of them maintained high grades in this subject, part of them still read fluently and find it difficult to understand what they have learned.

According to the syllabus of the Al-Quran and Sunnah Education KBSM, these subjects' endeavors to contribute to the formation and development of self and civilization in becoming knowledgeable, believing, righteous, faith, responsible as a servant, and a caliph of Allah. Furthermore, in the teachings of Islam, high-minded people are recognized for their advantages over those who do not think (Rabiatal Adawiyah, 2008).

They are called people of intelligence or wise people; hence, they are expressed as Allah said in his Quran verses Al-Imran: -

"Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth, [saying], "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; then protect us from the punishment of the Fire" (Al Quran. Al-Imran 3:191)

This subject consists of seven parts namely *Pengajian Al-Quran, Pengajian Al-Hadis, Ulum Al-Quran, Ulum Al-Hadis, Akhlak, Tamadun* and *Tokoh*. The Quranic field emphasizes the aspect of reading, memorizing, and understanding certain verses. Meanwhile, Ulum al Quran talks about the Qur'an, a revelation, and the history of the writing of the Qur'an. Furthermore, the Studies of al-Hadith describes certain traditions associated with the cultural aspects of science, culture, morals, and civilization.

Besides, Ulum al-Hadith discusses the position of hadith as the second source of Islamic law. In addition, the field of morality leads to the formation of noble and commendable qualities among students. Moreover, the field of Islamic civilization focuses on the development and impact of Muslim personalities. Lastly, the Islamic civilization that characterizes human civilization in social, educational, political, and economic life. This field also talked about the contribution of leading Islamic figures.

The PQS curriculum allows students to: -

- Realizing and recognizing the significance of knowing Ulum al-Quran as a source of guidance for daily life.
- Understanding and appreciating the value of learning Ulum al-Hadith as a source of guidance for daily life.
- Believing in the reality of the authentic Islamic faith as the foundation of all of a theirs's actions.
- Understanding and practicing Islamic morals to fulfil the demands of *amar makruf nahi munkar* continuously in life.

The main objective of the PQS subject is to learning the Qur'an and Sunnah, also the sciences related to them in order to help Muslims become knowledgeable, obedient, righteous, noble, and responsible as pious servants and caliphs of Allah s.w.t as well as to contribute to the formation and development of self and civilization.

2.6 Principle and Theory in Developing Digital Comics

There are several principles has been used in developing digital comics related teaching and learning for the subject matter. There are Multimedia Principle, Signaling Principle and Voice Principle.

2.6.1 Principle of Multimedia Learning

Multimedia learning is a cognitive theory of learning popularized by the work of Richard E. Mayer and others. Mayer and other cognitive researchers argue that multimedia supports the way the human brain learns. They assert that people learn more deeply from words and pictures than from words alone, referred to as the multimedia principle (Mayer 2016). In the book *Multimedia Learning* (Cambridge Press, 2001), Mayer has discussed twelve principles that shape the design and organization of multimedia presentations. Therefore, only three principals were chosen in this chapter related to developing digital comics, some of which are multimedia principle, signaling principle, and voice principle.

2.6.1.1 Multimedia Principle

People learn more deeply from words and graphics than words alone (Mayer 2016). Multimedia principles help to integrate words and graphics effectively. By multimedia, that means multiple media or a combination of media. At least some visuals and some text. For example, the combination of words (printed or spoken text) and pictures (illustrations or photos). Besides that, Also & Deep (2016) stresses it will be useful to follow these principles for designing any multimedia content or technology-enhanced learning environments. They also listed several multimedia examples such as instructional media (instructional software- tutorial, simulations, interactive e-books, games) and authorizing tools (presentation software-Microsoft PowerPoint, Prezi, video, animation, audio production, game authoring environment).

2.6.1.2 Signaling Principle

Mayer (2009) defined the signaling principle as an approach of people learning better when cues that highlight the organization of the essential material are added (Mayer, 2009). Signaling principle can help the learner to pay attention and organize the knowledge in the learning process. Besides that, signaling may help reduce extraneous processing by attracting students' attention and help them build connections between the main elements during the lesson. The principle has been used in the development of this courseware as a presentation element. It also has been used as the main independent variable in this research to increase students' achievement on Islamic funeral rites.

2.6.1.3 Voice Principle

People learn more deeply when the words in a multimedia message are spoken in a human voice rather than a machine voice. The human voice is intended to prime a sense of social presence in learners. For example, Mayer, Sobko, and Mautone (2003) found that students performed better on a transfer test after receiving a narrated animation lightning that used a human voice rather than a machine synthesized voice (Mayer, 2016).

2.6.2 Theory of Multimedia Learning

There are also several theories has been identified in developing digital comics which are Mayer's Cognitive Theory, Allan Paivo Dual Coding Theory, Sweller's Cognitive Load Theory, Jean Piaget's Constructivism Theory, Gardner's Multiple Intelligences Theory and Infinite Canvas Theory.

2.6.2.1 Mayer's Cognitive Theory of Multimedia Learning

Richard Mayer developed the cognitive Theory of Multimedia Learning (henceforth CTML) in 1947. The principle is known as the "multimedia principle", which states that "people learn more deeply from words and pictures than from words alone." The goal is to instructional media in the light of how the human mind works. CTML is based on theories of cognitive load (Sweller, 1999), dual coding theory (Paivio, 1986), and constructivism (Piaget, 1971). CTML merges these three complementary theories and

contextualizes them into multimedia learning. Thus, CTML is grounded in cognitive load theory, dual coding theory, and constructivism but takes them one step further by contextualizing them in multimedia. CTML is derived from cognitive load theory (Sweller, 2009).

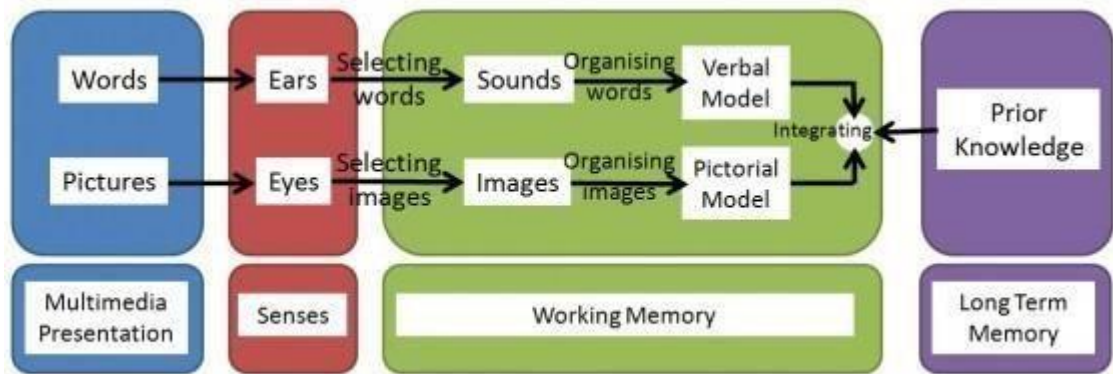


Figure 2.6.2.1: Cognitive Theory Multimedia Learning (Mayer, 1947)

The findings pertinent to identifying comics conducive to successful CTML are scattered among the research of educational psychologists, curriculum/learning material designers, and TESOL professionals. For example, in 2016, Ekram & Zaffwan used CTML as a guideline to produce a motion comic as a teaching aid from one of the topics in History subject. It is intended as a teaching aid to provide a different experience for students in order to understand the history content based on the theoretical framework and method development outlined. In his experiment, he develops this motion comic through the comics principle, cognitive multimedia learning, and the A.D.D.I.E model.

Nur Najmeen (2014) applied CTML to design and develop an animated comic in education by visualizing the multimedia environment, which focused on interactivity and

made the application more efficient. She is convinced that one of the most critical avenues of cognitive psychology is understanding how technology as multimedia can foster student learning. In conclusion, the animated comic is an effective type of assisting pedagogical tool that is able to deliver the concept of a complex process.

2.6.2.2 Allan Paivio's Dual Coding theory of learning (1971)

Dual Coding Theory (henceforth DCT) was developed by Allan Paivio in 1971. In developing this theory, according to Paivio, there are two ways a person could expand on learned material: verbal associations, visual imagery, and learning is maximized when both visual and verbal systems are activated. It stipulates those two “cognitive subsystems” help learners process information presented by the instructor or educational materials. In the DCT, both verbal and non-verbal processing is essential for learning. A very wide variety of experiments have been conducted to test and support DCT.

Zhang-Kenned *et al.* (2017) proposed the effectiveness of using interactive educational comics on improving 11-13-year-old children's privacy knowledge retention. The results showed that comics support children's memory and support the DCT as the combination of related text and images can increase long-term memory. It also showed that learning effects and retention through comics, students have excellent achievement considering these privacy concepts are complex and challenging to learn, even for adults.

Nor Sakinah (2016), a graduate researcher for the University of Malaya, also conducted DCT research by using comics in learning the Arabic language in the classroom.

In her experiment, students who gained information through comics did better on oral

comprehension assessments, and comics greatly helped them learn Arabic. Besides, it can attract them more effectively to learn the Arabic language and be an attractive aid tool in teaching and learning it.

In David Recine (2015) learning experiment, he used comics to bridge the gap between conventional wisdom on the use of comics in ESL/EFL instruction and research related to visual aids in learning and language acquisition. He also tested previous research showing that dual coding teaching methods work better as useful guides for instructors who use comics to teach ESL/EFL. Moreover, he further notes that DCT consists of images that can enhance learning, memory, and retention when combined with language.

Mei-Ju *et al.* (2015) have adopted DCT as a theoretical framework to investigate the effects of Aesthetic English comic books on EFL junior high school. They conducted a test of the use of English comic-book as a form of instruction. These were tested on 28 eighth-graders from one class in a public junior high school in Pingtung, Taiwan. These students took two tests and a post-study questionnaire after ten weeks. As a result, using English comic books can improve students' comprehension, vocabulary acquisition, and learning motivation.

2.6.2.3 Sweller's Cognitive Load Theory (1999)

John Sweller developed cognitive Load Theory (henceforth CLT) in 1999. This theory provides the framework to investigate the relationship between how information is structured and presented and the cognitive processes which enable people to receive and

store that information. (Paas *et al.* 2003; Bingham *et al.*, 2016). In CTML, Mayer and Moreno (2003) refer to the element of CLT as the limited capacity assumption.

Aleixo & Sumner (2017) have investigated the influence of presentation format on memory for undergraduate-level biopsychology material. They have given their participant presented in the form of comic, text-only format, and incongruous comic format, which explains the same context, the rudiments of sleep. The results showed that the comic condition scored higher than both text-only and incongruous comic conditions. They have concluded that CLT evidence as a theoretical basis for using comics in educational contexts has supported the general idea of using comic books to create instructional materials.

2.6.2.4 Jean Piaget's Constructivism Theory (1971)

Jean Piaget developed Constructivism Theory (CT) in 1971. This theory is an educational theory stating that people continuously learn by themselves, actively constructing their own knowledge through assimilation of new information with prior knowledge and accommodation. This is the act of reframing one's mental representation of the world. It means that the students are re-discovered and create their concepts based on what they already know and what they will know. The inclusion of constructivist ideas in CT is the active processing assumption. CT in education is a theory based on doing, which is students learn by doing and involving in active learning.

Kurniawati *et al.* (2017) employed CT to utilize comic and Jember's local wisdom as integrated science learning materials with the characteristics and learning environment on junior high school level. The result shows that the implementation of comic and

Jember's local wisdom can be an effective tool in teaching integrated science and have improved student's performance and motivated them to learn.

Gonzalez & Lituma (2016) used CT to support in comparing five digital comic applications, namely Storybird, Toondoo, Bitstrips for Schools, Digital Storytelling, and Boomwriter, to be an innovative teaching tool for the development of writing skills. As a result, these five digital apps have proved to be a good option for developing writing skills in a foreign language. He concluded that digital comic apps could be used for different purposes other than enhancing writing skills. They can increase motivation, create a more dynamic classroom, and engage students' independence.

2.6.2.5 Gardner's Multiple Intelligences Theory (1983)

The Multiple Intelligences Theory (MIT) was developed by Harvard professor Howard Gardner in 1983. The MIT challenges the idea of a single IQ, where human beings have one central "computer" where intelligence is housed. Instead, Gardner (1983) identifies that students learn best through language and interactions. He says that education should lead learners to realize their own strengths in order to develop them.

Moreover, Yuliaratiningsih (2016) investigated the use of comics in learning Science subjects. The author developed her research with the exercises by giving these students one comic to read, understand the comic content, observe the demonstration by their teacher, and then explain what they've understood. This method has been used to develop their multiple intelligence in the aspects of interpersonal, verbal-linguistic intelligence, logical mathematics, visual-spatial, and naturalist. Based on the observation

during these activities, the comic is proven as teaching media to improve the elementary school students' motivation to learn science and has revealed the skills and types of MIT students that appear during this lesson. Drawing on MIT was hypothesized that the MIT, with the aid of comic, could be one of the supporting factors of this success in improving the students' multiple intelligences.

In addition, Baladehi & Shirazi (2016) referred to Gardner's theory to investigate all types of multiple intelligences as they are effective in visual arts education. As a result, the MIT for visual arts education can make effective learning, increase creativity, and improve teaching. Besides, a teacher who has the knowledge of MIT can motivate them to use different ways in order to help all students in their classes.

2.6.2.6 Infinite Canvas Theory

The concept of the infinite canvas theory (ICT) was first introduced and popularized by Scott McCloud in *Reinventing Comics* (2000), in which digital could break free of the confines of the limited dimensions of a page in a follow-up book to his popular *Understanding Comics* (1993). He observes that once comics artists start to exploit the virtual advantages of the computer, they will be free from the layout constraints of the printed page. Thus, it is clear that McCloud envisioned the ICT as a liberating and empowering mechanism of digital technology that has the potential to reveal a myriad of options for comics creators.

In this research, a researcher develops a digital comic based on Cognitive Theory Multimedia Learning Mayer (2001) and Principle of comic McCloud (1993).

Table 2.6: Multimedia Design Principle and Theory in Developing Digital Comic

No.	Name of Theories	Years	Founders	Related Studies
1.	<p>Cognitive Theory Multimedia Learning (CTML)</p> <p>Dual-channel – humans possess separate information processing channels for verbal and visual material.</p> <p>Limited capacity – the verbal and visual channels can only process a limited amount of information. Active processing – learning requires substantial cognitive processing via the verbal and visual channels.</p>	1947	Richard E. Mayer	<p><i>-Theoretical Framework and Development Motion Comic Instrument as Teaching Method for History Subject</i></p> <p>(Ekram & Zaffwan, 2016)</p> <p><i>-Anicomix: Animated Comic as An Assisting Pedagogical Tool</i></p> <p>(Nun Najmeen Binti Nor Azam, 2014)</p>
2.	<p>Dual Coding Theory (DCT)</p> <p>- There are two ways a person could expand on learned material: verbal associations and visual imagery - In this theory, the linguistic coding system can be called the verbal system -the nonverbal coding system can be called the imagery system. -</p>	1971	Allan Paivio	<p><i>-Comics Aren't Just for Fun Anymore: The Practical Use of Comics by Tesol Professionals</i></p> <p>(David Recine, 2013)</p> <p><i>-Will Aesthetics English Comic</i></p>

	<p>The theory postulates that both systems are used to represent information.</p>			<p><i>Books Make Junior High School Students Fall in Love with English Reading?</i></p> <p>(Chou Mei-Ju1, Hsu Yung-Hung & Chen Ching-Chi, 2015)</p> <p>-<i>Keberkesanan komik dalam pembelajaran Bahasa Arab di Sekolah Menengah.</i></p> <p>(Nor Sakinah binti Ismail Zawawi, 2015)</p> <p>- <i>Engaging Children about Online Privacy Through Storytelling in an Interactive Comic</i></p> <p>(Leah-Zhang Kennedy, Khadija Baig & Sonia Chiasson, 2017)</p>
3	<p>Cognitive Load Theory (CLT)</p> <p>Providing a framework to investigate the relationship between how information is structured and presented and the cognitive processes which enable people to receive and store that information.</p>	1999	John Sweller	<p>- <i>Memory for biopsychology material presented in comic book format</i></p> <p>(Paul A. Alexio & Krystina Summer, 2017)</p>

4.	<p>Constructivism Theory (CT)</p> <p>People continuously and actively construct their own knowledge through assimilation of new information with prior knowledge and by accommodation, which is the act of reframing one's mental representation of the world.</p>	1971	Jean Piaget	<p>- <i>Utilizing of Comic and Jember's Local Wisdom as Integrated Science Learning Materials</i></p> <p>(Ayu A.Kurniawati, Sri Wahyuni, and Pramudya D. A. Putra, 2017)</p> <p>- <i>Analyzing Students' Writing Development Through the use of Digital Comic Apps Based on Several Applied Studies</i></p> <p>(Cuenca-Ecuador, 2016)</p>
5.	<p>Multiple Intelligent Theory (MIT)</p> <p>- Students learn best through language and interactions seven criteria</p> <ol style="list-style-type: none"> 1. Verbal-linguistic intelligence 2. Logical-mathematical intelligence 3. Visual-spatial intelligence 4. Naturalistic intelligence 5. Bodily-kinesthetic intelligence 6. Interpersonal intelligence 7. Intrapersonal intelligence 	1983	Howard Gardner	<p>- <i>Study of the Appropriate and Inappropriate Methods of Visual Arts Education in the Primary Schools According to the Types of Multiple Intelligences</i></p> <p>(Atena Salehi Baladehi & Aliasghar Shirazi, 2016)</p> <p>- <i>Media Komik Pada Pelajaran Ipa Untuk Meningkatkan Multiple Intelligences Siswa Sd</i></p> <p>(Margaretha Sri Yuliatiningsi, 2016)</p>

2.7 Related Models and Frameworks on Development of Digital Comics in Teaching and Learning

There are various models and theoretical frameworks of digital comics that have been used by previous researchers in the education field. The researcher will justify the common framework that previous studies have done to develop digital comics. This includes Jerome Bruner's (1967) Discovery Learning, Sugiyono's Theory (2006), Cognitive Theory of Multimedia Learning Mayer (2001), A.D.D.I.E model, McCloud's (1993) Principle of Comic, Infinite Canvas by McCloud (2000), Thematic Approach, Thiagarajan's 4D Model (1974), John Dewey's Constructivist Theory concepts of Mastery Learning (1933).

2.7.1 Jerome Bruner's (1960) Discovery Learning

Discovery learning, proposed by Jerome Bruner's (1960), is an example of constructivism that takes place in problem-solving situations, where the learner draws on their personal experience and existing knowledge to discover facts, relationships, and new truths to be learned (Miftahurrahmah, 2016; David L, 2017; Matsumoto, 2017).

2.7.2 Sugiyama's Theory (2006)

Prof Dr Sugiyono developed this theory in 2006, adapted in his book entitled *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*, which describes the methods of quantitative and qualitative research and how to develop the research and development (R & D) (Haryati, 2013).

2.7.3 Cognitive Theory of Multimedia Learning Mayer (2001)

The cognitive theory of multimedia learning (CTML) was proposed by Richard E. Mayer (2001). This principle is also known as the "multimedia principle," which states that "people learn more deeply from words and pictures than from words alone." Generally, the theory tries to address the issue of how to structure multimedia instructional practices and employ more effective cognitive strategies to help people learn efficiently (Sorden, 2005).

2.7.4 A.D.D.I.E model

The A.D.D.I.E model was developed by Walter Dick and Lou Carey (1996). It is a generic process traditionally used by instructional designers and training developers to design the learning system. The five phases included which Analysis, Design, Development, Implementation, and Evaluation represent a dynamic, flexible guideline for building effective training and performance support tools (Huriyah, 2015; Mulyatiningsih, 2016).

2.7.5 McCloud's (1993) Principle of Comic

Scott McCloud developed this theory in the year 1993. In his book, *Understanding Comic: The visible art*, McCloud outlined several principles to produce a comic, comprising idea & form, idiom & structure, and craft & surface (Ekram & Zaffwan, 2016).

2.7.6 Infinite Canvas by McCloud (2000)

Infinite Canvas was developed by Scott McCloud in his book, *Reinventing Comic*, in the year 2000. McCloud has outlined a number of specific criteria in addition to the traditional comic, namely: trails, distance pacing, narrative subdivision, sustained rhythm, and gradualism (Ekram & Zaffwan, 2016).

2.7.7 John Dewey's Thematic Approach

A thematic approach is developed by John Dewey as a way of integrated teaching and learning or integrated curriculum approach, where many areas of the curriculum are integrated within a thematic approach as an effort to integrate the development and growth of students and their developmental ability (Uukurniawati, 2013; Okoro, 2016).

2.7.8 Thiagarajan's 4D Model (1974)

The 4D model was developed by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel (1974), which stands for Define, Design, Development, and Dissemination. The 4D development model is used to develop a model of media learning (Thiagarajan in Trianto, 2010: 189; Armiyanti, 2016).

2.7.9 Jean Piaget Constructivist Theory (1933)

Constructivism theory, developed by Jean Piaget (1933), is defined as generative learning, i.e., the act of creating something of the meaning of what is learned. According to this theory, constructivism is an approach to teaching based on research about how people learn. For example, many researchers say that individuals construct knowledge rather than receive it from others (McBrien & Brandt, 1997; Aminah & Asl, 2015). This theory is a covered learning theory, teaching method, and education form.

2.7.10 Flipbook Pro

Flipbook Maker Pro is a software for digital publishing and turned into the PDF printed magazines & catalogs into stunning flip books with video, audio and animation.

2.8 Related Studies of Models and Frameworks on Development of Digital Comics in Teaching and Learning

Kristiani & Wardani (2017) proposed a theoretical framework and methodology for the development of interactive comic media for Mathematics subject focus on fractional material for class 5 SD. The authors referred to the adoption of Jerome Bruner's (1967) Discovery Learning, Research and Development (R & D) and Sugiyono's Theory (2006) consisting of 10 stages and then shortened by the researcher into eight stages, which is 1) Potential and Problem, 2) Data Collection, 3) Product Design, 4) Design Validation, 5)

Design Revision, 6) Product Trial, 7) Product Revision, 8) Trial of Use. This proposed theoretical framework is broken down into two steps, namely: pre-test and post-test.

Furthermore, Ekram & Zaffwan (2016) developed a theoretical framework and methodology for the development of motion comics on the History subject, which is based on the adaptation and combination of Cognitive Theory of Multimedia Learning Mayer (2001), A.D.D.I.E model, McCloud's (1993) Principle of Comic and Infinite Canvas by McCloud (2000). Therefore, the proposed theoretical process is broken down into three main steps: preproduction, production, and postproduction.

Also, Rohmah & Wan Shafi'i (2015) proposed a Research and Development (R&D) approach with the A.D.D.I.E model to design and develop comics as media learning for science subjects in 8th Junior High School. This comic was developed using two applications called Bitstrips and Adobe Photoshop CS4. This comic is also developed using the Thematical Approach and Jerome Bruner's (1967) Guide Discovery Learning method consisting of simulation, problem statement, data collection, data processing, verification and generalization.

Triono (2014) proposed Research and Development (R&D) based on Thiagarajan's 4D Model (1974) to produce a teaching aid based-digital comic on the Account subject. This research presented 4D (*four D models*) consisting of 4 levels: define, design, develop, and disseminate. However, due to limited time and costs, this research has only been reached at the development level.

Abdul Murad (2013) developed digital comic storytelling on the Malay Language for Special Needs classes based on the A.D.D.I.E design supported by John Dewey's

Constructivist Theory concepts of Mastery Learning (1933) and Thematical Approach. This comic was developed using a variety of programs consisting of an online program called *Pixton.com*, Adobe Photoshop, and Microsoft Publisher and was presented for the teaching process using Microsoft PowerPoint.

Table 2.8: Summary of Related Models and Theoretical Frameworks on the Development of Digital Comics in Teaching and Learning

No.	Related Studies	Years	Name of Model & Frameworks
1.	<i>-Pengembangan komik interaktif berbasis discovery learning untuk pembelajaran materi pecahan siswa kelas 5 sekolah dasar</i> (Lia Puji Kristiani & Krisma Widi Wardani)	2017	Jerome Bruner's (1967) Discovery Learning Sugiyono's Theory (2006) Research and Development (R & D)
2.	<i>-Theoretical Framework and Development Motion Comic Instrument as Teaching Method for History Subject</i> (Mohd Ekram Al Hafis bin Hashim Muhammad Zaffwan Idris)	2016	Cognitive Theory of Multimedia Learning Mayer (2001) A.D.D.I.E model McCloud's (1993) Principle of Comic Infinite Canvas by McCloud (2000)
3	<i>-The development of comic as media learning for science in 8th-grade junior high school at the subject transportation system</i> (Muflikhatur Rohmah, Wan Syafi'i, Darmadi)	2015	Research and Development (R&D) ADDIE model Thematical Approach Guide Discovery Learning
4.	<i>- Pengembangan bahan ajar akuntansi berbentuk komik digital</i>	2014	Research and Development (R&D)

	<i>pada materi siklus akuntansi perusahaan dagang</i> (Joko Triono)		Thiagarajan's 4D Model (1974)
5.	<i>-Pembangunan dan penilaian komik penceritaan digital dalam persekitaran pembelajaran berasaskan teori konstruktivisme bagi pembelajaran bahasa melayu pelajar pendidikan khas</i> (Abd Murad Abd Hamid)	2013	ADDIE Model John Dewey's Constructivist Theory concepts of Mastery Learning (1933) Thematic Approach

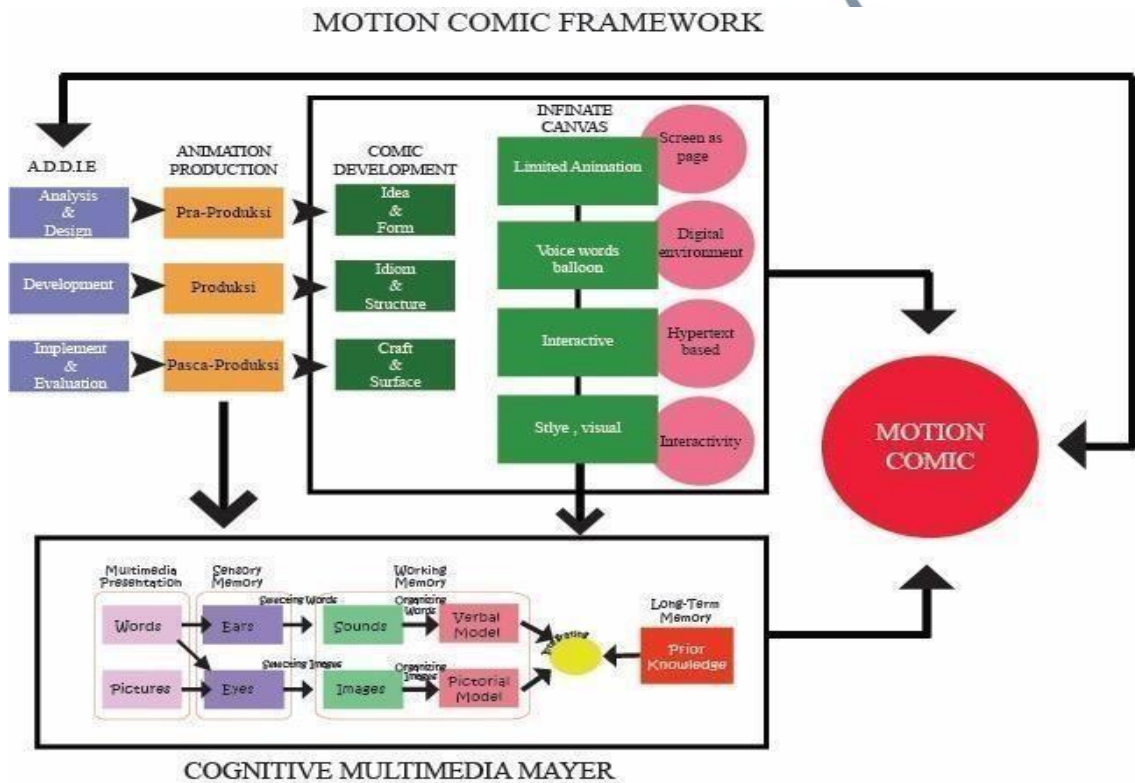


Figure 2.8 (i): The Framework of the Motion Comics (Ekram & Zaffwan, 2016)

Along with the above theoretical models and frameworks, this study adapted the theoretical framework adapted by Ekram & Zaffwan (2016) to develop digital comic. Based on this theoretical framework, the combination of cognitive theory of multimedia learning Mayer (2001), A.D.D.I.E Model, McCloud's (1993) principle of comic and Flipbook pro was used to develop digital comic. The A.D.D.I.E Model, which consist of Analysis phase, Design phase, Development phase, Implementation phase and Evaluation phase are breakdown into three main steps, namely: pre-production, production and post-production.

This theoretical framework by Ekram & Zaffwan (2016) was chosen to develop digital comic because its highlight an appropriate direction that can be apply as a guidance in produce the digital comic. Besides that, it eases to understanding the theories which is cognitive multimedia learning Mayer (2001), and the concepts of principle of comic adapted by McCloud (1993) which seems relevant with this study and more clearly defined. In addition, it connects with this study from the existing knowledge by some of researcher where they applied an educational model which is A.D.D.I.E Model based on their previous research which has develop motion comic and suitable to be adapted to develop this digital comic.

Besides, this theoretical framework was supported and guided by a relevant theory and concept. It showed a limit scope of the relevant theories by focusing on a specific concept and defines the view that this study should take in, by analyzing and interpreting the framework that can be adapted. By validating this theoretical framework, it can guide

this study on how to facilitates the understanding of theories and concepts as to builds new knowledge to develop digital comic.

This framework provides a theory-driven approach and showed a broader guideline with a general set of ideas whereas it used the combination of cognitive theory of multimedia learning Mayer (2001), A.D.D.I.E Model, McCloud's (1993) principle of comic and Infinite Canvas McCloud to develop motion comic. However, in this study, the researcher does not used infinite canvas and proposed to used and applied an application of Flipbook pro and Photoshop CS6 to develop digital comic. It is because the both combination of Photoshop and Flipbook are more suitable to develop this digital comic.

Flipbook pro which is an application which it's consist a cool feature such as displays crystal-clear on all desktop and mobile devices, options to zoom in/ out on full screen view, quick to page flip and load, easy navigation, themes, backgrounds and scenes that are attractive, allows integration of text, audio, video, and hyperlinks into a flipbook which are user-friendly. In addition, the Photoshop which has many cool features such as editing, retouching, transforming, adjustment images, text, vector layers, smart objects and effects. Moreover, an Islamic principle also has been added on this theoretical framework as a guideline to develop digital comic.

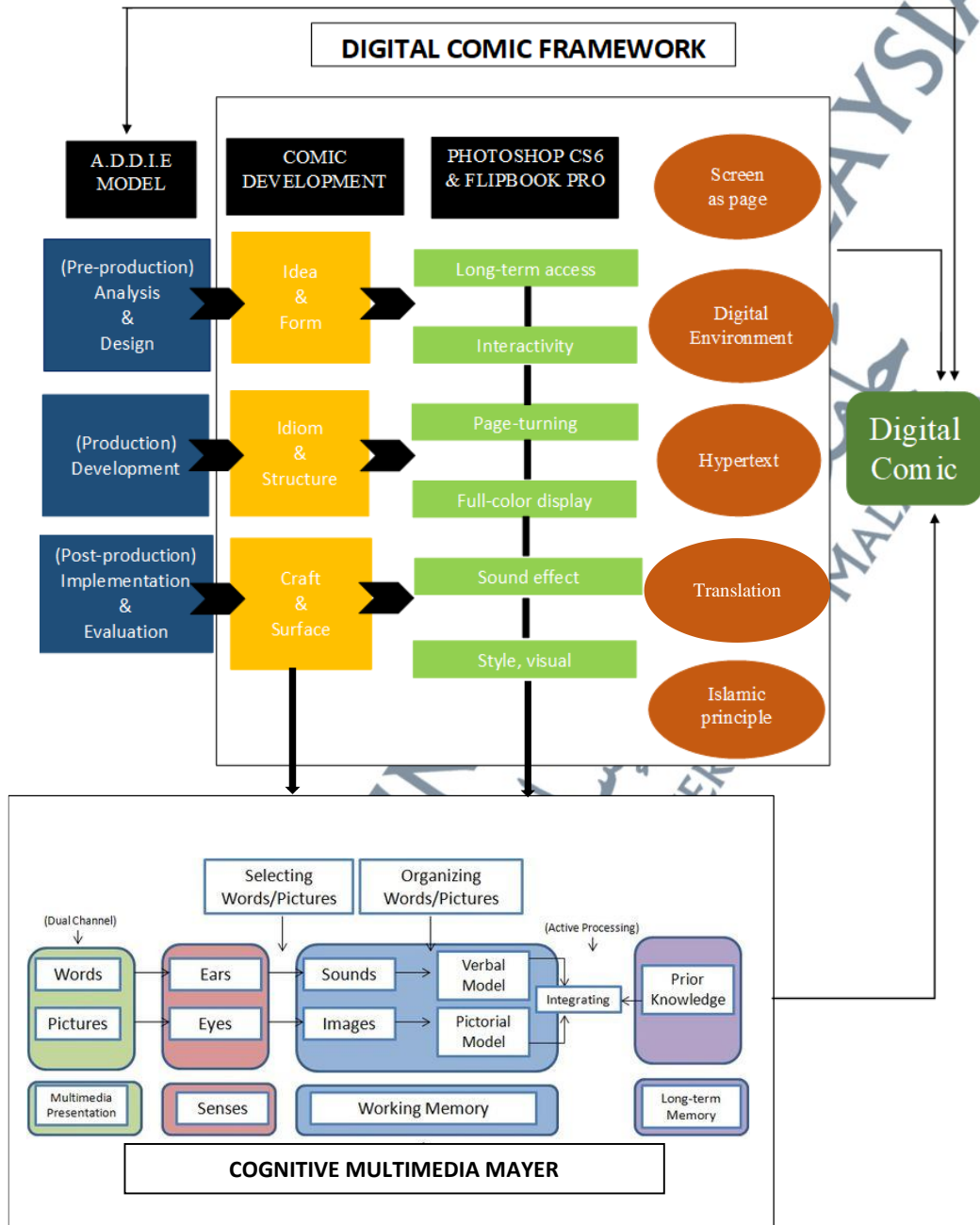


Figure 2.8 (ii): Theoretical Framework of Digital Comic

This study used the combination of A.D.D.I.E Model, Cognitive Multimedia Learning Mayer, Principle of Comic McCloud, Photoshop CS6 and Flipbook Pro as a theoretical framework to develop digital comic. The process of developing the digital comic that using a theoretical framework based on the adaption of cognitive multimedia learning Mayer (2001) which integrate words and images that make up a meaning in a multimedia presentation. Besides that, A.D.D.I.E model which consist to the Analysis phase, Design phase, Development phase, Implementations phase and Evaluation phase are break down into three parts namely; pre-production, production and post-production.

The principle of comic McCloud (1993) which outlined some of the characteristics of comic such as ideas, forms, idioms, structure, surface and craft are in line to produce this digital comic. Moreover, McCloud also has highlighted a number of specific criteria in comic which are; trails, distance pacing, narrative subdivision, sustained rhythm and gradualism which are has been applied in this development.

The features of Flipbook pro where it's contains the elements that is very interactive. This software has a tool that can make the digital comic can be read flipped and turned easily. Besides that, it has embedded multi-media elements such as sound effect, hypertext and digital environment which has options to zoom in and out on full screen view. Moreover, it also has full-colour display hence, can be easily accessed and viewed offline. In addition, the translation used in this digital comic is Malay Language (*rumi*) as a selected language. Since the original translation that contains in the textbook is written in *jawi*, it has been translating into *rumi* in this digital comic.

This digital comic also applied an Islamic principle such as the use of green colour as it identified the colour of symbol of Islam. The green colour also has become a tradition where Muslim represent themselves and was used as the main colour of Islamic calligraphy, which show the complexity of a Muslim's idea. Many literatures said that inside the Paradise, all the dwellers will be covered in green garments as their clothes. It proved the importance of green in Islam, as its more than just a colour. Besides that, the visual of the Islamic image such as the Muslim (men student) who wearing *songkok* and the Muslimah (women student) who covering their *aurah* by wearing hijab have been portrayed in this digital comic, which showed these characteristics portrayed as an Islamic image.

2.9 Online Learning during Covid-19 Pandemic

With Covid-19 announced by the World Health Organization (WHO) on March 11, 2020, the new process of adaptation to life started after radical changes in the world and new normal revealed after it (Ilhan et al.,2021). Covid-19 first occurred in Wuhan, China, at the end of December 2019 (Shereen, Khan, Kazmi, Bashir, & Siddique, 2020). In a short time, Covid-19 has spread and become an epidemic globally (Secon, Woodward, & Mosher, 2020). The Covid-19 pandemic has had a tremendous impact on the order of life of the people and nation of Malaysia, including those in the education field. The learning process that is usually carried out face-to-face in schools is forced to be carried out online.

Online learning is a new method of learning that makes advantage of internet networks which are open, connected, flexible, and allow for a variety of learning activities

(Rigianti, 2020; Sadikin & Hamidah, 2020). However, despite this difficult situation, the majority of academic institutions all over the world have worked to maintain the modern learning process, which has replaced the traditional one and involves students and teachers interacting with one another by using a variety of technological tools and techniques (Qazi et al., 2021; Rafique et al., 2021). In this situation, a teacher must be proficient in both of the subject matter and the use of instructional media.

However, instructional media is one of the tools that can make learning session is easier for students to understand learning materials. The use of media in learning is intended as a learning resource and a tool that can provide an overview for students to motivate learning, clarify and simplify complex concepts to become more straightforward and easier to understand (Baharun, 2016; Hilmi 2017). In addition, technology-based learning media is very necessary because media that comes in digital form can be used as an additional learning tool and can attract students' attention to participate in learning (Widjayanti et al., 2018).

Moreover, with the current digital era and the Covid-19 pandemic which these conditions have forced all teachers to carry out learning activities online, are being the reasons for the need to develop teaching materials such as in interactive digital comics, especially for secondary school students (Husnul *et al.*, 2021). Furthermore, to keep the online learning system operational throughout this pandemic, technology utilization is very crucial. Hence, the inability to use technology effectively is the issue with the online learning system. In addition to the drawbacks of online education during this pandemic, students frequently use cellphones but not for the goal of learning. In addition, Sabiq

(2020), in his research, said most of the parents have find it difficult to control and direct their children to learn. The problem faced by these students are they cannot be attracted by the material provided through online learning applications where the learning process is carried out online. Therefore, it is necessary to design learning methods to motivate students especially during this pandemic condition.

A previous study by Genc Osman et al. (2021) revealed the effect of digital comics in distance education increases success and helps develop positive behaviors towards the course. They also agreed that the importance of learning by having fun is emphasized in distance education, as well as informal education and it is valuable to make student's educational processes fun (Buyuk, Ugur, Saykili & Sahin, 2018). When the participant reached the end of the adventure in the comic book, he gained a different perspective and knowledge and felt a sense of fun.

The development of learning media in the form of digital comics aims to facilitate and encourage both teachers and students during their learning process to study at home during the Covid-19 pandemic. Very Hendra & Donaya Pasha (2021), in their study, developed comic learning media based on the scientific approach for class students. The result showed that the digital comic media developed during the Covid-19 pandemic is suitable for learning media and can be used as online or offline learning media during the Covid-19 pandemic.

Moreover, Husnul et al. (2021) developed interactive digital comic teaching materials for elementary school grade V semester 1 for the theme "Animal and Human Movement Organs" sub-theme "Humans and the environment". This is in accordance with

the 2013 curriculum, students' characteristics and supports received online learning in the digital era and the Covid-19 pandemic. Their study concludes that using teaching materials packaged in the form of interactive digital comics in independent online learning is proven to be effective in increasing student involvement in learning and learning outcomes.

Based on the discussion above, this research aims to develop a digital comic based on Form Five Al-Quran and Sunnah Education subject among Form 5 Ibnu Rusyd students of SMA Al-Ihsan. In addition, this research was carried out to determine the usability of a digital comic to meet user needs.

2.10 Chapter Summary

This chapter reviews key literature in studying the definition of comics, their form, and their elements. First, the growth of comics in Western and Malaysian education is examined, including the recent impact on the use of digital comics in teaching and learning. Besides, this chapter also focuses on teachers' and students' perceptions of teaching and digital learning comics in the classroom. Thus, the advantages and disadvantages of using comics are also identified, including from an Islamic perspective. Then, literature explicitly focused on learning theory-related comics is considered, ranging from the early work of practitioner-theorists to the growing body of learning theory found within teaching and learning by using digital comics. This is followed by a review of various theoretical frameworks that have particular use in considering the development of digital comics.