



## Using Smartphone to Enhance Student's Digital Art Literacy

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### Abstrak

Siswa yang lahir di era digital membutuhkan literasi seni digital untuk menghadapi perkembangan seni dan teknologi kontemporer. Artikel ini menggambarkan bagaimana telepon pintar dapat digunakan sebagai media yang cukup kuat untuk menunjang tujuan tersebut. Ketika banyak siswa bosan dengan pembelajaran seni yang tekstual saja, cukup dengan menggunakan telepon pintar ternyata dapat membuat pembelajaran lebih menyenangkan dan bermakna. Pada artikel ini, siswa di Sekolah Menengah Pertama Negeri 8 di Pare, Jawa Timur, kelas 8, diarahkan untuk membuat karya seni berupa ilustrasi sederhana menggunakan aplikasi Sketchbook di telepon pintar. Hal ini cukup sederhana sebenarnya, namun proses di balik hasil akhir berupa produk ilustrasi tersebut telah benar-benar membuat siswa menikmati dan dapat mengekspresikan ekspresi dan selera seni masing-masing. Oleh karena itu, optimalisasi telepon pintar dapat menjadi salah satu di antara banyak cara lain untuk mendorong peningkatan literasi seni digital siswa yang lebih menyenangkan dan bermakna.

### Abstract

Digital native students need digital art literacy to deal with the contemporary development of art and technology. This article illustrates how smartphone can be used as a powerful tool for that purpose. When student get bored with textual learning approach to study art, simply using smartphone could make learning practice more fun and meaningful. In this article, students in junior public high school 8 in Pare, East Java, grade 8, are directed to create a simple illustration using Sketchbook application on smartphone. It is quite simple, but the process behind the product was made student really enjoy and could express their artistic taste and expression. Thus, smartphone optimization can be one way among others to encourage student's digital art literacy which are more enjoyable and meaningful.

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## INTRODUCTION

The development of the world of education has been influenced by information technology. The influence of the rapid development of information in the current era of globalization is inevitable to the world of education (Buckingham, 2007). In today's global world, education demands to always and always adjust technology development to business and improve the quality of education, especially adjusting the use of information and communication technology for education especially in the learning process (Castro, 2016; Mills, 2016).

There are three forces that become dominant, namely science, technology as the application of knowledge, and information (Tilaar, 2012, p. 52). Permendiknas No. 41/2007 concerning Graduates' Competency Standards and Content Standards, in point 13, states that the use of information and communication technology to increase the efficiency and effectiveness of learning. Current technological advances have truly been recognized and felt to provide a lot of convenience and comfort for the lives of humanity (Dwiningrum, 2012, p. 171).

The development of educational technology is currently soaring, especially with the presence of mobile communication devices, online media and web technology. Education is expected to consciously prepare students with activities and teaching that are in line with the challenges of the future (Morris, 2011; Pianfetti, 2001). As a millennial generation, this case is no longer strange, young people are now familiar with communication devices such as Facebook, Twitter, MySpace, Blogs and so on as part of "lifestyle" and are only used to represent themselves with features in communication devices.

There are two generations of communication devices in the education world, namely digital natives and digital immigrants (Prensky, 2001). The digital generation is a generation born in the digital age, and has been conditioned by the environment as regards technology as an inseparable entity (Prensky, 2001). Whereas digital immigrants are generation born before the digital era but then withdrawn, and adopted new things from the technology (Prensky, 2001).

Furthermore, based on data from the Association of Indonesian Internet Services (APJII) 2019, it shows that internet penetration in Indonesia reached 51.8% or 132.7 million of the Indonesian population. The highest penetration rate

for internet users is 25-34 years, which is 75.8% followed by 10-24 years, 75.5% ("Saatnya Jadi Pokok Perhatian Pemerintah," 2016). Students and students have been categorized as the highest jobs as current internet users. This is not surprising, knowing that students and students included in the category as native digital.

Digital native or digital generation is the generation that was born and grew together with the presence of the internet. This generation is called as a generation that is adept at using technology devices. The development of technology and information has brought the current generation into the world of digital literacy. This digital literacy has entered into a generation that is familiar in both the academic and non-academic fields (Hetrick, 2019).

In this case the School Literacy Movement (GLS) is a business or activity that is participatory by involving school members, academics, publishers, mass media and the community. School literacy movement is the ability to access, understand and use something intelligently with a variety of activities namely reading, seeing, listening, writing or practicing and speaking (Fai-zah, 2011).

Literacy is the ability to read and write or literacy, but literacy in the world of education seems vague. Because of the lack of literacy culture that exists in schools due to the mindset of the world of education in schools only in the form of results not seen from the process. The world of education in schools very little equip students for understanding and activities about the culture of reading and writing, so students are bored and lack understanding of the literacy in schools. Literacy is the ability to read and write in carrying out tasks that exist in the world of education in schools, also defines literacy as the ability to read and write and think elements in it (Gilster, 1997; Martin, 2008).

Literacy is not only interpreted as writing, reading and understanding, but there is also literacy that recognizes visual forms. Like visual literacy that has the ability in individuals to recognize the use of lines, shapes, and colors so that they can interpret actions, recognize objects and understand messages. In general, visual literacy focuses on interpreting a person's visual image related to reading and writing skills (Taylor & Carpenter, 2016).

Basically, there are categories of visual literacy, namely (1) understanding the main idea

with the ability to understand a message; (2) identify the meaning of the whole in detail; (3) the ability to infer and surmise delusions, symbols and reality; (4) concerning the introduction of artistic media in implementing various activities with various types of media (Guerlac, 2013).

Furthermore, to develop digital literacy media, pictures are used as learning that can be varied with photos and picture books to increase students' interest. Basically, various types of images such as symbols or symbols in the surrounding environment can be used as learning objectives. Literacy-based learning is used to accommodate learner-centered learning that is encouraged to search for information through various references, both print and digital material (Bastos, 2010; Hicks, 2019).

Digital literacy programs implemented in the school literacy movement expect to encourage students and school residents to support 21st century skills, the use of computers to support such 4Cs as (1) critical thinker; (2) communicator; (3) collaborators; and (4) creator (Cera, 2013). These four learning competencies are now viewed as competencies that must be mastered by students in the 21st Century (Haryono, Subkhan, & Widhanarto, 2017).

Based on this background, this article describes the development of the world of learning, the potential of technology in the learning of art, and examples of the development of learning using soft devices on smartphones. This article shows that learning activity using smartphone enhance students' interest as well as outcome. It is also a way to introduce digital art literacy through smartphone.

## METHOD

This type of research is qualitative, with a literature study approach (Ramdhani, Ramdhani, & Amin, 2014) and media development (Migayrou & Sheil, 2018). The study was conducted by looking at trends in art and culture education that occurred in Indonesia, while media development experiments were carried out in East Java Province, Indonesia, precisely at SMP Negeri 2 Pare, eighth grade. Thus this study emphasizes the study of digital native, digital art literacy, and new driving added to the simple example of developing learning media to improve digital art literacy in students using smartphones.

## RESULT AND DISCUSSION

In this section we will examine the main

areas, namely digital native, the reality of cultural learning in schools today, the application of illustrations on smartphones, and examples of the use of smartphones in enhancing digital literacy of students through the production of illustrations.

### A. Digital Native in Indonesia

The presence of internet-based information technology brings changes to individual behavior patterns. Prensky (2001) gives the term generation by calling digital dignitious beliefs to become digital technology as the main language. Whereas for the previous generation, Prensky said that it is digital immigrant beliefs that they must adapt to the latest information technology. The characteristics of digital natives are receiving fast, multitasking information, more graphic and computational writing, accessing random information, and making games as a serious work (Prensky, 2001).

Digital natives are those born after 1980 (categorized as young people) and familiar with digital media (Spalter & Van Dam, 2008). Furthermore, digital natives are e-agent of change because information technology and the internet are widely used by young people whose political participation is still apathetic (McClurken, Boggs, Wadewitz, Geller, & Beasley-Murray, 2013). Digital native Indonesia is a generation born in the 2000s. This is because the internet entered Indonesia around the early 1990s, and Indonesian young people who were born after 1990 and/or 2000 (with an age range of 10-32 years) are part of a digital generation that is considered familiar with a variety of devices information technology especially the internet in its daily life.

Based on the milestones of the first digitalization project, the development and dissemination of information and communication technology, as well as the definition of digital natives, the age range that can be classified as digital native generation is 0-22 years or generations born in the 1990s to the present (Innocenti, 2012). Whereas the generation born until before the late 1980s was a digital immigrant.

### B. The Current Art and Culture Learning Activity

Along with the rapid development of technology, driving changes in the concept of literacy (Quinn, 2018). Literacy which initially only lies in the ability to read and write texts, but

now the concept has developed into digital literacy (Eyal, 2015). Today's digital literacy identifies an ability to understand and use information from various digital sources (Gilster, 1997). So, from the scope of the literacy has the ability to read, but it also requires a critical thinking process to evaluate the information found through digital media.

Digital literacy is the ability to use technology and information from digital applications effectively and efficiently in various aspects such as academics, careers and daily life (Gilster, 1997). That digital literacy should not only be the ability to use various digital sources effectively, but how to shape one's way of thinking (Frois, 2010). For this understanding, digital literacy is formed in the ability to use digital resources effectively and efficiently and in understanding the way of thinking of each individual.

Digital literacy is useful for dealing with information from various digital sources that continue to develop along with the development of technology and communication as a result of the phenomenon of media convergence. Convergence is as an integration of the functions of various media into one new media that is more sophisticated (Hausman, Ploof, Duignan, Brown, & Hostert, 2019). This relates to the characteristics of the relationship of information from various distributions that can be done quickly and easily, namely with the internet (Hicks, 2019; Hicks & Turner, 2013).

Digital literacy is no longer just understanding text, but digital illustration can also be on visual understanding such as art subjects (Hicks & Turner, 2013). This visual literacy can be used as a skill in human vision competence developed from the ability to see that is integrated with sensory experience (Nappi, 2019). This ability makes students able to distinguish and interpret all actions, objects and symbols that look natural or man-made that occur in the surrounding environment. The creative use of these skills can make humans communicate with other humans. This skill appreciatively makes someone able to understand and enjoy the work of visual communication (Martin, 2008).

According to Martin (2008, p. 14) there are five basic literacy dimensions, namely (1) digital literacy which is the ability of digital action that works with learning, fun and aspects that surround everyday life; (2) individual digital literacy varies depending on the daily situation experienced and also the lifelong process as well

as everyday life; (3) digital literacy is formed by communication and information technology literacy; (4) digital literacy involves the ability to collect and use knowledge, techniques, attitudes and personal qualities as well as the ability to plan, carry out and evaluate digital actions as part of solving problems in life; and (5) digital literacy also involves one's awareness of the level of digital literacy and the development of digital literacy.

Digital literacy is a multi-dimensional skill, one can master digital literacy gradually because one level is more complicated than the previous level (Colman, 2018). Therefore a person's competence must master information, visual, media and communication literacy.

Furthermore, art is a form of work, intention and copyright that has aesthetic value, including drawing. Drawing is a tool to express thoughts while drawing is a language or a way to give birth and develop ideas (Herawati & Iriaji, 1998). While the illustration is essentially used to explain or tell an event or event. Sumanto (2006) revealed that illustrated images are the type of images created to explain and explain a written text such as a reading, story, news and articles to make it easy to understand its purpose and contents. Based on these conclusions that the illustration is an image that aims to explain an event or event with a written script so that it is easy to understand.

To draw an illustration, the process of making it takes to produce the expected picture, namely (1) determining ideas, which are sourced from the material to be illustrated (Sakri, 1990). A work must have the skills to be mastered produced by someone in drawing, must have the ideas to be revealed; (2) sketching, this process is carried out when drawing the earliest or also called by drawing or designing drawings (Herawati & Iriaji, 1998); (3) furthermore, in the coloring process, drawing an illustration requires a coloring process, it can be in the form of a realist or cartoon style (Sakri, 1990).

In creating a beautiful work, one must understand and know the elements needed in drawing. The elements in drawing can be divided into points, lines, fields and images (Sachari, 2007). Therefore, it can be concluded that drawing illustrations also requires elements of drawing illustrations in order to obtain a beautiful work.

Before the development of technology, draw illustrations using only the manual met-



hod. But now it has evolved, the manual method has begun to slowly be abandoned, now it has changed to the all-digital way (Colman, 2018). Digital drawing is a drawing activity that is used using software or applications to produce a digital image (Migayrou & Sheil, 2018). Elfin (2010: 20) states that digital drawing can be produced by means of scanners or other electronic devices which are then transferred using a computer or smartphone which can then be used as a tool for drawing. Digital drawing by operating a computer or smartphone really needs to be supported by ideas and creativity as well as graphic knowledge.

Digital drawing is not only using a computer but can use a smartphone (Colman, 2018). The application used to enhance one's creativity, digital illustrations of interest are sketchbook applications. There are types in drawing digital illustrations that can be produced, namely vector images, vixel, lineart, wpap and bitmap-based images. The application of Sketchbook has several menus, namely gallery, info, tools, brushes, colors and layers.

### C. Illustration Application in Smartphone

Smartphone is a media that has the function like a computer, has a screen and the operating system is able to run the required applications (Backer, 2010). A smartphone is a phone that brings together the capabilities of a Wireless Mobile Device (WMD) that can function like a computer (Backer, 2010). In other words, a smartphone can be categorized as a mini computer that has many functions and uses.

Smartphones are no longer used as a communication tool, but can also be used as social and work needs (Nelson, 2019). The idea of using cell phones in the classroom makes it easy for teachers to offer increased learning (Reinders, 2010). Learning through wireless, mobile, portable and other handheld devices is slowly developing and education in various sectors both developed and developing countries are starting to use it (Ally, 2009).

The development of smartphones to date is not just a communication tool, but in today's smartphone is used as a medium of learning (Migayrou & Sheil, 2018). Considering the use of smartphones is increasingly soaring, especially for a student, it has become a teacher phallizing students in using a smartphone.

On the other hand, students today have grown up using devices such as computers, cel-

lphones and videos in every activity from learning, working, or just entertainment (Kelly, 2004). The use of smartphones in educational activities makes this device as a form of device used as an alternative in media development (Kitchenham, 2011). Therefore, the use of smartphone media in educational programs is one device that can be used as an alternative in media development (Selwyn, Boraschi, & Ozkula, 2009).

In this case smartphone is one tool providing many applications that students can develop with their knowledge, including the ability to use the sketchbook application to draw illustrations. Learning a technique in drawing, students are more creative in making their work, so that it spurs learning fine art.

Based on the results of the study on digital literacy media in schools, it was obtained that the scope of female students' needs was released from smartphones (see i.e. Backer, 2010; Selwyn, 2011). Students do not care much with learning that only requires reading with text media. For this lesson, this time we will use the sketchbook application in the smartphone application.

### D. The Sample of Students Assignment Process and Result

The following are a few examples of the process and results of the digital illustration drawing task carried out by 8th grade students of SMP Negeri 2 Pare. In the process of making digital illustration images with the sketchbook application using a smartphone, namely (1) open the sketchbook application first, then enter the photo to be drawn, (2) the photo that has been selected is adjusted for effect post according to taste, if you click the check mark in the top corner, (3) photo material that has been given effectporterize, then input the color pallet and place it next to the photo, (4) then determine the number of screens that will be used in the process of drawing illustrations that are made into vectors sketched first, and (5) photos that have been sketched are given color, using the pallet made color menu.

In the process of drawing digital illustrations, students are more exploratory and creative in their work. This learning can develop students' sensitivity and creativity in creating art. Students are stimulated to learn to express their feelings and emotional turmoil in the form of works of art that have the strangeness and novelty as a substance of creativity.



**Figure 1** The outcome of digital illustration picture made by students of class 8I SMPN 2 Pare

This art creation process has a key stage, namely the design phase and the creative phase. Each stage has different competencies, the stage of sketching is the initial stage which underlies the next work process to the coloring stage. Through the process of making sketches students pour out their ideas and ideas in the form of visualization of sketches (Migayrou & Sheil, 2018). For that reason, in the practice of learning in class students tend to take pictures that already exist, so students are weak in expression.

From these problems, the task of drawing this digital illustration students are expected to understand and understand the main points of the illustration images, then students apply this illustration image in a smartphone application specifically for drawing. This application makes it easy for students to express their ideas by copying their own photo as outlined in the media layer in the sketchbook application and students can express and explore in the illustrated images.

The process and outcome of these students in general appear to be active in visualizing their ideas and photo ideas into sketches. Students also appear to be active in the process of drawing sketches until coloring. With the guidance, motivation and response given by the teacher, both oral and written to the digital illustrated image material created by students can play a role in improving the ability to create art.

The response given by the teacher becomes the student's motivation in improving the work that is made. Students feel valued about the work they make. So students are increasingly motivated to draw digital illustrations. The individual development of each child can be me-

asured by what is accomplished by the child and not compared to the results of his work with the work of designers. Nuance of collaboration is prioritized over competition (see i.e. Haryono et al., 2017).

The process of transferring a photo that has been given an effect to the tracing process then adds several layers to insert a color pallet and placed next to the photo. Furthermore, the color pallet is useful for coloring the parts of the object, which begins with a screen containing an object textbook with the desired coloring. Basically, learning to use marphoned in increasing the understanding and mastery of students regarding digital art literacy is quite simple, but it is interesting and meaningful in the form of physical integration and by combining relations between good and human teachers and students.

## CONCLUSION

The results of the study show that the education in the field has entered the era of transdiscipline, where it provides opportunities to collaborate with other disciplines. The level of literacy competence of digital visual illustrations using a smartphone application, which is carried out by 8th grade junior high school students has become an example, that literacy is not only understanding and understanding but also practicing the subject matter. This digital visual literacy can be used as a skill in human vision competence developed from the ability to see that is integrated with sensory experience.

This ability makes students able to distinguish and interpret all actions, objects and symbols that look natural or man-made that occur in

the surrounding environment. The creative use of these skills can make humans communicate with other humans. Digital literacy that initially understands and understands the meanings and ideas about these illustrated images will emerge from the reality of creativity in work.

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