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EFL Students' Awareness on Digital Literacy

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Abstract

This present research focuses on senior high school student's awareness on digital literacy. The purpose of this study is to analyze how students are aware of accessing and managing digital information. The method of the research used case study. Data collecting techniques used observation, questionnaire, and interview. Regarding the research location, the researchers involved SMA Negeri 1 Serang as the locus of the research. This involved thirty students as respondents to collect data from questionnaires, and two teachers for interviews. The result of the questionnaires show that the type of digital literacy tools recommended for students in building their digital literacy awareness cover Accessing, Managing, Evaluating, Integrating, and Creating tools and programs. The result of the interview and observation, furthermore, show that all teachers and students can develop both learning material and learning atmosphere using ICT; all students also have the ability to use digital tools for finding the information and references to support their learning processes.

Keywords: digital literacy, student's awareness

Introduction

Nowadays, science and technology is growing rapidly. It greatly affects all levels of society in various aspects of life. Almost all equipment used in life is no longer manual, but digital. Therefore, the 21st century is often referred to as the digital age. The currently developing science and technology provides great benefits for human life because it can overcome the limitations of space and time so that it seems as if there are no barriers between one place and another. As a result, someone in one place can find out various events that have occurred in other places either directly or through recordings.

The advancement of science and technology can also be used by all groups for various purposes such as online transportation, online buying and selling, chatting, and so on. Not only that, in the world of education, teachers and learners can also take advantage of it in the learning process, where learning does not have to be face-to-face but can be done online. The advancement of science and technology can also be used to find various learning sources, to conduct evaluations, and for other purposes. In other words, advances in science and technology give positive energy to various aspects of human life.

The phenomena of digital literacy in modern era must be promoted and being spread towards the students from all ages. Several aspects related to digital literacy need to be stress for the awareness of the digital

literacy among students. Knowledge performance one of the points that must be strengthens. In the 21st century, there is a new relation between knowledge and apprenticeship (Fombona, 2012). In this field, the use of technologies is extremely important to make easy the access to knowledge. In an advance century which consists of a variety of technology made, the researcher become aware that the knowledge acquired today is easy to be exceeded.

When talking about digital literacy it is easy to dwell on children and adults as consumers; for example, carrying out research online on a topic for a school project; extracting text and searching for pictures to add, etc. Whilst this information accessing, retrieval and processing is an important component, digital literacy goes far beyond these acts. One important mindset to explore is that to be digitally literate means being both a consumer and an author (producer) of digital content and having the skills, knowledge, understanding, values, and attitudes embodied within both roles.

Resnick (2012) viewed that children should go beyond being consumers and be able to 'design, create and express themselves with new technologies. Resnick (2013) further claimed that the online educational programming language for children details how children 'begin to see themselves as creators and designers, as people who can make things with digital media, not just browse, chat, and play games.

The success of awareness on digital literacy is not only determined by how the teachers teach the students but also how the students learn. As previous observation at tenth grade at SMA Negeri 1 Serang, the researchers found the phenomena that the new age group has a different awareness and perspective about how to find and access information. They need help for information literacy (Tolga et.al., 2013); and need to understand the learning materials to meet their qualification requirements (Hall et.al., 2013). Digital literacy and ICT skills are important for students. Other than that, facts are rising of high changes in knowledge practice, for example practically in the way academic writing is usually constructed, the use of graphical, image and media to find and share the knowledge. For that reason, digital literacy extends beyond technical competence skills, such as the ability to writing, presenting, and communicate using a keyboard. Those skills related with the technology need to be delivered to the students from the early age. Despite of that, technology tools is a part of the things which can increase the knowledge performance and develop the awareness of the digital literacy among students.

The affordances of touch screen devices recommend young and preliterate children the possibility to independently design, create and produce their own words in ways that are more easily facilitated than with tools such as paper and pencil (O'Mara,

2015). Furthermore, the teachers also claim students become more creative in their thinking. Despite that, mobile phone and web 2.0 tools for example blogs and wikis also had been a part of digital technologies.

To solve the problems faced by the teachers in teaching English, digital literacy can be applied to make the process of learning can be more effective and interesting. The teachers tend to use several virtual platforms that can be used in teaching and learning English language. The teachers can assess and give feedback directly without timely matter because between students and teacher can still do interaction along the deadline that given not in real-time.

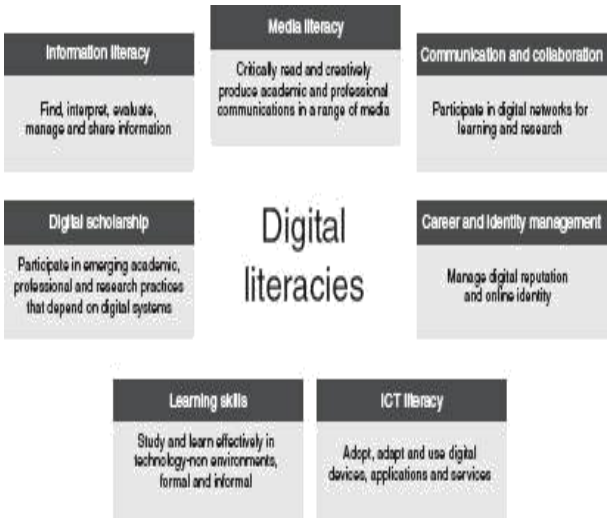
Discussing on how EFL students' awareness and perceptions on digital literacy in Indonesian context has been investigated by some previous works; Baharuddin (2016); Durriyah & Zuhdi (2018); Eryansyah, Erlina, Fiftinova, & Nurweni (2019); Hadi, Zaitun, & Aprilia (2021); and Mudra (2020); their works examined on digital literacy awareness among students and the ways to develop the knowledge performance towards students by practicing a good skill to deal with the appropriate digital tools. This recent research hopefully can enhance further information regarding students' awareness on digital literacy. Therefore, the researcher determines three research questions as follows: (1) what does the type of digital literacy tools recommend for students at SMAN 1 Serang? (2) How do the teachers develop material on students using ICT at SMAN 1 Serang? (3) How do the students' ability to use ICT tool for accessing and managing the digital information at SMAN 1 Serang?

Theoretical Review

Digital Literacy

There is a relatively huge body of literature that is concerned with the definition of digital literacy. An early definition restricted the definition of digital literacy in terms of technical aspects of operating digital devices. Recently, several experts provide a broader definition of digital literacy. It is defined as much more than an individual's ability to handle computers. It deals with how an individual applies it in the context of cognitive and socio-emotional aspects of work in a computer environment.

Figure 1. The Elements of Digital Literacies (Joint Information Systems Committee, 2014)



The above figure states that digital literacy looks beyond functional IT skills to

describe a richer set of digital behaviors, practices and identities. There are significant areas as the model shown above. The information literacy, for example, which covers to find, interpret, evaluate, manage and share information

Hobbs (2010) defines digital and media literacy as a constellation of life skills that are necessary for full participation in our media-saturated, information-rich society. These include the ability to do the following: (a) Make responsible choices and access information by locating and sharing materials and comprehending information and ideas. (b) Analyze messages in a variety of forms by identifying the author, purpose and point of view, and evaluating the quality and credibility of the content. (c) Create content in a variety of forms, making use of language, images, sound, and new digital tools and technologies. (d) Reflect on one's own conduct and communication behavior by applying social responsibility and ethical principles. (d) Take social action by working individually and collaboratively to share knowledge and solve problems in the family, workplace and community, and by participating as a member of a community.

Belshaw (2011) agrees that digital literacy is a condition, not a threshold and, as with all conditions requires maintenance and context. Although specific references to digital literacy are made in the computing curriculum, we would encourage you to consider it in a cross-curricular sense, activities need to be authentic and have purpose for children.

Moreover, Payton and Hague (2010) stated that digital literacy is an important entitlement for all young people in an increasingly digital culture. Indeed, if formal education seeks to prepare young people to make sense of the world and to thrive socially, intellectually and economically, then it cannot afford to ignore the social and cultural practices of digital literacy that enable people to make the most of their multiple interactions with digital technology and media.

Similarly, a digital literacy is also defined as an ability that covers "the skills and ability to use digital tools applications; the capacity to critically understand digital media tools and content; and the knowledge and expertise to create and communicate with digital technology". This research, therefore, follows the definition of digital literacy with the more recent views which state that digital literacy covers the cognitive, socio-emotional, and technical abilities to use digital technologies.

From the above definition, the dimensions of digital literacy are derived. The dimensions of digital literacy are divided into three intersecting dimensions, namely (1) technical, (2) cognitive, and (3) social-emotional dimensions [3]. Within the cognitive dimension, there are two types of literacy that probably could be implemented in teaching and learning namely information

literacy and critical literacy. Meanwhile, there is also an intersected aspect between cognitive and social-emotional dimension, namely cyber safety, or later will be known as online safety throughout this paper. Hence, the term digital literacy in this research specifically focuses on the information literacy, critical literacy, and online safety. This research, however, will not consider the technical skills of operating digital devices as its objective. After defining the term of digital literacy, the next discussion will be about how to implement it in the classroom.

Digital Awareness and Pedagogy

Although evidence-based practice is a solid foundation for decisions relating to pedagogy it is important to recognize the complexity of teaching activity. Whether regarded as an art or science, as a holistic process or simply as influenced by a multiplicity of factors, sensory awareness, noticing, creative thinking and on-going reflections on practice are essential elements of effective pedagogy.

The theoretical perspectives can help to focus attention and developments of Shulman's (1986) theory of teacher knowledge are useful in this regard. From Shulman's perspective teacher knowledge includes: (1) Subject knowledge (this relates to the subject on teaching, so for computing this refers to the broad technological context and personal digital technology capability, ex experience of computer programming). (2) Curriculum subject knowledge (this relates to the national curriculum subject on teaching though may be cross-curricular). (3) General pedagogical knowledge (this relates to awareness of teaching and learning theories). (4) Pedagogical content knowledge. (5) Knowledge relating to learners and their characteristics (this relates to students' awareness of such topics as child development, educational psychology but will also include awareness of children as inhabitants of a digital culture). (6) Knowledge of educational contexts. (7) Educational philosophy including aims and values.

Essentially, teachers need to be clear about their aims, know the content of the curriculum subjects they are teaching, have an understanding of the nature of learning and also have knowledge of various dimensions of teaching, ex methods of teaching, classroom organization and assessment. However, in addition to this, Shulman's model emphasizes the importance of *pedagogical content knowledge*. This is the pedagogy specific to teaching particular subject content to particular learners, ex knowing the common misconceptions eight-year-old children have in the science topic of *forces* but also knowing specific teaching strategies to promote effective learning in *this* science topic with these children.

According to Mishra and Koehler (2006) gave attention to the significance of

technology in their model of pedagogy. They adapted Shulman's model to incorporate the influence of technology, referring to teacher knowledge as *technological pedagogical content knowledge* (TPCK) while also recognizing other constituents as *technological content knowledge* and *technological pedagogical knowledge*. TPCK occurs where content, technology, and pedagogy overlap. This is a particularly useful theory because it centers attention on the affordances of ICT.

As an example, consider teaching a primary science lesson where the learning outcomes relate to electrical circuits with a Year 5 class. The teacher will need appropriate curriculum and subject knowledge for the age group. It will be useful to have some awareness of the pupils' previous experience and common misconceptions. The teacher will also need to draw on general understanding of how children learn and strategies for managing the class. Where there are laptops available to the class and an Interactive Whiteboard, the teacher's *technological content knowledge* will comprise knowledge of affordances of appropriate software and features of the Interactive Whiteboard that may be useful for teaching about electrical circuits, ex simulation software where children can interact with the components on the computer, computer games relating to circuits and illustrative video clips.

The teacher's *technological pedagogical knowledge* relates to the teacher's general knowledge of how to use the affordances of the technology to make the learning more effective. The teacher's TPCK will be the combined knowledge that includes being familiar with the software and what it has to offer the particular children being taught; knowing how to adapt the software and how to integrate the use of the software effectively into the lesson.

With hundreds of potentially relevant tools and applications to choose from, categorizing can help you identify those that you can use to support, enhance, or transform learning within any lesson. Developing familiarity with the affordances of a range of tools will help to increase your technological content knowledge and will be useful for curriculum planning and development.

According to Selinger and Kaye (2014) used a simple approach that positions pupils as consumers or producers. This relates well to the rationale of the new computing curriculum which supports the view that pupils should not just be end users, ex although they should have the capability to play video game they should also learn how to create the games as well.

Tools supporting pupils as consumers include internet resources that pupils can use for researching a topic; presentation hardware and software that teachers can use such as Interactive Whiteboards and related

software; and simulations and games that pupils can use to learn in a more interactive way, including integrated learning systems.

Tools supporting pupils as producers include the computing part of the curriculum such as programming with Logo, Scratch, 2Code, Kodu game lab and Alice. The emphasis on pupils as producers can also be recognized in the wide range of tools and Web 2.0 tools associated with the creation category of Bloom's digital taxonomy (Churches, 2014). An alternative way of categorizing is to group tools used by pupils and tools used by teachers. Although there is inevitably an overlap and merging of boundaries, ex Interactive Whiteboards can be used by both pupils and teachers, teachers' tools include the use of digital technology for communicating subject knowledge, assessment, feedback and extending learning beyond the classroom and school day.

The range of software and online apps within each tool type is extensive, ex the Centre for Learning and Performance Technologies (CLPT, 2014) lists more than 2000 examples of software and applications including those specifically related to various aspects of the teacher's role such as instructional tools, presentation creation tools, virtual classroom and discussion forum tools, polling and survey tools as well as personal productivity tools.

Awareness has several definitions according to the experts. Solso (2007) saw awareness as readiness for each event that occurs in the surrounding environment and cognitive events that include thoughts, feelings, physical, and memory. Goleman (1996) further stated that awareness means attention to the mind of someone who reflects themselves and thoughts that involve observation and exploration of experience and emotions. The last, Ryberg and Georgsen, (2010) argued that awareness are composite and situational accomplishments, which should not be reduced to piece-meal curricular units, but taught as organic, complex engagement with different literacy practices'. Through the above definition researcher can conclude that awareness of digital literacy is attention to explore what has been done and an understanding of the surrounding environment.

Method

The approach of this research was a qualitative research. The researcher used case study as the research method. Yin (2003) defined a case study as a method of doing a study in the phenomenon that occurs with a focus on person's life experience or Real Life Context. Case study emphasizes on the deeper understanding of phenomenon based on the human experiences.

Heigham and Crocker (2009) propose case studies as empirical investigations of contemporary phenomena within real life contexts in which they comprise a bounded system, including an individual or entity and

setting in which they act. Case study was conducted to describe a phenomenon about students' awareness on digital literacy at SMA Negeri 1 Serang. This research was conducted with the following procedures: (1) collecting the complete personal data of the research participant; (2) asking the students to answer the questionnaire; (3) giving personal interview; (4) collecting data; and (5) reporting and evaluating Research.

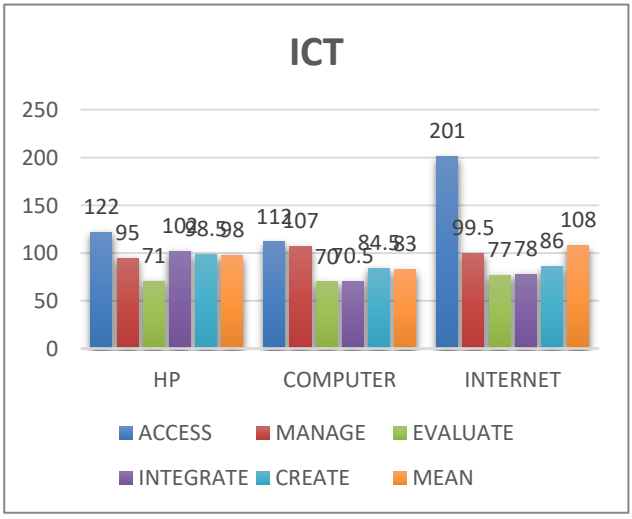
The subject of the research was tenth grade students at SMA Negeri 1 Serang. The researchers applied in 30 students. It means that the accessible population followed by English teacher and X grade students.

In collecting the data, the researchers used triangulation technique. It consists of questionnaire, interview, and observation. The researchers had observation by involving the Tenth-grade students and teacher of SMAN 1 Serang Banten. The researchers observed and write it down as primary data to be processed (non-participant). The questionnaire consisted of twenty-seven questions. The questionnaire was distributed to the students of class X. The class consists of 36 students. From 36 students who were given a questionnaire, only 30 students wanted to fill out it. From the results of the questionnaire, the researchers interviewed 2 teachers to know their reason what are the difficulties faced by the teachers. After collecting the data, the researchers analyzed the data by using Miles and Huberman model. It involves data reduction, data display, and conclusion drawing of verification.

Result

From the questionnaire that distributed to students, the researcher can get the data what kind of the students use digital tool and how many percent students that have the use digital tool. In terms of finding information, most students use cellphone (33.8%), a small proportion use computer 28.7%. So, the most suitable ICT for students is a system using cell, one of which is Google or Mozilla Firefox. At the time of collecting this data, website and mobile-based ICT can be maximally utilized by students, because most student use smartphones with very high ICT proficiency (33.8%). Infrastructure is also the most important part because it reaches urban and rural areas widely (Sumardjo 2011). Website-based systems or mobile applications are more appropriate for other users in education, such as webinars that involve teaching and learning in education.

Figure 2. The Questionnaire Results



The diagram above shows that the cellphone variable has an average score of 98 points which represents 33.8% of students' awareness of the use of digital technology. The biggest point is in the *Access* dimension of 122 points and the lowest is in the evaluate dimension of 71 points, which means that students use more cellphone just to send SMS, songs and videos instead of trying to see a good screen display from other cellphone functions.

The researcher found that the most difficult in select material with the application of teaching activities using ICT was different among the interviewees. 1 from 2 interviewees felt. For giving data and evidences, there are so many resources; they're confused to choose which one is better. In making rebuttal the researcher found that the teachers cannot select all things what they want to select deliver material.

Based on the interview the teachers said there are some benefit that teachers gain by using ICT is they don't have to correct students answer sheets anymore. We can get an instant result in just a minute and it really saves time.

The teacher sent examples of announcement text and posters related to how to fight the corona virus through MT, WA. Students observe and study examples of announcement text and messages sent by the teacher. The teacher and students discuss how to make an announcement text through the examples given. Students determine and arrange the points that form the core of the announcement text to be made related steps / ways to fight the corona virus. Students (virtual groups) were asked to make an announcement text for how to fight the virus corona.

In this step, the teacher gave around 15 minutes for students to prepare their descriptive text and review the material that was made before then they will give the descriptive text about their favorite object to the teacher before they do the presentation. Teacher gave 45 minutes to practice and present it in Google meet, the students will present they favorite object based on the descriptive text which made by them and others students would make some questions related to the object. From reports above, the researcher founds four of student's ability in used digital technology, communication tool, or network in learning process, namely: *Access* (collect and / or retrieve information), *manage* (apply an existing organizational), *integrate* (interpret and represent information), *evaluate* (make judgments about the quality), and *create* (Generating information by adapting, applying, designing, inventing, or authoring information) information to be able to participate in school (ETS, 2006).

According to Joint Information Systems Committee (2014) states that 'digital literacy looks beyond functional IT skills to describe a richer set of digital behaviors,

practices and identities'. There are significant areas of overlap with the Hobbs model. For example: information literacy: find, interpret, evaluate, manage and share information.

From the observation result, it shows that the students' handle the skills and ability to use digital tools applications; the capacity to critically understand digital media tools and content; and the knowledge and expertise to create and communicate with digital technology.

Conclusion

There are several forms of students' awareness on digital literacy at SMAN 1 Serang in achieving their academic achievements in learning English; especially in finding learning information used digital tools during this pandemic. Most students use cell phone and computer as the most suitable ICT devices for them. Then, there are four student's ability in using digital technology, communication tool, or network in learning process, namely: *Access* (collect and / or retrieve information), *manage* (apply an existing organizational), *integrate* (interpret and represent information), *evaluate* (make judgments about the quality), and *create* (Generating information by adapting, applying, designing, inventing, or authoring information) information to be able to participate in school.

Reflecting the results, some suggestions are recommended. First, the teachers must pay attention to the selection of student learning materials in learning English, especially online materials. Second, the students can transform study atmosphere to influence and motivate other students in implementing EFL digital literacy. The last, future researchers can develop the next investigation through mixed-method, research and development to be exact, to build public awareness on digital literacy.

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