A New Literacy:  
The Role of Technology to Develop Student’s Character

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Abstract
Literacy is very important in human life since by being literate, people will be able to gain information. This paper discusses about the changing of old literacy to a new literacy. This changing brings effects to many aspects of life including in education. This paper shows how a new literacy which is known by ICT (information and communication technology) can develop student’s character. This new ICT has positive and negative effects. The counters only focus on explaining the positive effect of technology that is to build and improve the trustworthy, respect, diligence, responsibility, and courage. Building good student’s character can create good future leadership. Because of that student’s should be equipped with the ability of code-breaking, making-meaning, text-using, and text-analyzing. At the end, all parties (government, teachers, parents, etc) have to collaborate to use ICT in order to improve the quality of our education.

Keywords: New Literacy, Technology, Student’s Character

Introduction
Traditionally, literacy was defined from a print-based world – a world of books and other print media, a world of two dimensional print and images (NSW Department of Education and Training, 2010). It is always related to the ability of reading and writing. But nowadays, this definition is no longer used to define literacy. A definition from the past cannot accommodate new ways of meaning-making, such as locating information across multiple modalities, participating in audio-visual conferences, responding to emails, virtual environments or creating a personal website, blog or wiki. Readers are no longer confined to simply decoding and comprehending the printed word. They need to respond to and critique texts and comprehend information from sources they get.

Jenkins (2006) defines literacy skills for the twenty-first century are skills that enable participation in the new communities emerging within a networked society. Those
skills enable students to exploit new simulation tools, information appliances and social networks; they facilitate the exchange of information between diverse communities and the ability to move easily across different media platforms and social networks. In order to be able to participate in the society students may not only have reading and writing skills only. They need to master all the basic skills to learn language. In relation to this, Hill (2006 -2008) states that literacy is reading, writing, speaking and listening, and involves the knowledge and skills required to engage in activities required for effective functioning in the community.

It is obvious that in this century technology is greatly integrated with literacy. New technologies are transforming current literacies and literacy practices, whether intentionally or unintentionally, these new technologies impact on literacy instruction in classrooms (Hagood, Stevens & Reinking, 2003; Lankshear & Knobel, 2006; Lewis & Finders, 2002). They build on foundational literacies and skills, such as comprehension, phonics, vocabulary knowledge, phonemic awareness, writing, and spelling. Learners need to continue to build on these foundational literacies and skills in order to adopt and adjust to literacies of the future.

The report, maximizing the Impact: The pivotal role of technology in a 21 century educational system states that technology is an enabling force behind globalization, knowledge work and entrepreneurship. The report also states that it is critical that today’s students be critical thinkers, problem solvers, innovators, effective communicators and collaborators; and self-directed learners (p.3). Bundy (2004) points out: Of the responses to the many challenges facing the world, none is more important than growing the global community of the informed and questioning as rapidly as possible (p. 7). Hence students are expected to select appropriate information in order to survive in the society and globalization era.

“As an introduction to quality literacy teaching” (2009) specifically states that in order to maximize the teaching and learning potential of technology, students need to be taught: how to be critical and informed users of technology, to locate, evaluate and synthesize information, to interact safely and responsibly online, and to make informed choices when creating texts, considering how purpose audience, contexts and choice of medium influence texts (p. 29). By knowing those ability students will avoid to find and select the unsuitable sites which can be dangerous for the development of them.

Learning traditions of the past will not adequately equip students for the unimagined literacy of the future. According to Australia’s national goals for schooling in the twenty-first century (1999), it is vital that students leave school confident, creative and productive users of new technologies, particularly information and communication technologies (ICT) and understand the impact of these technologies on society. As we know that ICT develops so fast that sometimes we cannot filter the bad impact that can be caused by the fast development of ICT to the society.

This new literacy brings so many impacts to the society. Nowadays people use technology for their second hand. Many students use technology in their life to help their
work easier. Lebo (2003) explains that Internet users report an increase in the time they spend on the Internet and a decrease in the time they spend watching television. In addition, Lenhart, et.al (2005) studied the technology habits of 1100 teenagers and found that 84% owned one or more personal media device, 87% used the internet and 51% went online daily. As the users of Internet content and active content creators, students are interacting and learning through networking and collaboration.

The increasing of technology also increases the degradation in a nation. In Indonesia there are many cases caused by the misuse of technology. According to Hawari, information can be got easily through internet, hand phone, comic book, television, CD, play station, and other information media that really close to the students or teenager. This actually that can influence the students’ attitude and behaviour. One of them is abortion done by the students. There are about 2.3 million abortion happen every year and 30 percent of it done by the teenagers. Survey done in 9 big cities in Indonesia showed 27 percent pregnancy happened before marriage and 12.5 percent of the actors are students (kompas.com).

Ultimately, education should prepare student’s become critical creators and consumers of the information they encounter through a range of technologies (Alvermann, Moon & Hagood, 1999; Muspratt, Luke & Freebody, 1997). An introduction to quality literacy teaching highlights some of the new decisions learners face in a technological world, for example, they need to know how to establish reliability and credibility of multiple sources of information, know how to validate information, scan websites to locate information and navigate between links, be aware of online privacy and safety guidelines, and use images, print, music and narration to communicate ideas. According to Leu (2000): Literate individuals will be those who can effectively assess their individual purposes for using the Internet and then seek out, from the Internet’s many offerings, the particular tool and form that best meet their needs. In short, we can say that if the students are still unable to select good information which brings advantages to them, they are still called illiterate people.

Character education is very important for students. Character education is as the intentional and focused effort to help students understand, care about and acts upon core ethical values (Likona cited in Matula, 2004). Berkowits and Bier (2005) said that the risk behaviour of misunderstanding character education are drug, alcohol use, sexual behaviour, violence, lying, stealing, vandalism, court contacts, rude behaviour, gang activity, and defiance of adult authority.

Based on the explanation above, this paper will discuss clearly and completely about the role of ICT to develop students’ character. This paper will focus on the role of ICT to encourage students trustworthiness, respect, diligence, responsibility, and courage. These characters is a basic to be a good future leader. This paper will also explain about the role of government, parent, and school to develop students character.
ICT (Information and Communication Technology)

Finn cited in Anglin (1995) claim that technology includes processes, systems, managements, and control mechanism both human and non human, and a way of looking at the problems as their interest and difficulty, the feasibility of technical solutions, ad economic values-broadly considered-of those solutions. In other word, Galbraith cited in Molenda (2008: p.11) stated that technology as the systematic application of scientific or other organized knowledge to practical tasks. In Addition, Heineke (2001) said that technology as a facilitator of quality education.

Today, technology is known as ICT. Which stands for Information and Communication Technologies. In addition, Tinio (2002: p. 4) defined ICT as diverse set of technological tools and resources used to communicate, create, disseminate, store, and manage information. This technology is very helpful for the teacher because it does not only deliver the contents, but also to construct knowledge and meaning (Vrasidas and Mc. Isaac, 2001). Modern forms of ICT have made it possible for users across the world to communicate with each other in real-time on a regular basis. Some examples of ICT include instant messaging, video-conferencing, online multiplayer gaming, and social networking websites.

There are many benefits of ICT such as accessing remote resources, supporting new pedagogical methods, online experts, online mentors, home or school communication, virtual learning communities, distance education, lifelong learning, and cost effectiveness (Blurton, 1999). There are a barriers or problems use ICT in education. The barriers of ICT into education are teacher level barriers and school level barriers (Bingimlas, 2009: p.243). These barriers are lack of access, resistance to change, lack of time, lack of training, and lack of technical support. These barriers are one of the reasons that make the implementation of ICT in the classroom is hard to do.

ICT includes computers, broadcasting technologies (radio and television), telephony, CD ROM, audio or video clips, Computer, and Internet (Diem, 2011: p.87-90). The most common technology used by people are computer and internet. But it does not mean both of them are the only technology. In other words, we can say that the information to support classroom instruction in the new literacy of internet technology can be derived from everywhere; from the use of radio and television, from the collaboration of the usage of computer and internet together, etc (John, P.D).

Computer and Internet

The most common and the most familiar ICT used in classroom are computer and internet. Teachers believed that computer can assist them in teaching and learning process. Padurean and Margan (2009) said that the computer as a tool stage refers to the usage of computers as vehicles for delivering instructional materials to learners (through drill and practice). Computer is an important tool for learner. Computer is not only used for saving the data or connecting to the internet but also as a tester and teacher (p. 99). We can say that computer can be the second teacher for students in this globalization era.
The development of ICT, computer can be used together with internet connection that makes it possible to search needed information anywhere and anytime. Kamp (1999) did a survey that computers improve instruction. The data found out that 78% of teachers report that they have seen evidence of achievement gains due to computer use and 95% believed that achievement low performing students can be enhanced by computers. There is no only improve students achievement and motivation, but the site which can be accessed through internet connection provide us with a burden of information both good and bad ones. Like a coin, this brings us to the both sides. There are negative and positive effects.

Some of negative effects include the following (Tinio, 2002): limited knowledge: there is decline in the number of books used for research, Isolation: students spend a very limited time with family and actual friends, distorted sense of reality: the effect of online games is the student tend to confuse the “real world” from their “game world, exposure to violence: Online games can expose a student to explicit the content and violent situations, negative impact of uncensored material: students can see sexual material online such as pornography.

Positive effects which Internet brings to education (Supriyanto, 2005: 10-11): internet as a tool, tutor, and tutee in learning. In addition, (Sutarman, 2009: p.62) states that internet helps students to read code language and book online. As we already know that technology can make our work becomes easier. By using the technology, we can do something faster. School children who want to find the information about their lesson nowadays not merely need to go to library or go to bookstore. By having the computer and internet connection, they can browse and search any kinds of information through online search engine.

In addition, Lenhart, et.al (2005) studied the technology habits of 1100 teenagers and found out that 84% they have one or more personal media device, 87% used the internet and 51% went online daily. From this studied, we know that the largest of technology habits of teenagers used the internet. So, it can be said internet has an important role as a media to browse and find out the information and communicate that too.

The students use the technology and internet for many reasons, they use it to keep in touch with their friends through social network, they use it because they want to find the information, etc. Green and Hannon (2006) involving 200 NSW students in which they identified four user types of technology: Digital (Blogging before the phrase was coined); Creative (Build websites, post movies, photos), Everyday (SMS, blogging, emailing, texting); and Information gathers (Google, wikipedia, cutting and pasting).

Since there is so much information provided, learners need to have the ability to find the correct and suitable information which bring benefit for them. An introduction to quality literacy teaching (2009) specifically states that in order to maximize the teaching and learning potential of technology, students need to be taught: How to be critical and informed users of technology; to locate, evaluate and synthesize information; to interact
safely and responsibly online; and to make informed choices when creating texts, considering how purpose audience, contexts and choice of medium influence texts.

Effective literacy learners draw on the following four resources when they interact with and create any print-based, spoken, visual or digital texts (Ontario, 2009):

a. Code-breaking is the ability to break the code of written texts by recognizing and using the fundamental architecture of written language, including the alphabet, sounds in words, spelling, structural conventions and pattern. Here students should understand the language used in the text they read.

b. Meaning-making is the ability to understand and compose meaningful written, visual, spoken, digital and multimodal texts. By using meaning making ability, students can interpret the information they get so they will comprehend the text or information they are looking for.

c. Text-using is the ability to use written, spoken, visual, digital and multimodal texts in functional ways within and outside the school setting. This text using ability can make students expand the information they get by rewriting what they have got and reproduce what they have got.

d. Text-analyzing is the ability to critically analyze written, spoken, visual, digital and multimodal texts and understand that texts represent particular points of view and influence people’s ideas.

The Role of Technology to Develop Students Character

Using technology to enhance literacy has been viewed in different ways by educators. Some teachers believe that new developments will fundamentally change literacy instructions. The teacher becomes confident and competent use technology (Watson, 2012). Historically, education all over the world has had two main goals: to help young people master the skills of literacy and to help them build good character. Societies since the time of Plato have made character a deliberate aim of education. They have understood that to create and maintain a civil society, it needs education for character as well as for intellect, for decency as well as for literacy and for virtue as well as for skills and knowledge.

As we have already known that since our curriculum is changed into school based curriculum, the material is developed by genre or type of text. This genre is kind of literacy where in the past, it is usually only in the form of printed book, but by the changing of the old literacy to a new literacy, technology can be integrated to this genre for example by having narrative text presented in e-book or by using software such as Bello’s adventure in which students can enjoy reading but also learn some good attitudes. The integration of this technology can make students more interested in reading activities while teachers can also develop their characters education through explaining the moral lesson they got from the text they read.

A character education a term that is used describe the general curriculum and organizational features of schools that promote the development of fundamental values in children at school (Safe and responsive school, 2002). The function of character education (Kemendiknas, 2011) are (1) to build multicultural of nation, (2) to build a smart nation,
good attitude, and has contribution of human development, (3) to build a society that love and peace, creative, independent, and survive with other country. A good character can help young people become smart and good (Character Education Partnership, 1999). Therefore, building student’s character is important to develop student’s ability and attitude. Here some positive effects of using technology to develop student characters: trustworthiness, respect, diligence, courage, and responsibility (Kemendiknas, 2011: 5).

Trust worthiness means that the students are able to be an honest person. The activities as a honest person are: they don’t deceive, cheat, or steal, and the students be reliable, they do what they have already promised (Josephson Institute, 1995-1998: 1). The real example of trustworthiness is National examination. This character can make students be confidence in doing National Examination because they believe that if they have already studied hard they will able to answer the questions this will decrease the number of cheating which is usually happened in National Examination. This character also prevents student’s to be a corruptor. So, if they are become a leader, they will not be a corruptor.

Respect is a character that the students are able to be tolerant and accept many of differences of other people. In other word, Gower, Recovery, and OH (2001) said that the activities of respectful: be nice to everyone, be polite to others, let people being themselves, accept individual differences, help others whenever you can, honour the rules, and do not bully others. This character makes them to be a social people. Having this character will make student avoid from “fighting” because they can accept or tolerance of differences of other people like happened in Legislative Parliament.

Diligence is one of the key ingredients for success in school, but it is also important for the success in life. It is important to understand the need to complete small tasks, because people who do not follow through and complete small tasks are those who do not finish big things that take persistence over a long time like high school and college. This character makes students to be smart and to be good people (KEMDIKNAS, 2011). Like the proverb diligence is smart. If we are diligent, we can get a success in life because many companies give respect and high point to diligent people. The students also can get a scholarship if they are diligent. Many universities or college give a scholarship to smart students. It is a chance for students to get a scholarship. So, be a diligent people to get a success.

By having responsibility, the students are able to do what they are supposed to do (Gower, Recovery, and OH, 2001). This character like make a plan ahead, keep on trying, always do their best, use self-control, be self-disciplined, think before they act, consider the consequences, be accountable for their words, actions, and attitudes and also set a good example for others. This character is very important to be a good leader. As we know that, to find out a responsible people is very hard because many leaders were not responsible to their people. Many leaders leave their people in a problem and do not think about their people condition.

Another character that should be develop is courage in which can make students are able to fight mistakes, to make friends with new student, helping others, doing what is right, and also working hard even when it is difficult. The students have to be courage people to decide the way of their life. This character is strength to be a good leader. A good leader must have courage to be a policy maker without affected by political condition
like happened today (Kompas, 2011). If a good leader has this character, he will be assertive.

From the explanation above, we can conclude that students’ character is a basic in building a good future leadership. This character is as the foundation to be a leader. A good leader must have trustworthiness, respect, responsibility, diligence, and courage. These characters can be a control to do something. Trustworthiness can be a control to be an honest person and it can prevent a corruption. Respect can be a control to accept different opinions from other and it can prevent fighting like in Legislative Parliament. Responsibility can be a control to be a responsible leader to their people. Diligence is as a foundation to be a smart leader. The last is courage; the good leader must have courage to be a good policy maker.

Building a Good Future Leadership

Clifford and Friesen state that a new literacy’s or technology can develop a leadership in material pillar (signs, symbols, depictions, or representations), cognitive pillar (how we think), and knowledge pillar (knowledge building). A good future leader is a person who has good qualities of the skills of leading (Olson, 2005). Be a professional leader is not easy. To be a professional leader has done several steps. Leslie (2009) argues that there are five steps of future leadership needs: (1) perform a needs assessment, (2) create a leadership strategy, (3) develop clear, specific goals and strategies for individual leadership development, (4) create systems, and (5) evaluate. Those steps can give a need to be a future leader. If the leader in Indonesia done these steps, they will be a good leader in the future.

According to Cragg and Spurgeon (2007), these are the characteristics of good leader: courage, charisma, intelligence, integrity, self belief confidence, self motivation, enthusiasm, self awareness, trust, loyalty, commanding respect, steadfastness, and role model. Equally, there are top ten of leadership: self awareness, personal conviction, courage, creativity, curiosity, ability to inspire, ability to listen, ability to innovate, eagerness to experience, and willingness to reflect (Bisoux, 2005). Olson (2004) said that a person good if they are: (1) generous, (2) fair, (3) egalitarian, (4) responsible, and (5) honest. The future leader must have this character to be a successful leader. These characters can make a better life for us if the leaders have it. In addition, a good leader has personal qualities to be a success: self-belief, self-awareness, self-management, drive for improvement, and personal integrity (Cragg and Spurgeon, 2007). Therefore, the leaders are not only can manage people but also themselves.

In other words, White said that there are seven characteristic of good leader: (1) A good leader has an exemplary character. It is most importance that a leader is trustworthy to lead others; (2) A good leader is enthusiastic about their work or cause and also about their role as leader; (3) A good leader is confident; (4) A leader also needs to function in an orderly and purposeful manner in situations of uncertainty; (5) Good leaders are tolerant of ambiguity and remain calm, composed and steadfast to the main purpose; (6) A good leader, as well as keeping the main goal in focus is able to think analytically; and (7) A good leader is committed to excellence. Those seven characteristics are very important and
needed to be taught to students in order to create good future leader with character for Indonesia.

The Collaboration of Government, Parents, and School in use ICT to develop Students Character

The participation of government, parents, and school have important role to control and monitor the students in using technology. Government can be a facilitator of the program, parents is as a guide and controller at home to check that children will only access the information which is suitable with their age and their need, and school is as a monitor. The monitoring and controlling is very important for students to develop their character. Students’ characters as active learners make them want to know about everything. This is a role of parent and teacher to monitor student’s activities using technology, especially the use of computer and internet.

The ways to develop student’s character use of internet can be done by the government, parents, and school. The obligations and rights to educate are still in parents but the parents did not perform it perfectly; they need the institution’s help namely school (Soetopo and Soemanto, 1988). The big problem of using computer and internet is pornography. Pornography is very dangerous for students. It makes student’s character will be decreased. In this, government, parents, and teacher must control their children to avoid the bad effect of the use of technology.

The way can be done by the government are; 1) block the porn site: the government can block all of porn site in Indonesia so the students cannot open it, 2) socialize the pornography constitutions in Mass media, online media and television: the government can do socialization and promotion about pornography in Mass media and television. It makes the students know how dangerous the effect of doing pornography where they can be arrested if doing that improperly, and 3) socialize sex education in every school: the government has to do socialization at school about sex education. It can help the teacher and students understand about the negative effect of pornography. But every people cannot believe if the government can block the entire porn site because it is need a strong ability, extra money and consistency. As we now that today, the porn sites still exist and always increase.

The way can be done at home are: 1) Parents need to have knowledge about the Internet and technology. A child may knowingly allow or cause parents not understand technology so parents think there is no negative impact of the Internet; 2) put the computer in a visible place. By putting a computer in the open, for example in the family room, we can monitor what sites are opened enumerated by children at the time of accessing the Internet; 3) help your child to make their own decisions. As parents, we cannot watch the child for 24 hours, get used to the child to make decisions ranging from small things; 4) limit the use of Internet. Specify how long the Internet may be used and any site that may be accessed; 5) sex education: sex education should be taught by parents to their children. It can help to prevent their children from pornography; and 6) maintain good communication with children. Good communication and bonding with the child will make it easier to in still moral values.
The way can be done at school are: 1) dissemination of the negative effects of pornography: socializing the negative impact of pornography is also necessary for the government to remote areas and schools, thereby reaching out to children or young people (MUI, 2011); 2) porn video raid. Raid is to prevent the destruction of moral youth, because if there is an outstanding video porn can lead to deviant behavior (Widiyanto, 2012), and 3) early sex education: sex education or education on reproductive health or a fancy term sex education should be given to children who have grown up or teenagers, both through formal and informal education.

**Conclusion**

ICT is running so fast that we sometimes cannot filter the bad impact that caused by the fast development of ICT to the society. ICT is linking to the literacy skills that are skills enable participation in the new communities emerging within a networked society for the twenty-first century. Those skills enhance students to exploit new simulation tools, information appliances and social networks; they facilitate the exchange of information between diverse communities and the ability to move easily across different media platforms and social networks. In order to be able to participate in the society students may not only have reading and writing skills only but also speaking and listening and also the technology which involve the knowledge and skills required to engage in activities required for effective functioning in the community. In this century technology is greatly integrated with current literacy and literacy practices, whether intentionally or unintentionally, these new technologies impact on literacy instruction in classrooms. The good impact of technology not only for mastery of ICT and literate the students but also to build their good character for becoming future leader and of course to make it works all parties should collaborate each other.
References


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