Digital Literacy in Education: From Local to Global

Yukai Wei[1,a]

[1]*Melbourne Graduate School of Education, University of Melbourne, Parkville, Melbourne, Australia*
[a] *wayaka9854@163.com*

ABSTRACT

With the advance of digital technology and the process of globalization, digital literacy becmoes a more important role in education, especially in global context. Digital literacy education is a continuous process from kindergarten to college and even in work places. It can be defined as the ability to use digital tools in education and in work. However, the difference in scope and focus makes digital literacy into two types: local one and global on. Local digital literacy refers basic skills app applied in local life while global one emphasize the active role of learners in global education issues, stable connections with other participants globally and relations to other literacy like policy and transnational literacy. As values and attitudes, global digital literacy benefits students'' learning and future career. Students can move from local digital literacy to global digital literacy with the help from government and teachers.

Keywords: Education, Digital literacy, Global literacy, Digital education, International education

1. INTRODUCTION

Because of globalization and the appearance of Covid-19, technical advancement in education becomes more important. This paper focuses on digital literacy in education under global context. It discusses the definition of digital literacy and the differences between local one and global one, it also demonstrates the significance of global digital literacy as well as practice for developing it.

2. Local digital literacy as starting point

Literacy is commonly defined as reading and writing abilities that vary across different contexts constantly[1]. Digital literacy refers to the ability to search, evaluate, and compose information and do tasks through digital equipment and internet in study, work and social life[2]. This is the process of combining literary knowledge, cultural literacy and digital literacy, and when this combination is used in dealing with local community issues, the local digital literacy appears. Local digital literacy derives from kindergarten when students use electronic equipment in life. They use digital equipment to get information other than face-to-face communication. Then in the compulsory schools, digital literacy education appears with the usage of learning machines and computers[3]. Students learn to solve academic questions with the help of digital devices, they also benefit from using digital equipment and social media.

Social media and social networks with proper guide improve student engagement, cognitive skills and academic performance[4]. They can communicate with others in a more effective way and share information more instantly and stably.

In terms of learning, both school and social life act as important roles in education. There are mainly two forms: speically designed classes about computing teaching and using digital materials as auxiliary teaching. For example, language studying like English study is the typical translingual practices that requires videos and computers as teaching tools, making learning a process of digital literacy cultivation[5]. This usage of digital device helps in understanding and academic performance. Besides, a common way of local digital literacy practice for young people is that their interest in computer games encourage them to explore computer knowledge, which becomes the very beginning of local digital literacy.

This local digital literacy focuses on learning and working with digital equipment acting as supplementary tools. It emphasizes getting information globally and processing the data collected to improve students' own academic performance and for their own benefits. However, local digital literacy rarely builds stable connections with other participants in education and use them as main ways of communication. It generally focuses on relatively local issues and practices in primary level. With the development of technology and the process of globalization, it becomes more urgent and

necessary to shift the focus of digital literacy education from regional level to global level.

3. Digital literacy in global context

In higher education and international talents training, digital literacy is a hot debate in education and is studied in both international and national context[2]. Global literacy in digital age is characterized by multiple social media and digital skills required in a pluralistic, shared and diversified community across geographical context. The skills can be defined as the ability to identify, analyze, synthesize, create, use, and share new knowledge using multimedia and global online systems.

The prerequisite of global digital literacy is understanding that the world is multicultural with differences in individuals and in cultural groups[6]. In education, students should know how the world is organized and think about their role in the world critically. They should understand and appreciate different cultures, traditions, political systems and relationships that exist in the world[7]. The three skill sets of global digital literacy includes: information, media, and technology; learning and innovation skills; and life and career skills[8]. They represent carrier and channels, capability, and front line practice respectively. This can be understood as the learning ability to solve academic problems and to complete work tasks with the help of digital tools like computers, the creative spirit, the view of the overall international situation, and the communicating ability through social network platforms. It requires academic output and connections with people from all over the world through online learning system, chatting platforms and other digital devices. This means that education in digital literacy moves from basic mastery of equipment skills to a deep thinking in international issues and the relationships between participants under the global context.

Besides, another important difference between local digital literacy and global one is the embodiment and carrier of literacy. For local digital literacy, the carrier is the digital tools like computer, smartphones and learning system applied within schools. However, for global literacy, the embodiment becomes software and the human resources behind it. It is the whole global system of education based on well-developed software service and the talent exchange between different systems that make global digital literacy different. In other words, the transmission of information in local digital literacy education moves from objective things to participants, while that in global digital literacy flows between participants.

Since the outbreak of COVID- 19 virus, the role of digital literacy is more significant and putting it under global context is more urgent and necessary. The pandemic pushes teaching and learning into a more digital and online practice where teachers have to adopt to new levels of digital competencies in software to continue the education[9]. This switch to online learning has brought concerns about learning effectiveness, exposure to cyber-risks and lack of socialization, prompting the need for students to learn digital skills and develop digital literacy globally[10].

In terms of the specific forms, there are two complementary teaching models: asynchronous lectures and synchronous seminars. This allows stakeholders in education to build connections and get flexible arrangement at the same time. This popularity of digital tools puts forward higher requirement for teachers'digital literacy. A framework with six branches (professional engagement, digital sources resources, teaching and learning, assessment, empowering learners & facilitating learners' digital competence) is promoted to address education issues and to promote the development of digital literacy in global context[11]. Similarly, technology is used at a large scale for education, and education systems are used for learning and training towards the digital age. There are two main strategic priorities: fostering development of high-performing digital education ecosystem and enhancing digital skills and competences for the digital transformation[12].

Besides, global digital literacy is closely connected with policy literacy and transnational literacy in pandemic. Policy literacy means the ability to understand and follow the policy, laws and rules published by the government; and transational literacy can be simply understood as the capability of respecting and understanding other cultures, as well as the attitudes and values on cultural diversity. Understanding of policy guarantees the stable environment for education and offers more opportunities for digital practice. For example, the online learning is a practical way in pandemic and offers access for overseas students especially those in higher education, and various ways of online meeting makes international collaboration among companies possible. It requires global digital literacy to address global issues like legal affairs, cross-border trade, or even just using QR code for travel survey.

In terms of transnational literacy, students' attitudes to cultural diversity is important. When moving from local digital literacy to global digital literacy, students learn more than just getting information and knowledge about culture, they learn to use them through social mdeia and build connections with others. Students cultivate global digital literacy and relate it with transnational literacy through ethic reading practice, self-criticism and learning knowledge about history via online platforms[7]. For example, the online concert "One World：Together At Home" demonstrates vividly how relating cultural diversity with digital tools to explore and strengthen spirit power to fight against Covid-19. This is just a fresh case of using global digital literacy to bond participants and enrich education models.

In summary, global digital literacy, especially during the time of pandemic, is closely related to transnational literacy and policy literacy. It is more than just collecting and addressing global information and outputting materials by rote, it is the active process of dealing with people with different cultural backgrounds and being involved in global affairs through online platforms. Cultivating global digital literacy means learning to communicate and cooperate with people from various cultural backgrounds. Besides, even if there are limited chances and necessity to participate in global cooperation, it is still quite important to learn how to maximize the utilization of international resources.

4. SIGNIFICANCE OF GLOBAL DIGITAL LITERACY

In terms of significance, global digital literacy promotes prosperity, strengthen democracy, expand educational opportunity and lift some of the world's poorest and most vulnerable areas out of poverty. It offers access to digital economy, connecting people from developing world with the most successful communities. Development of digital tools improves country's education softpower by making schools and graduates more competitive in global labor market. Digital literacy also supports cross-cultural collaboration.

In micro levels, global digital literacy improves students'' language skills, promotes greater classroom engagement, contributes to deeper understandings of education, and increases sensitivity to culture diversity[13]. Global digital literacy promotes understanding of globalized systems and political realities, as well as the understanding of the skills and technologies that are necessary.

In the general level, it helps in building up a more harmonious global society, a more scientific information system, a more innovative scientific and technological development pattern, and a well-developed partnerships and relationship with mutual respect and mutual understanding.

5. CULTIVATING GLOBAL DIGITAL LITERACY

Promoting global digital literacy in education requires joint efforts from government, teachers and students.

For government and international institutions, policy support and unified standards are important. The Common Framework for Digital Literacy, Skills, and Readiness defines eight areas of digital life (identity, use, safety, security, emotional intelligence, communication, literacy, and rights), three levels of maturity (citizenship, creativity, and competitiveness), and three components of competency (knowledge, attitudes and values, and skills)[14]. This framework can be adopted as guideline for

governments to fromulate education policies and scientific management system to encourage development of digital literacy proficiency. Besides, the government should also maximize the resources of enterprises and communities, encourages companies to support global digital literacy training through donations, personnel training and other channels.

For teachers, teaching global digital literacy should be a win-win process for both teachers and students. Teachers should emphasize the right attitudes to digital products, and guide students to use digital tools, not only about practical academic skills like searching and processing information, but also about time management and balance between leisure and studying. Teachers can also learn useful skills from students since students are good digital device users naturally[11]. Besides, courses about cultural knowledge, morality, practical social manners and academic skills are also important in global context. Except for global digital literacy learned in schools, students can also use supplementary tools like social media and VR technology participate in education actively.

For students, giving full play to the subjective initiative of innovative consciousness on the basis of cooperating with teachers' teaching is the most effective way to cultivate global digital literacy. In classroom teaching, there are several practical approaches that can teach students global digital literacy from primary schools[15]. The inner meaning of global digital literacy should be clearly demonstrated, which means that teachers should be familiar with cloud computing and can apply technology tools in learning process fluently. Students' behaviours should be guided but their right and freedom to explore and evaluate should be protected. Teaching values and principles can be an effective method.

6. CONCLUSION

Local digital literacy in education refers to basic multimedia application skills, it can be transformed into global digital through education. Global digital means more than digital device knowledge, it requires understanding of culture diversity, connections with other education participants in global context, willingness to participate actively in global issues, and critical thinking in education. It is closely related with policy literacy, transnational literacy and vocational literacy and its development requires joint efforts from governments, institutes, teachers and learners.

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