An International Comparative Study on Digital Literacy for Learning

장문경*
한남대학교 글로벌IT경영학과 조교수

Milla Aavakare**
Åbo Akademi University

김성철***
고려대학교 미디어학과 교수

Shahrokh Nikou****
Åbo Akademi University

Ⅰ. Background and Research Purpose

Education and technology have become inseparable in our everyday lives. Information and communications technologies (ICT) are actively used for education, and the ICT-enabled market continues to grow. The size of so-called “Edu-tech” market is around 142 billion dollars globally and will continue to rise to 342 billion dollars in 2025 (Holon IQ, 2019). Many researchers have been studying how to develop educational technologies and how to effectively use those technologies in education. However, there is not to many studies focusing on people’s abilities and skills to use overall digital technology (i.e. Digital literacy; Rubbla and Bailey, 2007) or to efficiently find the information they need (i.e. Information literacy; Zurkowski, 1974). Digital literacy refers to the ability to use digital technology and when and how to use it (M. Rubbla and G. Bailey, 2007). It is the ability to use information and communication skills for discovery, evaluation, creation, and communication, and it requires cognitive and technical skills (American Library

* 한남대학교 글로벌IT경영학과 조교수, mk.jang@hnu.kr
** Doctoral candidate, Faculty of Social Sciences, Business and Economics, Åbo Akademi University
*** 고려대학교 미디어학과 교수
**** Docent, Faculty of Social Sciences, Business and Economics, Åbo Akademi University
Association). Information literacy is the ability to solve problems by using the right searching strategy, right information sources and applying suitable technology to the information problems required for one’s works (Zurkowski, 1974). It is the ability of individuals to know when they need information, to identify, evaluate, and use it efficiently (ACRL, 2000).

The purpose of this study is to examine the effects of digital literacy and information literacy on the intention to use digital technologies for learning. There are studies on the role or effect of digital literacy or information literacy in a specific country, but there is a lack of international studies which compare digital literacy or and information literacy of two or more different countries. This study aims to conduct an international comparative study by examining the effects of digital literacy and information literacy on the intention to use digital technologies for learning in Korea as well as in Finland. Our basic research questions can be summarized as follows.

RQ1: Are digital literacy and information literacy of Korean people and those of Finnish people different?

RQ2: Is there an average difference in Korea and Finland in terms of the effects of digital literacy and information literacy on the intention to use digital technologies for learning?

II. Research Model

In order to develop our research model, we adopted Unified Theory of Acceptance and Use of Technology 2 (UTAUT2: Venkatesh et al., 2012) which are widely used to predict the intention to use digital technologies. In this theoretical framework, the predictors of intention to use (i.e. performance expectation, effort expectation, habitual behavior, hedonic motivation) are indicators of openness to new technologies. In addition to these factors, we added the literacy variables as key antecedents (i.e. digital literacy and information literacy) to UTAUT2 predictors. The research model can be presented as follows.

III. Methodology

For the purpose of this study, Finland and Korea were chosen as our research subjective. These two countries are one of the leading ICT powers in Asia and Europe, respectively, and countries which survive global ICT ecosystem led by the U.S. and China. In addition, these countries have the leading IT manufacturers such as Nokia and Samsung Electronics. Those countries also have global tech-startups. For example, there global mobile apps such as Angry birds and Crash of Clan in Finland, and Pinkfong and lineage M in Korea. ICT infrastructure of two countries, such as internet usage and smartphone penetration, is rated as the world’s top. However, while the evaluations of education in both countries are similar, their philosophies are different. Both countries have considerable interest in education, and their education systems are rated as the world’s most and second efficient. But while Korea focuses on relative rankings, Finland is committed to equal and personalized education. Thus, it is suitable for the international comparative study because its different philosophies on education with similar level of ICT infra.

As digital native is known as a generation born after 1980 (Ng 2012), we plan to conduct an online survey of people in their 20s and 30s in Finland and Korea. Our survey items include basic demographic information and the average use of digital technology (e.g. average frequency of using hardware and software, level of proficiency of using software). Based on previous literature, we also develop survey items to investigate each level of the factors in our research model (i.e. digital literacy, information literacy, performance expectation, effort expectation, habit, hedonic motivation, intention to use digital technology for learning).

By analyzing survey results, we expect to know the
differences between two countries regarding overall frequency of using hardware and software as well as the level of proficiency of using software. To analyze path coefficient, we are planning to use PLS-SEM for each country. Furthermore, to compare path coefficient between countries, multigroup analysis (MGA) will be conducted.

IV. Expected results

This study will present the difference of digital literacy and information literacy between the two countries, and the effect difference of factors affecting intention to use digital technology for learning between the two countries. We expect that this study will help understanding digital literacy and information literacy for learning. Based on this understanding, we can suggest efficient strategy for encouraging to use digital technology for learning in each country.

REFERENCE


