

# Chapter 20

## Integrating Formal and Informal Learning Opportunities of Technology in Higher Education

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### **ABSTRACT**

*Along with the recent developments in technology, the paradigm of learning and teaching has changed with the changing demands of society and learners. A new learner-centered paradigm enforces the changes in the roles of teacher, learner, and the environment. Learning is not restricted with a place or time. Especially with the advance of technology-based environments including www, social networks, and online learning environments, people can reach information anytime/anywhere, which brings about various experiences for informal learning. The aim of this chapter is to present a guideline for the integration of formal and informal learning opportunities of technology in higher education. As a result of the study a guideline is presented for higher education. The guideline is focused on eight issues including (1) know your students, (2) update yourself, (3) be online, (4) provide sharing opportunities, (5) provide discussion opportunities, (6) keep information alive, (7) use learning analytics, and (8) support interdisciplinarity.*

### **INTRODUCTION**

Learning environments have been shaping in line with the demands of the current era. In modern society, learning on demand is a new lifestyle, which keeps developing (Dabbagh & Kitsantas, 2012; Punie & Cabrera, 2006). Thanks to the recent advancements of technologies, learning is not restricted with place

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or time. Learner-centered paradigm enforces the changes in the roles of teacher, learner, and the environment. Teachers become facilitators of learning process, and the learners become more active through the regulation of their own learning (Reigeluth, Myers, & Lee 2017). Especially with the advance of technology-based environments including www, social networks, and online learning environments, people can reach information anytime/anywhere, which brings about various experiences for informal learning.

Formal and informal learning are intertwined and they can take place simultaneously. Technology expands and makes blur the boundaries defined by traditional learning environments. In distance education context, the information and communication tools (ICT) are used frequently in order to narrow down the gap among instructors, students, and instructional materials. The physical distance causes this gap, and such a gap can also be observed in face-to-face learning environments, and therefore the same tools can be recruited, too. For instance, the majority of higher education institutions supports their courses by the integration of learning management systems (LMS), and this is a kind of ICT utilization for formal learning environment. Moreover, there are quite number of faculty members creating their own social networking environments in order to share formal or informal learning sources, and thus to enrich the overall learning experience, which is an example of the combined version of formal and informal learning. This phenomenon might point out the demand of changing paradigm, which is the integration of formal into informal learning in higher education.

There are a number of examples using www, social networks and other online learning environments in different fields ranging from health education to teacher training. For example, O' Connor, Jolliffe, Stanmore, Renwick, and Booth (2018) searched the databases in 2016 and 2017 and reached 867 different studies that are about the use of social media in nursing and midwifery education. Chen and Bryer (2012) presented empirical support about the potential effect of social media on formal and informal learning of public administration students from the view of faculty. Sendurur, Sendurur, and Yilmaz (2015) investigated the use of social networking sites by pre-service teachers, and found that the communication constitutes an important part of their usage.

There are considerably high amount of studies investigating the effects of different online environments on learning in high education. Those studies do not always distinguish the findings caused by formal or informal factors. They generally refer to formal learning outcomes, but the ones affected informal learning are not analyzed clearly. Analyzing the effect of online environments on learning by including formality as a variable would contribute to the researchers while proposing recommendations. From this perspective, this chapter aims to provide a description of formal and informal learning and to draw a picture representing the technology based informal and formal learning opportunities.

This chapter was organized into 6 titles including (1) introduction, (2) definitions: formal, non-formal, and informal learning, (3) opportunities of technology in the digital age, (4) importance of digital literacy, (5) conclusion and recommendations, and (6) guidelines. In the introduction part, there are also 3 subtitles including *learning and teaching in history*, *paradigm change in learning*, and *technology in education*. Then, in the second part, formal, non-formal, and informal learning definitions will be compared in relation to the current paradigm. In the third part, opportunities of technology in education were focused including *Web 2.0 technologies*, *social networks*, *online learning environments*, *open education resources*, and *learning analytics*. Since being literate in terms of digital technologies is an essential issue in the digital age, the importance of digital literacy for informal and formal technology-based learning environments was mentioned in the fourth part of the chapter. In the conclusion and recommendation part, the summary of all issues discussed throughout the whole chapter were mentioned briefly and the most important points and implications for the future studies were also provided. Moreover, recommendations

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