

Chapter 15

Ubiquitous Learning and Heutagogy in Teacher Education

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ABSTRACT

The learning and teaching horizon is changing nowadays. Learner-centered learning is preferable to teacher-centered learning. Teachers and learners prefer mobility and flexibility in education. Ubiquitous learning provides the flexibility and connection with mobility. Due to advantages of technology use, ubiquitous learning is preferred for individual and public learning. Heutagogy emphasizes the capability of learners' self-regulation process. Heutagogical learning occurs at two levels. The first level is competencies. The second level is deeper learning. In heutogogy, learners design their learning situation in a non-linear learning approach in a flexible way. In this chapter, heutagogy and ubiquitous learning connection will be discussed in the light of literature in the context of education and teacher education. A heutagogical ubiquitous learning interaction will be offered.

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INTRODUCTION

Learners of 21st century, take an active role in achieving competency on their learning goals. They develop strategies, methods and skills for learning and gaining useful information. Each person has different characteristics and use different learning strategies. Several studies emphasis transformation of learning and learning environments. Governments, foundations, societies, experts, and academicians make statements for education standards on different communication channels. These groups make meetings, symposiums and conferences to announce the revealed standards. One of the most important society on Educational development is International Society for Teaching in Education (ISTE). ISTE, studies on educational standards for educators, students, leaders, coaches and computer science educators. ISTE announced new learner standards in 2016 and new educator standards in 2017. Most of the countries read these reports to empower and redesign their educational systems. Education faculties are responsible for to educate 21st century teacher candidates. These standards transform teacher candidates into heutagogical and ubiquitous learners. For ISTE (2017) As a learner, an educator continues learning from others to improve his/her teaching practice and technology knowledge. It is important to for educators to set professional goals, reach technological pedagogical success and reflect the effectiveness of the goals. Teachers take the advantage of ubiquitous environments to enrich their profession in local or global learning areas. Teachers investigate the ways for supporting their learning and teaching process in order to be novel and heutagogical individuals. As a leader, an educator supports students' empowerment and achievement in learning process. Digitalization makes teachers fell comfortable in accessing ubiquitous environments with heutagogical approaches. Educators take the advantage of technology, digital content and resources. Furthermore, they become models to their colleagues on using digital environments for presentation, evaluation and identification. As an analyst, an educator use technology to reflect students' competencies and give feedbacks. Technological assessment tools guiding students to being self-determined and ubiquitous learners.

As it seen at previous paragraph, educators' professional development perception is changing with ubiquitous approaches. Educator needs technological support to use ubiquitous learning environments, materials and technological tools. Ubiquitous learning (U-learning) is supported by mobile, embedded and network systems for everyday life (Ogata, Matsuka, El-Bishouty & Yano, 2009). It supports flexibility like independence of time, location, content, and environment. Chen, Chiang, Jiang & Yu (2016) proposed a teacher-training model in a ubiquitous learning environment. This ubiquitous learning environment includes QR codes for physical resources, wireless network and a learning system. The model supports teacher's teaching abilities on subject specific content. For their research, teaching ability was positively affected by novel training fields, materials and experience. For Camilleri & Camilleri (2017) teachers' professional development is engaged with digital learning sources and ubiquitous technologies for adapt educational methodologies to today's perspective. Nowadays, teacher education and professional development paradigms shift from pedagogy (instructed directed learning approach) and andragogy (learner directed learning approach) to heutagogy (learner determined learning approach).

Agonacs and Matos (2019) describe that heutagogy is extended form of andragogy. However, heutagogy is an extension and supply from different learning approaches; it does not mean that heutagogy is the alternative of pedagogy and andragogy (Kenyon & Hase, 2013). In heutagogical approach learners

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