Chapter 4
Peer Learning Activities in Smart Education

ABSTRACT

Peer learning strategies in higher education have been developed and extended in different trends and forms, as well as in various contexts of learning, on campus and in mobile frameworks. Commonly, peer learning activities are introduced by university teachers in an ad hoc way, without consideration of their implications as a tool for students' collaborative learning in a formative and creative way. Methodically, the study has a comparative design of various peer learning strategies and activities and how they can contribute to student-centered learning for self-directed and motivated smart higher education with resource-enriched and technology-embedded tools. Theoretically, the comparative analysis is based on socio-cultural theory by using dimensions of community of practice and the zone of proximal development for student-centered learning. The results show that peer learning activities are a key factor to reflect over the learning context, its objectives, and exchanges between the students and with different resource implications.

BACKGROUND

Distance education and mobile learning have several advantages comparing to traditional settings at the university when mobile activities can provide flexibility and accessibility for students learning and development. Therefore, online courses and massive open online courses, MOOC continue to increase

worldwide in higher education and for adult learning (Broadbent & Poon, 2015). However, many university students are networking in different ways, but frequently they use online interactions for social purposes. The often rigid format of technology-based academic courses are in conflict with the students' initiative, motivation, and self-efficacy, as well as the choice of what, when, and how to learn; and opposes greater independence in their studies, which contributes to non-conventional and informal education methods (Serdyukov & Hill, 2013). Independence in learning is directly related and is fundamental for innovation, creativity, and self-efficacy (Amhag, 2013b; 2016a; 2016b; Bandura, 2002).

This chapter enlarges the knowledge about various peer learning strategies and activities, and how students can contribute to complex types of academic works, such as reports, research papers, project productions and virtual presentations, for self-directed and motivated, smart higher education and in what ways they can be a tool for student-centered learning. The word 'smart' is an acronym for self-directed, motivated, adaptive, resource-enriched, and technology-embedded, and refers to wisdom as bounding together the ability of using and motivating self-directed learning, knowledge building, problem solving, critically reflections, collaborating and evaluating different circumstances with resource-enriched and technology-embedded tools (Hwang, 2014; Zhu, Yu & Riezebos, 2016). The following questions are addressed:

- In what way can teachers a) design and b) use different peer learning activities and wearable tools that are appropriate for student-centered learning and active participation?
- How do the students experience the peer learning activities and the wearable tools for their learning?
- In what way can the peer learning activities and tools be analyzed comparing to the students' performance?

Peer learning, PL can be defined as gaining of knowledge and skills through active helping and supporting equals or matched peers who are not professional teachers, but are helping each other to learn and learning themselves by so doing (Topping, 2007). Peer learning is a two-way, reciprocal activity, based on individuals' strengths and active participants in the learning process, as well as mutual benefits that involve sharing of knowledge, ideas and experiences among students, i.e. as a way of moving beyond independent to interdependent or mutual learning (Boud, Cohen & Sampson, 2001a;

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