

# Chapter 3

## Use of ICT to Innovate in Teaching and Learning Processes in Higher Education: Case Examples of Universities in Chile

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### ABSTRACT

*In this chapter are shared experiences in educative innovation by using Information Communication and Technologies in higher education. The objective of this contribution is to provide a view related to the curricular integration of ICT, highlighting by practical examples of implementation, which include their impact in cognitive processes and in the development of personal and interpersonal abilities in students. In the distribution, it is incorporated a description in planning activities and their application in the classroom, methodological aspects and assessing strategies selected for each experience are detailed. In addition, it is delivered a reflexive view related to the teacher role in the educative act. Finally, it is discussed the relevance of an active role in higher education institutions, referring to improve permanent training programs in educative innovation and to generate communicational spaces between teachers as well as different formation areas in the sense of strengthening the educative process and improve the quality of education.*

### INTRODUCTION

One of the main distinctive features of the society is that assemblies through TICs as a nuclear element. This has being a fundamental motor of growth and reaching insertion in every social sector, especially in education. According to this, in the last years there are efforts to integrate TICs in higher education as a strategic tool for development of new training scenarios, generating new perspectives of analyses

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related to learning bases and generator of innovative learning environments. In this sense, the introduction of technologies in learning processes, and especially in university learning processes, has been a challenge in relation to pedagogical strategies that have to be developed. Moreover, the same situation presents a great opportunity for innovation and renovation of academic offers related to these institutions.

In this context, all international given data in reports are relevant. This has been evident relate to that there are more mobile devices than humans in the world, numbers in 2016 were around 8.0 million (Cisco, 2017; Ditrendia, 2016). The importance of considering this data was given during the mobile learning week, celebrated in Paris during March in 2017, where was highlighted the fact of using new technologies and the digital empowerment. These two ideas were highlighted to be important because they not only promote learning; otherwise, they transmit social values, norms and development electronic abilities needed for nowadays.

United Nations Educational, Scientific and Cultural Organization (UNESCO) and ACNUR (2017) stated that even having telecommunications this has been a challenge for some countries that are not developed, consequently having access to wireless and mobile devices for teachers and students can be a positive development for the environment. Due to this, it is important invest in acquisition of e-abilities to promote equality in opportunities in digital world.

For this perspective, is undeniable that higher education institutions should contribute to form professionals for future, adding to this, they have to form for knowledge and management of technical competences and digital abilities that would allow them to develop and compete in the working world in this century. In this sense, there are many evidences of ICT incorporations in Higher Education (Heflin, Shewmaker & Nguyen, 2017; Tur, Marín & Carpenter, 2017; Badilla & Meza, 2015; Garcia-Cabot, De-Marcos, & Garcia-Lopez, 2015; Sepúlveda, Badilla, & Careaga, 2014; Badilla, Carrasco, & Prats, 2014; Silva & Salinas, 2014, Cataldi, Méndez, Dominighini, & Lage, 2012).

This chapter was developed based on the information published by authors in previous works (Basso & Badilla, 2016a). Content was updated and expanded including new strategies and tools, with the idea to explore the curricular integration of different technologies in Higher Education, highlighting, through practical examples of implementation, its impact on cognitive processes and the development of students' personal and interpersonal skills.

Universities, as academic institutions should generate knowledge, updating and training on human resources in order to improve their competences and professional development. This will be to ensure an adequate teacher training that it is essential to unchain an educational process that can answer current trends. This would prepare future professionals in the domain and management of skills, the development of comprehensive learning strategies in the training of students and strengthening the knowledge, skills, attitudes and abilities inherent of their profession.

## **TEACHING HIGHER EDUCATION STUDENTS WITH ICT SUPPORT**

The professional formation in XXI century has trigger a reconsideration about the entire educational act, since innovation, encouraging an inter relationship between different environments which are face-to-face and virtual learning trough ICT.

Nevertheless, virtualization of education goes beyond of the use of instrumental technology in educational practices, improving ICTs in the representation or creation of knowledge and in the regulation of required interactions for learning (Chan, 2016).

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