

## Chapter 18

# The Importance of Virtual Learning Environments in Higher Education

**Paulo Alves**

*Polytechnic Institute of Bragança, Portugal*

**Luisa Miranda**

*Polytechnic Institute of Bragança, Portugal*

**Carlos Morais**

*Polytechnic Institute of Bragança, Portugal*

### ABSTRACT

*This chapter focuses on the concept of virtual learning environment (VLE), its characteristics and potentialities. We present the results of a research work conducted with a sample of 347 undergraduates from a Portuguese public higher education institution. The research addressed the issue regarding the use of virtual learning environments within the higher education context and had the following aims: identify the VLE access frequency; assess the influence of users' computer skills on the VLE access frequency; and assess the importance and impact that students consider the VLE to have on supporting the course units they attend. In the light of the results obtained and considering the VLE used in the sample institution, we highlight that the majority of students accesses the VLE on a daily basis, no significant differences were found regarding VLE access according to users' computer skills, and the most valued aspects of the VLE were: checking exam results and receiving teachers' messages or notices.*

### INTRODUCTION

Virtual learning environments (VLE) have become increasingly more important within the context of higher education, mainly due to the tools which compose them and to the support they give to students, teachers and institutions.

This chapter focuses on the issue regarding the use that undergraduates make of virtual learning environments to support the teaching and learning process. Emphasis is given to the assessment made by students of certain aspects of virtual learning environments.

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Considering the quantity and diversity of digital resources available in this era immersed in technology, we think it is highly important to research on the use that undergraduates make of virtual learning environments in order to assess their use frequency as well as the value and impact they think VLEs potentialities have in the development of academic activities.

This research work assumed approaches close to both quantitative and qualitative research.

The research questions underlying this study intended to find out how frequently undergraduates access virtual learning environments, to assess whether or not users' computer skills influence their access frequency to virtual learning environments, and also to assess the impact and value that students assign to VLEs and to the tools which compose them. As far as users' computer skills are regarded, students were classified in three independent categories associated respectively with basic skills, intermediate skills and advanced skills.

Virtual learning environments have altered the relationships between teachers and students as well as between these and the whole school community regarding access to information and resources. According to Ellis (2009), such environments must include, among others, characteristics of centralization and automation of administrative procedures, use of services oriented to users, reduction and distribution of contents, consolidation of training initiatives, personalization of contents and reuse of knowledge.

By administering an online questionnaire to undergraduates, we were able to identify, among other aspects, the frequency, value and impact given to the use of information and communication technologies (ICT) within course units, the value given to the characteristics of digital resources associated with the Sakai environment, and the value given to the availability of digital resources in that same environment.

The use of ICT in education leads to learning contexts more centered in the learner, which often

leads to some changes in the way teachers and students relate to each other. However, considering the fast evolution of digital and information means, the role of ICT in education is becoming more important day by day, and such importance will continue to grow and develop throughout the 21st century. Therefore, in higher education, not only are ICT a technique used for educational development, but they also represent a nation's way to socio-economic development (Sarkar, 2012).

ICT have enabled a real revolution in almost all areas and dimensions of the human being. Within each area of activity, ICT have assumed different roles, including that of a communication and interaction tool between people as well as between the latter and organizations.

Virtual learning environments stand out as elements which have organizing features and which condense a big part of the teaching and research activity within higher education, generally representing a coherent whole involving multiple dimensions. Within such dimensions, particular focus was given to the use and value of the digital tools that VLEs contain. In an attempt to understand the value assigned by students to VLEs within the context of higher education, a study was conducted aiming to contribute to answer the following questions:

- How often do higher education students access virtual learning environments?
- Do users' computer skills influence their access to virtual learning environments?
- What value do undergraduates assign to virtual learning environments and to the tools which constitute them?
- What impact do undergraduates consider virtual learning environments to have on the support to course units?

The answer to these questions may help justify options of ICT use and adaptability to the educational goals of higher education institutions. As Naveh, Tubin and Pliskin (2010) point out,

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