Diagnosis of educational needs for the implementation of blended courses based on the blended learning model. The case of the Social Sciences Faculty of the National University of Costa Rica

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Abstract

This study is accomplished from the educational needs assessment in the framework of educational research. The objective is to identify, analyse and assess human resources and materials. In this sense, didactic principles will also form part of the analysis. In particular, those applied in studies offered by the Social Sciences Faculty of the National University of Costa Rica (SSF) to implement blended courses based on the blended learning model. Quantitative and qualitative research techniques were used to gather information from a complementary approach, in order to describe and interpret the different sources. That process included three phases: document review; surveys done to students and teachers; structured interviews to school principals and deanship. The results show there are appropriate curricular elements to venture into innovation proposals regarding academic offer in terms of flexibility and ICT incorporation in training programs. Likewise, the blended learning is an option which contributes to the quality of education, access opportunities and the educational processes improvement.

Keywords: Curricular diagnosis, blended learning, university education, curricular flexibility, ICT in training programs
1. Introduction

This research is contextualised in the Costa Rican public higher education field, in order to analyse the basic curricular elements for the blended subject design of learning blended courses. Subjects design is part of the curriculum planning carried out on the basis of a prior diagnosis and this constitutes the theoretical benchmark in contrast with reality. According to Soler (2015) the information emerged from this analysis is the basis for its design and in turn, it points didactics as an overall vision between the intentions and the training project development.

Following that point of view, Escudero, Área, Bolívar, González, Guarro, Moreno & Santana (1999), point out two axes which determine the different meanings of the curriculum: the plans or intentional learning results (target or goals), and the processes and experiences in the classroom. From this definition, three fundamental aspects can be drawn: intentions and principles, scope and development, and assessment.

When it comes to subjects design, in the blended learning model, diverse elements are theoretical and practical which serve as base for the construction of knowledge. The following authors were considered for this study: Valdivia (2009), about online practice communities and collaborative work were considered; Vieira (2011), on how to understand the virtual space, how to use it, and how this environment modifies the methodology, resources, and interactions; López, Pérez & Rodríguez (2013), the relationship between motivation and school performance; Bartolomé & Sandals (1998), the importance of the computer in the teaching-learning processes; Baños (2007), the platform Moodle as a tool developed from a constructivist philosophy of learning; El-Hmoudova & Tejklova (2016) assessment of the e-material learning potential. Moreover, subjects such as web 2.0, social networks, Google Drive, Mooc, (Massive Open Online Courses), WhatsApp, Mobile learning, biolearning, Big6 model for the problem-solving solution, etc.: (Fuentes, 2010); (Camacho & Lara, 2011); (Shaidullin, Safiullin, Gafurov, & Safilullin, 2014) and (Siew-Ling & Anak, 2015).

According to Porter, Graham, Spring, & Welch (2014); Krasnova & Demeshko (2015) and López (2011) fundamental elements in a blended learning training program are taken up again and were settled on to study the following categories: technical assistance and infrastructure; pedagogical-teaching support, learning development, professional development and institutional strategies. Based on those categories, the following research objective was established: identify, analyse and assess the human and material resources from SSF for the implementation of blended courses based on the blended learning model.

2. Material and method

This hermeneutic-interpretative educational research Pérez (2004) offers relevance the already existing points of view and trends and to the verification of facts from a quantitative and qualitative application for information collection and data analysis.

The study population on students (409), teachers (74), headmasters (1), Deanary authorities (7), institutional platform coordinators (3), all from Heredia’s central campus of the National University. Complete surveys are the subsequent result back to the depuration of valid records, after a single verification in the resulting database.

A survey was applied to students and teachers using online tools; Deanary authorities, as well as principals and coordinators of the virtual platform were interviewed; moreover, an institutional documentary review was made, following a matrix led by: a) policies, strategies and innovation practices, regulations related to subjects and programmes design, pedagogical principles; b) professional teaching development; c) curricular guidelines, and d) educational quality.

The questionnairie content included closed and open questions, and it was divided into three parts: 1) general information, 2) styles and level of computer and internet use, and 3) blended-learning education. In order to give the questionnaries validity, three tests concerning readability and question understanding were applied as well as, automatised sequence in the recording of answers. In addition, a review of experts was conducted to show the questions could answer the research objectives. Interviews were held face to face, with a structured guide about questions related to the different possibilities to implement the teaching blended methodology which included: institutional policies, technical assistance and infrastructure, professional development, didactic and pedagogical support and social development.
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