THE STRATEGIC DIMENSION OF THE USE OF COMMUNICATION TECHNOLOGIES TO SUPPORT LEARNING: THE CASE OF PORTUGUESE PUBLIC HIGHER EDUCATION

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Abstract

This paper presents partial results from a research project about the use Portuguese Public Higher Education Institutions are doing of Communication Technologies to support education. The paper describes the project rationale and the methodology used. Some results are also presented concerning the strategic dimension of the use of Communication Technologies to support learning, and their respect to teachers and to staff with institutional responsibilities. Finally, some conclusions are also discussed.

Keywords: Use, communication technology, higher education, strategy.

1   INTRODUCTION

The Higher Education Institutions (HEI) have been pressured by several factors. One of those factors is the quick evolving pace that communication technologies have been facing, leading to important changes. Changes in education, in general, and in HEI, in particular, are inevitable, as the possibilities of communication technologies open new opportunities, on one hand, and new challenges, on the other hand.

A research project has been done in Portugal, aiming to know how communication technologies (CT) are being used in public HEI. This project runs on the doctoral program on Information and Communication in Digital Platforms jointly offered by the Universities of Aveiro and Oporto.

Several projects and studies have been published about the use of CT to support learning. On the literature it is possible to find research concerned with a diversity of issues and perspectives. For example, there are studies about the use on specific institutions (Heikkilä, Haarala-Muhonen et al. 2005; Löfström and Nevgi 2007) and also studies about national realities (Collis and Wende 2002; Armstrong and Franklin 2008; Minocha 2009). The use of specific CT is also researched (Weiss and Hanson-Baldauf 2008; Warburton 2009), as well as security issues about the use of CT (Gorge 2007; Armstrong and Franklin 2008; Redecker 2008; Minocha 2009). Subjects like teacher training (Bates 2000; Heikkilä, Haarala-Muhonen et al. 2005; Moore, Moore et al. 2005; Löfström and Nevgi 2007; Feixas and Zellwegger 2010; Bates and Sangra 2011) and incentives and compensation (Bates 2000; Collis and Wende 2002; Boezerooij 2006; Stensaker, Tan et al. 2007; Orr, Williams et al. 2009) also have been receiving attention on the literature.

All the subjects mentioned, as well as some others, were studied under the project described on this paper. Several of them are dimensions of the institutional framework concept. The concept of usage is the other main concept of the model of analysis that guides this project and was already presented (Batista and Ramos, 2011).

The dimension of strategy is the main issue presented on this paper. It is a dimension of the institutional framework concept and it is very important to understand the institutional approach to the use of CT. Many authors proposed several definitions for strategy. Mintzberg is one of the most influential, and he argues that proposing a set of five definitions is a better way to understand the concept (Mintzberg, 1987). Those five definitions reflect different points of view: strategy as a plan, strategy as a ploy, strategy as a pattern, strategy as a position and, finally, strategy as a perspective. These different points of view can be combined, which is useful to understand the strategy of organizations.

Institutional strategy is not new to higher education institutions, where the planning school of thought has been playing an important role (Bates, 2000; Keller, 1983; Rowley, Lujan, & Dolence, 1997). Strategy about the use of communication technologies to support education has been considered by

several authors (Bates, 2000; Boezerooij, 2006; JISC, 2006; Löfström & Nevgi, 2007; Wende & Beerkens, 1999). On this context, several questions were taken into consideration during the preparation of the model of analysis and served as a guide to collect data about topics such as: Does the HEI have a strategy to the use of CT to support learning? Is the strategy documented? Do faculty and SIR have similar perceptions about their institutional strategy? Strategy to the use of CT is integrated with the broader and more general institutional strategy? Is it possible to identify who, in the HEI, is responsible that strategy?

2 METHODOLOGY

An exploratory and descriptive research approach was adopted on this project. The objective is to characterize the Portuguese reality about the use of CT in HEI to support learning and produce useful results that are relevant contributions to the institutional decision process. The universe is limited to the Portuguese Public HEI, and their teachers and staff with institutional responsibilities (SIR) were the data sources.

Data collection was done on a national-basis scale. In fact, all the Portuguese Public HEI were contacted and asked to disseminate the data collection instrument through their communities.

The instrument used to collect data was prepared specifically to this purpose, and consisted on an online questionnaire with two versions, one for teachers and another one for SIR. The instrument was previously tested with a limited number of individuals. Their contributions were taken into account and a new version was then retested. Finally, the questionnaire was disseminated.

Different scales were used on the questionnaire. However, on the questions about the strategic dimension of the use of CT to support learning, it was used the following scale: completely disagree, disagree, neither agree nor disagree, agree, completely agree.

Data was collected between October 27th 2010 and February 11th 2011. A process of data validation resulted in a sample of n = 639 teachers, representing 2,6% of the teacher's universe (GPEARI - Gabinete de Planeamento 2010). The sample of SIR has n = 31 individuals.

3 RESULTS

Teachers and SIR answered to several questions about the institutional strategy to the use of CT to support learning. The first question was about the existence of an institutional strategy to the use of CT to support learning. Results show that teachers and SIR agree more than disagree about the existence of such a strategy. However, SIR have a stronger opinion than teachers on this subject, as it can be observed on Fig. 1. In fact, 76,7% of SIR declared some type of agreement and 6,7% declared some type of disagreement; and, just 63,8% of teachers agree and 18,1% disagree. It is noticeable that no one SIR declared "completely disagree" and just 6,7% answered with "disagree".
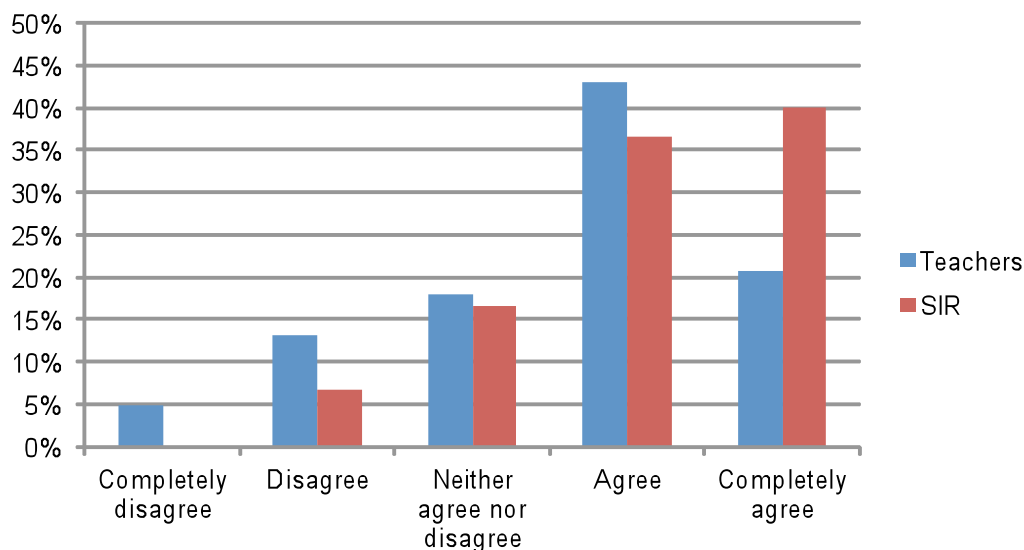

Figure 1 – Relative frequencies of the answers of teachers and SIR when questioned about the existence, on their institutions, of a strategy to the use of communication technologies to support learning.

Considering just the teachers and SIR that agreed with the existence of an institutional strategy to the use of CT to support learning (teachers: *n* = 404; SIR: *n* = 23), a few more questions were prepared to further explore this subject. Based on the answers to those questions, the results indicate that:

- Most teachers and SIR agree more than disagree that there are documents expressing institutional strategies to the use of CT to support learning. SIR have a much more favourable opinion than teachers, as 91,3% of SIR show some type of agreement and just 64,4% of teachers answered in a similar way, which is shown on Fig. 2. None SIR answered with "completely disagree" on this subject;
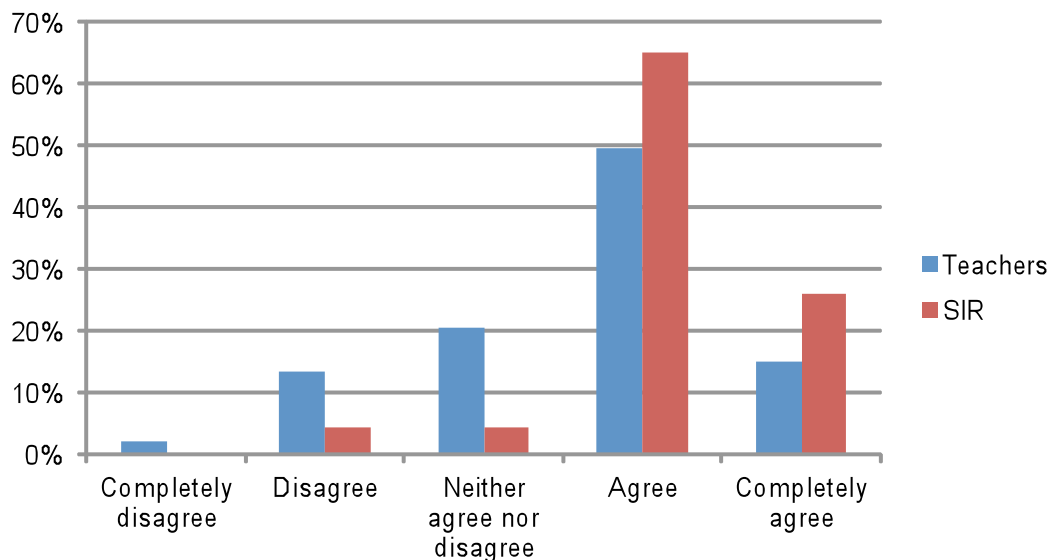

Figure 2 – Relative frequencies of the answers of teachers and SIR when questioned about the existence, on their institutions, of documents that express a strategy to the use of communication technologies to support learning.

- Teachers and SIR were asked about the integration of the strategy to the use of CT to support learning on other different institutional strategies. Teachers and SIR agree, more than disagree, that the institutional strategy to the use of CT to support learning is part of the institutional strategy to the use of information and communication technologies (82,5% of teachers agree and 6,3% disagree; 82,6% of SIR agree and 8,7% disagree), as well as part of the general institutional strategy (84,8% of teachers agree and 3,1% disagree; 87,0% of SIR agree and 8,7% disagree). The option of "completely disagree" was not chosen by any SIR;

- Several factors can influence the institutional strategies to the use of CT to support learning. Some possible factors were investigated. With respect to the influence of the financial resources available and to the teacher's attitude, both teachers and SIR agree more than disagree about this influence. In fact, 77,1% of teachers agree and 7,5% disagree that the institutional strategy to the use of CT to support learning is influenced by the financial resources; and, 77,3% of SIR agree and 4,5% disagree with that influence. It is also true that 64,9% of teachers agree and 16,7% disagree that the institutional strategy to the use of CT to support learning is influenced by the attitude of teachers; and, 73,9% of SIR agree and 21,7% disagree with that influence;

- The influence of competition between institutions was also investigated. Both teachers and SIR agree more than disagree that this factor influence the institutional strategy to the use of CT to support learning: 44,1% of teachers agree and 18,0% disagree; and, 56,% of SIR agree and 26,1% disagree. However, the answer's rate on the option "neither agree nor disagree" is much more higher from teachers (37,9%) than from SIR (17,4%). These rates are important and, in the case of teachers, "neither agree nor disagree" is even the mode of their frequency's distribution (Fig. 3);
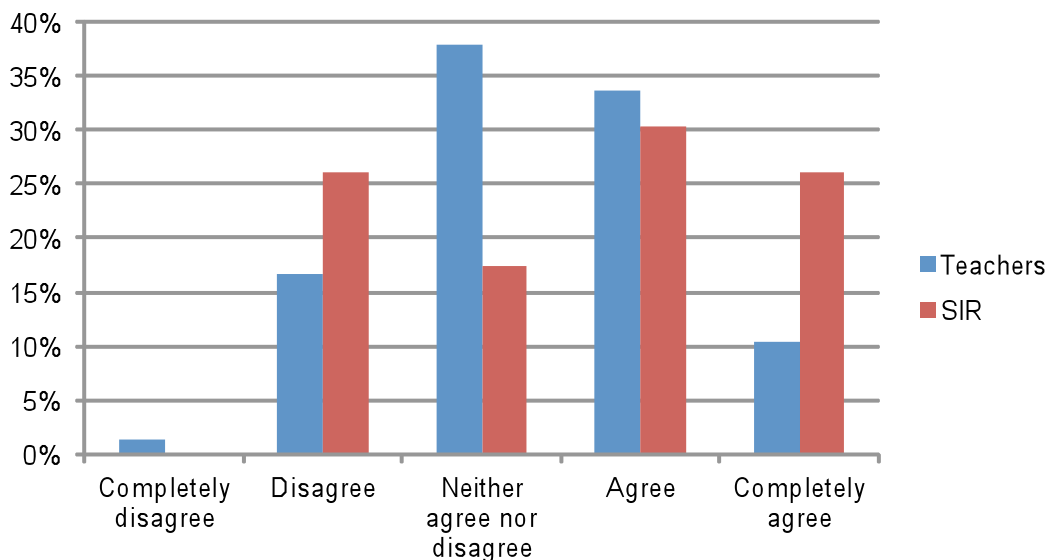
Figure 3 - Relative frequencies of the answers of teachers and SIR when questioned about the influence of competition between institutions on the strategy to the use of communication technologies to support learning.

- The last question was about the ability to identify who is institutionally responsible by the strategy to the use of CT to support learning. The answers from teachers and SIR were very different (Fig. 4). In fact, some type of agreement was declared by 95,3% of SIR, and just by 51,8% of teachers. On the other side of the scale it was found that 29,2% of teachers and 0,0% of SIR declared some type of disagreement. Just one SIR declared "neither agree nor disagree".
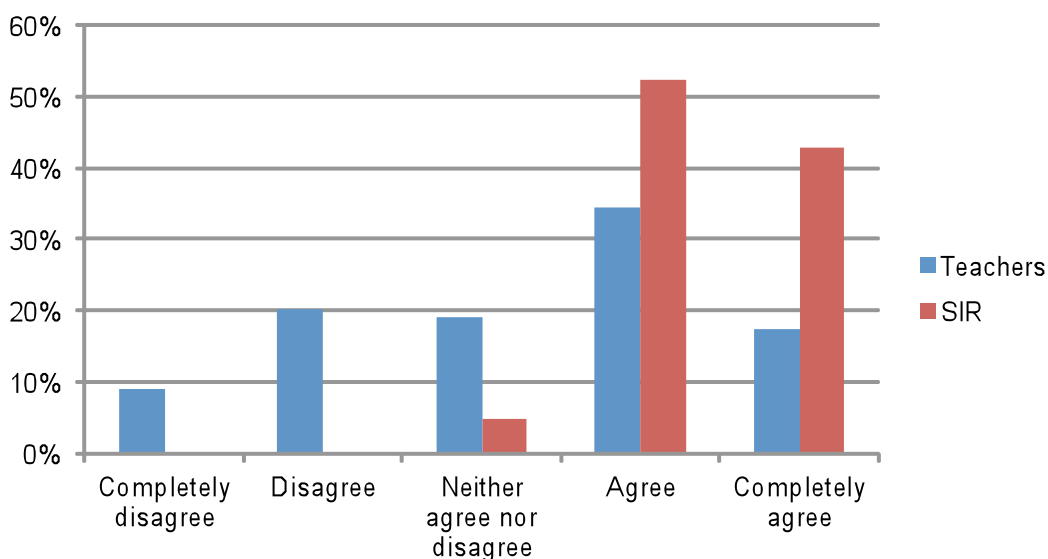

Figure 4 - Relative frequencies of the answers of teachers and SIR when questioned about their ability to identify who is responsible, on their own institutions, by the strategy to the use of communication technologies to support learning

The observation of the results just presented also reveals that:

- In general, SIR agree more than teachers with the subjects under study. This is evident on their answers about the existence of an institutional strategy to the use of CT to support learning, on their answers about the existence of institutional documents where those strategies are expressed, and on their answers about the ability to identify who is institutionally responsible by those strategies;

- Another sign of this trend is the fact that, in general, SIR did not used the "completely disagree" item of the answer scale. They used this item just on the question about the influence of teachers (4,3%) on the institutional strategy to the use of CT to support learning. In all the other questions, no one SIR has declared "completely disagree". On the contrary, there were teachers declaring "completely disagree" in all the questions under study;

- In general, the rate of disagreement is low.

4   CONCLUDING REMARKS

The results presented on this paper show that, on the opinion of teachers and SIR that answered the questionnaire, institutions have a strategy to the use of CT to support learning. This is reinforced with their answers in specific subjects, like the existence of documents expressing those strategies or the influence that some factors may have on those strategies.

The fact that the opinion of SIR being systematically more positive does not seems to be surprising. In fact, even if there are teachers interested in the strategy issues, SIR are the main responsibles for proposing, implementing and managing those strategies. This is quite evident on the last question, where results show that SIR declared much more strongly than teachers to know who is institutionally responsible by the strategy to the use of CT to support learning.

Further results of this project are being prepared. As in Portugal the higher education system is divided in two sub-systems, the data of the questions about strategy is being analysed to find if there are statistically significant differences between the answers of teachers and SIR from both sub-systems, which are universities and polytechnic institutes. Also, results concerning the other dimensions of the project are being prepared, and some have already being released (Batista, Morais et al. 2011; Batista and Ramos 2011; Morais, Batista et al. 2011; Ramos, Batista et al. 2011).

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