



Teachers' opinion survey on the use of ICT tools to support attendance-based teaching

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ABSTRACT

The present paper reports on the results obtained from a teachers' opinion survey on the use of ICT tools to support of attendance-based teaching. In order to carry out this study, it was necessary to design a questionnaire to collect data among all in-service teachers with access to the university virtual campus. The findings show that respondents keep an open mind on incorporating ICT tools into their daily practices, on that point, this research has significantly contributed to the educational institution by providing accurate information about ICT use. The survey has also encouraged the university in its work on the integration of ICT in every area where it is possible, with the aim objectives of increasing access to learning, providing equal educational opportunities for all and ensuring lifelong learning, which are the mainstays of the Bologna Declaration.

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1. Introduction

Since the Bologna Declaration was launched in 1999, the signatory countries have freely taken on the challenge of changing their policy frameworks for education in order to create an overall convergence in Europe. This merging, translated into the European space for higher education and research, should be completed in 2010. However, any reform of an educational system cannot succeed without the commitment of its higher education institutions. That is why many universities nowadays work within other parameters to meet the challenges of this new European common space (European Association for Quality Assurance in Higher Education, 2005).

From 2010 on, every university in Europe should recognize those qualifications and periods of study in higher education based on the ECTS-compatible credit system. They should also standardize degrees and make additional efforts in the field of lifelong learning, which is 'the umbrella under which all kinds of teaching and learning should be united' (Commission of the European Communities, 2000: 2). According to the Council of Europe one of the strategies to ensure lifelong learning is through using Information and Communication Technologies (ICTs) wherever appropriate (Commission of the European Communities, 2000) because they have the potential to overcome cost, time or space barriers and bring everyone different educational choices to improve skills and enhance knowledge (Dighe, 2009).

The University of Las Palmas de Gran Canaria (ULPGC) has also taken on the challenge of the Bologna Process, since the academic year 2004/2005 the ULPGC has been promoting among teachers and students the use of the ICT tools that are available in its virtual campus. The objective of this promotion is to make the teaching–learning process more accessible to every individual and ensure the process of lifelong learning.

However, the ULPGC has also kept in mind that the use of ICT tools is not an easy task for many teachers, indeed, some recent studies indicate that teachers think it is not that simple to incorporate such tools into their daily practices (Karasavvidis, 2009). This important fact has made the ULPGC carry out different research studies in this area to find out if its teachers also have the same point of view.

The present paper reports on the results obtained from a teachers' opinion survey on the use of ICT tools available in the ULPGC Virtual Campus to support attendance-based teaching. The survey takes place during the academic years 2006/2007, 2007/2008 and 2008/2009 to find out teachers' opinions and expectations about these tools as well as to determine to what extent these opinions and expectations change over the intervening years. A Likert-scale-type questionnaire with 34 items is used to collect data among all in-service teachers with

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Table 1
Participants.

	Population	Sample	Percentages
2006/2007	410	147	35.9%
2007/2008	824	194	23.5%
2008/2009	956	321	33.6%

access to virtual campus. Based on our findings, we analyze the role ICT tools among our university teachers. Finally, we come to the conclusion that respondents keep an open mind on incorporating ICT into their daily practices, which is a great basis to keep working on the integration of such tools wherever appropriate and meet the challenges of the European space for higher education and research.

2. Method

2.1. Participants

All in-service teachers from the academic years 2006/2007; 2007/2008 and 2008/2009 and with access to ULPGC Virtual Campus were invited to take part in this research study (Table 1).

2.2. Researching tools

An *ad hoc* Likert-scale-type questionnaire (see Appendix 1) was designed for teachers to find out their opinions and expectations about the possible effects of using the different ICT tools available in the ULPGC Virtual Campus. The questionnaire consisted of 34 items that showed the extent of agreement of teachers, from 1. strongly disagree to 5. strongly agree. The items were grouped into seven categories to specifically know the potential effects of ICT tools on: **(1)** teachers' daily practice (3 items); **(2)** the way students work (4 items); **(3)** students' ICT skills (4 items); **(4)** accessibility to course content materials and resources (3 items); **(5)** teaching quality (4 items); **(6)** communication and interaction among teachers and students (9 items); and **(7)** compulsory attendance (7 items).

2.3. Procedure

As teachers logged in to the ULPGC Virtual Campus, they received an invitation to fill out the questionnaire. The invitation explained the objectives of the research study and guaranteed the anonymity of the participants. Once the teachers filled out the questionnaire they clicked on 'send questionnaire' and the questionnaire was telematically filed in a database. Subsequently, the SPSS 14 statistics program was used for data analysis.

3. Findings

We examined the data obtained from questionnaires to know teachers' perception about the incorporation of ICT into their daily practices. Since teachers not only pay special attention to how they work, but also how their work influences on other areas, we considered it was important to analyze ICTs impact while relating it among the seven categories explained in Section 2.2. *Researching Tools*. For that reason, our findings are expounded as follows:

3.1. How ICT tools affect teachers' daily practice and the way students work

According to the results obtained during our survey, it can be noticed that teachers think the use of ICT tools to support attendance-based teaching will influence to a larger degree on their daily practice rather than on the way students work. Two of the three items related to the category 'teachers' daily practice' were graded over 4 along the three academic years (see Table 2). These scores show us that the respondents are completely aware of a plausible change in their teaching strategies and workload.

When the participants were asked about the effects of such tools on the way students work, they tended to disagree or remain neutral with most of the statements (see Table 3). It means they are more likely to think that these new instruments will not lead to students uncertainty, originate division in the classroom group or represent more workload and extra effort for them.

However, teachers support the idea that ICT incorporation will certainly demand ICT skills on students, meaning that those who do not have or do not develop such competency will not be able to pass the courses. Notice how the last item from the category "the way students work" (see Table 3) together with the ones regarding 'students' ICT skills' (see Table 4) was graded in like manner.

Table 2
Mean values based on how ICT tools affect teachers' daily practice.

	2006/2007	2007/2008	2008/2009
Teachers will have to learn new teaching strategies in order to use ICT tools	4.44	4.26	4.17
The use of ICT tools will make teachers change their roles and functions	3.79	3.75	3.68
The use of ICT tools will represent more workload and extra effort for teachers	4.12	4.04	4.10

Table 3

Mean values based on how ICT tools affect the way students work.

2006/2007	2007/2008	2008/2009
The use of ICT tools will create uncertainty among students because they will have to be acquainted with other information sources in addition to presential courses		
2.62	2.25	2.29
The use of ICT tools will divide the classroom group into those who frequently use them and those who seldom access them		
3.11	3.01	2.74
The use of ICT tools will represent more workload and extra effort for students		
3.23	3.08	3.04
Students will have to be acquainted with more information sources as a consequence of the use of ICT tools.		
3.86	3.79	3.73

Table 4

Mean values based on how ICT tools affect the way students use their ICT skills.

2006/2007	2007/2008	2008/2009
The use of ICT tools will additionally increase students' knowledge of information and communication technologies		
3.96	4.22	4.00
The use of ICT tools will represent an extra effort for some students, such as buying a computer or going to a cybercafe, in order to have internet access and follow non-presential courses		
3.61	3.49	3.50
The use of ICT tools will require specific computer equipment		
4.30	4.09	4.15
Students will need a minimal knowledge of how to use ICT tools in order to make appropriate use of them		
4.19	4.12	3.95

3.2. How ICT tools facilitate accessibility to course content materials and improve teaching quality

Throughout the questionnaire, teachers were also asked to respond to specific questions about these categories. When revising the scores obtained, we found out that our participants agree that the most notorious advantage of these instruments is the way they will make the access to course content materials and resources much easier (see Table 5). This accessibility (among other issues) is also considered to be influential in teaching quality. Actually, the grades related to this latter group of items (see Table 6) provide evidence that ICT tools are seen as helpful instruments and not as social and recreational devices that represent a waste of time. Indeed, the respondents not only rejected the idea that ICT will not improve teaching quality at all; but also were more likely to agree that these tools can significantly improve it.

3.3. How ICT tools affect communication and interaction among teachers and students

Another important matter of study within our survey was communication and interaction. This compilation has 9 items, from which those concerning the way students reach teachers to make questions, seek advice, express opinions and communicate with them got the highest scores, that is, values between 3.58 and 4.02 (see Table 7). Yet, the way our participants graded those statements related to student–student interactions and cooperative work among them was not so high.

3.4. How ICT tools affect compulsory attendance

Our final category is compulsory attendance (see Table 8). It is important to point out that the results obtained in this item group demonstrate again that there is an unanimous agreement in seeing ICT tools as supportive instruments and not as threatening ones. Even though teachers think that these devices overcome time and space limitations and make students' life more flexible and compatible with

Table 5

Mean values based on how ICT tools facilitate accessibility to course content materials and resources.

2006/2007	2007/2008	2008/2009
The use of ICT tools will make course content comprehension easier		
3.39	3.68	3.51
Even though the use of ICT tools may ease content comprehension, there will always be some course contents that need to be taught through attendance-based teaching		
3.99	3.84	4.06
The use of ICT tools will ease and improve course content access		
3.95	4.12	4.08

Table 6
Mean values based on the effects on teaching quality.

2006/2007	2007/2008	2008/2009
The use of ICT tools will not improve teaching quality at all		
1.94	1.81	1.84
The use of ICT tools will significantly improve teaching quality		
3.48	3.60	3.50
The use of ICT tools will represent a waste of time		
1.66	1.57	1.59
The use of ICT tools will be more social and recreational rather than academic		
2.24	1.97	1.92

Table 7
Mean values based on how ICT tools affect communication and interaction among teachers and students.

2006/2007	2007/2008	2008/2009
The use of ICT tools will increase the number of interactions among students		
3.56	3.63	3.25
The use of ICT tools will increase the number of interactions among teachers and students		
3.92	3.91	3.70
The use of ICT tools will decrease face-to-face social interactions in general		
2.91	2.56	2.75
The use of ICT tools will encourage cooperative work among students		
3.16	3.11	2.98
The use of ICT tools will make the teaching–learning process more personal		
3.49	3.43	3.37
The use of ICT tools will improve student–teacher communication		
3.70	3.72	3.66
The use of ICT tools will help students express their opinions easily		
3.64	3.71	3.58
The use of ICT tools will improve communication among students		
3.41	3.33	3.18
It will be easier for students to make questions and seek advice by using ICT tools		
3.92	4.02	3.86

Table 8
Mean values based on how ICT tools affect compulsory attendance.

2006/2007	2007/2008	2008/2009
The use of ICT tools will decrease the number of students who attend presential courses		
2.56	2.57	2.55
The use of ICT tools will make attendance no compulsory		
1.74	1.88	1.68
The use of ICT tools will decrease the number of students who attend tutorial sessions		
2.96	2.80	2.89
The use of ICT tools will enable students to seek advice without actually moving from where they are		
4.48	4.56	4.42
Students will not need to attend tutorial sessions so frequently as a consequence of the use of ICT tools		
2.95	2.79	2.79
The use of ICT tools will enable information access and will overcome time and space limitations		
4.17	4.36	4.22
The use of ICT tools will make study compatible with other tasks and obligations		
3.46	3.55	3.40

other tasks and responsibilities, they do not consider, however, that these instruments may menace some aspects of the conventional teaching approach, like attendance-based classes or face-to-face tutoring sessions. As a matter of fact, all the scores got along our opinion survey have always implied that teachers consider that ICT tools will always remain as very helpful instruments that support attendance-based teaching and not as devices that may become the main role in the teaching–learning process play.

4. Conclusions and discussion

During the data analysis phase, we could notice that teachers do not show resistance to incorporating ICT into their daily practices, on the contrary, they keep an open mind about such integration. Nevertheless, this adoption will bring some changes to the teaching–learning process. The first one has to do with teaching strategies and teachers workload. Our participants consider they need to learn new teaching strategies to adapt to the new instruments. Actually, there is evidence that the use of ICTs 'is impacting on the roles and workload of

teachers...’ because ‘...courses are being produced more quickly...’ (Thorpe, 2005: 29). On the other hand, ICTs integration will demand specific skills on students. Yet, these new requirements will not significantly affect their traditional way of working or represent more workload; it will just lead students acquire another competency (digital literacy), which is important to pass the courses.

One of the most notorious advantages of ICTs integration is the way they will ease and improve access to course content materials and resources. Accessibility was also measured in terms on how easy it is for students to communicate with teachers and other students. Within this category, our respondents consider ICT will improve the way students reach teachers to make questions, seek advice, express opinions and communicate with them.

The main conclusion drawn from our opinion survey is that ICTs integration will benefit students tremendously because they will have full access to materials and resources as well as to a better communication with their teachers. This access is unlimited and overcomes time and space limitations giving students the possibility to combine their studies with other tasks and responsibilities. ICTs integration supports any student-oriented education program because these tools have the ability to bring ‘everyone different educational choices to improve skills and enable knowledge’ (Dighe, 2009). Moreover, ICTs enable ‘those with adult roles and responsibilities to continue formal study leading to higher education qualifications on a mass scale’ (Thorpe, 2005: 23). In other words, the use of ICTs is a way to ensure lifelong learning, which is one of the main objectives of the Bologna Process.

The ULPGC as well as many other educational institutions and universities in Spain have adopted ICTs as effective mechanisms to guarantee the process of lifelong learning. Yet, our university is more likely to use these instruments to support attendance-based teaching as the perfect formula to ‘reduce marginally for advantages of quality’ (Keagan, 1993: 10). However, every teacher is free to use ICTs to manage their subjects whether as distance learning education courses or as semi-presential ones. This double possibility is a way to uphold students and professors academic mobility within the European space for higher education and research.

With this study, the ULPGC wants to demonstrate that it is creating not only effective mechanisms but also innovate activities to support the lifelong learning process as one of the best strategies to prepare European citizens to adapt to the constantly changing world we are living nowadays.

Appendix. Supplementary data

Supplementary data associated with this article can be found in the online version, at [doi:10.1016/j.compedu.2010.11.005](https://doi.org/10.1016/j.compedu.2010.11.005).

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