The use of technology for the evaluation in higher education

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The use of technology in educational systems is becoming more and more important. Educational policies are increasingly advancing in this sense, and the educational centres with their own rules are also contributing to this "wiring". However, the role of teachers is essential for diffusion, implementation and development. In this sense, there is currently a great variety for the use, both in quality and in quantity, of technological resources in teaching. Focusing on higher levels of education, we shall study how teachers of the Faculty of Educational Studies of the University of Seville use information and communication technologies for evaluation. We shall study the systems used for evaluation and the kind of technology used.

Keywords Evaluation, Technology, Superior Education.

1. Introduction

European credits are reaching Spanish University teaching. This converging process is aimed at transforming university teaching in our country, especially because universities are still based on magisterial teaching with the contents of the many disciplines. This converging process with Europe must contain the importance of learning and teaching. In addition to the adaptation of university degrees, and their duration, a very profound methodology change has to be made. This circumstance has to be taken into account in order to introduce important changes in the activities of university teachers. In this context we would be able to talk about "students' independent work", organising teaching "through fields", and also concentrating on another aspect, which could be the introduction of technologies in the process of teaching and learning. These technologies are not yet fully introduced in university academic life and by including them important changes and improvements could be made, [1].

Apart from European convergence we could also indicate that the incipient use of new technologies in higher education is producing a change in students' profiles, since they have the possibility of asynchronous education [2].

However, there are more changes. It is necessary to make changes in educational models in the cases of education at a distance, [3], using e-learning platforms, [4], and in activities when attending lessons. [5, 6]. Neither should we forget the educational possibilities given to us by these technologies, such as simulation systems, [7], where we are able to reproduce any kind of features with the advantages of this type of application. The use of technologies in education may be extended to any subject. [8]. In order to do so, it is best to establish patterns for using this type of resource in higher education, [9] even guiding research of their use in these levels from different fields, such as first studies on including technology in the University, [1]; studies on innovations in university teaching, [10]; studies on the efficiency of the use of video conferences in Higher Education. [11].

However, not only teaching methodology and the contents of learning are affected by technology, but also the field of evaluation is considering the many possibilities technology has to offer. In this sense, both educational evaluation and additional education, with the help of computers and telematics could fulfil their objectives in relation to students' evaluation and the evaluation systems themselves. New evaluation methods are being used, such as (asynchronous) discussion groups, synchronic telematic discussions [12-13], even other more classical which are still used but using technological means, such as electronic diary or even the classic multiple choice tests. In the latter field efforts are being made to

create systems for a whole community, so that teachers and students have access to training tools, self-evaluation (in the case of students), and the possibility to do exams with the teachers' guarantee, as is the case of the tool developed by the University of Navarra in Spain [14].

In this sense, teachers play an important role in the use of computer and telematic tools in order to make evaluation effective, since they make the decision of how to write the exams. When teachers are teaching in faculties related to education, their performance on evaluating becomes a model for future teachers and their influence is more significant.

Taking this into account, it would be more relevant to know how assessment takes place in faculties related to education than other faculties, which teach other subjects. Therefore, our research is aimed at the way evaluation is carried out in the Faculty of Educational Studies in the University of Seville in the year 2005.

2. Method and Procedures

As we have already mentioned before, the idea is to learn how teachers use technological resources for evaluation, teachers at the Faculty of Educational Studies of the University of Seville. Thus, we have concentrated on researching how the process of evaluation takes place by these teachers. An essential tool was used to gather information for the research. A questionnaire for students asked about their opinion on different ways of evaluating, with the following options referring to the way of evaluating, which had to be chosen by students:
- Development examination; - written work; - training development; - objective true or false test; - objective multiple test choice; - exams with short answers; - interviews; training tests in the Internet; - News groups; - partial scoring tests in the Internet (they score for the final marking together with the written test); - definite tests in the Internet (this score is what counts for the final); - electronic diaries; - others…

Students filled in a questionnaire for each subject in all the courses. If any subject had several groups and/or several teachers a questionnaire was given to all of them. The studies that underwent research were Educational Psychology, of second cycle with two levels; the different line of studies of Education, of First Cycle, with three levels, and Pedagogy of first and second cycle with five levels.

The questionnaires were answered by students who had studied different subjects and knew the methodology of evaluation. And they only had to mark the option or options for which they were evaluated when studying these subjects. A total of 326 questionnaires were collected among the three degrees in the year 2005. They were applied individually and in interviews in the study centre.

3. Data Analysis and Result

After collecting the information of the questionnaires, we prepared the data and then analysed them. The information gathered from the students' questionnaires was evaluated through an analysis of frequency and correlation tables, and with regard to the students' questionnaire, the following information was obtained.

Table 1. Scores and percentages achieved by different evaluation tools.

	YES evaluate by this system	**NO** evaluate by this system
	Percentages	Percentages
Development examination	53,2	46,8
Elaboration of work	51,7	48,3
Training development	36,4	63,3
Objective yes/no tests	16,8	83,2
Objective multiple choice tests	14,4	85,6
Short answer exams	12,2	87,8
Interviews	3,1	96,9
Training tests in the Internet	1,2	98,8
News groups	0,9	99,1
Partial scoring tests on the internet	0.9	99,1
Definite tests on the interne	0,6	99,4
Electronic diary	0,3	99,7

The most widely used evaluation forms are the “development examination” and the “elaboration of work”, with a 52,2 and 51,7 % respectively. These are followed by “training development” used by 36,4 % of teachers as a method of evaluation. Then there is a group of three evaluation tools with a score of between 12 and 17% of the teachers who used it, “objective yes/no tests”, “objective multiple choice tests”, and “short answer exams”. Less used are “interviews” with 3.1% and “training tests in the Internet” with 1.2%. And wit less than 1% the use of “news groups”, the “partial scoring tests on the internet”, the “definite tests on the internet”, and the “electronic diary”

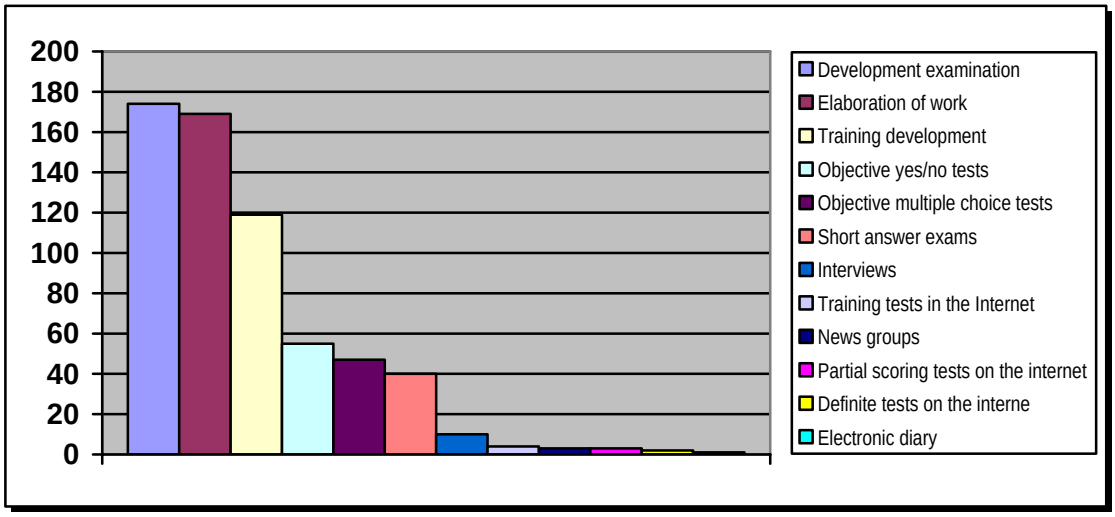

Fig. 1. *Use of the different evaluation tools used by the teachers at the Faculty of Educational Studies of the University of Seville.*

As seen in Fig. 1, the three systems which are most widely used in evaluation are the “development examination”, the “elaboration of works”, and the “development of training”. It is also important that the evaluation tools less used are those that use technological means, such as “electronic diary”, definite tests in the internet”, partial scoring tests on the internet”, “news groups” and “training tests on the internet”.

We can also analyse whether there is correlation in the use of the different tools employed for evaluation (Table. 2).

Table 2. Degree of correlations between the different evaluation tools used.

		Development examination	Training development	Elaboration of work	Objective multiple choice tests	News groups	Definite tests on the internet
Short answer exams	Correlation of Pearson	-,211(**)	,042	,025	-,020	-,036	-,029
Objective multiple choice tests	Correlation of Pearson	-,297(**)	,082	,030	1	,143(**)	-,032
Objective yes/no tests	Correlation of Pearson	-,217(**)	-,140(*)	-,089	,002	-,043	-,035
Interviews	Correlation of Pearson	-,083	,156(**)	,030	-,073	-,017	-,014
News groups	Correlation of Pearson	-,038	-,007	,029	,143(**)	1	-,008
Electronic diary	Correlation of Pearson	-,059	-,042	,054	,135(*)	,576(**)	-,004
Training tests in the Internet	Correlation of Pearson	,104	,143(**)	-,115(*)	-,046	-,011	-,009
Partial scoring tests on the internet	Correlation of Pearson	,026	,124(*)	-,100	-,039	-,009	,815(**)

** The correlation is significant at level 0,01 (bilateral).
* The correlation is significant at level 0,05 (bilateral).

Regarding the correlation given in the use of different evaluation systems we can consider, according to what we can see in Table X, that there is high correlation between the use of “electronic diary” and “news groups” (,576), and the use of “partial scoring tests” and “definite tests on the internet” (,815). This is logical if we think that whoever uses “electronic diary” also uses “news groups” for evaluation. The same happens with whoever uses the “partial scoring tests” and the “total scoring tests”, which are usually used in a simultaneous way.

There are also other minor correlations, but we should mention some that are negative. In this sense, when a certain evaluation tool is used then we tend not to use another one. When it is used to evaluate the “development examination” no other techniques are used such as “short answers”, “objective multiple choice test”, or “objective true or false test”. Or when it is used for evaluating “training development” objective true or false tests are usually not used, and in contrast we do use “interviews”, and even technological means for evaluation such as “training tests on the internet” and “partial scoring tests on the internet”. Neither it seems that evaluation through “elaboration of works” and the “training tests on the internet” are used together. Finally, there seems to be some correlation between the use of “objective multiple choice tests” and the use of “news groups” and “electronic diary”.

4. Conclusions

After studying the results it can be said that in the Faculty of Educational Studies of the University of Seville, the evaluation procedures used by teachers are mainly concentrated on “development examinations”, elaboration of works” and training development”. Other evaluation tools are also used, though less, such as the “objective true or false tests”, the “objective multiple choice tests”, and the “short answers examination”. There are other evaluation tools with an almost symbolic use, such as the “interviews”, the training tests on the internet”, the news groups”, the partial scoring tests on the internet”, the definite tests on the internet” and the “electronic diary”.

On the other hand, it is proved that the teachers who used technological means for evaluation such as “news groups”, and also other technological means for evaluation such as the “electronic paper”, and those who used the “partial scoring tests on the internet” usually also use the “definite tests on the internet”.

As for the use of technology for evaluating students we could affirm that it is not common. The most widely means do not require technological tools and they especially concentrate on the assessment of the students’ knowledge.

5. Discussion

If the Faculty of Educational Studies of the University of Seville, in this case, has not made much use of technological means for evaluating students, it also shows that it is not used as a methodology tool in the teaching-learning process. Therefore, the following question could be asked, if future teachers do not learn how to use technology for teaching in their own learning process, would they be able to use it when they teach it? If they have not used technology for their training, would they be convinced to use it? would they have enough self confidence and knowledge as to put it into practise in their teaching methodology?

The Faculties of Educational Studies have the double responsibility when using technological resources for education. First, adapting to the change of society which is constantly undergoing a process of technological renewal, and second, because they have to train future teachers who will be responsible for using it with their students, helping them to assimilate their functions and the understanding of their teaching mechanisms.

It is also interesting to consider the use of any technological element or resource to produce a chain reaction for using more resources. In this sense, there is no pretension in making a complete use of technology, but to start using it. Therefore, teachers will extend the use of the resources. It is important to use technology as soon as possible, or increase its use for a quicker general and more productive use, because the fast growth in technology in society is demanding this and education must assume the challenge.

6. References

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