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**EDUCATIONAL PRACTICES IN THE UNIVERSITY
– A LONGITUDINAL STUDY IN THE TEACHER
TRAINING MASTER IN THE UNIVERSITY OF ZARAGOZA**

**PRAKTYKI EDUKACYJNE NA UNIWERSYTECIE
– BADANIE KSZTAŁCENIA NAUCZYCIELI
NA UNIWERSYTECIE W SARAGOSSIE**

Abstract

The recent implementation in the university of professionalizing Masters has meant a considerable increase in the interest of students towards the study of the different subjects in order to improve their expertise. While in some cases it is a prerequisite for access to public opposition, in many others, the Masters allows more extensive knowledge gained throughout university degree. This type of educational practices that the European Higher Education Area (EHEA) has introduced, i.e., the derivatives of education policies, is justified by the process of European convergence. From Brussels come new details and recommendations which the various member States should incorporate into their educational system, whether formal or non-formal education.

To this end, this paper shows the results of a research carried out in the year 2009/2010 in the Teacher Training Masters for High School Teachers of the University of Zaragoza. The aim was to analyse how assessment processes were developing, with what procedures, techniques, types, etc., with the aim of introducing innovation processes leading to improved student learning. This longitudinal study is based on multiple cases whose statistically representative sample consists of 124 students and is developed with quantitative and qualitative methodology. Results of this research conclude that it is possible to introduce other types of evaluation techniques contributing to promote meaningful, collaborative, social and open learning.

Key words: longitudinal study, evaluation, skills, innovation processes, student learning.

Streszczenie

Ostatnie zmiany wdrażane na uniwersytecie kształcącym nauczycieli spowodowały znaczący wzrost zainteresowania dodatkowym kształceniem na innych kierunkach w celu poszerzenia kompetencji. W niektórych przypadkach jest to spowodowane wymaganiami, a w innych tym, że tytuł magistra ułatwia dostęp do poszerzania wiedzy. Typ edukacyjnych praktyk, które wprowadziła EHEA (European Higher Education Area), jest uzasadniony procesem integracji europejskiej. Z Brukseli przesyłane są nowe szczegóły i rekomendacje, które państwa członkowskie powinny wprowadzić do swoich systemów edukacyjnych.

Artykuł przedstawia wyniki badań przeprowadzanych w latach 2009/2010 na Uniwersytecie w Saragossie. Celem badania była analiza tego, w jaki sposób rozwijał się proces oceny nauczania, jakie stosowano procedury i techniki. Badanie oparte jest na opiniach grupy 124 studentów i zawiera analizy jakościowe i ilościowe. Wyniki badań wskazują, że możliwe jest wprowadzenie innych typów technik oceny, aby przyczynić się do promocji zrozumiałego, otwartego nauczania opartego na współpracy.

Słowa kluczowe: badanie podłużne, ocena, umiejętności, innowacje, nauczanie studentów.

Background

In Spain, as in many other European countries, in the university the development of the training process has changed substantially. This is especially due to the implementation of the Bologna process, which has involved a restructuring of the curriculum¹. The different university degrees, in addition to theoretical credits, also include practical credits and credits focusing on the student's personal work. The aim is to offer training more in line with social and educational needs. Faced with the traditional teaching, based on teacher's lectures, multimedia resources and technology platforms supporting collaborative learning, social and open, are currently being used with increasing frequency².

At the level of teacher training this involves educational processes necessary to make appropriate use of these technologies. But not only that, it also offers students a number of Masters that complement the training they have acquired in the degree. So that many students when they finish college access a professionalizing Masters to expand their pedagogical knowledge and be eligible for jobs where it is a prerequisite. This applies to students who have completed such diverse degrees as Biology, Geology, Mathematics, Physics, Philology, etc, and who want to be teachers in the field of Secondary Education. To gain access to the public opposition system, they must have a Masters in Teacher Training, a professional Masters.

At the University of Zaragoza this Masters was introduced in the year 2009/2010 in order to extend the previous course which was made to offer this type of teacher training and which used to last six months: the so-called Teacher Training Course (Curso de Adaptación Pedagógica or CAP). In the classroom the variety of students is enormous. Some come from the scientific-technical field, others from humanities, etc., and all of them have to be provided with the educational bases that allow them to expand their knowledge to become secondary education teachers.

The Faculty of Education at the University of Zaragoza introduced the Teacher Training Masters for High School Teachers in the academic year of 2009/2010.

¹ J.R. Soler, *Estado actual y estrategias para futuros de la formación a lo largo de la vida*, Tornapunta, Zaragoza 2013.

² J.R. Soler, *La participación social en la construcción de la democracia, reto consustancial a la formación a lo largo de la vida*, Tornapunta, Madrid 2009.

The university students of the Teacher Training Masters for High School Teachers are graduates who have decided to form pedagogically to be able to be devoted to the development of the teaching profession. In this sense, they are adults who have previously completed a university degree and have acquired specific content. However, they generally lack a solid understanding of the teaching-learning process, as well as methodological principles of their work as teachers.

The Masters extends to one academic year and consists of generic and specific modules. In the generic modules students take general educational subjects, school organization, guidance, mentoring processes and basic psychological principles throughout the first semester. Once they have acquired these contents and specific competences as prescribed by Bologna, students enrol in the second semester to study specific modules depending on the degree with which they have gained access to the Masters.

They also study a *Practicum* divided into three phases, so that they can observe the operation of a Secondary School. They should write a series of papers in the period of the *Practicum* dealing with topics ranging from the analysis of institutional documents, the School Educational Project, the School Curriculum Project, the School Coexistence Plan, etc.

The context of this Masters is therefore diverse. The profile of the student in this Masters is not specific. It can be taken by students who have finished a degree in engineering, medicine, biology, languages, history, etc. Therefore, the initial level is basic, and, as the students acquire basic skills, the level of complexity gradually increases.

In the context of the Teacher Training Masters for High School Teachers the development of the teaching-learning processes is not always done since the beginning of meaningful learning, on the basis of the student's previous knowledge, mainly because the number of students (as determined by the Department) attending class is more than 90 per class. In addition, it is very difficult to motivate them because they are pursuing the Masters as a compulsory requirement in their career following their university studies. Besides, it is not possible to work in small groups to develop activities deepening into the concepts studied and the theoretical claims because the number of credits of each module is small and the program or syllabus is too broad. This obviously makes the work of teachers very difficult, especially considering that the level of teacher training in accessing cannot even be regarded as basic.

Educational development opportunities are limited to the delivery of specific content as part of the official program of each of the modules. Since the number of students participating in the Masters is very high, the evaluation process is affected and necessarily leads to summative evaluation³.

In the official curriculum of the Masters the type of assessment to develop with students was approved, which, following the guidelines of Bologna, is

³ C. Alkin, *Evaluation Theory Development*, "Evaluation comment" 1969, vol. 2(1), pp. 2–7.

a continuing training evaluation. To do this, students must attend class and are asked to deliver a series of papers, always in groups to facilitate correction by the teacher. In some modules, in addition, students must deliver presentations of practical cases. So that the student who has attended the theoretical sessions of attending classes, prepares a group work and sits for an exam. Basically, we follow the traditional pedagogical principles, based on a purely summative evaluation, without assessing student learning with any other instruments. Clearly it is not possible for students to make a series of "deliverables" that the teacher evaluates and immediately provides *feedback* to improve student learning to be part of the results obtained.

Against this background and given the fact that the University, in principle, is an educational institution that allows developing innovation processes, the question is what are we doing wrong that despite having evolved in our curricula, despite having been able to adapt to Bologna – rather led by official prescription than by real willingness – and despite changing our planning and teaching, in the classroom the teacher proceeds in the same way as in the old plans. Nevertheless, it is true that, depending on the academic degree, and on curriculum requirements, in some cases it is possible to introduce into the classroom innovation processes, while in other cases it is a type of traditional teaching.

Method of investigation

In order to analyse the type of evaluation and consequent improvement of student learning with the introduction of innovative processes, this article shows the results of an investigation⁴ with a design of a multiple case study⁵ and developed through a methodology that integrates quantitative⁶ and qualitative dimensions⁷. The techniques of data collection⁸ were the questionnaire and the discussion group⁹. The number of students who participated in the research was 124.

So, in the first place, we developed some questionnaires, previously validated by five experts, with questions concerning the type of assessment that students had continued in some modules and issues for consideration in relation to the type of assessment. The investigation was completed with interviews with five students in each group (the 2009/2010 year had four groups for each generic

⁴ R. Yin, *Case study research. Design and methods. Applied social research methods series*, Newbury Park CA, Sage 1994.

⁵ R.E. Stake, *Investigación con estudio de casos*, Morata, Madrid 1998.

⁶ L. Cohen & L. Manion, *Métodos de investigación educativa*, La Muralla, Madrid 1990.

⁷ S. Kvale, *Las entrevistas en investigación cualitativa*, Morata, Madrid 2011.

⁸ R. Krueger, *El grupo de discusión. Guía práctica para la investigación aplicada*, Sage Publicaciones, Madrid 1991.

⁹ M. Suárez, *El grupo de discusión. Una herramienta para la investigación cualitativa*, Laertes, Barcelona 2005.

module) in which some of the questions that students had responded to the questionnaire through the Likert scale were extended. This procedure allowed details on the evaluation procedure, its efficiency and its functionality. Furthermore, these instruments included questions on the introduction of innovative processes in the teaching program of each generic module, compulsory for all students of the Masters.

The Bologna Process has led to the introduction of competences in each of the subjects of both the Degree and the Masters, and the distribution of credits of a course or subject into theoretical and practical recognition of work by the student and class presentations showing the level of knowledge and understanding of the contents worked upon in teaching-learning processes. In the distribution of credits of each Masters module theoretical credits (typically ranging from 10 to 20) and practical credits are generally recognised. The evaluation system consists of a test at the end of the term, of practical case studies analysis, classroom presentations, activities or tasks for the student group and delivery of a written work.

The research method used in this university context allowed us to observe the types, techniques and evaluation procedures used by different teachers for each module. Also, given the importance we attach to the evaluation process, we assess the conditions that must exist in the classroom to assess students continuously, the factors that make it difficult for students to have an active role in developing participatory learning processes that can be assessed, the planning to be followed by the teacher when he teaches in this Masters and motivations of students to follow the continuous assessment.

Results of the investigation

The results of this research that has combined quantitative and qualitative data show that 20% of students regarded as adequate the assessment type used in most of the generic modules of the Masters because they feel that the number of students per class is higher than what could be considered to be appropriate and believe that in these conditions it is not possible to use another form of assessment. Moreover, this claim is based on previous experience¹⁰.

Students currently enrolled in the Masters come from old plans where classes followed a traditional approach, in which the teacher taught students the specific contents of each subject in a lecture. The examination was conducted at the end of the semester and that meant the qualification of the subject to which was added a note concerning the completion of a work of theoretical and practical nature.

¹⁰ R. Soler, *El poder de las palabras: un análisis del lenguaje pedagógico*, Mira Editores, Zaragoza 2015.

In this sense, students say that the type of assessment followed in the Masters, within the Bologna Process, is not substantially different from the one that they had in their previous degree.

64% of students participating in the investigation find that the final examination will not always correspond to the contents explained in the Module. Let us say that in each of the modules are involved at least two to three teachers, and that this makes it harder for students to place a teacher with the corresponding professional requirements in the context of a subject.

They believe that basically they sit for three tests for the same subject, instead of just one exam with questions concerning all that has been explained by the number of teachers who have participated in the module. The students believe that the test questions do not reflect the material worked upon in class for a subject that has been taught by several teachers.

Therefore, the final exam, being the assessment type which they claim to have – and thus not a continuous assessment, as is stated in the program – fails to be any adjustment or adequacy between the assessment and the content.

Third, 87,2% of students stated that in the modules in which they are required to undertake the development of an assignment, it is always group work, a factor that, according to them, makes it difficult to conduct because most are people who work and are enrolled in the module. They claim that the work delivered is mandatory and is usually assessed with 10–15% of the final grade obtained.

Instead, 13% have considered that, precisely because the assignments are group work, they can distribute and assign tasks to make them at home and need not take time to be with their peers. They claim that it is just about cutting and pasting what each of them has written.

Fourth, 51% of students interpret test questions as objective and do not allow them to express their knowledge about the contents required. They believe that the type of assessment should be complemented with semi-structured questions. They understand that the type of assessment cannot realistically assess their level of knowledge acquired.

Fifth, 12% of the students point out that in those class modules in which they are asked to present practical case studies they are not provided with any quantitative rating and also believe that not all modules are taken into account towards their final marks.

In contrast, 78% of students admit that the case studies are taken into account in the course but not the way they would like, because they point out that the case analysis is always a very small part of the final grade and the work they do involves more hours than recognized in their assessment since they must work in groups and that means meeting and distributing work among peers.

Sixth, 33% of the students are fully confident that in the Masters, as it is distributed, it would be possible to undertake a kind of continuous evaluation of their work throughout the semester.

They claim that in the modules in which they must make a *portfolio online*, an *e-portfolio* – even though they view it as a notebook that contains all the work they have done in the same module with different teachers – it could be enough material to assign their marks and final qualifications if it was raised with specific questions they had to respond in a semi-structured manner and reasoning their response.

Finally, 28% of students considered that the final work of the Masters work to be performed, when compared with other assignments and tests they do along it, amounts to less work than the work for each of the generic modules. They understand that the number of credits granted to them by the final work of the Masters – even if it is compulsory – is superior to what they are recognised with as part of the evaluation module and the rest of which is considered much less effort, but they believe they should receive more instructions and guidelines to do it.

They interpret it as a collection of the different assignments carried out throughout the Masters and therefore understand that it can be considered a continuous assessment¹¹.

The analysis of the type of assessment used in the generic modules of the Teacher Training Masters for High School Teachers shows that students are unhappy with the type of evaluation. Certainly, if the number of students per group were smaller, they could implement measurable activities that required specific knowledge on the part of students.

It is true that in some modules the type of evaluation is continuous with a major effort on the part of the teachers. However, as a degree belonging to the Bologna Plan, the evaluation process should improve with other techniques and instruments.

Discussion

The results obtained in this research show that University lecturers try to adapt to the new guidelines required by Bologna. However, for a number of circumstances, such as the high number of students per group and per each course of the degree, the type of evaluation to follow is conditioned so that if lecturers resort to traditional assessment, based on the achievement by the student, of an examination at the end of the semester, that at best provides for the performance of an assignment and the exposure or presentation in the classroom of a case study.

One wonders if it really is possible despite the high number of students enrolled in the Teacher Training Masters for High School Teachers to introduce

¹¹ R. Soler, *Lenguaje y práctica educativa. Claves de la terminología pedagógica*, Dykinson, Madrid 2015.

another type of assessment that contributes to improving the teaching-learning processes.

The assessment, from the educational perspective, can be of three types depending on the area being evaluated, the three being necessarily complementary for the evaluation process to contribute to the improvement of teaching and learning in which it is integrated: learning of students, the teacher's teaching practice and curriculum development followed in the teaching-learning processes.

Regarding the first, the assessment of student learning, it must be based on the evaluation criteria established in the teaching program of each of the modules of the Masters and develop the types of assessment practice, undertaken on the basis of a definite approach to the teaching-learning process, as well as methodological principles. Thus, we believe that the evaluation process should be based on an initial assessment to identify cognitive ability and prior knowledge of each student.

The development of teaching and learning should continue with the ongoing assessment that provides immediate *feedback*. For this reason, it is itself a formative evaluation that allows corrections in the teaching-learning process when the teacher considers it necessary by immediately changing the design that has been proposed in the curriculum development of a specific module. This process improves the teaching-learning process and contributes to better results.

Moreover, we believe that criteria evaluation must be made on the basis of the content and skills set out in the official program of each of the modules of the Teacher Training Masters for High School Teachers, always redirected and specified in a personalised and individualised type of evaluation.

Obviously, in the context described it is not possible to make a personalised type of assessment. In addition, the evaluation criteria should be integrated in an overall assessment of the competences in the learning outcomes of each module.

Conducting ongoing-formative evaluation necessitates a final assessment, especially when deciding whether a student has acquired the learning outcomes set out in the syllabus or not.

Another perspective to take in the development of the evaluation process is to include hetero-evaluation. This should be introduced gradually and always accompanied by co-evaluation, as it offers students the opportunity to participate in assessing their own learning and the student is then able to introduce a self-assessment, the final objective of the process assessment with adults.

The results of this research have enabled the development of two instruments to introduce, as innovation processes in the field of evaluation, two different types of assessment or, at least, novel, compared to those used in the Masters in Teacher Training for Secondary Education. The listed below:

	Level of Development				How to improve it
	1	2	3	4	
1. Adequacy of learning outcomes to the features of the students considering the cognitive level according to Bloom's Taxonomy					
2. Relevance of the selection and sequence of learning outcomes, content and skills					
3. Integration of other content in the syllabus					
4. Validity of activities <ul style="list-style-type: none"> – Clarity in their formulation – Logical sequence and presentation – Adequacy of exposure time – Differentiation of levels of complexity – Diversity of materials – Establishment of cooperative and autonomous learning – Adaptation to the methodological principles assumed 					
5. Functionality of resources used: <ul style="list-style-type: none"> – adequacy to the level of cognitive development of students; – educational potential; – variety of resources 					
6. Valid assessment criteria on student learning: <ul style="list-style-type: none"> – different types of assessment: initial, continuing-training, individualized, criterial, hetero-assessment, peer assessment, self-assessment; – functionality of criterial evaluation; – utility of evaluation techniques. 					
7. Coherence in the development of content and skills of the module from the methodological principles made on the teaching-learning process					

	Level of Development				How to improve it
	1	2	3	4	
1. Motivation of the teaching-learning process: issues discussed, currency thereof...					
2. Coherence with the activities undertaken and the methodological principles assumed					
3. Feasibility of group-class organisation, diversifying teaching-learning situations, resource allocation...					

4. <i>Appropriateness of interactions with students: verbal, nonverbal, expectations...</i>					
5. <i>Functional group-class environment (learning facilitator, cooperative, autonomous...)</i>					
6. <i>Critical positioning on the interpretation of the context of the class group, its size and consistency with the teaching practice</i>					

Also, as an innovation process we suggest the introduction in the evaluation process of the e-portfolio, understood not as a collection of works in the same module, to be evaluated, but rather as a technique that shows the validity of the practice of this process of giving the student a greater responsibility for self-assessment of their learning.

Considering the three types of assessment put forward, it is necessary to indicate the use of assessment techniques that allow the joint development of these types of evaluation. A systematic observation of the degree of acquisition of knowledge and skills by university students should be undertaken. This work is highly complicated with a number of students ranging between 87 and 117 per class group.

To do this, the number of students should be reduced to 60 or less. This systematic observation should not be performed as if it were made by a punctual observer of the disruptive behaviour of a child of Primary School, but with a grid that allows the observation in class of the attainment of the objectives by the student. This would require students to perform activities individually along the theoretical and practical sessions of the semester.

Furthermore, we understand that a systematic observation must be conducted on the student's participation in the activities that are part of the teaching-learning process. This observation, again, would be feasible only in small groups of students.

The completion of an examination by the student, at the university level, is still required even if the three types of assessment can be performed. It is true that the rating of the certificates of assessment should reflect the content acquisition by the student and it is largely measurable with an examination. However, as we have said, we must not quantify only through the written exam, but also with the other types of tests that we have discussed.

Since students taking the Teacher Training Masters for High School Teachers are adults who have previously studied another University degree, and also because of the fact that the different modules of the Masters analyse generic institutional documents and students, as future teachers will develop their professional work in educational institutions, we consider it feasible to assess quantitatively and qualitatively different analyses of institutional documents (understand-

ing of the pedagogical principles assumed by a Secondary School in the School Educational Project, assessment of the Rules of Internal Regime, practical feasibility of the Coexistence Plan, etc.), either individually or in groups.

We insist, above all, in the development of an *e-portfolio* as an innovative tool and a facilitator of the evaluation process, designed with an approach different to the traditional one: a technique whose application involves the use of several integrated tools and introduces students to the development of self-assessment of their own learning.

We referred above to assessment of student learning as a type of assessment. Moreover, we have also considered it very necessary to evaluate their own teaching practice through criteria and procedures. In the context of this Masters' degree, this type of evaluation should be done from an individual teacher's self-evaluation, since it is not appropriate to develop it as a hetero-evaluation or as a collaborative self-evaluation. Nevertheless, this evaluation technique would, in our view, be the most difficult and cost-effort form to perform.

Finally, the third type of assessment is the evaluation of the teaching program, also based, of course, on criteria and procedures. The evaluation of curriculum modules of the Masters gives a rating or assessment conditioned by the learning outcomes that students should have acquired by the end of each of the modules.

The three types of assessment referred to reliably allow granting the student a grading of his learning; on the other hand that qualification is accompanied by an assessment of the course contents. This typology makes it possible to define the specific contents to be assessed not only through the creation of traditional assessment grids but with active student involvement in the teaching-learning process.

The greatest difficulty in making a comprehensive assessment of student learning in this Masters resides in the few hours of lessons that can be devoted to an assessment of learning content.

The presentation of theoretical contents is an instrument that allows a broad appreciation of the skills required of the students; however, in so very big groups, at least, this is difficult because if we devote more hours to processing theoretical exposure assessment, it is detrimental to the delivery of the entirety of the contents of the official program.

The limitation of time, partly because of issues of organisation of the different modules, together with the large number of students, hinders the teacher's work who is trying, as far as possible, to stick to the program to be taught in the context of a specific university training.

In many cases, the fact that students indicate that evaluation is summative and that other instruments that could be part of the evaluation process are not considered is understandable. When we make the distribution of hours and see the agenda, it is very difficult to reconcile the quality of education and of evaluation.

The trend in these cases goes to teach the contents and basic skills of the syllabus, ask the student to complete an individual assignment and an exam that, as far as possible, covers specific contents and questions for development.

The university, even with the implementation of the Bologna Masters Degrees, has much to modify. The number of students per group should be small (ranging between 60 and 65).

The hours recognised to students as part of their curriculum should be devoted to the acquisition, improvement and assimilation of concepts and competences not previously worked upon, rather than for the student to do endless work that each and every one of us demand in an attempt to attach the greatest importance to our module, as if it were the fundamental part of the Masters.

However, these observations springing from the data analyzed can be applied to other university degrees, even though we have seen that in the Masters in Teacher Training for Secondary Education there is such a large number of students enrolled.

Not only is it necessary to establish new forms of assessment, but also to modify the methodology, given that within such big groups of students the development of the Masters with the different modules and the work to be performed does not contribute to their learning.

It is preferable to perform two or three assignments rather than for them to make small portfolios that simply collect the contents of the lectures. Therefore, the design of two assessment instruments that help improve student learning has been proposed in this paper.

Bibliography

- Alkin C., *Evaluation Theory Development*, "Evaluation comment" 1969, vol. 2(1), pp. 2-7.
- Cohen L. & Manion L., *Métodos de investigación educativa*, La Muralla, Madrid 1990.
- Krueger R., *El grupo de discusión. Guía práctica para la investigación aplicada*, Sage Publicaciones, Madrid 1991.
- Kvale S., *Las entrevistas en investigación cualitativa*, Morata, Madrid 2011.
- Soler J.R., *Estado actual y estrategias para futuros de la formación a lo largo de la vida*, Tornapunta, Zaragoza 2013.
- Soler J.R., *La participación social en la construcción de la democracia, reto consustancial a la formación a lo largo de la vida*, Tornapunta, Madrid 2009.
- Soler R., *El poder de las palabras: un análisis del lenguaje pedagógico*, Mira Editores, Zaragoza 2015.
- Soler R., *Lenguaje y práctica educativa. Claves de la terminología pedagógica*, Dykinson, Madrid 2015.
- Stake R.E., *Investigación con estudio de casos*, Morata, Madrid 1998.
- Suárez M., *El grupo de discusión. Una herramienta para la investigación cualitativa*, Laertes, Barcelona 2005.
- Yin R., *Case study research. Design and methods. Applied social research methods series*, Newbury Park CA, Sage 1994.