

The effect of the reutilization of an open educational experience on the improvement of the reflexive process of education - learning in university students.

Ramirez, C.* , Lorenzo, J., Jiménez.A.C., Rivilla-García, J.

Polytechnic University of Madrid

* Corresponding author: Email: cristina.ramirez@upm.es; Phone: + 34 680128027

Abstract

The aim of this experience has been to analyze the effect on the improvement of the process of education - learning, the interest and the perception of the student body that generates the reutilization of an open didactic resource. For that 115 students of the Degree in Sciences for Physical Activity and Sport, realized a recording of an educational lesson. After the recording, the students in his teachers' role, did a reflexive and personal analysis on there verbal communication, the answer of the students on the educational speech, body language and didactic aspects. Afterwards a group reflection was made about on the tape recording of the rest. For the evaluation of the results, students completed an evaluation questionnaire on a scale 1 to 5, on ten educational and methodological aspects, about the experience of learning from the reutilization of open resources. Results shows a score over 3,5 in the item referred to the pedagogic interest of the experience ($4,12 \pm 1,09$); in the item referred to the utility of the resources used ($3,92 \pm 0,81$), in the item of the perception that the experience is positive to the learning process ($4,02 \pm 0,93$), as well the help that these resources suppose to reach the learnings ($3,88 \pm 0,76$). These variables obtained a positive valuation - from 3 - in a very high percentage: pedagogic interest (95,65 %), perception of positive experience (94,78 %) and utility of resources used (93,91 %). In Equal importance is that the majority of the students thought that the contents were identical to the aims of the subjects ($3,8 \pm 0,72$). All this confirms the importance of the use of new open didactic resources is a motivating element in the university teaching, in the context of the sports education.

Keywords

Open resources, educational experience, educational innovation



1. Introduction

Open access to information allows its universal diffusion in a free and open way. The idea of Open Educational Resources (OER) has numerous working definitions. The term "open educational resources" was first adopted at UNESCO's 2002 Forum on the Impact of Open Courseware for Higher Education and they were defined as "materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research". (UNESCO, 2002).

According to Santos-Hermosa et al. (2012), after elaborating a repository of the open educational resources, claims that their essential characteristics are:

- The accessibility - in terms of resource's availability to be located and use in any place or time.
- The reusability, the possibility to be used and modified in diverse learning contexts.
- The interoperability or the facility to be adapted or interconnected between different hardware, devices or tools.
- The sustainability, a proper working despite the change in software, versions, etc.
- The metadata, or descriptions which allow its indexation, storage, search and recovery.

The reusability paradox in open resources claims that if the content is "reusable", it has to be specific in its context, but if it is too much specific, it do not tend to be "reusable" (Wiley, 2006).

The European Higher Education Area (EHEA), with its new pedagogical model, promotes the use and reuse of the open educational resources for teachers and students. The figure of the teacher in educational resources is essential for starting with the reforms of education systems and for achieving a quality education. "As an education figure, the

teacher comes in society as the result of his interaction with the context in which he works” (Alfaro, 2013).

The EHEA emphasizes new teaching methodologies in detriment of the traditional master classes. Within the new methodologies we have the “Continuous evaluation”, in which the teacher has to do a daily continuation to the student, and the EHEA proposes two methods for that: the use of the ICT and Internet , tutorials and a practicing teaching, which tries to find a more active intervention of the student, with group works, exercises, professional practices, etc.

New technologies are a very powerful teaching resource. According to De la Torre et al. (2008) the mains purposes that teachers make lie in to plan courses, designing teaching and learning strategies, find and prepare teaching materials and resources, motivate students, provide information, advice on the use of resources, guide the completion of activities, student mentoring, evaluating, management jobs, contact with the environment, and promote a positive attitude towards ICT from a critical perspective of the students and staff continuous training to improve teaching skills.

As teachers, we should reflect on our teaching practice, before, during and after class sessions. In this reflection we should ask ourselves how do to perform them. Among the authors who have delved into this issue we can include Esteve (2004), who defends the crucial role of reflection and its positive influence on teacher action through the use of observation and Portfolio.

One of the common used self-observation instrument in teaching are video recordings. But in the field of teaching future teachers, it also helps the teacher to issue feedback to the most effective student, of being able to analyze, sequence the document, etc.

The latest investigations about the perceptive and conduct changes, shows that self-reflection spaces are created when the recorded images are analyzed. These spaces are based on the idea of their time contemplation, which create intrinsic processes which are enrolled in three levels: 1. Receptive level. It corresponds with the awareness (realism). 2

Dynamic level. It is related with the motivation, interest and satisfaction. 3 Learning level. It is related with the achievement of the skills.

The objective of this experience has been to analyze the effect of the process of teaching and learning, the interest and the perception of university students who generate the reuse of an open educational resource.

2. Method

For the development of this experience an open resource has been used "The recording video of the teaching practice, a strategy for the development of the reflexive teaching" (Calzada, 2010). This resource is an experience placed in The National School for Teachers of kindergarten in an institution of higher education that has the objective of the training of teachers for preschooler. The current curriculum studies of this school, as the author says, emphasizes the importance of that "the new teacher should have a reflexive attitude that would allow him to recognize the complex of the teaching practice and to visualize that in the presence of an uncertain reality he must keep an attitude of research of alternatives in the work with preschoolers children.

The election of this resource to be reuse in our Faculty is justified under the research of meaningful reflexive learnings, and above all because with the new curriculum studies we are encouraging the experience in the teaching practice since the first years in the degree.

In this experience there were 115 students from the subject "swimming and aquatics skills" from the first year of the degree in Sport Science and Physical Activity (Polytechnic University of Madrid) who took part. The experience was developed in the academic year 2010-2011, in which there were 246 students enrolled in the subject



distributed in 8 groups. The experience was made with 4 groups out of 8. There were 128 students who took part in the recording videos, 13 of them did not finish the experience so did not participate in the analysis and reflection of the teaching practice. The 128 students were distributed in four groups of 27, 33, 34 and 34 students per group.

The open resource has been modified according to the abilities and characteristics of the students in the first year of the degree in Sport Science and Physical Activity as well as the objectives of the subject "swimming and aquatics skills".

The possibility of filming the teaching practice allows the students to visualize repeatedly of some aspects of the video that, due to their importance, need to be analyze in detail: a dialogue, an action, a reaction of a group of students to the educational objectives or a didactic sequence and their results.

For the reutilization of the resource we have follow the methodology of the author, modifying, to our context in the classroom. Filming of the students was realized giving class of aquatic activity in a acclimatized swimming pool. The video were recorded by the teacher responsible for the subject. The teacher raised different situations of class and the students developed the educational practice while they were filmed. The presence of the chamber in the meetings can generate tension and edginess, when feels the student who is going to be evaluated across the recording, which provokes a change of behavior with regard to the rest of the meetings. Once recorded the video, and under the authorization of the student body, lodged at the channel YouTube of the UPM (Polytechnic University of Madrid), and the link was published in the platform of tele - education Moodle of the UPM, to which they had access all the students.

Later the students realized an individual reflection on how they were considering his forms of expression, the use of the body, the ways of interacting, as well as on the response of the companions to his indications. Inside this first reflection it was asked them to analyze:

- Verbal Communication: clear, opened, expressive, enthusiast, shy, serious, aggressive, cutting, tax, etc.
- Tone of voice: Effects of the tone of voice, volume, speed, intonation of agreement to the circumstances, etc.
- Capacity of leadership.
- Classmates' answers to the speech of teacher: they answer, take part, are indifferent, pay attention, are opposed, interpret adequately the slogan. Etc.-
- Body Expression/Not verbal communication: Natural, agile, enthusiast, projects diverse states of mind, calls with his forms of expression and with his attitudes for the participation of all, rejects, is closed, demonstrates insecurity, coyness, distress, etc. – Global didactic aspects.
- Sensations, feelings and ideas that it generates turn in to an action opposite to the group.
- Analysis of the swimming skills.

After the individual analysis one proceeded to the accomplishment of a reflection in group, in which all the pupils were listening initially to the analysis of the companions who took part as teachers in the practice, and later they were informing all. The aims chased with this experience (to generate a major reflection on the capacities of the educational futures, to analyze his verbal language and gestural, and to think about the safety aspects that a teacher must fulfill in aquatic facilities) are directly related to some general and specific jurisdictions of the subject Swimming and Aquatic Skills, as well as to the results of learning of the same one, since we can see in the table 1.

Table 1. Competitions and results of learning of the subject.

GENERAL COMPETENCE	ESPECIFIC COMPETENCE	LEARNING RESULT
CG 5 - To manage with efficiency and efficiency the information proceeding from different sources integrating his relevant aspects for the fulfillment of the proposed aims	CE 3 - To identify and to anticipate the risks that stem for the health of the students in the practice of physical activities inadequate or wrong realized	To develop a correct application of the education of the aquatic activities in the different areas of application, regarding the characteristics both of the group and of the individual interests of the components of the above mentioned group.

3. Results

Students filled in a questionnaire in which they were expected to value in a scale from 1 to 5 (being 1 totally disagree, 2 mostly disagree, 3 in agreement, 4 agree mostly, 5 fully agree) 10 educational and methodological aspects of the open resources reutilization (OER) learning experience. Table 2 shows the different items in the questionnaire.

Table 2. Items in the evaluation questionnaire for the OER experience.

#	QUESTION
1	The organization of the experience (individual work, group work...) is adequate
2	The contents and the format (text, pdf, Power Point presentation, video, etc.) of the experience match the objectives posed previously to the students.
3	The time spent in carrying out the experience is suitable.
4	The resources used in the experience have pedagogical interest.
5	The resources used are of a suitable technical quality.
6	In comparison with the equipment normally used by professors in class, the open resources used are useful.
7	The experience has positively improved the level of knowledge on the topic of study.
8	The evaluation method used has been adequate.
9	The use of pedagogical resources of different nature (texts, software, video, etc.) helped to reach the learning goals.
10	The use of open materials in a language other than Spanish complicates the understanding of the taught concepts.

First of all we must mention that this study involved editing, selecting, creating and reusing multimedia teaching resources with high interest for the development of the subject, and that may be used as open teaching resources in following years.

Results for variables regarding interest, usefulness and appraisal of the experience were very high. More specifically, results were above 3,8 out of 5 for pedagogical interest (3,97±0,92), usefulness of the resources (3,83±0,96) and positive effect of the experience on learning (4,02± 0,93), as well as for the aid these resources provide towards the learning goals (3,88± 0,99). For these items, students giving a positive opinion (above 3)

was very high: pedagogical interest 95,65%, perception of the experience as positive 94,78% and usefulness of the resources 93,91%. Equally noticeable was the fact that most students found the contents followed the subject's goals ($3,81 \pm 0,91$). These results seem to support the importance of new open materials as a motivational element in college teaching, in the context of the sports education.

The students' view was moderately positive as regards the organization of the experience ($3,41 \pm 0,92$), the time spent on it ($3,44 \pm 1,09$), the suitability of the evaluation methods ($3,56 \pm 0,98$) and the technical quality of the resources ($3,79 \pm 0,95$).

However, it was made clear that a difficulty rose when the materials were in a language other than Spanish ($3,21 \pm 1,33$). This is probably due to the lack of communication capabilities in other languages.

4. Conclusions

The filming of didactic sequences for analysis is a very powerful tool to achieve the best possible results in the teaching/learning process of water activity subjects.

The experience conducted has improved the teamwork amongst students as well as the professor-student relationship, increasing in-class participation and individual tutoring for the subject.

The main gain has been the higher level of learning students have achieved. This experience has forced them to acknowledge the meaning and function of the open resources, as well as the importance of being able to access this information and reusing them as a learning method. This involves deliberation on the possibility of creating resources for this course and being able to make them public so that other teachers can conduct the same experience.

This experience should have been conducted for a small number of students. However, conducting it during the class period means it must be adapted to large groups, which complicates the control of the activity.

5. References

Alfaro, A.P. (2013). *Estudio del uso de las tecnologías de la información y la comunicación en la formación permanente del profesorado para la mejora de la práctica docente*. Tesis doctoral no publicada. Departamento de-----Universidad Autónoma de Madrid, Madrid. .

Calzada, B.E.I. (2010). La Video grabación de la práctica docente, una estrategia para el desarrollo de la docencia reflexiva. A 'CiDd: II Congrés Internacional de Didàctiques 2010'. Girona: Universitat. Recuperado de: <http://hdl.handle.net/10256/2883>.

Camerino, O. (2011). Evaluación formativa y Tecnologías de la Información y la Comunicación (TIC). En V. M. López (Ed.) *Evaluación formativa y compartida en Educación Superior. Propuestas, técnicas instrumentos y experiencias*. (pp. 127-141). Madrid: Narcea.

De la Torre, S., Oliver, C., & Sevillano, M. L. (Coords.) (2008). *Estrategias didácticas en el aula. Buscando la calidad y la innovación*. Madrid: UNED.

Esteve, O. (2004): La observación en el aula como base para la mejora de la práctica docente”, en D. Lagasabaster, y J. M. Sierra (eds.)

Loera, A. (2006). *La práctica pedagógica video grabada*. México: UPN.

López, F. (2006). *Metodología participativa en la enseñanza universitaria*. Madrid: Narcea.

López, V. M. (Coord.) (2011). *Evaluación formativa y compartida en Educación Superior. Propuestas, técnicas instrumentos y experiencias*. Madrid: Narcea.

Rivilla, J., Lorenzo, J., Rodríguez-Romo, G., Jiménez, A.C., Ramírez, C. y Ferro, A. (2011). *Use of ICT in the development of perception and analysis capacity in sports by undergraduates*. Congreso Internacional INTED 2011 (International Technology, Education and Development Conference). Valencia.



Rué, J. (2007). *Enseñar en la universidad. El EEES como reto para la Educación Superior*. Madrid: Narcea.

Santos-Hermosa, G., Ferran-Ferrer, N., Abadal, E. (2012). Recursos educativos abiertos: repositorios y uso. *El profesional de la información*, 21(2), 136-145. Recuperado de <http://dx.doi.org/10.3145/epi.2012.mar.03>

Wiley, D. (2006). On the sustainability of open educational resource initiatives in higher education. ECD. Recuperado de <http://www.oecd.org/dataoecd/33/9/38645447.pdf>