ENHANCING THE TEACHING-LEARNING RELATIONSHIP THROUGH E-LEARNING TECHNOLOGIES

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Abstract

This paper focuses on improving the teaching-learning relationship for medical and health-care education by using e-learning technologies. Generally, educational activities consist of teaching and learning processes. Teachers disseminate knowledge towards learners through teaching processes, while learners acquire knowledge through learning processes. The purpose of teaching methods is to facilitate the settlement of teaching-learning relations between the dual teaching and learning processes. We introduce e-portfolios to improve the teaching-learning relations. Students have to work constantly on a project, which makes them strongly involved in the learning process, thus increasing their motivation. Students have positive feedback from their teachers in the form of comments, as opposed to marks, thus increasing cooperative learning and students' motivation. Portfolio assessment helps students enjoy the assignments, while enabling them to learn more easily and take an active part in their development.

Introduction

In every teaching subject, improving the teaching-learning relationship is very important because, as we all know, a cordial relationship will provide better outcomes than a non-cordial one. This paper focuses on the improvement of the teaching-learning relationship by means of e-learning tools and blended learning.

In the second section of the paper, we describe introducing e-portfolios as a built-in task over Moodle for the purpose of enhancing the teaching-learning relationship. In this manner, each student will be able to work in his or her own rhythm, not being rushed by the teacher or by his colleagues. In addition, students can get positive feedback from teachers in the form of comments, as opposed to marks, thus increasing cooperative learning and studentss' motivation. Portfolio assessment helps students enjoy the assignments, while enabling them to learn more easily and take an active part in their development. We also highlight in this section, important aspects concerning blended learning. The paper's third section hosts the main results obtained by the authors and the two questionnaires we applied in order to find out if our hypothesis, regarding the need to have an additional tool to enhance the teaching-learning relationship between students and teachers, held. In the fourth section, we present conclusions and future work.

E-Learning

E-learning is defined in several ways, but the central premise of e-learning is that it represents a set of instructions delivered on digital -formats like computers or mobile devices meant to support teaching and learning processes.

Generally, the efficiency of learning depends on teaching-learning relations (Prodan, Mitrea, Rusu, Revnic, & Câmpean, 2012; Prodan, 1996, 1998). By implementing e-learning tools based on blended learning our aim is to prove that this relationship can be improved. The subsection entitled Electronic Portfolios presents the first e-learning tool to which we reffered, and the subsection named Blended Learning points out the advantages of blended learning in education.

Electronic Portfolios

In education, portfolios are described as a meaningful collection of students' work in traditional folders (Farr, 1990). Ever since the idea of storing students' work in so-called portfolios emerged, they began serving different purposes. Nowadays portfolios have been separated into different categories according to their purpose. According to these purposes, we identify the following types of portfolios:

- learning portfolios – used for supporting the learning process and professional development;

- teaching portfolios – used for supporting the teaching process;

- assessment portfolios – used for the evaluation process; and

- employment portfolios – used for searching for a job.

Considering the large amount of information a portfolio is designed to store, the electronic portfolio has been introduced in order to ease the work of students, teachers or any other person using traditional portfolios.   An electronic portfolio, or simply an e-portfolio. is an electronic collection of evidence that shows a student's learning journey over time (P. Butler, 2006).

When implementing e-portfolios in health-care education, as also in any kind of education, we encounter a great challenge. The "two different faces" of e-portfolios, namely working portfolios and presentation portfolios (Barret, 2009), represent the big challenge we need to deal with, because is important to know exactly in which category each type of portfolio is included. For example, there are groups of students or other learners who use e-portfolios to collect information then study it and finally establish a goal. This kind of e-portfolio is included in the working portfolios category. On the other hand, there are e-portfolios used for elaborating on and illustrating well the work performed over several weeks or months. This kind of e-portfolio is called a presentation portfolio.

An important key aspect of presentation portfolios is to know the audience. This feature is so important because it gives information on how to address the audience. If we know the expectations of the audience, then half of the problem is solved.

In other words, an e-portfolio is both a process and a product (Barret, 2009). Within the process, students archive their homework, projects, journals, lab reports, spreadsheets, drafts of assignment and so on (Yancey, 2001), then share links, collaborate. In the end they publish their work on social networks or they keep it on different servers which means that they shared the product.

The obtained product is going through different type of processes that can vary considerably, especially when we take into consideration the four parameters presented by Yancey for traditional portfolios, which are also useful in the case of electronic portfolio. These parameters are: type and level of the learners, purpose of e-portfolio, audience for the e-portfolio and the criteria for assessment. According to these parameters, targeted learners will be properly selected in order to perform a specific activity or task.

Blended Learning

Blended learning is a powerful training solution that combines e-learning with a variety of other delivery methods for a superior learning experience (Gray, 2012). In other words, blended learning combines face-to-face classroom methods with computer-mediated activities in order to form an integrated instructional approach.

From the experiences gathered in our university along the years, we noticed that students struggle with different communication issues like the fear of public speaking, the fear of being punished for their answers, or simply the shyness that prevents them from sharing their ideas. At the end of the semester these students stand out with good grades, thus exceeding our expectations. On the other hand, we often see students who are extremely extroverted and who have an active presence in the class, but who at the end of the semester surprise us by obtaining disappointing grades, once again contrary to our expectations.

Coming out with an additional form of communication, by adding e-learning tools to rhe classical learning process, we can increase the chances for introverted persons to express their thoughts, ideas or plans, and at the same time we can improve the results for extroverted ones. All of this can be acomplished by using the online feedback received from students and by examining different tasks they were assigned over the semester.

Main Results

In this section we present each step we made in order to implement e-portfolios in our environment. The first step was to check if students would accept the idea of having such a tool and more important if they would find it useful. The second step represents the implementation of e-portfolios and the last step was to compare the results for situations where e-portfolios had been included in the study, and where no e-portfolios were applied.

E-learning Environment

An e-learning environment is characterised as being an individual learning environment with learning materials and at the same time a collaborative learning environment with some shared tools or applications (Kayama & Okamoto, 2005).

We chose to use Moodle as the e-learning environment for our work. We made this decision based on the fact that we had used Moodle before, when we shared some courses to our students. The most important aspect of Moodle is the fact that it is an open source Leaning Management System (LMS) and we can benefit from the availability of the source code and the right to modify it, if needed. Moreover, Moodle is modular and object-oriented so we can add or remove modules according to our needs or purposes or we can also implement Java type classes into Moodle as was done before (Prodan et al., 2011).

In our university students come from different countries having different backgrounds, interests, levels of motivation. Therefore we adopt the idea of combining face-to-face interactions with electronic-based tasks in order to adapt our techniques to their individual styles. By using Moodle as an environment for the electronic-based tasks, we have approached the idea of using e-portfolios to improve the teaching-learning relationship and also to increase students' academic performance.

First of all, we made a survey among first-year students concerning the necessity of some additional tools we might introduce in order to enhance the relationship between teacher and student and in the same time improve students' academic performance. For this effort we designed a short questionnaire presented below.

QUESTIONNAIRE 1

1. How often do you go to non-mandatory courses?
   a. once/twice a semester   b. once a month;
   c. twice a month   d. I go at all of them.

2. On a scale from 1 to 5 how important is for you to obtain good grades?
   1 means not important; …; 5 means extremely important.

3. Do you consider that a new method of communication between students and teacher is needed?
   a. Yes   b. No

4. Do you consider that an e-learning tool can replace the role of a teacher?
   a. Yes   b. No

5. Do you consider that an e-learning tool can supplement the role of a teacher?

a. Yes   b. No

Analysing the results from Figure 1, obtained after applying Questionnaire 1, we may conclude that students who are interested in coming to school and achieve good grades are also interested in having other ways of communication with their teachers besides the already existing ones. On the other hand, for students who are not interested in coming to school very often, but also wish to obtain good grades, an e-learning tool is considered to be a good idea too. Unfortunately we found students who are not interested in coming to school and do not consider getting good grades very important.   As we expected they were not interested in having an additional way to communicate with their teachers, or a path through which they could enhance this relationship. We also noticed after applying the first form, that 80% of students believe that an e-learning tool can only supplement the role of the teacher but cannot replace it.
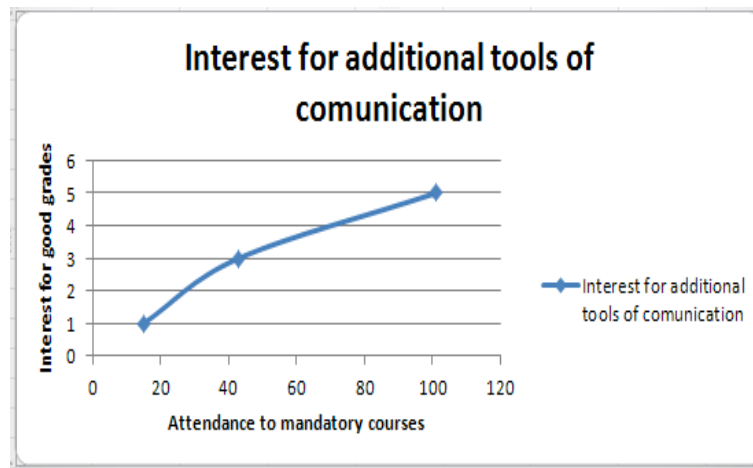

Figure 1. The interest of students in having additional tools of communication.

We took into account that most of the students wish a new method of communication between teachers and themselves.   Thus, we implemented the idea of e-portfolios as a helping tool for enhancing this relationship. By using Moodle students can store a big volume of information on a server, can have their own blog where they can share opinions, ideas, etc. They also have forums where they can debate various subjects. Of course, all these things are closely monitored by teachers who can intervene when they consider the students need them. We consider this a "win-win" situation as students may consult with each other and teachers can get feedback at any moment, making the teaching-learning process more attractive.

After a year of applying the new tool, we designed another questionnaire, presented bellow, to see if the opinions concerning e-portfolios are for or against it. By applying Questionnaire 2, we found that 91.25% of the students believed that the introduction of e-portfolios was a good idea and only 8.75% considered that there was no need for such a thing. Moreover, from the collected answers

from this questionnaire we also noticed that more than 60% of our students considered e-portfolios a useful tool meant to improve their relationship with teachers. The second questionnaire was applied to the same group of students that also answered the first one. From the first questionnaire, we kept the first two questions in order to verify that, on an average basis, the interest in school and good grades remained unchanged compared with the beginning of the year.

QUESTIONNAIRE 2

1. How often do you go to non-mandatory courses?
    a. once/twice a semester   b. once a month;
    c. twice a month   d. I go at all of them.

2. On a scale from 1 to 5 how important is for you to obtain good grades?
    1 means not at all important; …; 5 means extremely important.

3. On a scale from 1 to 5 how useful are e-portfolios ?
    1 means not important; …; 5 means extremely important.

4. On a scale from 1 to 5 in what manner do you consider that e-portfolios can enhance the relationship between students and teachers?
    1 means not important; …; 5 means extremely important.

5. Do you consider that introduction of e-portfolios as your activity was a good idea or not?
    a. Yes, it was a good idea   b. No, it was not a good idea

We compared the academic performance obtained by first-year students we had before we started implementing the idea of e-portfolios, with the academic performance of students who studied the same topics as their colleagues ,but this time used e-portfolios besides traditional methods. As we can observe from Figure 2, the results of students who were using e-portfolios are better than for those who used traditional methods and some online resources provided by teachers.

What we want to highlight here is that having an open discussion on forums or on blogs presents a high possibility to create a social bond between teachers and students that will help further improve teaching-learning relationships. A cordial relationship between teachers and learners leads to improvement of results for students. From the teacher's point of view, this improvement increases self-esteem -- knowing that their efforts have been rewarded.

In other words, enhancing the teaching-learning relationship leads to better results and thus satisfaction for both students and teachers
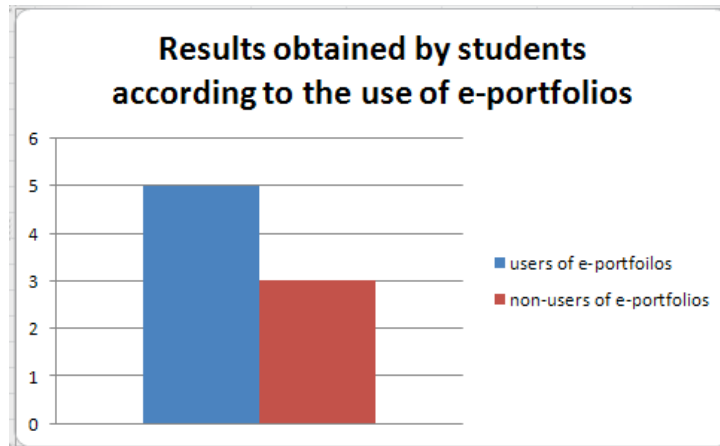
Figure 2. The results obtained by users and non-users of e-portfolios.

Another important aspect we want to emphasize is that using e-portfolio tools even the introverted students will be constantly and actively involved in the teaching-learning process. If we consider the teaching-learning process as a mathematical relationship, it could be written as the following equation:

$$a.i + str = a.p$$

meaning that active involvement (a.i) combined with the student-teachers relationship (str), gives us academic performance.

Figure 3 explains this relationship. As we may observe, if active involvement increases and the relationship between students and their teachers becomes better, then academic performance increases too. Otherwise, if the student's active involvement decreases and the student-teacher relationship is not a great one, then the academic performance has a greater chance to be poor.
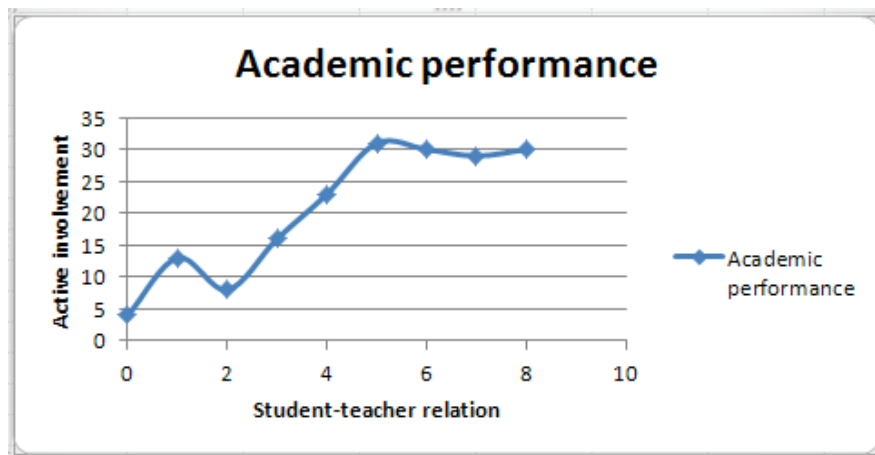
Figure 3. The achieved academic performance, according to student-teacher relationships and active involvement.

We generated a graphic concerning academic performance based on students using a Moodle environment and blended learning, which in our case means the introduction of e-portfolios as a complementary method for teaching (Figure 4).

By looking more closely at Figure 4, it can be seen that the proposed method with e-portfolios has better results than the clasical teaching-learning methods because the academic performance is a nondecreasing function.
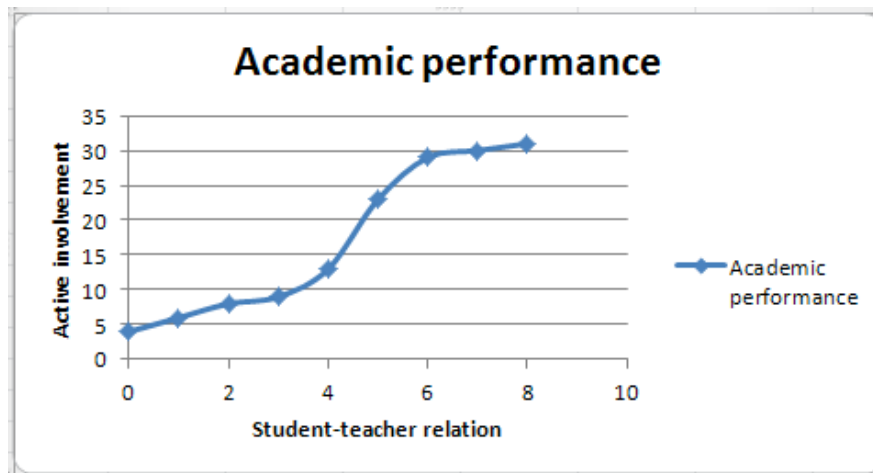

Figure 4. The academic performance achieved following a good student-teacher relationship and active involvement.

Looking back at our equation, we may conclude that the relationship between students and their teachers has been improved and more than that, teachers have managed to determine the students to be actively involved in the teaching-learning process.

Conclusions and Future Work

The main goal of the paper was to emphasize the importance of blended learning in establishing a good relationship between students and their teachers. This means combining face-to-face education with e-learning technologies.

The concept of blended learning is based on the idea that learning is not just a one-time event, it is a continuous process. Using e-portfolios and other tools and effectively creating e-portfolios, encourages the whole academic/school community to clearly establish their objectives concerning learning activities. They are encouraged to reflect on their learning styles throughout the learning process. Teachers have the opportunity to sustain their students and to provide feedback in every moment.

For future work we intend to spread the use of e-portfolios in our university, not only among students, but also to teachers, because of its wide applicability

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