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Correlations between student`s online activity on the Virtual Campus and the exam results

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Abstract

The Politehnica University of Timisoara integrates information technologies into education. It adapted its teaching and learning processes by introducing a blended learning system. This paper represents an inside-out approach of the Virtual Campus Moodle based platform. Integrating the Virtual Campus into teaching meant: online, constant and continuous academic and communication support, communication tools, tools for supporting / developing / teaching the activity, improving the academic activity as well as the involvement and motivation of the students. The rate of success of students` presence on the Virtual Campus (VC) can be discussed and explored after analyzing the correlation between their activity on the VC and the grades obtained. To do so, we have analyzed the grades of the 2nd year students from all 3 specializations ran by the eLearning Centre: Informatics; Electronics and Telecommunication; and Communication and Public Relations. We have conducted a study case aimed to find correlations between the activity on VC and the final grades of the 2nd year students, by the end of the first semester. This study case raises awareness upon finding more efficient communication tools/ways between students, teachers and administrative staff.

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1. Introduction

Trying to become a leading higher education provider by entering the Top 500 World Universities, Politehnica University of Timisoara integrates information technologies into education. It adapted its teaching and learning processes by introducing a blended learning system.

The ID / IFR and eLearning Center (CeL) – a special department of the University has developed UPT's Virtual Campus, an online educational environment for academic and administrative support for all UPT faculties and for distance learning.

The Virtual Campus is a communication interface between the administration, teachers and students and a basis for direct interaction between teachers and students. Developed since 2000 by specialists working in the University, the platform has been constantly modified and enhanced, every year the data is being reorganized, reshaped and updated.

The main goal of the Virtual Campus is to integrate online learning and mobile learning modules for students from academic training courses through distance learning, as well as academic and administrative support for Master and PhD students (blended learning). It addresses to the students, management team and tutors currently active in the University.

This educational environment is now the UPT - CVUPT Virtual Campus - a Moodle based system (www.moodle.org), an open-source platform that includes:

- Academic Management (LMS Learning Management System): management interface for students, teachers, exams, results, information on courses.
- CMS Course Management System: Online Courses, Online Labeling or Electronic Materials, Podcasting Communication and web 2.0 tools: forum, blog, wiki, messaging, SMS, etc.

The Virtual Campus provides customized accounts for the administration, teachers and students (with existing email accounts), personalized structure for each specialization and the possibility of introducing course material and/or seminar /laboratory /project in the space attached to the course.

Among the advantages of this work we can list: online, constant and continuous, academic and communication support, communication tools, tools for supporting / developing / teaching, improving the academic activity as well as the involvement and motivation of the students.

The VC offers diverse and contextual activities, appropriate for the learner, tutor and learning aims/goals. This way it is possible to create innovative learning experiences, acquire knowledge, build bridges between fields of education, transform research findings into examples of effective practice. The existence of forums brings benefits to both students/teachers and to the administrative team. The forums integrated means networked experience, it engages students, teachers, management staff in productive discussions.

The ideas, projects, questions and answers that are shared builds on previous knowledge and experience. The tutors involved in delivering education within the Distance Learning program offered by Politehnica University of Timisoara through the eLearning Centre are encouraged to pay attention to the learning design of the courses/lessons/study materials.

The perfect equation of learning in UPT involves a mixture of pedagogies, media and technologies. This sequence provides successful learning and teaching.

This Moodle based platform explores and integrates new forms of teaching, learning and assessment while remaining dedicated to the initial goals: being interactive, guiding teachers to be innovative, creative and productive.

2. Methodology

This paper aims to have an inside-out approach of the Virtual Campus Moodle based platform, on a theme that is heavily concerning the well management of the distance learning program offered by UPT: the rate of success of students' presence on the Virtual Campus – a correlation between their online activity and the exam results.

Since the digital technologies work as a great facilitator by enabling and providing a dynamic structure in higher education, there are aspects that need further consideration and attention, some of these aspects will be covered by this article.

Although most of the time the learners meet online and for short periods of time, the conversations with learning content, the discussion, reviews, comments remain available for further consultation. The material provided to those involved in the process (both educational and managerial) is expected to facilitate communication and education.

Extracting data from the Virtual Campus has proven to be extremely valuable in time, as reflecting upon this data enables all the factors to improve, reshape, enrich, change, transform the distance learning experience. This way we were able to measure certain aspects in order to draw conclusions and find solutions (when needed). Such an aspect was followed and analyzed by a team of 3 people currently working on/with the Moodle platform that assists the Distance learning in UPT. This team's aim was to find connections and to make correlations within the results in order to generate further long-term managerial solutions.

The rate of success of students' presence on the Virtual Campus can be discussed and explored after analyzing the correlation between their activity on the VC and the grades obtained. In order to prove that, we have analyzed the grades of the 2nd year students from 3 specializations run by the eLearning Centre: Informatics; Electronics and Telecommunication; and Communication and Public Relations.

We have conducted a study case aimed to find correlations between the activity on VC and the final grades of the 2nd year students, by the end of the first semester.

	CRP II		AC II		ETC II
Number of hits on VC	49 students	Number of hits on VC	66 students	Number of hits on VC	87 students
0	26	0	20	0	30
0-50 hits	9	0-50 hits	17	0-50	19
50-100 hits	4	50-100 hits	5	50-100	13
100-150 hits	3	100-150 hits	9	100-150	6
>150 hits	7	>150 hits	15	>150	19

Fig.1 The number of hits on the Virtual Campus of the 2nd students of Communication and Public Relations; Informatics; Electronics and Telecommunication.

3. Results

The interpretation of the data extracted from de Virtual Campus concerns the number of hits on the platform. This is a good indicator of the level of involvement and interest shown by the users of the Virtual Campus. The graphic

representation of the tight relation between the degree of participation online and the results at the final exams can be withdrawn from the following charts.

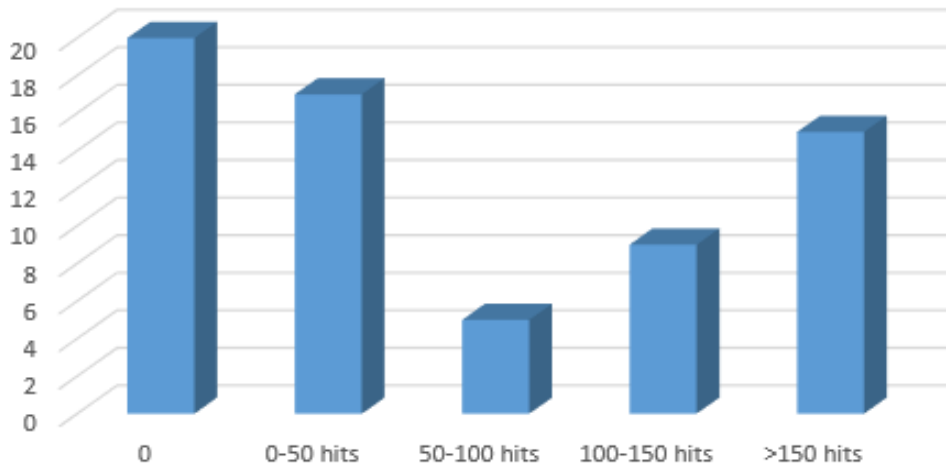


Fig.2 The number of hits of the 2nd year students of the Faculty of Electronics and Telecommunication.

There were 87 students enrolled in the second year of the Faculty of Electronics and Telecommunication.

<i>Electronics and Telecommunication 2nd year</i>	<i>Total of students/2nd year</i>
Number of hits on VC during the first semester	87 students
0 hits	30
0-50	19
50-100	13
100-150	6
>150	19

Fig.3 The number of hits on the Virtual Campus of the 2nd students of Electronics and Telecommunication.

30 of them have never accessed the platform. The major reasons were: they have either dropped the studies or they have changed their jobs/city/social status. Only 9 of these 30 continued to be active students, still encountering problems with ending the semester. The rate of passing the exams was minimum in this case.

19 of the total number have accessed the platform frequently, counting between 0 and 50 hits during the semester. 13 students had between 50 and 100 hits and 6 students had between 100 and 150 hits per semester. A large number (19) of students had a very active attitude, counting more than 150 hits per semester.

The number of hits represents an average number (the arithmetic mean), since the final numbers record all the courses. Some of them register more, others – fewer number of hits, although there seems to be a constant value, especially when we analyze the situation of the students with good results.

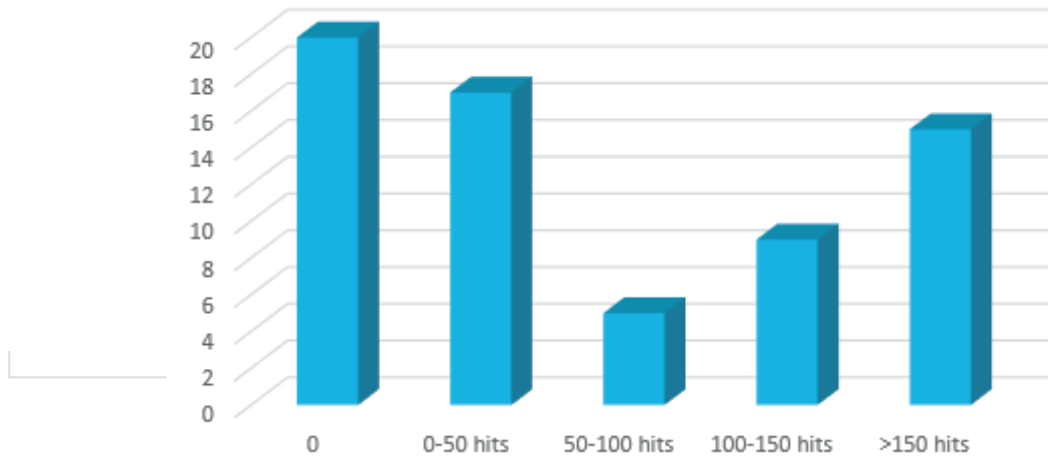


Fig.4 The number of hits of the 2nd students of the Faculty of Computer Science (Informatics)

Out of the total number of 66 students enrolled in the second year, 20 of them never accessed the Virtual Campus (due to school dropout, lack of internet connection, lack of interest).

<i>Computer Science (Informatics) 2nd year</i>	<i>Total of students/2nd year</i>
Number of hits on VC during the first semester	66 students
0 hits	20
0-50	17
50-100	5
100-150	9
>150	15

Fig.5 The number of hits on the Virtual Campus of the 2nd students of Informatics;

Out of a total of 66 users, 17 students scored between 9 to 50 hits, 5 students had between 50 to 100 hits, 9 students count between 100 to 150 hits and 15 students register more than 150 hits per semester.

All these 15 students graduated (all) the 7 courses (done in a semester), while the biggest problems were to those with less than 100 hits, many (out of a total of 42 students) graduating some classes after 3 presentations at the exam instead of 1. Also, there is a strong connection between the grades and the level of access on the Virtual Campus: the highest grades are correlated with the highest number of hits.

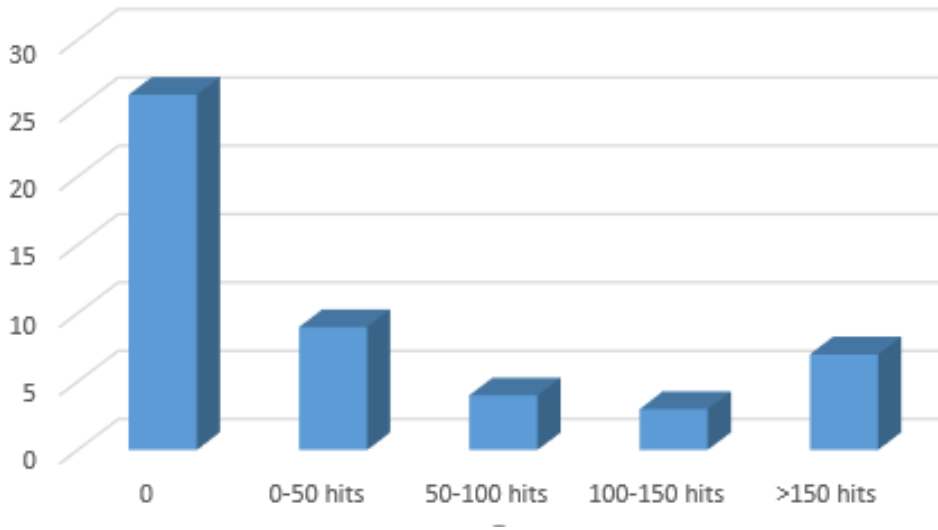


Fig.6 The number of hits of the 2nd students of the Faculty of Communication and Public Relations.

In the case of the Faculty of Communication and Public Relations the situation is the following: more than a half of the students never accessed the platform. Those who did, have chosen only certain courses (for example, the foreign languages courses).

<i>Communication and Public Relations 2nd year</i>	<i>Total of students/2nd year</i>
Number of hits on VC during the first semester	49 students
0 hits	26
0-50	9
50-100	4
100-150	3
>150	7

Fig.7 The number of hits on the Virtual Campus of the 2nd students of Communication and Public Relations;

Out of 49 students 26 never accessed the platform, 9 students had between 0 and 50 hits, 4 have had between 50 to 100 hits, 3 students count between 100 to 150 hits and 7 students register more than 150 hits per semester.

By the end of the semester, the statistics are highly connected with the students` activity on the Virtual Campus Platform, since only the students who were online active managed to pass the exams, while those with a low level of activity on the platform encounter problems.

4. Conclusion

Analyzing the numbers and the charts generated after gathering the necessary data, there are some observations and conclusion:

1. The low (to 0) number of hits is connected to a low general activity as student (also 0 administrative initiatives on behalf of the student, in terms of signing the study contract, answering to urgent e-mails).
2. The final grades (for the activity during the semester and the final written exam) reflect the number of hits on the Virtual Campus.
3. The lowest numbers of hits are due to dropouts, financial issues, lack of interest or changing the job/city.
4. Students from each domain (Informatics; Electronics and Telecommunication; and Communication and Public Relations) prefer certain courses (such as foreign languages and Informatics). However, those with a high number of hits have the tendency to be active to all the courses.

There is enough room for further analysis and improvement in terms of correlating the student's online activity on the Virtual Campus and the exam results. The management team from each faculty is open to establish new ways of reaching to the students more effectively.

Simultaneously, the e-Learning Centre is reflecting upon finding the most appropriate means to calibrate the student-faculty relation, in terms of availability and fast response.

For the moment, the personnel that covers the entire Distance Learning Centre's activity (in terms of managing the technical issues and legal documents) is composed by 2 IT managers, responsible with dealing with the technical support, 2 administrative managers dealing with legal/diplomacy issues (working as an interface between students and teachers/university) and a general manager. There are also 2 people involved, from each faculty – a secretary (working with contracts, certificates and student cards) and an academic responsible (who facilitates the smooth relation between all parts).

The students who have a high level of activity on the Virtual Campus Moodle based platform are also those who are very active and present also offline. We are thinking of solutions to involve and activate all the others - this means opening ways of efficient communication between students, teachers and administrative staff, redesigning certain fields on the VC, testing various management tools and base our approach on a continuous feedback.

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