

Enhancing Social Interaction in Technology Enhanced Competence Based Learning

Introduction

Nowadays, Institutions of Higher Education (IHE) face the complex task of integrating virtual learning with the traditional context of the academic courses [1]. One of the greater supports for educational institutions that have helped to bridge the gap between face education and virtual education is the Technology-Enhanced Learning (TEL).

One of the main demands and, therefore a challenge for the IHE and the productive sector must be a close relationship to agree on the current demands of the future professionals. Argudín [2] talks about establishing a common language between educational institutions and companies with the purpose of succeeding on the formation of the current student profile. In our days, these profiles should be designed in competences.

The School of Telematics at the University of Colima (UCOL) in Mexico has adopted the competence-based model following the institutional curricular model in order to avoid content overload in the academic programs, as well as strengthen the University identity in the students and the growth of learning skills, new attitudes, and the ability to communicate and evaluate critically the information. To achieve this, the school currently uses TEL with e-learning platforms such Moodle and EDUC (UCOL proprietary), but such systems are limited in important features of competency-based model, and as Brown *et. al.* said that despite the tendency to shut ourselves away and sit in Rodinesque isolation when we have to learn, learning is a remarkably social process [3]. Thus, in order to create a successful TEL experience, it would have to include mechanism through which can foster social interactions to generate relationships between learners and professors including the competence-based approach.

Cloud social education

Cloud computing is defined as a paradigm that can provide computing services through Internet [4]. Through the cloud, the system (figure 1) will provide tools to support school activities and means of interaction with teachers and peers.



Figure 1: Students main screen

Architecture

In order to achieve the system's functionality we are proposing a cloud architecture. Next, we describe its services (figure 2).



Figure 2: Architecture overview

Publish homework: Professors will be able to publish homework.

Update subject profile information: Professors may update the general information of the subjects.

Upload grades: Professors may upload the evaluations grades.

Update the competency based format: Professors will be able fill competence-based formats of the subject.

Upload files: Users of the system have the option to upload files, each user will have its own repository of information to share files with other users.

Add contacts: The users of the system may add other users creating a growing network of contacts for projects or homework cooperation.

Search documents: Within the files repository, users may search for documents to use them as useful information for homework.

Publish content: Users will have the option to publish information.

Create work groups: Competency based learning is mainly done in teams, so the users have the possibility to create their own work groups.

Upload homework: Students may upload their homework previously published by professors.

See grades: Students will be able to check their grades.

See documents used: The system will have curricular documents available for the students in order to see what it is expected to be achieved by the end of the school term.

Update curricular documents about the Integrating Project: Authorized users can modify the content of the curricular documents for the Integrating Project.

Create syllabus: The professors may add the syllabus.

Evaluation

The objective of the evaluation is to know the viability of the system. The evaluation was performed as follows: Both professors and students were taken into account with a group of 6 people: 4 students and 2 professors.

Both groups had to go through an initial interview to know about their context and opinions in relation to the competence-based learning and about TEL. Subsequently, we presented the scenarios, two for students and one for teachers. After that, they tried the platform prototype, carrying out the tasks described in the scenarios. Once they were finished, they answered a Technology Acceptance Model (TAM) questionnaire about their opinions regarding the usability and acceptance of use.

About cloud computing, 80% of the participants have the perception of good experience, in relation to the competence-based learning, they agreed on the fact that this approach promotes self-learning. About TEL they have good experience using it for homework outside the classroom and they believe that a specific TEL platform for competence-based social learning will help them.

The TAM generated the following results.

The utility perception of the platform was high, matching with the improvements in efficiency, performance and utility (figure 3). The attitude towards the use was also acceptable, the participants mainly considered the use a good idea, apart from considering it useful to its proposes. The participants showed high intentions about the use, indicating that they would use it again whenever they needed to, apart from taking it to different school environments.

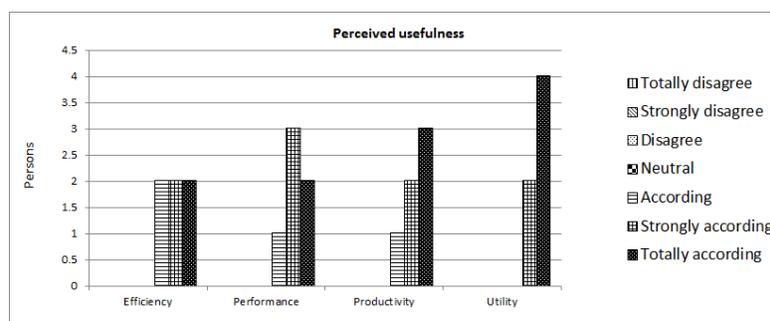


Figure 3.- Perception of usefulness

Conclusions

This work represents the creation of a social TEL platform that supports the teaching process of a competence-based learning approach using cloud computing for the School of Telematics of the University of Colima. The evaluation of this platform gave as a result that the platform is useful and allows a greater performance and efficiency, and it is also considered a good idea. Thus, this created good intentions in the users of using it again.

References

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Pedro César Santana-Mancilla
University of Colima, Mexico
psantana@ucol.mx

Francisco Jonathan González-Vega
University of Colima, Mexico
fgvega@ucol.mx

Miguel Ángel García-Ruiz
Algoma University
miguel.garcia@algonau.ca