Educational Use of Social Media: A Teaching Experience Based on the Higher Education Students' Perception

Miguel Ángel Herrera Batista, María Aguirre Tamez, and Emilio Martínez de Velasco y Arellano
Autonomous Metropolitan University in Mexico City, Mexico
Email: mherrerabatista@gmail.com, {atm, mvae}@correo.azc.uam.mx

Abstract—Since the development of technological tools and their increasing uptake of education, educational models based exclusively on traditional classroom activities, tend to disappear. Currently it is clear that we are before a scenario in which all teaching must be, necessarily, supported by digital resources. Now, we can see that education is evolving towards b-learning model, that is, they become models where the use of online resources is ongoing. Within the technologies currently in use among young students in higher education, the use of Social Media and mobile devices is remarkable. That is why educational institutions have to develop learning strategies to take advantage of technological tools. In the same way, we have to make research programs in order to see how the learning strategies works. This paper focuses on our most recent experiences regarding the use of Social Media as a Virtual Classroom. Based on those experiences, we make out a qualitative research in order to examine and see the experience of the students regarding to educative use of social media on a b-learning and m-learning model. This study was performed at the Autonomous Metropolitan University (AMU) in Mexico City, and it was based on a sample of architecture students. We design and use the interviews and we take the Grounded Theory as a research methodology. The outcomes indicate that students found using this digital platform interesting and effective. Another important finding was the six categories or features of the social media that was obtained after the consultations.

Index Terms—social media, social network, e-learning, b-learning, m-learning, high education, virtual classroom

I. INTRODUCTION

The antecedents of this study come from some years before, between the year of 2006 and 2012, when some professors of the Autonomous Metropolitan University did some surveys about the habits and preferences of our Students in the use of Information and Communication Technologies in their academic activities and of socialization [1].

At the time, we wanted to know how the students used the technological resources, all this in order to design instructional and didactic strategies to facilitate and enhance learning with ICT. In order to gather relevant information regarding the use of this technology by the students, we design and apply a survey. That research let us recognize that the usage of virtual classrooms like Moodle, Dokeos, Blackboard, WebCT, Sakai, ATutor Blackboard, Dokeos, Claroline, Edmodo, etc., were taken over slowly, meanwhile social media were adopted fast.

Based on the above, we decided to change the paradigm: "if we can't take students to the virtual classroom, we can take classroom to students" [2]. This is why we enabled Facebook as a virtual classroom.

In this paper, we describe the perception of the students regarding their experience using Facebook as a virtual classroom, in a public university in Mexico City.

II. CONTEXT OF THE INQUIRY

This paper is a report on the findings of a study conducted at Campus Azcapotzalco of the Autonomous Metropolitan University (AMU). The study tries to understand the point of view of the students regarding their experience of using Facebook as a virtual classroom. The characteristics and configuration of the classroom that was utilized for the students are identified below, next all the details of the research are described, as well as results obtained and, finally, the conclusions are presented.

A. The Classroom

Since 2012 Facebook has been used as a virtual classroom for our students. We decided to use this virtual platform, because of the many advantages that Facebook offers, among which we can distinguish the following:

- Facebook has a great popularity among higher education students.
- Higher education students truly have an enormous experience level on the use of Facebook.
- There is an increasing availability of mobile devices among students that allow them to access Facebook in an immediate way.
- Facebook gives a great easiness of creating groups and it allows us to manage and control access to the classroom which it is very helpful for professors.

- Facebook further is very appropriate to organize learning activities and events suitable for the education practice.
- The Facebook features can be used for delivering documents in many formats as well as images and videos that are adequate for teaching strategies.
- Facebook strengthens the communication between student-student and student-professor.

B. Enabling Facebook as an Educational Space

Regarding the use of technology in academic activities we can observe two facts of particular relevance:

a) The extraordinary development of social media that has become a phenomenon, especially, for young people.

b) The big potential of the conventional virtual classrooms like moodle and others has not been used yet within the community of the AMU. In part perhaps because of the lack of a good design of the interface, also in part because of the low level of usability and simplicity that is required, among other possible reasons

Based on the above, we considered that it is necessary to incorporate Social Networks in a way strategic to education to strengthen the contact and interaction with students and improve the education. In other words, we decided to take the virtual classroom to the students instead to take students to virtual classroom [2]. With that in mind, we decided to get more information on previous experiences and background about it. We found, at that time (march 2012), that some teachers and professors in the world had already used Facebook to support virtual communication and education (for example A. Griego [3], Sh. Arrieta [4], L. A. Miramontes[5]).

Despite shared experiences on the web were scarce, they allowed us to drive our work. We found that Facebook allowed us to create groups (or "circles" in Google Plus) in order to organize our students to perform academic activities.

Since we wanted to take advantage of Facebook, we must know better this Social Media and all of the tools that we could use, but first we had to answer the following question: Should professors and students be "friends" in the Social Network?

We analyzed the advantages and disadvantages of being friends. At the end, we opted for not being friends on Facebook because that was the best way of having an educational activity. Nevertheless, we were able to share the same Virtual Classroom on Facebook.

Figure 1. View of the virtual classroom

C. Configuration of the Virtual Classroom

One Virtual Classroom was created for each class. We had three groups, each one with thirty students. The classroom on Facebook was configured opened and each student had to ask to join in the class, nevertheless, the teacher was the only person who could authorize it.

D. Using Facebook Tools

As we said before, Facebook offers many potential tools for learning like such as the possibility to upload and share, photos, images, videos, files, and recently, documents like word, excel, power point, PDF, etc. And we can also create "Events", "Ask Question" and others. Nowadays there are many educational applications that can be used in combination with Facebook. We used "Docs" for Facebook. Below we describe the use that was given to each of these resources.

Files and Docs

Once the Virtual Classroom was already formed we used the Facebook tools in order to conduct the learning process. One of the most important activities to start the course was the delivering of the study program to students. However, other documents were delivered through this media like exercises, homeworks, formulas, examples, etc. All that on different formats like Doc., PDF, Power Point Presentations, between others.

We used two ways: "add file" and the application "Docs, for Facebook". The difference between them is that if we use "Docs", then our documents could be available for future uses. Furthermore, students can also download and edit them.

Add Photos and Videos

Photos was a very important resource to generate *a sense of belonging* among students. We took photos to groups twice or three times during the course. Actually, they enjoy watching themselves on Facebook.

Figure 2. A example of the photos used during the course

On the other hand, students have used their cell phones to take pictures of the blackboard, then, we decided to do it as well and share them through Facebook. This was important to remember every topic seen in class.

In relation to videos, we believe that they are a powerful resource to get students really learn, however, we decided to use them in a more intensive way that we had used before. The reason of this was that we had adopted the *Flipped Classroom* [6] model in which the

use of the videos is strategic to get better results on learning. That is why each week some didactic videos was delivered through Facebook in advance. That way students were able to watch and study them before they go to the traditional classroom. It is important to say that some of the videos we used, were grown by us, however, some others were sharing using YouTube. It is amazing how many didactic videos are produced and share by professors of different universities.

Figure 3.   A example of the videos produced by the professor and shared through Facebook

Update status, ask questions, creating & editing events, and other tools

"Creating events" were very useful for programming exams and other kind of academic activities because in that way they will always be informed in real time. During course, students and professor had to generate agreements. We used "asking questions" and it was suitable for it. On other occasions, we needed to use Inbox messages to send special task or feedback to some of the students.

III.   The Survey

How we had said before, this paper is a report on the findings of a study conducted at Campus Azcapotzalco of the Metropolitan Autonomous University, which is the second public university in México City. The study tries to understand the point of view of higher education students regarding their experience of using Facebook as a virtual classroom.

A.   Method

The Grounded Theory [7] methodology was adopted and fifteen students were interviewed during the last week of classes. According to Glaser & Strauss[7], it is possible to discover of theory grounded on data obtained systematically. That is why we decide to adopt e this strategy.

The followed research process can be divided into four steps: gathering information through the interviews, analysis of the data, codification and conceptual categorization and, review of theoretical information.
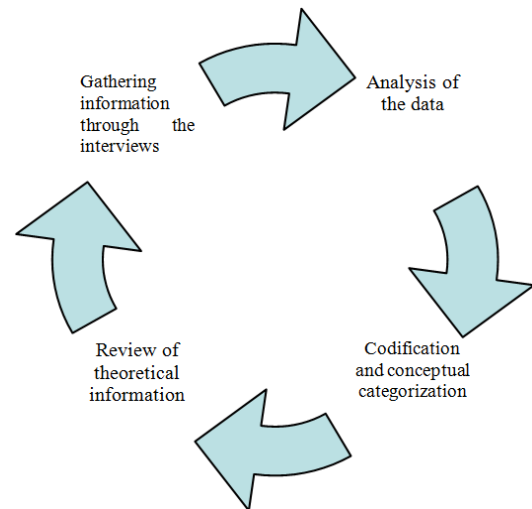

Figure 4.   The followed research process

1)   Gathering information

The size of the sample was established based on the time we had and the academic activities that we and students had to do. However, during the interviews we could notice that the answer of the students were similar each time. The election of the students in the sample, was done on random way. Excel of Microsoft was used to create aleatory numbers, which corresponding to the number of each student on the student attendance list.

The target of the inquiry was to discover some concept or categories regarding to their experience using Facebook as Virtual Classroom, in other words, we wanted to "access to the perspective of the subject studied: understand his mental categories, his interpretations, his perceptions and feelings, the reasons of his acts"[8]

The inquiry was based on semi-structured interviews. That was why one initial question was asked to the students and, depending on the answer that he or she gave, new questions were requested. We used at most three open questions. All the students in the sample had enough of time to think and answer freely each question.

The initial question was:
a)   *What do you think about using Facebook as Virtual Classroom during the course?*

The additional questions if necessary were:
b)   *How do you evaluate your experience using Facebook as an educational space?*
c)   *What features of the virtual classroom do you think was the most important characteristics?*

Although in most cases the initial question was sufficient. The time used on each interview was between 15 and 30 minutes on average and all interviews was recorded. All the information gathering took us more than two weeks for analyzing and obtain the results that we share beside.

2)   Analysis of the data

The analysis unit were all the phrases and main ideas that students reported during interviews. Based on those ideas, we identify some common thoughts. That way we organized all data in order to categorize them later.

3) Codification and conceptual categorization

It is important to say that We had no preconceived ideas, but that appeared while riding analyzing information. Onto the stage of codification and conceptual categorization, We identify some ideas that students reported regarding the features of the virtual classroom and then we were able to categorize them.

4) Review of theoretical information

Once we had already identified the main ideas and categorized them, We proceeded to review theoretical information in order to get more information that could be used to support and delve our findings. Based on this We were able to formulate the conclusions of this inquiry

IV.   THE RESULTS

Once analyzed and organized the information that we obtained regarding the experience of our students using the virtual classroom, we can identify the following categories:

A.   Immediacy or Instantaneity

" It seemed good and useful to me because I do not had to open another page to find out something about the course, because all I had to do was review the notifications and that was all"- (Maria Fernanda Mendez, Student)

Something that we could observe is that many students reported that one of the features of Facebook that was very important was the notification service because in that way they were informed about any document or advertisement that had been shared on the virtual classroom. We could name this characteristic like "immediacy or instantaneity"

Cabero [8] pointed that notification on digital platforms is one service based on one of the features of the Information and Communication Technologies (ICT) that is called instantaneity which is the fastest way to transmit and receive information. Obviously, this could be a very interesting characteristic of the Social Media that can be useful to the education.

B.   Collaboratively

"Facebook was suitable because we could get and offer help during the course and solve any doubt"- (Vanessa Mejía, Student)

Other of the frequent comments referred by the students was about the help that they had received from their classmates

The characteristic has before been described was named "collaboratively", it means, the easiness to give and receive help from others. In other words, the ease to work really as a team.

In this case, as a professor at the AMU, we not only allow the collaboration between students, we have fomented this attitude. Kagan pointed "Cooperative learning refers to a group of instructional strategies that include collaborative interaction from student to student, about some topic, as an integral art of the learning process" [9]

We consider that this feature of the Social Media is, actually, an expression of the collective intelligence since is a way to share knowledge through the media.

C.   Accessibility

*"*Using Facebook was a great idea because we were able to watch videos explaining each class topic, that was helpful to solve some doubts that I had. Further, those videos were a good sport to study for each exam."*-* (Ángel Eduardo Ayala, Student)

This characteristic was classified like "accessibility" and we refer specifically to the possibility to access to the memory or the diary of the course, that is to say, the possibility to access to all of documents, videos and files that were posted during the course, furthermore to the comments and clarification that had been done in class, anytime, whenever you need, or we can say "any time any place".

D.   Availability

"You do not have to open other web pages to be informed about anything in the course because a notification arrives to you through your cell phone". - (Paul Rojas, Student)

During the interview, students pointed the advantage of having Facebook on their cell phone. We define like availability not just the fact that the students have a Facebook profile, but also, to the fact that the students stay in contact permanently through their cell phone. Escalera [10], have identified the availability as an advantage that mobile devices offer when they are used in learning activities and he say that the "m-learning eases availability and accessibility to the learning." This characteristic is essential for the u-learning or *ubiquitous* learning perspective.

E.   Familiarity

"I think this has been a good option, since it is a good communication media in which all we are frequent users"- (Vanessa Mejía, Student)

As we have pointed before, one of the main reasons why we decided to use Facebook was its great popularity among higher education students and the obvious level of expertise that they really have on it. This belief was confirmed by the results of the inquiry and on the facts during the course.

Here the challenge has been to change the paradigm regarding to the use of the platform. In this case we decided to use Facebook as an educational environment, instead just a social space. That was why we did not accept been friends of our students.

F.   Communicability

"It was very useful to be able to have closer communication between professor and students, and one example was that using this media, we were able to receive personal advice when we had any doubt"- (Fernando Reyes, Student)

The easiness to get communication between student-professor and studet-student was frequently recognized during the interviews. This is a great advantage of this

media for higher education. As Viñuelas [11] points "Openness, empowerment and efficient sustain of varied and diverse communication channels, both vertically and horizontally level (teacher-student) (among students) strongly favors improving coordination among them, and creating an environment conducive to learning in community".

Finally furthermore, there were frequent comments from the students where they evaluated in a positive way their experience using Facebook as a Virtual Classroom. They considered that that was a different sensation to that they utilized to practice before. Nevertheless, there were some negative opinions about certain characteristics of the Facebook when was used as an educational environment. Beside some examples:

"In my opinion, Facebook is a very versatile digital platform nevertheless, it is very saturated of information which could become on distraction"- (Paul Rojas, Student).

"I believe it is a useful tool today, but when I begin revising the items of the course, sometimes I had ended up reviewing the profile of one of my acquaintances"- (Felipe García, student)

V. CONCLUSIONS

Three years after Facebook was adopted as a Virtual Classroom, we have ascertained the fact, the acceptance of the Social Media in educational activities by the students as supporting tool. We believe that Social Media are high potential for the learning activities if we used those in an appropriate way. As we can see through our experience, the communication and interaction between students and professor is performed in an efficient manner which is very important in all educational process.

According to our experience as well as the students' point of view, Social Media generates a good an innovative way to improve learning and expanding the availability and access to educational materials.

On the other hand, nowadays many professors and universities have been sharing tutorial videos and other kind of didactic documents which let us see that formal education has been taken advantage of Social Media to improve social learning. It is very important now we review this material in order to select the most appropriate for our students. Of course we have to produce own educational materials and share them as well.

Besides, it is a fact that every traditional system of teaching tends to disappear to evolution toward b-learning, m-learning, or u-learning models.

No doubt that Vygotsky's Theory allows us understand how collaborative interaction enabled social learning and, now, at the present time, this kind of learning is enhanced through Social Media and the technological tools.

Relative to the flipped classroom model, our personal experience shows that it is a little bit difficult because in general, students are not used to act in the way this model requires.

Although the videos are powerful educational tools, it is important supervise the video length and quality as well.

It is important to say that using Information and Communication Technologies is not enough. We have to propose didactic strategies based on cognitive learning paradigm to take true advantage from the technology of today, and we must remember that "is the communication process of the actors (students and professors), and it is not only the technology, what is truly important in the educational process"[12], and so we have to apply the most appropriate media in order to achieve more dependable outcomes.

By the other hand, the Grounded Theory allowed us to identify six characteristics of the Social Media using as a Virtual Classroom. The students in the sample showed us how they have perceived the possibilities of the virtual classroom. These characteristics are: *Immediacy or instantaneity, collaboratively, accessibility, availability, familiarity and communicability*. All of them, work as a team to ease educational process.

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Mar ń Aguirre Tamez Female Professor and researcher, works for the Autonomous Metropolitan University (AMU) in Mexico City. She has completed her Doctorate in Education. Before, she completed her master called the Higher Diploma in Design, Central School of Art a Design. She is a member of a research group called the Educational Innovation in Design. She has participated on diverse international congress on education and e-learning

Miguel Ángel Herrera Batista. Professor and researcher, works for the Autonomous Metropolitan University (AMU) in Mexico City. He has completed his Doctorate at the Postgraduate at the Autonomous Metropolitan University. Before, he completed his Master of Education with Specialization in Cognitive Development, at the technological Institute of Superior Studies of Monterrey (Tec de Monterrey) in Mexico. He is a member of a research group called the Educational Innovation in Design. He has participated on diverse international congress on education and e-learning.

Emilio Mart ńez de Velasco y Arellano. Professor and researcher, works for the Autonomous Metropolitan University (AMU) in Mexico City. He has completed his Doctorate In Education. Before, he completed his Master. He is a member of a research group called the Educational Innovation in Design. He has participated on diverse international congress on education and e-learning.