EDUCATIONAL USE OF FACEBOOK IN HIGHER-EDUCATION ENVIRONMENTS: CURRENT PRACTICES AND GUIDELINES

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Abstract

Social networking systems were not designed specifically to build and manage learning experiences. However, they can provide support to the current collective orientation of educational processes. Because of that, higher-education teachers should recognize the importance of deploying these tools that meet connectivity requirements of today's digital natives. Even though, multiple documented experiences on this subject exist, they are independently published and scattered in various media. Consequently, it becomes arduous to identify key issues when projecting integration of social networks into the educational process. Thus, with the aim of simplifying that task, this work summarizes these key issues, through a documentary review. Risks and opportunities of social networking incorporation into educational college processes are identified, and a concise guide is presented with the recommendations and considerations arising from them. This study focuses on Facebook, by virtue of it being nowadays the preferred social networking instrument among students.

Keywords: social networks, higher-education environments, Facebook.

1 INTRODUCTION

Social networking systems were not designed specifically to build and manage learning experiences. However, these can provide great support to the new social orientation of educational processes because they allow a human connection more personal and motivating than other platforms [1]. According to Prensky [2], digital natives think, learn and live differently than digital immigrants, who are their teachers. Farris-Berg [3] emphasizes that digital natives enjoy utilizing Internet-based resources in their classrooms and are motivated to learn by using technology.

Some authors have found that higher-education teachers should recognize the importance of using these tools that meet connectivity requirements of today's digital natives [1] [4]. Blattner and Lomicka [5] suggest that teachers require new strategies and tools for teaching and capturing students' imaginations. Teachers need to adapt to students' thinking patterns and socialization habits motivated by their use of the Internet. According to Pardo [6], on social networking platforms, users reflect their relationships with others, and they generate social capital by sharing personal experiences within communities of interest. On the other hand, Kárpáti [7] notes that Web 2.0 tools can make easier for teachers to create collaborative learning environments, by placing learners at the center of the learning experience and teachers in their role as mentors guiding the process.

Documented experiences about this theme are very diverse and have been published independently, making it difficult to identify critical issues when projecting incorporation of social networks into the educational process. With the purpose of simplifying this task, the main target of this work is to bring together these critical issues through a documentary review. For such purpose, risks and opportunities of social networking incorporation into educational college processes are identified. By the end, a concise guide is presented, putting together the recommendations and considerations arising from these risks and opportunities. This study focuses on Facebook (FB) because it is the most popular system for social networking among students [8] [9] [10].

2 PREVIOUS SIMILAR STUDIES

Hew [11] conducted a review of empirical studies documenting experiences with the use of FB by teachers and students. In his review of several scientific databases, the author relates having found, in early 2010, a total of 539 items, but only 36 met the review criteria. Of the total, 26 were based on self-perception, 8 in the content analysis, and 2 in a combination of both. All the ones originally found were aimed at higher education. Although few studies reported application in education, these indicate that some students used it for various purposes, such as: finding their friends' answers to assignments,

sharing information and ideas about projects, inform teachers on the subjects they would like to cover in a course, and submit questions that they could not do in the classroom for reasons of shyness.

Fogg, Baird and Fogg [12], developed a guide for teachers to use FB in the formal education process. It gives details of seven applications of the tool, with emphasis on the active participation of school officials, parents and students, in all of which promotes digital citizenship.

3   STUDENTS AND FB USE

Cheung et al. [8] found that, among the many reasons young people have to use FB, the ones related to social presence and group norms have a strong influence. In contrast, social identity has no significant effect, probably due to the presence of multiple virtual communities erasing the sense of belonging. In regards to the values studied, the most noteworthy were the preservation of relationships, social improvement, and entertainment. Meanwhile, Hew [11] indicates that the primary reason for using FB, found in his research, was keeping contact with current friends, and was rarely oriented to educational purposes.

From the results collected by Arteaga, Cortijo and Javed [13] it was found that for the adoption of FB, all the studied factors (usefulness and ease of use, social influence, infrastructure support, community identity) had a positive and significant impact. Social influence proved to be the most important factor in predicting adoption. In the case of the purposes of use, which includes social networking, collaborative work and daily activities, the most important factor was the first, without neglecting the others.

It is noteworthy that although the activities on FB such as playing and watching content, require little energy, these go against their own nature, because FB was created to provide users the ability to engage and share with others. Arteaga et al. [13] found that adoption of FB has positive effects for the purposes of use and, in turn, these impacts are similar when applied to education. It is because most of the participants felt that FB could be used as an educational tool and as a useful resource for communication with their peers.

4   RISKY BEHAVIORS IN FB

Blattner and Lomicka [5] found that students in higher education are likely to show higher levels of self-disclosure and possible naivety, blurring the lines between public and private. The perceived benefits, of using FB, outweigh the risks of disclosing personal information [15] [16]. Both Gross and Acquisti [16] and Young and Quan-Haase [17] found that users share large amounts of personal data (full name, e-mail address, phone, birthday, city of residence, own pictures, and more).

Differences by gender, found by Gross and Acquisti [16] and Chakraborty, Vishik and Rao [18], were:

- Single men report more of their contact details, revealing the desire to make available as much information of this type as possible.

- Men are more sensitive to disclose contact information to a female profile rather than a male one.

- More women than men maintain private profiles, looking more cautious and with a greater sense of social responsibility.

While frequent users reported being familiar with the privacy settings within the FB system, the unfamiliar ones do not protect their profiles [15]. However, the risky disclosure of personal information is unrelated to the frequency of use, although it has a positive association with the extent of the user's network [17].

In comparison with others, Debatin et al. [15] indicate that respondents perceive more privacy risks to others than in themselves. In addition, Baek, Kim, and Bae [19] note that, according to those they compare themselves with, are the younger participants. They are considered to have more probability of having their security compromised online. Likewise, if they are not underage, they think they are less prone to have their security compromised.

From their own experiences and acquaintances, knowledgeable users and those who handle a motherly personality, indicate that their optimism derives from their awareness of others' risk. However, those who have experimented unpleasant experiences, switch to themselves their perception base [19]. Users of FB are more prone to change the privacy settings if they have had a

personal incident than if they learned of the invasion of privacy to others [15]. Students with low levels of security strengthened their security measures after the presentation of policies, changing from visible to invisible some aspects related to the timeline, personal information and favorite links [20].

Baek et al. [19] assessed the level of comparative optimism about online privacy violation, its background, and consequences. Finally, relative confidence was positively related to both, a greater adoption of protective privacy behaviors, and with a higher level of support for government policies restricting the use of online information.

5   SOME EDUCATIONAL APPLICATIONS

FB has been applied to the educational processes in different ways: as a collaborative environment, as a means of communication, as a virtual learning platform for mentoring and advice, for running debates, and for language learning.

5.1   FB as a Collaborative Environment

Voorn and Kommers [21] found that introverted college students saw social networking as a greater support for carrying on collaborative learning and self-confidence.

On the other hand, Mazer, Murphy, and Simonds [22] reviewed the effects it had on classroom climate, motivation, and affective learning, that teachers share personal information with their students through FB. They found that the correlation is high and positive.

Tuñez and Sixto [23] conducted a study to assess the relevance of using an FB page as additional virtual-classroom scenario and by that increase interaction within the classroom. They found that FB promotes a more participatory attitude of students, in general, in their classes, and in association with peers and teachers. Added to this, Rovai [24] notes that environments like FB increased the desire to share information, mutual support, and encouraged collaboration.

Similarly, virtual communities as shaped, enhance interaction and learning experience among students as a whole, providing a sense of group and keeping the idea of a community that can learn and work collaboratively [25].

Mazer et al. [22] found that students with access to professors' sites containing personal information about them, reported high levels of motivation, and demonstrated an increase of affective learning, generating other positive attitudes toward the course and to the teacher. The results obtained by Al-Rahmi and Othman [26] show that the relationship between collaborative learning and interaction with teachers and peers contributes to improved academic performance.

5.2   FB as a Mean of Communication

With the intention of assessing the perception of students about FB as a learning tool, FB pages were created for four college courses [27]. Among the collected positive comments, the highlights were: the website improved the communication, it was very easy to use due to previous experience, recovering communications that when expressed orally were forgotten, and answers to questions were faster than by other means. Among the negative comments were: it represented an additional channel that had to be reviewed, and no notification of new information is received when working on the website rather than an FB group. Finally, three out of four students recommended using FB for future courses and they proposed: change from page to group, and make the instructor answer all the questions.

Additionally, Jong et al. [14] compared as educational communication tool to FB, the bulletin board systems (BBS), and virtual platforms. The results indicate that FB was chosen over the other systems for resource sharing, engage faculty publications, and interaction with others. Only for reviewing articles it was relegated to the last position. From their findings, these authors conclude that although potential, FB has an educational value when there is a strong link between classmates.

5.3   FB for Language Learning

Stevenson and Liu [28] reviewed several platforms aimed at developing a second language (Palabea, Livemocha, and Babbel). They found that those interested in learning a language showed a high interest in participating collaboratively with native speakers through a social network. Besides, increased motivation and improved performance in language courses, has been associated with the feeling of group community FB can generate, as noted by Rovai [24].

The primary activities for the pragmatic development of a second language [29] are raising the pragmatic knowledge and practice communication. These can be implemented by FB, since students can quickly join groups that only interact in the target language and observe exchanges between participants in discussion forums or on the timeline [30] [31]. Similarly, Blattner, and Fiori [32] point out the value of using of groups, emphasizing the benefits of real language interaction and development of social-pragmatic knowledge that is often missing in the textbooks.

Aydin [33] examined the level of interaction between students and teachers using FB in English as a foreign language courses. He recommends that teachers change their correcting, controlling and advising roles for organizers, participants, sponsors, mentors, counselors and researchers. Moreover, Kabilan, Ahmad and Abidin [34] recommend that teachers develop learning projects on FB, telling their students about the expected learning outcomes, how to identify them, and what to do when learning occurs. FB should be able to engage students in language-based activities, despite its original intention of socializing.

Windham [35] concluded that FB-based activities for foreign language classes are fundamentally different from the pedagogical objectives that educators have in a traditional setting. Teachers should be trained to integrate social media properly into their academic and personal life. In addition, McBride [36] also reports on the potential difficulties of using tools like FB in school dynamics.

5.4   FB as a Virtual Learning Platform

LaRue [37] presented a case study using FB as a virtual platform for a computer course designed for nursing students. The words used to describe the course were: good rhythm, exciting, fun, and interactive. Among the lessons learned, highlights that: apparently a small group (7) is the perfect size, the distribution of information to the students requires using multiple channels to notify friends who are not available during the session, and finally, for teachers it is important to plan the order in which feedback is published so that information is presented sequentially.

5.5   FB for Running Debates

With the aim of advising teachers interested in implementing activities in online discussion within their classes, Hurt, Moss, Bradley, Larson, Lovelace and Prevost [38] made a comparison between a couple of courses with two online discussion tools: the FB group and forum discussions option BlackBoard Vista. They indicate that the teachers played a passive role, pulling threads with rare appearances, by creating an armored profile with no personal information, and only showing a professional image. The results highlight the fact that FB provides an unmatched level of comfort that attracts many college students. It also helps them feel more connected with their peers, exchange information, and improves the classroom community. However, when obtaining different results for both courses, the authors suggest that FB is not the ideal tool for all contexts.

5.6   FB for Tutoring and Counseling

Academic advising is a process that goes on supporting the student in the selection of materials that make up its charge, even help in their academic development. The idea is to assist them to achieve their personal goals, career, and education. In this context, Amador and Amador [39] conducted a study to identify the benefits of using FB for academic counseling of college students. To do this, one of the researchers who participated as a consultant, created a different FB account from his personal account. From the results, it is noted that: students found a way to get support without having to schedule a private meeting; academic advising was expeditiously with the three mechanisms used (writing to the timeline of the advisor, sending a message to the same or reading the comments of the counsel); and finally, also served to extend the relationship with the student's advisor to accept as a friend, knowing that it would be valuable to get his advice.

McCarthy [40] evaluated the utility of FB academic tutoring to work remotely with participants from two countries, including students at the undergraduate and graduate levels, as well as professionals, all from the digital design field. The study shows that FB is highly effective in linking students close to graduate with business men, due to the popularity of the tool, its intuitive interface, facilities for tutoring both synchronous and asynchronous, and the ability of students to establish professional presence online.

6 PERCEPTION AND STUDENTS' ATTITUDE

The ECAR study [41] on undergraduates and the ICT (106,575 students from 195 institutions), reveals the perception of students:

- They have a relatively negative attitude toward teachers who have incorporated the use of FB in their teaching, as many perceive FB as a space for socialization and not for academic purposes, preferring to keep them as separate areas.
- They still feel as a taboo the friendship between teachers and students.
- Although students use electronic devices most of the day, they do not necessarily want to use it in their academic life.
- Students consider that traditional means of communication underpins academic performance: i.e. e-mail, face to face interaction, and institutional virtual platform.

Meanwhile, in their experimental study, Mazer et al. [22] evaluated the effect it had on motivation, affective learning, and classroom climate, the fact that a teacher would reveal personal information on FB. They found out that the students:

- They report a high level of early motivation, affective learning, and positive environment in the classroom, when they had access to the site of increased disclosure of personal data.
- They feel that teachers should be consistent with their levels of self-disclosure and their teaching style in the classroom.
- They recommend that teachers should show -in their accounts- photos, quotes, and personal details to make them look as trustworthy as competent.
- They note that FB is an area primarily of students, and if teachers invade, it can bring adverse effects due to the negative connotations associated with the same FB.

Roblyer, McDaniel, Webb, Herman, and Witty [42] found that students were more likely to use FB and other social networks while teachers were more into using e-mail. On the use that both groups give FB, social application is very high and very little oriented to academic issues. However, attitudes toward technologies tend to change over time.

Kirschner and Karpinski [43] found that those who used FB had significantly lower score average and spent less time studying. However, FB users spent more hours at extracurricular activities, and non-users to paid-work activities. From this, they assumed that in the absence of FB, students from low score averages may spend their time in other activities that interfere with their studies.

Junco [44] examined the relationship between the use of FB (frequency of use and active participation) by students and dedication to their studies. He found out that time spent on FB by students was negatively related to commitment. The time spent on FB was related positively and significantly with commitment outside of class.

7 RISKS TO PRIVACY

Gross and Acquisti [16] reviewed risks to privacy: actual stalking, virtual stalking, re-identification, and face detection. The results show that the highest risks are virtual stalking (78%) and face detection (55%). Additionally, for the population under study, the information revealed in FB is exposed to identity theft because social security numbers could be derived from this data. For many users, according Debatin et al. [15], restricting access to data does not address the risks arising from the quantity, quality, and persistence of such data.

Regarding the privacy and confidentiality, the potential problems are: data exchanged between FB and third party applications may not be private except if they are encrypted; applications can be used to record messages exchange without the explicit consent of the user; and users can accidentally alter their privacy settings and thus these may not be protected [45].

Applications in FB [46] [47] [48] are not meeting their data protection policies, and are jeopardizing the information used in the profile. Providers of such applications can collect and publish data aggressively. In addition, the messages presented during the dialog with the user fail to inform him of the actual extent of personal information to be accessed by the application. In addition, the different privacy policies that FB has had in its history are characterized by unclear and the default configuration that includes FB has minimal privacy options.

8   OPPORTUNITIES FOR TEACHERS

Farris-Berg [3] emphasized that digital natives enjoy the use of Internet-based resources in their classes and increasingly want to deploy technology to learn. In addition, some authors have found that teachers need to recognize the importance of using these tools in higher education because they meet the connectivity needs of today's digital natives [2] [4]. Also, according to Blattner and Lomicka [5], teachers need new strategies and tools for capturing the imagination of students; this in order to adapt to their thought patterns and habits of socialization motivated by the use of the Internet.

Roblyer et al. [42] found that while a proportion of students, almost double than teachers said it would be very convenient using a social networking platform to support their learning, teachers find it mainly as a social tool. Moreover, Schwartz [49] concluded that there is some opposition by teachers to integrate their practice of social network systems, because they are afraid to cross social boundaries inappropriately, which could merge their social and professional worlds.

9   PROTECTIVE MEASURES

Among the usual protective measures that have been documented are:

- Create conscious for the user about what he publishes and what future effects it can have in his life, although, not currently interested to safeguard against misuse. They need to share with students the potential impact of the publication of unprofessional comments. Additionally, the possibility that these be seen by future employers, teachers, peers, etc.. [16] [20] [46].
- Fernández [46] and O'Neill [50] propose to disable public search option and disable the geographic location of the mobile device.
- Another recommendation of Fernández [46] is to organize friends into groups and then decide what they want to display in each cluster.
- O'Neill [50] and Debatin et al. [15] propose to remove tags of themselves in photos posted and delete messages that others have posted on their wall.
- Remove from the search results on FB, and disable the instant personalization Web sites associated with FB, are two recommendations made by O'Neill [50].
- One more is to change the privacy setting that brings FB default [15] [17].
- Fernández [46] suggests deleting all unused applications and carefully review the permissions that have been given to each application. If possible, when registering an application, authentication dialogs improved as developed by Wang et al. [48] should be used. Alternatively, use proxy applications on the user's computer, as created by Egele et al. [47] so that you can control better the parts of your profile that can be accessed by a third party application to FB.

Among the actions that can be implemented by an institution are:

- Promoting meaningful learning in users about the risks to privacy, in order to create changes in behavior [15].
- Should be encouraged that conduct defamation and contempt be reported to FB, in order to decrease socially incorrect behavior [45].
- Promoting the development of skills and insight needed to manage their online profiles. It is particularly important nowadays, due to increasing cyber identity theft [5].
- Establishing a social media policy, that does not discourage students to have accounts on FB, but to define those prohibited activities and discouraged [20].
- Accompanying students through the privacy settings available, so they can control what "friends" can have access to what information [36].

Finally, in the same sense, Fogg et al. [12] proposed:

- Getting teachers to engage with parents, students, administrators and researchers in creating and updating the guidelines on the use of social networks in their school.
- Once this is done, teachers need to share with their students the benefits of following the guidelines established by the education community and to promote in them the culture of complaint of acts or behaviors that violate these guidelines.

- Finally, note that teachers need to know the specifics of the privacy settings on FB and have to stay abreast of any updates thereof.

For this reason, it is necessary to establish guidelines for teachers to choose the most suitable strategies for the development of their students, and understand the security implications [5].

10 GUIDELINES FOR TEACHERS

Derived from the findings, a series of recommendations for teachers are presented.

The teacher should know the institutional policy for using social networking systems. It is up to the teacher, after informing his superiors that he plans to use FB, review the policy, and clarify them with the competent authority those that are contradictory, or vague.

If not pre-exist, it is necessary to build it, with students, an appropriate digital citizenship behavior, whose main principles are:

- Respect for the privacy of others online.
- Self-introduce in an honest and genuine way in any online forum.
- Treat others with kindness and respect, avoiding cyber-bullying.
- Give credit and permission of the authors of any work when using it as part of another.
- Report immediately to FB abusive behaviors that spread offensive or rude content.

Among the initial conditions to enrich their course, the teacher needs to:

- Keep up to date on configuration details to preserve the personal data secure, as FB frequently opens more spaces for the collection of personal data.
- Create an additional account, and customize its profile with information showing a professional and warm self-image. On one hand encourage the participation of students, and on the other avoid breaking professional boundaries. The picture and message to be transmitted must be consistent throughout the course, and consistent with what is handled within the classroom.
- Change the dynamics of the class and change from a classical teacher role to one tutorial support.
- Rethinking the instructional design of the course, taking into account the activities and associated facilities to be made in the field of social network. It is important to clarify that even when FB provides a significant interaction, other technology platforms exist with proven value and ease of use, available to enrich their course, in same and additional dimensions.
- Noticing that mobile devices allow continuous communication with their students and thereby growing the chances that broaden their learning opportunities.

For the development of the educational experience, it is required by the teacher:

- To inform students about the initiative to incorporate the social network system in school dynamics, the conditions of use, and the proposed way to evaluate the products to be developed.
- If an institutional policy does exist, it is recommended to promote its guidelines among students.
- Share with participants the information about the risks they are exposed to with their privacy and the appropriate measures of protection.
- Creating the conditions to generate a learning experience about risks to privacy, so that it generates effective changes in the behavior of their students.
- Creating a closed group (the content is private and only available to members), which invites students to their course and, in this micro-system, drives to the previously designed experience.
- FB can become one of the means to achieve the educational goals set by the teacher, who has to choose the most favorable to the prevailing conditions in its context.

The most significant risks to using FB are:

- FB has by default a configuration with minimal privacy options.
- Real and virtual stalking by potential stalkers.

- Identity theft through strategies of re-identification.
- Unauthorized use of personal information by third party applications.
- Failure to report to FB socially incorrect behavior.
- The threat of being disadvantaged in obtaining a job.

Among the most recommended protective measures for FB are:

- Changing the privacy settings that FB offers by default, setting the options about Privacy, Biography, and Locks in the settings page of FB.
- Report abusive behavior to FB disseminates offensive content.
- Disable public search option and disable the geographic location of the mobile.
- Organize friends into groups, and then decide what you want to display in each one.
- Avoid, as far as possible, the publication of unprofessional comments.
- Remove tags in photos posted by you and delete messages that others have posted on their wall.
- Remove yourself from the search results on FB, and disable the instant customization on websites linked to FB.
- Remove all the FB apps unused, and carefully check the permissions that have been given to each application.

11 FINDINGS

The use of high-tech devices is inherent in the daily activities of college students. Such devices become the meeting point of the friend's network through social networking systems, and particularly FB. The explosive growth of this tool presents threats and opportunities to the academic development of students. In response, many researchers have developed an exploratory work, as well as diagnostics, testing, and assessment, to determine the considerations and recommendations to better face these threats and opportunities of the FB platform. The purpose of this paper has been organized as a guide such arrangements for those who might be interested in the subject.

Regarding educational application areas, it has been found that, in those where the interaction dominates, students are more motivated to participate; such is the case of learning a foreign language. It was also found that students are further motivated when the teacher promotes an approach by disclosing personal data without losing its professional image. In addition, it seems that when the teacher situates the student at the center of the process and adapts their teaching strategies in the field of social networking, the educational experience is achieved.

Finally, it is important remarking that even though FB provides a significant interaction, there are also different technology platforms with proven value and easy to use, available to enrich the educational process in other dimensions.

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