



SOCIAL MEDIA AS LEARNING TOOL IN HIGHER EDUCATION: THE CASE OF MEXICO AND SOUTH KOREA

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Abstract

This paper presents a contextualized research and analyzes the use of social media as a tool for learning in Higher Education between Mexico and South Korea. A comparative analysis by meta-analysis of major research works was conducted on the use of social media from the emergence of Web 2.0 to the rising and popularity of social networks. This study shows data describing the features and mechanisms of social media for learning, as purpose of use, technological environments, pedagogical strategies and the effect of learning.

Keywords: Higher education, participatory culture, social learning, social media.

Resumen

Los medios sociales son un fenómeno tecnológico global a consecuencia del rápido desarrollo de las tecnologías de la información y la comunicación. Los medios sociales han abierto las puertas a nuevas formas de participación y han influido en el proceso de enseñanza-aprendizaje en muchas universidades del mundo. Este estudio presenta los resultados de un análisis comparativo sobre el uso de los medios sociales como herramientas para el aprendizaje en el marco de instituciones de educación superior a través de un metaanálisis de investigaciones entre México y Corea del Sur, 2004-2013. Según los resultados, los medios sociales tienen un enorme potencial para facilitar actividades de aprendizaje en los estudiantes y como recursos personales más allá del salón de clase. Sin embargo, es importante señalar que sus ventajas no son exclusivamente atribuibles a la gestión en el manejo de nuevas tecnologías, sino en implicaciones pedagógicas que promueven su incorporación. *Blended learning*, así como el aprendizaje autodirigido, han conducido el uso significativo de los medios sociales mediante el cambio de actitudes y valores propios de los estudiantes en su proceso de aprendizaje y en la construcción de conocimientos. Al final de este trabajo se comparten algunas implicaciones y sugerencias para futuros estudios.

Palabras clave: medios sociales, social media, aprendizaje social, educación superior.

INTRODUCTION

In recent years, social media has been part of a new culture that facilitates communication and interaction between people through the Internet (Mustonen, 2009; Davis et al. 2012; Kim, 2012; Seamean & Tinti-Kane, 2013). This has been possible due to the development of new Information and Communication Technologies (ICTs) which offer a variety of services; they are freely available and in some

cases are free. The appearance on the market of new devices —such as smartphones, tablet PCs, etc.— and the development of web applications, accompanies the emergence of new interactive experiences adaptable to users' requirements.

Mexico is one of the fastest growing Latin American countries on Internet use. In 2012, World Internet Project (WIP) informed that 46% of Mexicans, about 52.3 million, have access to the Internet. Likewise, a study by The Competitive Intelligence Unit (CIU) revealed that the use of social networks is estimated, in 2013, about 85% of Internet users, nearly 34.7 million users. The heyday of social networks lies in the presidential election of 2012; similarly, other social media as thematic blogs and videoblogs have been the main tools in the digital age 2.0 in Mexico. The use of social media is no exception in South Korea. South Korea has attracted attention for its advances in the field of ICTs around the world. Firstly, because they have the fastest Internet and its penetration reached 81.6% of the population. Also, South Korea has better mobile connectivity and they were the creators of the first social network called "Cyworld" in 1999. By 2005 some educational and strategic policies were implemented to expand and enhance the use of ICTs in education and research. Nevertheless, in 2010, South Korea was able to position itself as one of the leading countries in the use of social media, ubiquitous learning and mobile learning through mobile devices.

The vision of the use of ICT in Higher Education in the twenty-first century is associated with the development of lifelong learning, more equity of access, quality improvement of teaching methods, diversification for cooperative-collaborative, autonomous learning, and troubleshooting of the physical environment (UNESCO, 1998). From this perspective, this study seeks to analyze and compare the use of social media in Mexico and South Korea, and thus to understand the features and mechanisms as an educational tool and its effects on learning. A comprehensive qualitative and quantitative synthesis of research on the use of social media in higher education during 2004 to 2013 through a systematic analysis is presented.

SOCIAL MEDIA

Social media are web-based technologies such as social networks, wikis, blogs, microblogs and multimedia sharing tools that allow users to connect to the Internet to create and share content with other users (Schwartz, 2012). Social media has emerged with the potential of "social software" to increase dialogue, collaboration, networking and help establish social relationships based on common goals and interests (Mayfield, 2007; Ryberg, 2008; Saffo & Brake, 2009; Mustonen, 2009; Joosten, 2012). In educational terms, some authors emphasize the use of social media for better control and efficiency of resources to complement the work inside and outside the classroom in order to improve student learning, facilitate teacher-student and student-students interaction, development of skills and competencies and their level of satisfaction into new learning experiences (Ajjan & Hartshorne, 2008).

Social media gains a special value after the emergence of Web 2.0. The evolution of the Internet helps us understand the emergence of this participatory platform that conceptualizes the importance of producing (or co-producing), distribution and democratization of information. The characteristics of social media are: participation, openness, conversation, community and connectedness (FKII Josayeongu Team, 2006: 53).

- **Participation.** Social media encourages contributions and feedback from everyone who is interested. It blurs the line between media and audience.
- **Openness.** Most social media services are open to feedback and participation. They encourage voting, comments and the sharing of information. There are rarely any barriers to accessing and making use of content-password-protected content is frowned upon.
- **Conversation.** Whereas traditional media is about “broadcast” (content transmitted or distributed to an audience) social media is better seen as a two-way conversation.
- **Community.** Social media allows communities to form quickly and communicate effectively. Communities share common interests.
- **Connectivity.** Most kinds of social media thrive on their connectivity, making use of links to other sites, resources and people.

Giaccardi (2012) highlights social media in a “participatory culture”, that is, it features on encounters with heritage and on the socially produced meanings and values that individuals and communities ascribe to it. The author classifies it around three major themes: social practice, public information, and a sense of place. Social media users have new opportunities to gain experiences when participating in collections and representations, as well as the communication process as curators of content (social practice). The widespread presence of social technologies provides a platform for information exchanging in the public domain and the development of peer activities and promoting and legitimizing participation (public information). And, computing becomes more pervasive. Its digital networks extend our surroundings and support new ways to engage among people into a specific territorial setting (sense of place).

Table 1 shows a classification of social media according to a participation model proposed by Choi and Yang (2009), as well as some online services.

Table 1. Classification of Social Media

| Categories | Services | Websites |
|---------------------|--------------------|--|
| Communication model | Blogging | Wordpress, Blogger |
| | Microblogging | Twitter, Me2day, Tumblr |
| | Social networking | Facebook, LinkedIn, Ning, Cyworld, MySpace, Google+ |
| | Event networking | Meetup.com, Upcoming, |
| | Instant messaging | KakaoTalk, WhatsApp, Line, Viber |
| Collaboration model | Videoconferencing | Skype, GoogleHangout |
| | Wikis | Pbworks, Evernote, Twiki |
| | Social bookmarking | Delicious, Scoop.it, Diigo, Pinterest, Stumbleupon, Digg, Flipboard, Readwrite |
| | Reviews & opinions | Eopinions, City-data.com, Kindle.amazon |
| | Community Q&A | Yahoo! Answers, Askville, Spring.me, Quora |

| | | |
|---------------------|------------------------------------|---|
| Sharing model | Photo | Flickr, Instagram |
| | Video | Youtube, Vimeo, Vine |
| | Livestreaming | Ustream.tv, Justin tv |
| | Audio and music | iTunes, Last.fm, Soundcloud |
| | Documents, files, books, magazines | Scribd, Issuu, Slideshare, 4shared, Google Docs |
| Entertainment model | Virtual worlds | Second Life, The Sims |
| | Game sharing & play | Miniclip, Kongregated, Anipang, Candycrash |

Source: Choi & Yang, 2009.

SOCIAL MEDIA AT UNIVERSITY

The adoption of social media in the university setting represents a valuable resource for learning, enabling students to find new channels of communication, a valuable source of information and participation (Ajjan & Hartshorne, 2008; Munoz & Towner, 2009; Junco, 2011). In recent years, blogs and wikis are the most used social media by students for individual tasks, especially to create content and add comments (Seamean & Tinti-Kane, 2013). Blogs or weblogs are valuable tools in education within a constructivist model. Blogs support E-learning, establish channels for informal communication between teacher and student, promote social interactions and provide to students a personal media to get learning experiences (Lara, 2005). Furthermore, wikis are tools especially for collaborative learning because they allow students to construct, share, and explore information and knowledge from a peer communication (Haythornthwaite, 2006).

It is evident the interest and the possibilities offered by these tools for learning. However, these will depend on the manner teachers promote strategies. Some researches consider the importance of developing a set of skills and technological competencies (Kennedy et al., 2008); and overcome a ‘digital dissonance’ emphasizing technologies that bring positive effects on learning and need to be adaptable to socio-cultural context of students (Clark et al., 2009); and ultimately, it is needed to design support activities through scaffolding of learning experiences with the use of technology (McLoughlin & Lee, 2010).

RESEARCH METHODOLOGY

A comparative analysis was conducted through a meta-analysis in order to measure the size and trends of use of social media as a learning tool in higher education. The sample size was determined based on the collection of articles published in Mexico and South Korea between 2004 and 2013. Meta-analysis method was introduced by Glass in 1976 for systematic reviews of literature in an attempt to synthesize the results in context, interpret them and reach a conclusion.

Figure 1. Research Process



The following Table 2 shows the analytical framework of this study and was designed around the literature of related studies (Jeung, 2010; Bennett et al., 2012;

Davis et al., 2012; Tess, 2013; Nykvist & Lee, 2013).

Table 2. A Framework for Data Analysis

| Categories | Indicators | Description |
|------------------------------|---|--|
| 1. Logistic of subjects | a) Domain knowledge b) Gender c) Grade of study | Analysis of subjects. |
| 2. Social media tools | a) Wiki b) Blog c) YouTube d) Facebook e) Twitter f) Cloud computing g) Other | It describes the most used online social media in Higher Education. |
| 3. Functions of social media | a) Communication b) Social capital b) Sharing c) Content creation | It describes the functionalities of social media use in a specific research. |
| 4. Learning environment | a) Online learning environment b) Blended learning environment | It describes the learning environments according to technological aspects. |
| 5. Pedagogical aspects | a) Self-directed learning b) Collaborative learning c) Authentic tasks in context | It describes pedagogical practices implemented in a specific research. |
| 6. Learning outcomes | a) Knowledge construction b) Skill acquisition c) Attitude and values | It describes different types of learned outcomes in a specific research. |

Data was collected from 6 databases through the insertion of specific keywords. The bases are: REDALYC (an information network of scientific journals of Latin America, Caribbean, Spain and Portugal) consulted from <http://www.redalyc.org/>; Scholar (an open web search engine by Google) consulted from <http://scholar.google.co.kr/>; EBSCOhost (an online database that provides search information services) consulted from <http://search.ebscohost.com/>; RISS (an information repository by Korea Education and Research Information Service) consulted from <http://www.riss.kr/>; DBpia (an online service of Korean academic journals, conference proceedings, professional journals) consulted from <http://www.dbpia.co.kr/>; and E-article (a digital library of Korean publications and academic research papers by the Haksul Kyoyugwon) consulted from <http://www.earticle.net/>. Data was collected from October to December 2013. Finally, data was extracted and organized into Excel sheets for sorting, analysis and interpretation.

RESULTS

Once the validity and reliability of the data was realized, a comparative analysis was carried out of 15 research papers in Mexico and 23 South Korean works published in journals from 2004 to 2013.

Based on the results, in Mexico, the transition year of use of social media in Higher Education was in 2013 (26.7%), while in South Korea starting in 2012 (39.1%) (See Figure 2 for reference).

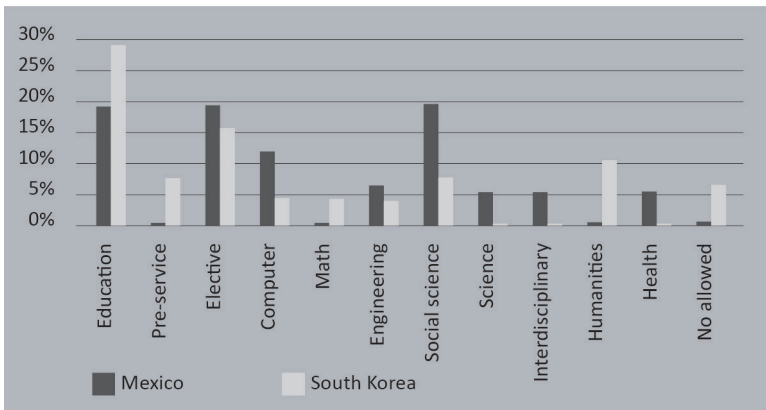
Figure 2. Tendency of the Use of Social Media



1. What are the features of social media as a tool for learning in higher education in both Mexico and South Korea?

As can be seen in Figure 3, in Mexico, the predominant domain knowledge are: social sciences 20% (Psychology, Communication Sciences and Administration), education 20% (Virtual Environments and Teaching Methods, and master’s in Pedagogy and Educational Technology) and elective subjects 20% (for developing reading and writing skills, discussion skills and university students’ development). But others domains are: computer 13.3%, engineering 6.7%, sciences, 6.7%, interdisciplinary 6.7% and health 6.7%. Meanwhile, in South Korea the field is predominant in education 30% (in subjects such as Educational Technology and Instructional Methods). But others domains are: elective 17%, humanities 13%, pre-service 8.7%, social science 8.7%, not allowed 8.7%, computer 4.3%, math 4.3% and engineering 4.3%.

Figure 3. Subject Domain



The following indicator refers to gender difference. In Mexico women constitute a

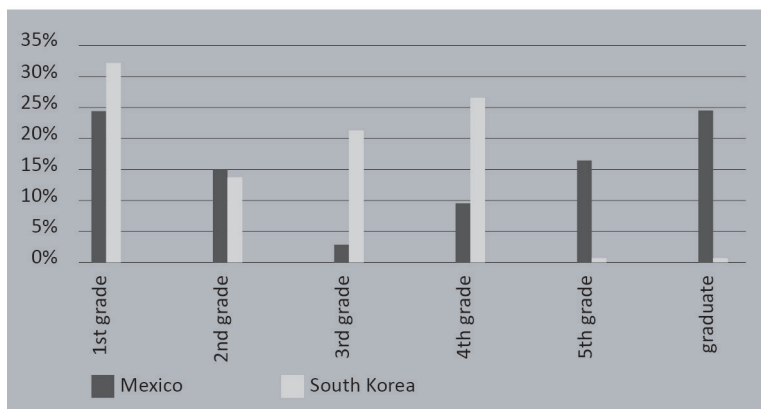
larger population using social media in learning activities with 64.9% whereas 35.1% the men. It is interesting enough that in Mexico the use of these tools by women is higher, and ultimately these data show an imbalance in gender. Espinosa and Jiménez (2013) noted it in their research. They describe an active role of women in supporting groups and online communities and the use of social networks for socialization. Some other data from AMIPCI, Mexican Internet Association (2012), shows that women send more emails, instant messages and access social networks more frequently. In the case of South Korea, the population in relation to gender difference is slightly a balanced value; women participate with 51.5% and 48.5% of men.

The following Figure 4 shows the grade level of students. In Mexico first grade obtained 25%, postgraduate 25%, fifth year 18.7%, second year 16.7%, fourth year 10.4% and third year 4.2%. Meanwhile in South Korea, first grade obtained 33.6%, fourth grade 28%, third year 22.4% and second grade 15.9%.

In both countries, it is noted that the use of social media is mostly by freshmen. This is comprehensible from the perspective of Prensky (2001) which suggests that young people, who were born in the “digital age” (named digital natives), bring different preferences, skills and ways of processing information through the use of technology. At this point, it is noted the contributions of Herrera-Batista (2009) and Ortega & Banderas (2011) describing freshmen from Mexican universities with greater Internet access and preferences of technological resources to accomplish tasks and participate in daily activities.

Moreover, it can be appreciated that Mexican graduate students and Korean fourth grade students mostly use social media. These results have (at least) two readings: in Mexico postgraduate students in service are developing technical-didactic skills, particularly for integrating the use of new technologies into the class. And second, in South Korea, seniors use social networks to create personal and professional relationships into communities.

Figure 4. Students' Grade Level



As shown in Figure 5, the most used social media are: in Mexico blogs 30%, *other tools 25%, Facebook 20%, cloud computing 10%, Twitter 10% and wikis 5%. Meanwhile in South Korea are wikis 23.1%, Facebook 15.4%, blogs 15.4%, *other tools

15.4%, cloud computing 11.5%, Twitter 11.5% and YouTube 7.7%.

The called “blogosphere” in Mexico has unleashed a myriad of learning experiences such as the development of skills and competencies, virtual portfolios, and a platform for sharing materials and information of activities. In the case of South Korea, the use of wikis in learning activities has been possible by a service called Springnote® (a virtual notebook opened from 2010 to 2012). This tool was designed to facilitate a virtual scenario and to motivate solving problems, decision-making and the development of new ideas in collaboration (Han, Yim & Lee, 2012).

However, Facebook is gaining popularity. In Mexico, Facebook usage has increased by 100% more over the previous year in 2013. Whereas in South Korea in the same year was increased by 200% over the previous year. In fact, this social network is a communicative phenomenon because they have helped in the formation of virtual communities for discussion and conversation. In addition, other usage of Facebook has been to develop strategies for inclusion (Yu, Park & Cha, 2013) and socio-cognitive skills (Kim, 2012).

In Mexico, the appearance in 2013 of cloud computing has offered a new technological innovation for IT service management. Nevertheless in South Korea cloud computing usage decreased slightly over the same year. This platform has provided access to information more easily without purchasing software licenses, buying external devices such as USB and wasting large amounts of money for management and data management.

Figure 5. Type of Social Media

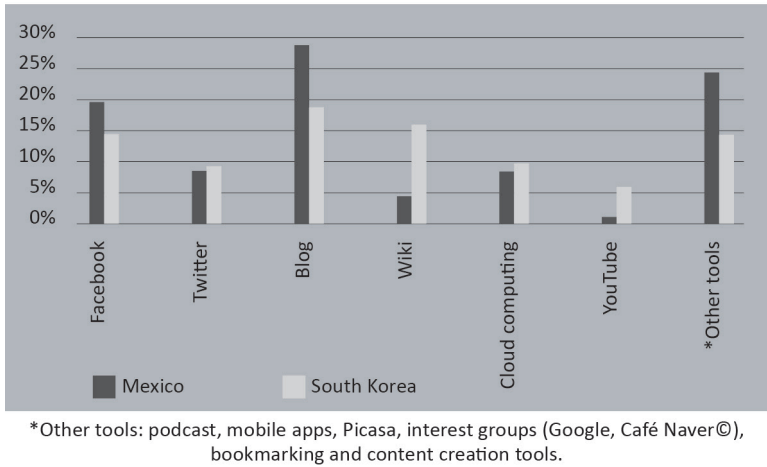
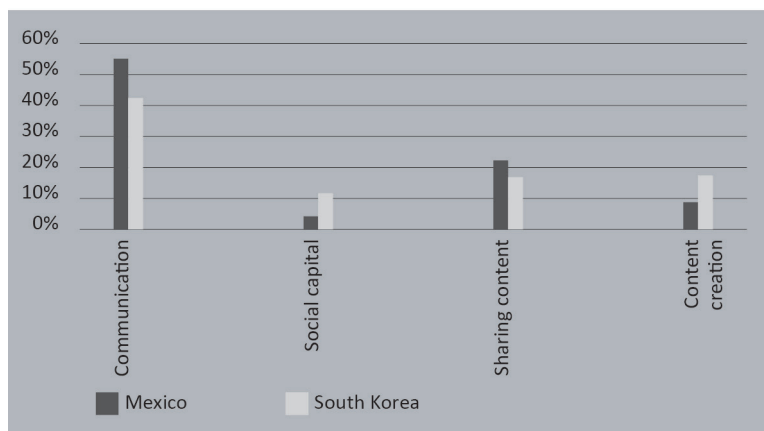


Figure 6 shows the purpose of using social media. In Mexico are communication 58.3%, sharing content 25%, content creation 12.5% and social capital 4.2%. Whereas in South Korea are communication 45.5%, sharing content 20.5%, content creation 20.5% and social capital 13.6%.

In both countries, social media is used for communication purpose. However, in Mexico compared with this Asian country is higher the use of these tools for communication. Another outstanding element is the emergence of an accumula-

tion of social capital principally in South Korea while in Mexico is still low. Social capital means users from social networks interact with others in order to improve their living conditions (educational and occupational achievement, labor market access, building relationships, etc.). According to Jin (2013), a social presence is intimately related in the creation of social relationships. That is, the effect of social capital refers that users with a strong social presence are willing to trust others and are more likely to create intimate bonds with others.

Figure 6. Purpose of the Use of Social Media



In both countries, blended learning is the most used learning environment (see Figure 7). Blended learning is widely used in Higher Education institutions especially those who have taken the face-to-face component in physical spaces and virtual spaces using formal learning platforms (as Moodle, Blackboard) or informal learning platforms (as social networks, blogs, wikis). In Mexico, the consequence of the failure of E-learning (Flores, 2009) and the difficulties of implementing effectively Open Educational Resources (OER) (Contreras, 2010) give rise to the development of new learning environments and the use of other media technologies that contribute the design of new structures of socialization and collaboration.

It is noteworthy to mention that in South Korea a paradigm in Christian education into blended learning environments has emerged. Some South Korean universities have opted to implement creative ways to teach religion through the use of social networks. Students are closely related to their mentors using a mentoring strategy. Kim (2013) describes this learning experience in which students are inserted into communities of practice in order to achieve a change in their values and attitudes.

Figure 7. Learning Environments

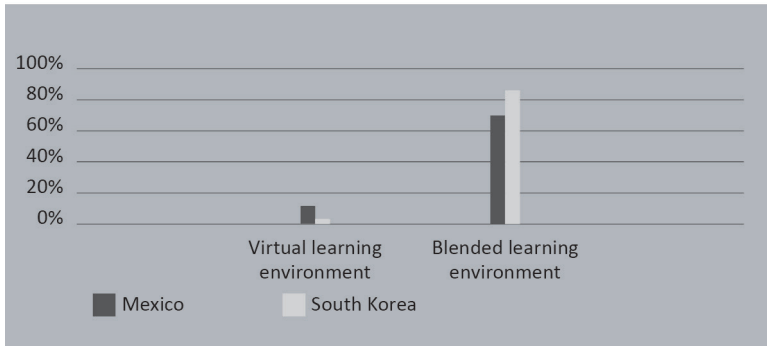
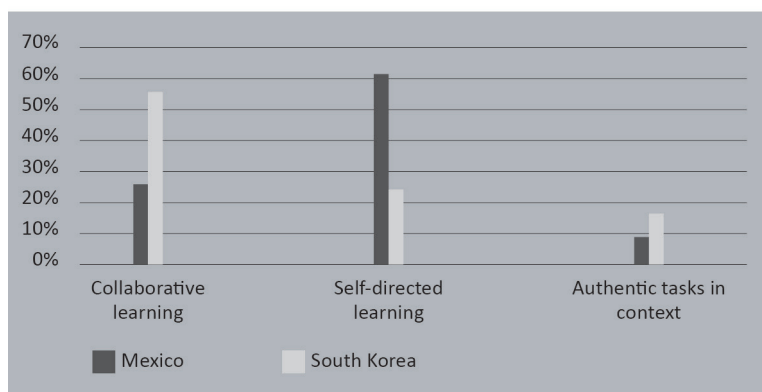


Figure 8 shows the types of pedagogy used in learning activities. The results show that in Mexico are self-directed learning 66.7%, collaboration 20% and authentic tasks in context 13.3%. Whereas in South Korea are collaboration 50%, self-directed learning 29.2% and authentic tasks in context 20.8%.

Self-directed learning is an approach often discussed. It is mainly conceived by the designing of teaching and learning methods in which students are the key actor in their formative process. In this sense, data shows that in Mexico educational strategies lead self-directed learning. However, by 2012 and 2013, authentic tasks in context combine the usage of social media for learning. These pedagogies refer to: problem-based learning and project-based learning.

In the case of South Korea, data shows that collaborative learning occurs as learning opportunity over the past 10 years. According to Lee (2011), collaborative learning has been implemented to reinforce students’ socio-emotional aspects and to create spaces for exchanging of ideas in a way that computer serves as a mediator. However, many authors in media such as television, newspaper, the internet, etc. argued that Korea’s education field is recently in a boom of self-directed learning due to the rapid spread and use of mobile devices support students to become more receptive to the incorporation of new tools for learning (Park, Nam, & Cha, 2012). In this sense, students work individually from different locations (e.g. on the subway, at home, in the coffee shop, etc.) through the Internet; these behaviors encourages the emergence of other strategies that strengthen individual student work into communities, managing their own resources and interacting with others in performing tasks in a team.

Figure 8. Pedagogical Aspects



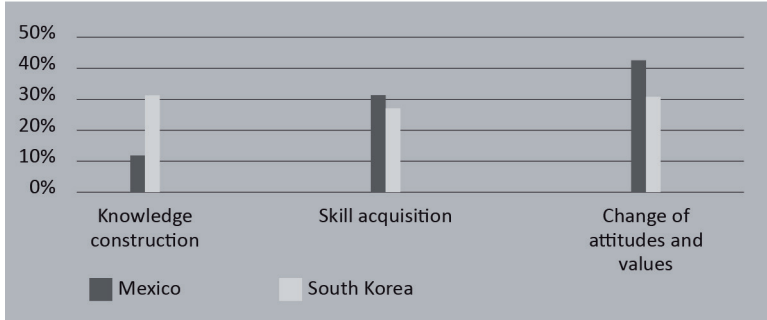
2. What are the learning effects that result from the use of social media in higher education?

As seen in Figure 9, in Mexico the use of social media impacts on the change of attitudes and values 47.8%, skills acquisition 34.8% and knowledge construction 17.4%. Whereas in South Korea impacts on construction of knowledge 35%, change of attitudes and values 35% and skills acquisition 30%.

In Mexico students are more influenced on seeking for expression of their ideas through 'modern' technological tools when they combine study and leisure time. This demonstrates a cultural change, other interests and an 'enthusiasm' when using social media; however, in academic context there are not yet clear strategies to be potentiated. The added value of social networks, in particular, is characterized on a social attractiveness of the closeness between formal and informal, encouraging communication between students, the ability of decentralization and modulation of activity on widespread use but organized by various agents (Haro, 2009).

In the case of South Korea, the use of social media impacts the way in which virtual communities are built and students participate actively in them. The large number of interactions between students, teachers, experts, researchers, parents, etc. manifests the construction of meanings, discourses that lead to a transformation of the "ecology of learning" of students through the use of these new media through the Internet.

Figure 9. Learning Outcomes



CONCLUSIONS

From this research, social media is understood as a set of Internet-based technological services, which help to improve interpersonal communication and collaboration among peers. These tools facilitate informal learning through the acquisition and management of information, creation of open space for discussion, conversation, and to perform tasks beyond the classroom. Users have the ability to connect to a network to create, edit, transform, and/or share content with others through virtual learning communities. Diverse elements have also been identified as essential part for the implementation in the university.

First, in Mexico, social media have been implemented in knowledge domains such as social sciences, education and elective subjects. Users are mostly women. The participation of women is crucial since they represent an important element for effective communication and socialization. Freshmen bring a stronger digital culture to the university and they are able to carry out tasks and learning activities more efficiently using technology. Graduate students in service use more social media to develop technical-didactic skills for teaching activities.

Second, in South Korea, social media has been mostly implemented in the department of education. The implementation of these tools is shown to be slightly balanced between men and women. Freshmen are more likely to use social media in both countries. One difference with Mexico is that this Asian country has implemented these tools more for pedagogy innovations than technological innovation.

Third, in Mexico, the purpose of the use of social media has been primarily to provide new means of communication. Blogs have worked as facilitators for the development of technical and cognitive skills. While in recent years, the use of Facebook promotes conversation, discussions and connection with others. Furthermore, cloud computing promises to be in Mexico an alternative to solving conflicts in access to education, infrastructure costs and software licensing. Blended learning environments facilitate the informal way of working inside and outside the classroom and it fosters self-directed and individual work. Likewise, more flexible and adaptable pedagogy are observed according to students' nature as problem-based learning and project-based learning.

Fourth, in South Korea, the wiki was introduced as a fundamental key to creating collaborative environments for participation, primarily for problem solving and decision making. However, in recent years, social networks have facilitated the

creation of social relationships and the emergence of a social capital. The effect “always-on” with others through the Internet has contributed to trust with the group, the construction of new creative ideas and the maintenance of a social presence. Finally, blended learning environments are strongly accompanied with the designing of autonomous activities to enhance self-directed learning.

Fifth, the effect of social media as learning outcome, in Mexico, showed changes in attitude and values toward the use of social media in school activities. Mainly, these resources help for expressing ideas, creating and transmitting digital content among peers combining study and leisure time. In contrast, in South Korea, not only a change in attitude and values were reflected, but the construction of meanings and discourses has conducted a transformation of the “ecology of learning” of students through the use of new media through the Internet.

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