

Social Networking and Science Research: the MIT-UPV and Metal 2.0* cases

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Abstract:

The value of social networking for business isn't so clear but in other areas it's being very advanced, as in the world of collaborative research and business at the international level, can affect joint enterprise (enterprise-level) is displayed as shown in the results of the collaboration project Networking between MIT and the UPV (<http://mitupv.mit.edu>) and UPV and AIMME (<http://www.metal20.org/>).

Most of the measurable benefits such as improved collaboration and multimedia document iteration management is already in place. In terms of all the components of social networking being on a single platform, we already have that, too, in the form of unified communications (UC).

We present some of the results of our experience of social network between MIT and the UPV and UPV and Metal 2.0 for over the last years and thousands of relationship-oriented research, teaching and technology transfer.

1. "MIT-UPV Exchange"

This experience is a Web-based co-operative learning project between the Massachusetts Institute of Technology (MIT) in the USA and the Universidad Politecnica de Valencia (UPV) in Spain which has been underway since 2000. Its aim is to put in contact technological Valencia students (Spain) and technological Boston (USA) students by means of a jointly developed interactive website. This website is an open platform that allows the registered students to interact, with each other, building an technological social networking not only by using text-based messages (including a built-in chat facility), but also by uploading and downloading multimedia files, i.e. videos and graphics created by the students themselves. The contents on the website are updated in real time and are fully developed and controlled by the participating students themselves, so as to reflect their interests, views and other cultural and social components.

1.1. Project's rationale

The Internet, in general, and the World Wide Web, in particular, represent an emerging medium for teaching, and they significant potential for the teaching/learning in a collaborative

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format. In order to put the impact of Web 2.0 in general and social networking specifically into perspective from a future societal standpoint (for the students), it must first be seen from the context of how the next generation of services that are available online, specifically designed for ensuring a high degree of collaboration, information sharing, and support for knowledge-based.

The Web constitutes an innovative format for content delivery and information exchange. That is one reason why knowledge and use of the Web, for its own sake, would justify its inclusion within the curriculum of a university that focuses on technology, “In addition, there are many skills that future managers in companies where will be our students must develop, adapt, extend or even to reinvent the use of technology as a professional key development through collaborative processes”.

Defining the concept of web 2.0

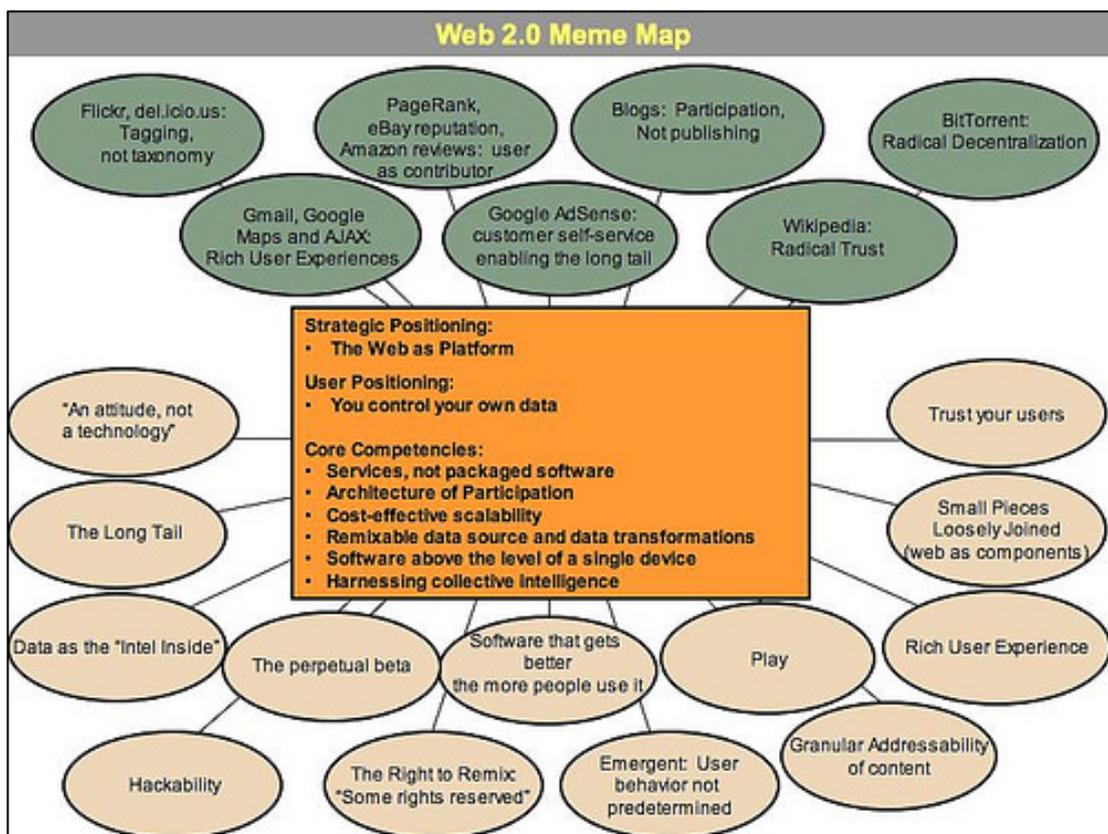


Figure 1 is the map O’Reilly and Battelle created showing how both market and user dynamics are defining social networking (O’Reilly, 2005. et.al).

Application	Description
Blog	Self-managed personal Web site which is made up of individual entrances and they are ordered by inverse chronology
Wiki	Web site where any user qualified by the system can edit a content easily
Mash-up	Formed hybrid applications from existing applications.

Social networking	Applications in which any user is able to contact with other users being generated a portfolio of contacts that is able to manage. Its enterprise use must to the possibility of being able to identify experts in a concrete subject
Podcast	Entrances of multimedia contents of video or audio lodged in applications type blog. The distribution is similar to each blog post. Its proliferation may be a great extent due to RSS syndication.
Social tagging	Applications that allow to clasificate digital contents by tags, assigned by the user, being able to share them with other users of the network.
Syndication RSS	It allows to the users syndicated to a Web site to be warned of the updates content without the necessity to go to the Web site in concrete. It implies the use of a agregador software of contents (like googlereader, bloglines...) that manages the syndications to the Web sites wished by the user

Table 1 provides an overview of Web 2.0 applications, illustrating the role of social networking in the next generation of services available over the Internet.

Taken together these applications form the collaboration platform that social networking applications and their variations including mash-ups and blogs rely on in order to accomplish high levels of collaboration. In keeping with unbounded systems thinking, the proliferation of the series of Web 2.0 applications and their growth are defined more by communication patterns than adherence to taxonomies and architectures. This is one of the factors that were taken into account in defining unbounded systems thinking as the method of enquiry.

In order to teach these skills, the pedagogical bases that lay the foundations for the use of the WWW within our project are:

- Communicative Language Teaching (and learning). Students are collaborating in a foreign language in a natural and spontaneous way, so language use is promoted, as opposed to mere language usage.
- Learner-centred pedagogy. The students themselves choose topics for interaction, as well its pace and format, according to their personal interests {3, 4}.
- Learning autonomy. The students are co-managers of their own learning process, and therefore takes full responsibility for the related training contents, instead of merely “digesting information in a passive manner.
- Learning by doing (experiential learning). In order to be able to participate, students must learn –in a practical way- how to get in the new medium and environment of Internet and multimedia formats (image processing, audio and video, etc.).
- Collaborative learning. Students finds themselves totally integrated in a virtual learning and exchange community. Interaction with peers is a basic requirement to advance in the learning process.
- Cultural exchange. Students experience first-hand direct contact with the cultural systems, values and environment of their partners on the other side of the ocean.

1.2. Web 2.0 in learning and teaching

As examples of areas and approaches where MIT-UPV has had good effect has been:

Group work can often be aided by having social software available – this is no surprise when we note that social software is software that facilitates group process. Thus, for example: Blogs can be used in personal writing and group's critiques thereof.

Social constructivism (Vygotsky , 1978) has as a central precept that knowledge is created by learners in the context of and as a result of social interaction. Social constructivist approaches are particularly aided by MIT-UPV as mediating mechanisms between collaborating students and between students and teachers, particularly between students who might be sometimes be working in different places and at different times. Thus, for example, a group of students might construct an artefact in a wiki, but also be guided by a teacher who provides scaffolding in the same wiki.

Constructionism, advocated by Seymour Papert, is particularly amenable to Web 2.0 approaches. In Papert's words 'Constructionism ... shares constructivism's connotation of learning as "building knowledge structures" irrespective of the circumstances of the learning. It then adds the idea that this happens especially felicitously in a context where the learner is consciously engaged in constructing a public entity, whether it's a sand castle on the beach or a theory of the universe.' (Papert, 1991) Thus social software systems can be used for the construction of public entities, for example, via a video presentation on a social media system, a blog entry (for individual work) and a set of wiki pages (for individual and group work).

1.3. Changes in student population

Web 2.0 technologies are one of several digital technologies that are increasingly helping change some characteristics of current and future student cohorts, and these changes may necessitate profound changes in learning and teaching methods.

Marc Prensky (1978) defined 'digital natives' as a generation that has grown up with digital technology, operating at "twitch speed", and performing multiple activities simultaneously. Thus Oblinger and Oblinger characterise next generation ("n-gen") students as digitally literate, highly Internet familiar, connected via networked media, used to immediate responses, preferring experiential learning, highly social ("being a friend of a friend is acceptable"), preferring to work in teams, craving interactivity in image rich environments (as opposed to text intensive environments), and having a preference "for structure rather than ambiguity". Oblinger and Oblinger also point to a different kind of student, one who is non-traditional and working at the same time as studying.

Questions arise: Are these new student skill and preference sets different enough to demand changes in teaching methods to successfully engage with these students? Do the skill sets of incoming students demand (possibly only transitional) 'remedial' teaching, for example, in using libraries and finding primary sources? Is the changing student profile going to need different ways of teaching that, e.g., minimise traditional patterns of attendance and increase flexibility in where and when learning takes place? Somewhat anecdotally, there are different perspectives relating to student engagement (and therefore grades and retention):

- We have seen reports of lecturers moving part or all of their electronic course support from traditional virtual learning environments to social networking systems like MySpace and Facebook, because of greater student engagement with these kinds of social networking tool. Web 2.0 enabled approaches may therefore help engage with students. However,

there is also evidence that many students see these as "their" space that should not be 'invaded' by faculty (Hewitt, 2006).

- On the other hand, recent student interviews in a UK University revealed that students were not concerned how they are taught (e.g. through lectures, seminars, or through a blended learning approach) so long as the instruction was good. This then raises the question of what is good practice in learning and teaching in different modalities?

1.4. Possible issues and problems

An incomplete set of additional problems and issues that arise in relation to MIT-UPV are:

1. Many students work is about content sharing and repurposing. This is can easily be seen by students as part of a new teenage copy-and-paste culture that runs counter to traditional notions of plagiarism, and adjustments may need to be made, either to redefine plagiarism (unlikely to occur), or to help students transcend this culture in HE environments (more likely to occur).
2. There may be changes in teacher roles like the emphasis on active learning, with creation, communication and participation playing key roles, and on changing roles for the teacher, indeed, even a collapse of the distinction between teacher and student altogether.
3. There may be a skills and/or culture crisis as 'old world' teachers are forced to use unfamiliar this tools and work and in unfamiliar ways and alien environments.
4. There may be economic factors at work, particularly in a world of widening participation in HE. Not all students may be digitally connected with a computer and Internet connection at home or in their digs. These students would be at a profound disadvantage in a new teaching/learning concept world.

1.5. Conclusions

The project has two complementary facets, namely, the academic exchange at all levels, and the development of an ideal university model from the students, both of these aspects could evolve in the near future in an independent, yet complementary, way. It is also feasible, as has already been suggested earlier, to work co-operatively towards a deeper understanding of both university systems, and even to take a step ahead towards a university system which better meets the needs and expectations of our students. All this is closely related to total quality management and improvement, a goal for both institutions

MIT-UPV Exchange provides a nearly-ideal meeting point between teaching innovation and the improvement of global quality within our university systems. Regarding the former aspect (teaching and learning), the project has emerged as a contextualized application of core Internet technology and the World Wide Web to learning and training, both in technical and in International collaborative skills. Concerning the second component (quality), the experience is a powerful tool to assess specific needs, suggestions and problems within the university, always from the point of view of its main clients, the students.

The flexibility of the project makes it even possible to go one step ahead of web-based exchanges and achieve –why not?– a more direct and personal link between human beings (not only via computers) at both universities.

2. Metal 2.0

2.1. PRESENTATION OF METAL 2.0 PROJECT.

The METAL 2.0 project is a project of collective learning, of 2 years of duration initiated in 2008, where it has been tried to evaluate each one of the tools 2,0 Web and its possible implantation in companies at individual and/or collective level from the accumulated experience managing the marketplace infometal (www.infometal.com) which has conceived for 6 years like one of the first enterprise social networks of the country.

The project is carried out in cooperation of Metal-Processing Technology Institute (AIMME) and the Group of investigation EBIM (Electronic business information management) of the Politechnic University of Valencia.

In the case of the enterprise social networks, unlike the personal social networks (the users register or their friends or relatives for leisure subjects add themselves to), or professional social networks (the users register or they are added to his professional contacts for subjects of purchases/sales, cooperation, etc.), the users are the enterprise associations that they register to their associates, and these last ones anonymously use it for subjects of purchases/sales like positions of the company or indicating their data if they wish it).

2.2. USES OF WEB 2.0 IN METAL 2.0 PROJECT

From the Ebim group, we have identified three phases in the use of Web 2.0. These phases are: the paraticipación of the user, the generation of conversations in the digital surroundings and the collaborative work. The passage from one stage to another one depends on several factors, between which they emphasize: the culture of use of 2,0 Web and later the degree of relation of the users in the use that is being carried out (it is not the same to work in a common project that to answer a post in a personal blog). The project metal 2,0 is located within first stage of use of Web 2.0. Within this one it emphasizes with the result of hearing generation. Concretely the potential of relation of Web 2.0 is being operated. Generating surroundings win-win taking advantage of the visibility that offers the digital surroundings and the facility to establish relations through a content, can be gotten to establish work contracts since Internet is talking back every better time the way in than the people we interacted.

2.3. ACTIONS, DIFUSSION AND RESULTS

- After the day of presentation of the Project ' METAL 2.0:Social networks and Web 2,0 in enterprises, which they attended a total of 60 companies, published the videos of the same one in Internet with the purpose of forming free to the usuary companies of these technologies, and asking for their support in the cumplimentación of the survey of the project.
- These videos have waked up great sense of expectancy between the companies sensitized with the innovation, when surpassing itself more than 17,324 downloadings in the first 5 months, with visitors coming from a total of 44 different countries, from 38 Universities, schools of businesses and research centers...
- After the publication in Internet of the survey with more than 200 answers. At the moment, we are in process of operation of the data.

- Beginning the initiative EXPERIMENT METAL 2,0, with 573 participant companies, to date consisting of animating to the ICT's professionals of the companies that still do not use Web 2,0 to introduce themselves in these technologies in their near surroundings, in special of their company, forming to the managers purchases and sales manager, so that they begin to experience the use of social networks by themselves, and making profitable the power to obtain many more contacts. Of this form it would be possible to be used the own social networks to spread the ICT and to become familiar with these tools.

As far as the diffusion of the present results of the project, they appear a total of 141 references to the same one: <http://www.metal20.org/difusion/>

As far as collaborators in the diffusion they appear a total of 36 companies and organisms, with CENATIC and CEV like new features. We remembered to you that any organism and company interested in helping in the diffusion and appearing us in that section, can gratuitously do it according to the steps indicated in: <http://www.metal20.org/colaboradores/>

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