



Coming from outside the Academy. Values and ethics of 2.0 in higher education

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This paper reflects on how some values, interests and expectations of 2.0 culture intrude on higher and postgraduate education institutions. Through the identification of the features of 2.0, this document visualizes the main resistances, obstacles, possibilities and opportunities detected in these institutions, many of them focusing on the core of the teaching-learning process.

With 2.0 culture, aspects such as the teachers' and students' role and their values, knowledge construction and its property, methodology or evaluation are influenced by the singularities of informal learning, pushing hard from the market and society.

Responsibility in the training and updating of current and future professionals places these institutions under the discussion and decision-making spotlight regarding the role that 2.0 tools should play. A crossroad which affects the whole set of attitudes and values on the role of training institutions in the context of the construction of socialized knowledge.

Keywords: 2.0 culture; higher education; learning experience; values; ethics

Web 2.0 tools and training institutions: still more questions than answers?

Web 2.0 tools have burst in higher educational institutions and seem to have come to stay. Several studies (Boulos, Maramba & Wheeler, 2006; Ajjan & Hartshorne, 2008; Simões, & Borges, 2008; Pang, 2009; Behrend, Wiebe, London, & Johnson, 2010) confirm that the last five years witnessed a more-than-significant increase of these resources in higher education, as its use by both lecturers and students keeps growing. As any other incorporation to the educational field, criticism and adhesions emerge in multiple forums and discussion platforms, using both traditional communication channels and 2.0 tools, thus giving rise to multiple discussion focuses and immediate future perspectives. Nevertheless, one of the still-scarcely-studied views is the set of ethical questions derived from the use of 2.0 tools in formal training spheres.

Some of these ethical questions emerge from the reflection on how these 2.0 tools influence teaching-learning processes. Undoubtedly, these questions are under exhaustive review of educational professional deontology.

Beforehand, many questions can be identified. Nevertheless, the main problem seems to be that this (sometimes written, sometimes explicit, some others implicit) "deontological code" was built up through other historical moments, times marked by a traditional and 19th-century vision: the academy is the keeper of the knowledge and must defend this

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3 position. Until very recent times, there was no doubt on who generated knowledge in
4 higher education institutions. It is evident that knowledge generation by means of 2.0
5 tools does not fit in this view: it leaks through the multiple cracks that progressively
6 appear in the traditional higher education system. The characteristics “hierarchical,
7 substantially introvert, guarded, careful, precise and measured” (Committee of Inquiry
8 into the Changing Learner Experience, 2009:9) are imposed a so-called *tornado* (which
9 breaks the established order of things) by 2.0 tools.
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13 Postgraduate institutions and the so-called business schools are those who have
14 incorporated these tools without complexes. Under the prospects of the demands from the
15 productive sector, 2.0 tools have been incorporated as an additional element in the
16 development of professional competences (indeed, many of them involve the frequent use
17 of these tools).
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21 Anyway, it is rather evident that 2.0 tools bring their own “bag”, containing their own
22 values, preferences, expectations and processes. It also seems that all these riches come
23 from “outside the academy” and, as any other unexpected night intruder, may therefore
24 let themselves be observed as such, thus becoming true threats.
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27 It is within this context, under the avalanche of new inputs provoked by 2.0 tools, that a
28 set of questions appears. They are comments, sensations and uneasiness that, up to date,
29 escape theorization or generalization to the whole educational field. These questions —
30 which undoubtedly impact the very heart of higher and postgraduate education —have
31 begun to be discussed in these educational institutions.
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33 **When the Academy feels that loses “control” again**

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35 It seems the traditional long-lasting argument: 2.0 tools lead the University to lose
36 “control” again. We do not know for sure if there is a research about the times and
37 moments in which this argument has emerged in educational spheres along history (the
38 appearance of the printing press and the wide diffusion of literature, the arrival of the
39 mass media, the burst-in of the Internet, etc.). Nevertheless, this argument does not seem
40 to have emerged with so many (allegedly proven) evidences.
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43 This has probably become one of the main reticence factors emerging from the use of 2.0
44 tools in higher and postgraduate education. As Brown (2010:6) points out: “the
45 distinguished feature of Web 2.0 is that it empowers individuals to take control”. In any
46 case, out of the set of possible questions generated on 2.0 tools, this is the question we
47 shall tackle and reflect upon in the present paper.
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50 The key question would initially be: to what extent inputs from outside the academy in
51 relation to 2.0 tools mean, enable, boost, etc. higher and postgraduate education
52 institutions’ loss of knowledge control? Logically, several other related questions stem
53 from these general questions:

- 54 •What does this mean within the framework of a training offer in higher or
55 postgraduate education where institutions set the guidelines on the
56 methodology to be followed by their teaching staffs?
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- How can institutions promote the use of 2.0 tools and the follow-up, at the same time, of the values transmitted by their teaching staffs on these tools?
- How should be the interaction between formal learning processes (existent in training institutions up to date) and the incorporation of informal learning processes (characterized by the use of 2.0 tools)?
- From the viewpoint of content generation, so far “owned” by the academy, what do 2.0 tools mean?
- How can a coherent evaluation process (gathering all existing inputs) be articulated? Should we generate tools to follow-up the spaces and times in which distributed learning takes place?
- Should there be a strategic institutional position regarding the use of Web 2.0 tools in universities and training institutions? Are these institutions prepared to make these decisions, as Web 2.0 tools progressively spread in higher education institutions? What guidelines should institutions offer in their training offers regarding the use of 2.0 tools?

Only to contribute a brief list, and with the aim of opening debate on these issues, our reflection shall set off from the accumulated experience from the viewpoint of university higher education and postgraduate specialized training, two spheres which are to incorporate 2.0 tools so as to reach an integral training process of their “clients”.

Higher and postgraduate education and 2.0 tools: are we updated?

Implementing the 2.0 culture in education bears directly the condition itself of higher and postgraduate education levels. These levels are mostly aimed at accrediting that participants are capable of coping with a given professional field, or helping participants to update their professional practice in a given sector. However, these institutions must not forget that participants will keep on learning after the course.

The conception of postgraduate training should intrinsically entail lifelong learning (i.e., it should promote learning not only during the course time span but also assure that participants acquire the necessary capacities to keep on learning —on their own — afterwards). In this sense, 2.0 tools are relevant because, from a methodological viewpoint, they are excuses to foster the development of learning-to-learn competencies.

Specifically, postgraduate training is aimed at active professionals among whom mobility is a need and a progressively rising value. Autonomous learning competencies nowadays demand learning here and now, and training institutions must plan distributed learning actions: designing strategies to learn demands fitting out accesses to the learning experience through the desktop navigator and mobile devices. For this reason, institutions are drawing a multiplatform working and learning strategy that demands the supplementation and juxtaposition of contents and activities in varied spaces.

This situation disorients the Academy, as it is used to working under (1.0) traditional learning parameters —which provide teaching professionals with control on the process, contents and methodology. Is the Academy (mentally) prepared to integrate these tools,

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3 not because this integration is demanded by the society but because it values their
4 inclusion in teaching-learning processes positively?
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7 **Teaching methodology and 2.0 tools: between the institution and the market**

8 The teaching methodology consists on the staging of the teaching professional's set of
9 ideas, concepts and processes on his/her knowledge field. However, the methodology
10 essentially influences his/her own conception of the teaching-learning process, it means,
11 the relation between the "angles" of the triangle formed by teacher-student-knowledge.
12 At least, it has traditionally been this way. When lecturers apply a given methodology in
13 the classroom, he/she is placing his/her cards on the table. He/she is presenting the kind
14 of relation that must exist among them, between them and knowledge, between them and
15 him/her, to his/her students.
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19 In view of this situation, 2.0 tools seem to question this triangle. Specifically they seem to
20 question the weight and existing relation among its vertices. Particularly, both teaching
21 professionals and students acquire a sense of multidimensionality, much more powerful
22 than that existing up to date. Several processes take place within this new context
23 articulated by 2.0 tools: some new functions are incorporated, others are interchanged,
24 others are redistributed, etc.
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27 Teaching professionals within the framework of a higher or postgraduate education
28 institution receives varied instructions and suggestions on methodological approaches:
29 boosting professionalizing competencies, articulating learning activities which place
30 students at the centre of the teaching process, incorporating educational materials
31 presenting situations from labour spheres, etc. Among these, they also receive
32 contributions from the incorporation of 2.0 tools. This fact directly influences the
33 conception of the teaching-learning process. In this sense, this process is perceived as an
34 open, autonomous, participative and distributed process in which students have a decisive
35 weight and become its central focus. This agrees completely with the new guidelines of
36 the European Space for Higher Education (Prague Communiqué, 2001; Goñi, 2005; Rué,
37 2007).
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41 Nevertheless, the introduction of 2.0 culture in the teaching methodology demands the
42 entry of processes that take place outside formal training frameworks and therefore are
43 more characteristic of informal learning. As Coombs (1985) states: informal learning is
44 characterized by its spontaneity, non-structured nature; takes place in different situations
45 in our everyday life, in varied environments, atmospheres and moments, etc. Informal
46 learning is updated and inquisitive, takes place through the interaction with the others and
47 the environment, in spaces not prepared for regulated education, etc. Are not these the
48 characteristics of the learning derived from 2.0 tools? Are not these some of the values
49 that corporations and companies demand from the training of future professionals?
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53 Thus, teaching professionals are demanded to be capable of coping with these new
54 demands, and therefore to redesign their role as mediators in the teaching-learning
55 process, thus becoming tutors, counsellors or guidance in the relation among their
56 students and between their students and knowledge. The latter relation is initially begins
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3 at the training institution but is likely to go along the directions contributed by the
4 students. At the same time, students are also asked to take the initiative (efforts to
5 propose, interact with their partners, supervision of the others' tasks, arguing, justifying
6 and reflecting on the contributions, validation and criticism of information sources, etc.)
7 Students are pushed to develop (with 2.0 tools) the very same competences they will have
8 to put into practice within their professional field, often using the same 2.0 tools from
9 which these competences were acquired. In regulated education situations, teaching
10 professionals keep guiding the teaching-learning process: common negotiated objectives,
11 interaction times, negotiated guidelines between students and lecturers, evaluation times,
12 etc. Teaching professional propose and open the possibilities of their teaching
13 methodology by contributing mediated participative strategies.
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18 Nevertheless, we cannot leave aside other realities that place teaching mediation in a less
19 advantageous position: for example, when students use 2.0 tools as a supplement to the
20 course (sometimes even outside its limits) as a means of interaction and generation of
21 new knowledge with their partners; or, for example, when the institution requires the
22 teacher to use these tools without being agreed. The use of 2.0 tools in this case is
23 different. Students (on their own) decide to articulate a joint interaction platform in which
24 the common interest focus is initially the training course they are registered in. This
25 platform allows them to discuss course-related issues, create parallel workgroups and a
26 pseudo-section of job vacancies, information interchange, etc. All this remains beyond
27 the control of teaching professionals, their methodology and the channels established in
28 the training context, but is undoubtedly part of the shared knowledge generated from
29 "outside", often covering the needs, expectations and values these individuals —as well
30 as the market —are interested in.
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34 In view of this, the challenge faced by higher education institutions is probably that these
35 processes take place naturally in training programmes, thus being incorporated as
36 learning elements. Because, when these institutions talk about the methodological uses of
37 2.0 tools, are they incorporating these tools as instruments for dissemination and
38 exchange of information? Or, they talk about new media that really enable new ways of
39 experimenting an autonomous, asynchronous and distributed process of teaching and
40 learning?
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44 **Boosting the pedagogic use of 2.0 tools according to institutional strategic values**

45 Lifelong learning institutions are generally associated to university groups, usually being
46 non-profit private training foundations. Business schools have progressively positioned
47 themselves as training companies of directors from a private viewpoint. Both try to
48 differentiate themselves from the rest, as they compete in a highly demanding market.
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51 Within this context, institutions define the methodological lines they expect their internal
52 and external collaborators to develop, as well as the value lines they expect their training
53 actions and activities to promote.
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55 Thus, for instance, while some institutions feel comfortable promoting conservatism
56 (associated to some values such as reflection, the vast culture of their employees, serenity
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3 in analysis, or process protocolization), some others look for modernity and transgressor
4 spirit, dynamism, flexibility, speed in analysis, or high level of presence and visibility in
5 congresses and the media in their teaching staff.
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8 Although they are the cornerstones in corporative cultures, the values of a company or
9 institution end up being known not by a document presenting them in a clear way but by
10 everyday experience. Very few companies have specified them in a formal deontological
11 code.
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14 In this sense, a clear example can be found in the election of the contents to be taught, the
15 activities to be developed, how they are to be taught and evaluated. That is, what is the
16 academic and methodological line that the educational community of a given institution
17 must follow?
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20 One of the key issues leading to success in the put into practice of 2.0 methodologies is
21 the cultural change they involve. However, as in most change processes, change demands
22 institutional commitment of the high hierarchy and the involvement of the base of the
23 organization, thus demanding global participation.
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26 In case of incipient cultural change levels, the organization is only aware of the need of
27 changing. In a continuous evolutionary process, the organization will mature progressive,
28 up to incorporating knowledge management processes into its everyday activity.
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31 32 **When informal-learning values, expectations and criteria enter the Academy**

33 Informal learning processes are progressively being incorporated into the everyday
34 activity due to the so-called second web revolution. The Internet has become a shared
35 space where experiences and conversations are always alive, thanks to the direct
36 involvement of those who, so far, had been passive receptors of information, and now
37 have become active users and producers of contents in the web.
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40 The birth of the social web does not only mean a new way to relate with the others, but
41 also a new way to work and understand learning. The user is the focus, while emphasis is
42 no longer laid on information architecture but on participation architecture. Different
43 spaces, tools and strategies are being fit out to promote the relationships among users and
44 collaborative work outside workplaces.
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47 Since some decades ago, training institutions and business schools have faced the
48 challenge of bringing training closer to the needs of a workplace, of calculating the
49 impact of training on the profit account of the organization, and of professionalizing
50 training designs in their programmes. Tools in the 2.0 model place the user at the heart of
51 an interchange and participation model which allows generating open work and
52 cooperative dynamics aimed at solving everyday problems with the help of expert
53 partners on particular topics.
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56 This change of paradigm promotes collective intelligence in organizations through the
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3 available tools. As O'Reilly (2005) points out, a true application of web 2.0 is the one
4 that improves as more people uses it, since the true heart of 2.0 tools is the capacity to
5 harness collective intelligence.
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8 In the business world, the conclusion drawn has been rather clear: if this web-work model
9 fosters the participation, communication, relation, team-work for a common objective,
10 sharing resources and adding efforts, it will allow the creation of synergies to improve the
11 organization's performance. It must allow documenting the processes and results of
12 collective intelligence, favour work optimization, knowledge management and learning
13 from the experience of the others.
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16 As a result of the evolution in the everyday activities and procedures developed in
17 organization and companies, and proof that 80% of the learning in companies is informal,
18 the latter have increased their demands to training institutions in order to try to plan and
19 implement continuing learning processes by means of knowledge products which break
20 up the corset of the course. Formal education is conceived as another strategy, but not the
21 only one to train employees in organizations. This proves that not only the concept of
22 formal learning is being questioned. Besides, companies demand informal learning
23 products as valid learning strategies.
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27 What hinders then the incorporation of 2.0 training processes to the procedures of higher
28 and postgraduate education institutions? What benefits do companies perceive that are
29 not perceive by higher education institutions? Is informal learning only applicable to
30 professionalizing processes and not to initial training? Does reticence fall on the use of
31 collaborative work tools rather than on the strategy? Most 2.0 tools involve working with
32 cloud computing services. Is this the key factor behind reticence to publish information
33 on the web instead of in spaces of university-controlled servers?
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36 37 38 **A touchstone: Reconsidering the role of Contents**

39 One of the classic functions attributed to higher and postgraduate educational institutions
40 have been researching in different fields for the subsequent selection, generation and
41 diffusion of new information and knowledge. Information and knowledge are
42 traditionally ruled by reliability, contrast and truthfulness criteria, emerging from
43 practices adapted to the deontological codes of each knowledge field.
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46 Then, what happens then in an educational environment in which these criteria oppose,
47 substitute, combine and supplement with those of immediacy, priority interest of the
48 group, and problem-solving ability? The entry of 2.0 tools means that the functions of
49 information and knowledge selection, elaboration and diffusion blur and are distributed at
50 both sides of the teacher-student (academy-society) binomial. Weight had traditionally
51 fallen on the former, whereas now both of them are information producers and
52 knowledge generators.
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55 Now the question may be: on equal terms? We should say, depending on our viewpoint:
56 on equal terms in the sense of the value attributed to the generated information. The
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members of 2.0 tools attribute value to the information according to the value they build in relation to the group and the generated information. But then, what criteria rule the information selection, elaboration and diffusion processes developed by each of these two participants in the teaching-learning process? Who defines these criteria? In training contexts in which lecturers propose the use of 2.0 as a learning tool, lecturers keep on gathering weight in the so-called truthfulness and validation of the information generated at the heart of the group. It is in the “space of the group” (Committee of Inquiry into the Changing Learner Experience, 2009), under certain limits and spaces of learning, where these criteria are chosen, shared and agreed upon? The accumulated experience, updating, popularity, knowing how to say, etc., probably become the main credibility criteria at the heart of 2.0 tools when these emerge in educational contexts “uncontrolled” directly by the educator. In this sense, lecturers give in the supervision of what’s happening in the training context, thus giving rise to some gaps on who must validate or accredit the acquired learning, partially or completely generated from the learning group.

Another aspect to be questioned is related to who chooses prescriptive learning issues. Up to date, in higher and postgraduate education, a set of academicians and teaching professionals choose, validate and argue the suitability of the contents which must be tackled to guarantee appropriate development of a given profession, being updated. The entry of 2.0 tools means reconsideration: we go from “what must be known, know how to do and be” to “what the individual-group is interested in learning in a given moment”. Logically, there is a complete level of adaptation to the needs and expectations of the group, since the latter names and guides the contents that are the learning base. The question is: are these needs and expectations basic and essential to accredit the knowledge that an individual must acquire for his/her professional practice?

Finally, the training institution must be analysed as the higher body that hosts these teaching-learning processes. We can here question the role this institution and teaching professionals must play in the control of generated contents:

- On one hand, their role regarding intellectual property. In a free-software and joint-creation context, hindering and hampering socially generated knowledge seems rather illogical. Nevertheless, it does also seem illogical that, in a moment when ideas and products have high market value and many of them are zealously protected by corporations and research institutions, the information generated in a training environment by a group does not dispose of the minimum coverage to guarantee protection against third parties obtaining non-consented benefit
- On the other hand, the role of validating group-generated contents imposes. Training institutions must accredit and therefore approve the capabilities of an individual after the completion of a training process, among other duties. Thus, it should not be forgotten that the information generated in a training programme is stamped by the institution that supports it, and therefore goes beyond the training space through didactic materials, learning activities, etc. In this sense, a space of debate necessarily opens on the validation process of the knowledge generated by means of 2.0 tools, and therefore on the borders of the own training programme. “Truth” —which has traditionally been an unequivocal value —now becomes “truths” (Weinberger, 2007). This change entails certain complications when we

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3 deal with regulated training, which should approve students' learning
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5 • Finally, as an innate trend in 2.0 tools up to date, contents are now more
6 perishable than ever. Expiration dates and temporariness get mixed up. The
7 former is given by the current knowledge society, although 2.0 tools are
8 understood to emphasize this feature, as knowledge is built up "on time".
9 Essentially, this means that both teaching professionals and students are updated.
10 Updating demands certain values such as effort, responsibility or personal interest
11 and motivation. The latter can seem more worrying, since the "beta thought"
12 (Pardo, 2009) appears: always under construction, provisional, alert to
13 discriminate between information and knowledge, on one hand, and noise on the
14 other.
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18 Undoubtedly, "outside" values and preferences directly influence (decide on) the
19 conceptualization, development and production of contents at the heart of training
20 institutions.
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22 23 **Another edge to file: evaluation processes in distributed learning**

24 We cannot forget that evaluation is one of the key axes in the teaching-learning process
25 in higher and postgraduate education. They constitute the main way through which the
26 institution argues and accredits what students have learnt, and has traditionally been a
27 teacher-mediated issue. In this sense, according to the objectives, the competences to be
28 developed and the general methodology to be applied, teaching professionals elaborate
29 the set of instruments and activities that will enable reaching them.
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33 The entry of 2.0 tools into the training field obviously does not only introduce new
34 variables regarding the role of the participants to the teaching methodology or the
35 production of contents, but evaluation is also another essential issue for reflection. 2.0
36 tools allow learning processes to take place in different times and spaces, thus being
37 constructed individually and in social contexts, and take place in formats characterized by
38 informal learning (conversations, short interchanges, debates, quick discussions,
39 consultation to multiple sources, etc.) New, less academic, more direct languages are also
40 introduced. These languages are singularized by "outside" features from the market, the
41 everyday practice, etc. Learning by means of 2.0 tools takes place in the interaction in a
42 non-space or multi-space created constantly between the individual and the group, in the
43 limit between personal opinions and the contrast with those of others.
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47 It no longer makes sense-focusing evaluation only on the result, in the output handled the
48 last course day as the end of the work. Evaluation is therefore applied to an issue that is
49 constantly growing, changing and transforming, and factors such as feedback or
50 interactivity get an outstanding role in evaluation. Lecturers will have to prioritize the
51 process. Therefore, they will need to create new assessment instruments and tools.
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54 In this context, it seems rather logical that lecturers must incorporate peer and intergroup
55 evaluation more intensively, as well as promotes the evaluation of the competences of
56 these new spaces of interaction and social construction of knowledge (arguing capacities,
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3 justification, contrast and validation, critical awareness, collaboration, interchange, etc.)
4 This evaluation should also consider different depth and quality levels, so that it seems
5 that the signature evaluation will play a more relevant role in the general assessment of
6 learning advances. In the fields of regulated education, what new values will then be
7 evaluated?
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10 This introduces ethical questions related to the teaching professionals. These questions
11 can be articulated in the following way: if the “process” becomes one of the key aspects
12 in evaluation, this probably entails visualizing what is happening at the heart of the group
13 at all times, but to what extent will lecturers be able to take part in this group process? To
14 what extent will students consider their working procedure as keeping an eye on them?
15 Will this lead to a more continuous creation of alternative communicative spaces among
16 students so as to escape from this supervision? Will then actual learning processes take
17 place in these other alternative group spaces?
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20 21 22 **Decisions to be made: dealing with 2.0 tools at institutional level**

23 After the presentation of all these evidences and doubts, there is still a question to deal
24 with. If the values, preferences, expectations and criteria from “outside” through 2.0 tools
25 involve certain revisions in several of the intrinsic focuses of all training processes
26 developed in higher education institutions, must there be a strategic positioning at
27 institutional level to boost the entry of this culture, with all the changes it entails?
28 Beyond economic, ideological or production issues —from our viewpoint —these are the
29 basic aspects which directly influence the teaching-learning process:
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33 Firstly, it can be said that this promotion, in times of full spread of 2.0 tools, seems
34 advanced, on one hand, and risky, on the other. In spite of the applications, good
35 practices and studies that are now beginning to emerge in this field, 2.0 tools are still a
36 turning point in a somewhat unexplored land within the educational sphere, although they
37 have had wide social acceptance. It has already happened; this will not be the last.
38 Education is effectively a highly sensitive field to technological innovation, receiving
39 both its positive and negative influence. In any case, it seems rather clear that training
40 institutions must visualize the role 2.0 tools will be given within a relatively short-term
41 period, since “outside” demand is pushing hard. This means processing the potentialities,
42 risks, benefits and opportunities these tools involve to train and teach skilled
43 professionals in a market in which competences associated to 2.0 tools are highly valued.
44 Any institutional position also entails the validation of different examples in which the
45 application of 2.0 tools has lead to an important qualitative improvement regarding
46 content generation, teaching methodologies, evaluation, etc. Higher education institutions
47 must research on their use in ongoing training programmes and progressively configure a
48 bank of good practices applicable to other training contexts. Beyond the creation of
49 recipes automatically transferable to any other reality, it is about articulating basic
50 principles that may be adapted according to the needs of each course.
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55 At the same time, it demands consensus on aspects related to the pedagogical function of
56 these institutions. That is, looking for agreements on the typology, use and value that 2.0
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3 tools will have in the whole teaching-learning process, and how they can influence
4 certain issues such as contents, methodology, evaluation, or the panel to be developed by
5 both lecturers and students. Obviously, reaching this consensus will not be an easy task,
6 given the values at stake.
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9 Another important aspect is related to the creation of an open and positive attitude by
10 teaching professionals regarding the use of 2.0 tools within the framework of the different
11 training programmes. These tools cannot be stated to have massively entered the
12 teaching-learning processes in higher education institutions and, therefore, many of them
13 are still spread through master lessons, written exams, reading of digital documents, etc.
14 These practices are part of the structure of the Academy and are routines set in its
15 everyday activity. The entry of 2.0 tools is understood not to break with everything
16 developed so far (this complete breakage discourse has been supported several times
17 within the last years, after the incorporation of different technologies; however, we have
18 checked there is no panacea, at least in the field of education), but to open new ways to
19 learn and teach. Obviously, teaching professionals' resistances and obstacles have a huge
20 weight in institutions' decision-making processes. Without their active collaboration this
21 proposal may enter a dead end street (those margined by social processes and the
22 market).
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27 Students also play an important role. That is, apart from teaching professionals'
28 promotion and encouragement of the use of 2.0 tools, and the creation of open spaces for
29 participation, we understand that students must contribute a new mood to their learning
30 processes. Apart from certain essential values such as immediacy, personal and group
31 interest, timelessness, etc. which characterize 2.0 tools —those of collaboration,
32 commitment, predisposition, critical awareness, honesty, etc. must also be added in a
33 formative context. As Simões (2008) argues, the peer-pressure to enhance performance
34 and participate in collective activities is a factor that promotes the building of ethical
35 relationships between students. This profile obviously adapts more appropriately to what
36 higher and postgraduate education should be.
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41 **Conclusions**

42 Higher training institutions face a crossroad ahead, a turning point in which they must
43 know how to balance and promote, from the Academy's structural trend, unidirectional
44 and transmitting learning to the 2.0 juggernaut, in which participation, mutidirectionality
45 and distributed learning are the most outstanding aspects. Against resistances and
46 reticence, multiple new possibilities and opportunities arise, while higher training
47 institutions face the challenge of visualizing and drawing the plan to follow.
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50 In short, we understand that resistance and reticence at institutional level to these new
51 values, ethical approaches, and expectations contributed by 2.0 tools must be carefully
52 dealt with. This task demands:

- 53 - Creating a multidirectional channel among different professionals to comprise the
54 whole relevant information for training institutions and professionals
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- Aligning training with the institution's strategic challenges and the values it desires to contribute to training processes
- Establishing a space for the interchange of good practices among the members of the same training community
- Increasing the motivation of training technicians with valuable solutions aimed at professionalizing and involving both students and teaching professionals
- Collaborating to reinforce group identity, thus creating a sense of belonging.

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