

# Mediating Diversity and Affection in Blended Learning: a Story With a Happy Ending

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**Abstract:** We had an Interpersonal Relationships course, a large class, around fifty students, working collaboratively in groups where students from different degrees, academic years, and ages, most of them deaf, tried, and to some extent were able, to communicate. We analyze this example of how diversity can be an asset and how learning management systems can act as mediators to overcome the challenges of diversity and the barriers of emotional isolation. We were carrying out a participatory action research project, within a blended learning environment supported by Moodle, to develop collaborative and personal pedagogical strategies to improve the inclusion and engagement of higher education students in their own learning and evaluation. We were using content analysis of the online discussions held by the students, of the reflective descriptions of the classes, of the students' e-portfolios, and of the interviews with the students. The paper describes how, in the context of this project, we have discovered that a learning management systems can be a powerful mediator in promoting the inclusion of deaf students and in establishing emotional bridges across gaps that face-to-face environments are sometimes unable to span.

**Keywords:** affection, blended-learning, deaf students, diversity, higher education, inclusion, participation

## 1. Introduction

The inclusion and participation of the students in the collective learning process is becoming more and more a central issue in higher education. But with inclusion and participation, affection, one of the most overlooked dimensions of education, usually comes to the fore. We describe here one of our encounters with affection. It emerged in the context of a participatory action research project where we were exploring pedagogical participatory strategies, personal and collaborative, in a blended-learning environment supported by Moodle. Our major aim was to inquire into new ways of improving the inclusion and engagement of higher education students in their own learning and evaluation.

Using the discourse of the students, we present here this encounter, which illustrates how different people can interact and learn while using learning management systems in b-learning contexts, how diversity can be an asset, and how learning management systems can act a mediators in meaningful and sometimes unexpected ways. Our research resorted to content analysis of the online discussions, of the reflective descriptions of the classes, of the students' e-portfolios, and of the interviews with the students. Roughly three hundred and eighty students were involved in the study, which extended throughout the academic years 2008/09, 2009/10 and 2010/11, covering a heterogeneous population, from the first to the senior year, taking nine different subjects, in twelve degrees, at the Polytechnic College where we teach. This population ranged from young full-time students to mature students working full-time, some of them deaf, and covered a diversity that illustrates the richness of new adult publics in higher education and creates new challenges in the academic contexts.

Cannon and Newble (2000) note that the diversity of populations in higher education demands flexible learning and teaching and the assurance of equity for all. They also identify factors such as the growing recognition of the importance of the emotional and affective dimensions in the pedagogical processes, as well as the role of technology as a tool to support learning and teaching in such contexts. Affect still remains a largely neglected field in education, in part because "the affective dimensions of learning are seen to be messy, difficult to pin down, and, to many, less important than cognitive considerations, despite the increasing recognition of the interplay between cognitive and affective processes" (Hurd 2008). This suggests that, as educators, we should be aware of the affective dimension, recognize its manifestations, and be prepared to reason and act with it in mind. It also implies that we should recognize the importance of the relationships between students and between students and teacher in higher education, the significance of supportive relationships, and

the contribution of the relational and intersubjective dimensions to the construction of meaning (Beard, Clegg and Smith 2007, Bird 2011).

As Light and Cox (2001) point out, for students who have just joined the university, the academic environment is in most cases new and strange, and its languages and practices unfamiliar. "Their encounter with higher education and learning is not simply a cognitive or intellectual grappling with new ideas, concepts and frameworks, but also a personal and emotional engagement with the new situation" (Light and Cox 2001, p. 26). Applying complexity theory to this reflection, we share with Davis and Summara (2010) the view that we need to understand learning environments in terms of co-participation, co-emergence, and co-implication, and see classrooms as knowledge spaces based on networks of relationships, rather than on teacher-centered or learner-centered contexts. The new cultures of social networks contribute to enhance this complexity and increase the pressures for change in the role of teachers and students. In the past, the students were mere consumers, but now they are increasingly becoming producers, in the sense that their participation is facilitated and encouraged, namely in blended-learning environments.

This means that we need to develop theories and practices where affect and cognition are mutually integrated (Picard, Papert, Bender, Blumberg, Breazeal, Cavallo, Machover, Resnick, Roy, Strohecker 2004). In this sense, we notice, for instance, that Rodrigues, Fdez-Riverola and Novais (2011) have proposed the inclusion of an affective module in Moodle, to help identify the learning styles and affective states of the students, and this has been recognized to be of importance for learning success.

The challenge is not just in finding out innovative approaches to the use of technology, but in "reinventing student teacher relationships" and even "give lead to our students and involve them in teaching and learning activities as partners" (Arif 2012, p. 564). As Bird (2011, p. 13) points out, the role of member or facilitator of a group is, in itself, a complex and challenging task, but "in a changing higher education system, where there is an increasing emphasis upon distance and flexibility" we must also "consider and investigate the affective and the relational elements of education, where closeness rather than distance is called for". We would add that this certainly should apply to the cases where e-learning and blended-learning are used.

With this in mind, Beard, Wilson and McCarter (2007) propose an e-learning model that integrates emotional and interpersonal competences, and Beard (2009, p. 3) stresses that "Learning experience is enriched when it involves learning from *being, doing, sensing, feeling, thinking and changing*". The case we explore is a combination of learning experiences that involve the participation of the students to promote transformation and empowerment in a blended-learning environment.

## **2. Methodology**

Following a multiple perspective approach for tackling complex systems, as suggested by Cohen, Manion and Morrison (2007, p. 34), we have explored our study within a participatory action research approach, essentially qualitative, based on a process of content analysis applied to the online discussions, to the reflective descriptions and videos of the classes, to the students' e-portfolios, and to the transcriptions of a set of interviews with the students.

The students were invited to participate in the study and were asked to sign consent forms. Although almost all the students signed these forms, a striking exception was the refusal by some deaf students. This was coherent with the attitude of suspicion and defense they demonstrated during the classes and using Moodle.

Our choice of an essentially qualitative approach took into account that qualitative tools let the participants elaborate on their thoughts and reflect on their experience (Hurd 2008). It also recognizes that these tools are not intended to reveal data that can be universalized, but rather to give indications of the factors at work in the ways in which learners relate to their learning environment. As Hurd (2008) points out, these methods can make research not only interesting but adventurous.

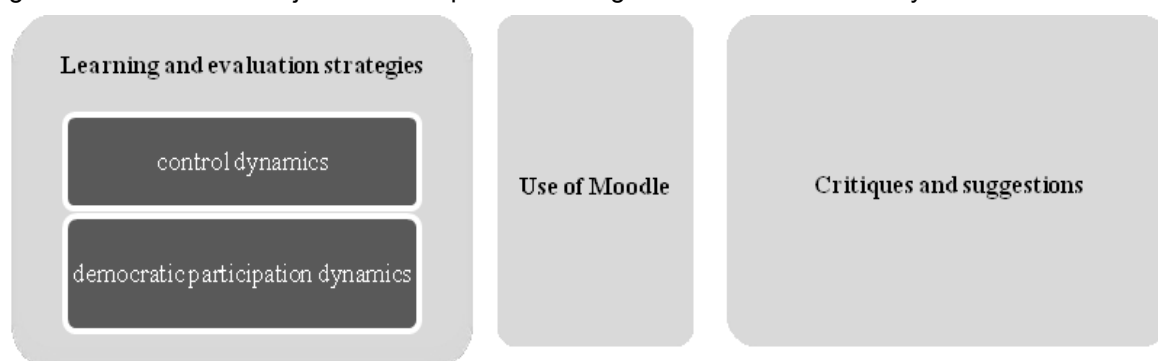
Specially in the participant observation and the interviews, we have captured perceptible evidences of the affective richness of the process, of the emotions expressed by the students, of the strategies

they fashioned to communicate, and of their own perception of this struggle. We also became aware of the advantages offered by Moodle to facilitate communication, sharing and learning.

The interviews took the form of talks of about two hours in length, where the student felt comfortable to say whatever he/she felt about the participation in the study, but it was supported by a protocol that helped us guide the conversation. The protocol for the semi-structured interviews was tested previously with a few students. For the deaf students, besides the pre-test, we have enlisted the support of a sign language interpreter, the same professional who worked with the classes. The interview protocol integrated and adapted the questions according to the development of the action research cycles. The topics and issues of the interview were the first category framework for content analysis, which was enriched with the emerging categories that resulted from a comparative analysis of the data (Bogdan and Biklen 1994, Strauss and Corbin 1998, Richards 2005, Cohen, Manion and Morrison 2007, Creswell 2008).

In agreement with our qualitative intention, we have used “purposeful sampling” (Creswell 2008, p. 214). After a preliminary exploratory content analysis, we have intentionally selected for deep analysis the materials that we felt significant for the study. This decision was inevitable, given the huge volume of data obtained. To facilitate and support the analysis we have resorted to NVivo.

Figure 1 illustrates the major initial interpretative categories of the content analysis tree.



**Figure 1:** Major initial interpretative categories of the content analysis tree

To strengthen validity, we have relied on the diversity of the participants and contexts, the duration of the study, and an attitude of critical reflection, as well as on the triangulation of multiple methods, multiple data, multiple sources, and multiple theories. With the same aim, we have carried out a review and verification of the written information and shared interpretations with the participants. Besides, we have resorted to a research critical friend (Messner and Rauch 1995), who is conducting an external audit (Creswell 2008).

### **3. Inclusion and participation of the students through Moodle**

Learning is social and mediated, as argued by social constructivism (Vygotsky 1978, 1997). Participation, engagement, and collaboration are, on the other hand, processes that characterize learning communities (Wenger 1998). This is why many development theories in higher education “inherently include person in context by integrating cognitive, intrapersonal, and interpersonal dimensions, and placing making meaning in the context of social environments” (Baxter-Magolda, 2009, p. 626).

With this in mind, we have invited the students to participate democratically in the management of the courses. We have asked them to self-evaluate their interpersonal competences and to justify their answers with stories of their lives, to be shared: (1) in face-to-face classes, (2) in the discussion forum on Moodle, and (3) in their portfolios. Many learners did not feel comfortable at all talking about their feelings and emotions, a phenomenon also described by Hurd (2008). This was why this activity of sharing, in which they all participated, happened only after a preparatory phase devoted to build confidence. This was a most significant experience for them, and, for some, a very private one, because they expressed personal feelings related to aspects of their lives that were difficult to manage, even painful, such as having a son with autism, or a son who was a drug addict, or how they became deaf sometime in their life.

Departing from the skills, goals, and contents originally established for the course syllabus, the students have been invited to build and develop shared and negotiated learning projects. This included defining collaboratively the learning and evaluation activities, strategies, processes, and products, while negotiating the corresponding deadlines.

*Portfolio, 2008/9, PSL, Belchior, 58 years – “In this course, the teacher (...) tried to make the class responsible (...), and an example is the learning contract. I think self-evaluation is crucial for us to take responsibility for our own learning and development, and provides an opportunity for us to reflect (and act) upon our level of confidence and our personal competence in the transition and adaptation to higher education (...), to decide how to direct our own path and to be more prepared to face the challenges and achieve our personal and collective goals. These self-evaluation practices also reflect upon our self-knowledge competences and our lifelong learning and personal, academic and professional career management skills, which are key aspects in the knowledge society.”*

Each student clarified in his learning contract his intended participation in the development of the projects, and his portfolio described and reflected about his learning process, the collective learning process, and the quality of the course.

When learning groups are heterogeneous, gathering very different people, this difference can be very challenging, as illustrated in the following true story, spoken in the words of their protagonists.

We had an Interpersonal Relationships course, a large class, around fifty students, working collaboratively in groups where students from different degrees, academic years, and ages, most of them deaf, tried, and to some extent were able, to communicate.

It was an optional course, open to all the students in the school, and the students came from various degrees of the first and second years, were aged between 18 years to 58 years, and were mostly newcomers to higher education. Beyond this diversity, the group presented a much less common promise: it gathered hearing and deaf students. The class also had an Erasmus student from Poland, which challenged us to communicate in three languages: Portuguese, Portuguese Sign Language (PSL) and English. The class also learned a few words of Polish. In Moodle, the messages were written in Portuguese and English.

From the standpoint of the development of interpersonal skills, this was a great opportunity to be explored. The intention to engage in this exploration was expressed by the teacher, but was initiated by the students after the first class, with the following message at the discussion forum of Moodle:

*Moodle forum, 2008/9, CMD, Francisco, 25 years – “The name of the course was attractive, I thought it would be a great complement to the course Communication and Multimedia Design, because we need to know how to interact with different kinds of people, take decisions, express our ideas, so, ... a "bunch" of things that relate directly to "interpersonal relationships". These were mere expectations... but, today, after the first class, it started becoming a certainty. Now, I can say this course will be very useful and will make us grow as far as the relationship with each person, with each moment. I especially liked the class. I find it interesting (funny) to speak three languages in the class, mostly sign language. It has always been something that attracted me, that I want to learn now, or one day, ... but I will learn. I hope the colleagues of the PSL degree could give some tips... I promise I'll give something back, who knows, maybe some tips about Photoshop or some other software. I also want to make a proposal as a challenge to the colleagues of PSL: share the sign dictionary in Moodle. It could be a way to facilitate our communication... a bit, we could try. I will work on some images to use in the dictionary, and then you can help me to get it right, ok?”*

This message refers to the sharing the students were eager to start, not only because of the challenge and excitement that it represented, but also because of the difficulty it involved.

This was a unique context, with exceptional circumstances. Forty deaf students were registered in the course, but we had thirty deaf students who participated in the classes. This was a huge number for us. We had only worked with one or two deaf students per class, in the past.

In the report of the World Federation of the Deaf (Hauland and Allen 2009), 50 out of 93 respondent countries put no formal obstacles to deaf people entering university, but only 18 countries actually provide interpreting services at the university level. Several countries where deaf people do not have access to the university justify it with the absence of means to offer access to interpretation services. The number of countries where deaf people are not formally denied access to university might, thus, be higher, but the number of countries where deaf people experience real access is much lower (Hauland and Allen 2009).

As we did not have any experience of working with such a big group of deaf students, this was a new and challenging reality, for the teacher, for the institution, and for the students. All the deaf students knew each other before they entered higher education. They considered themselves a community, a unique cultural and linguistic minority (Brokop and Persall 2010). The teacher and the hearing students were outsiders, strangers to a community that had been previously consolidated. We decided to invite them to participate by trying to improve the collective communication, and we followed their lead. As Terry Coye (1999) says: "Deaf students may be new to you but hearing people are nothing new to them."

Although being a fluent user of sign language is a prerequisite to be a member of a deaf community, that fluency is by no means sufficient (Sacks 2009). The teacher had a course of Portuguese Sign Language, but it was insufficient to communicate with the deaf students. Only with the help of a PSL interpreter could the communication be satisfactorily, but not great. "Communication abilities, while playing a part in deaf-hearing relationships, are not the only factors that keep deaf and hearing students apart" (Kersting 1997, p. 262). The deaf students revealed a clear attitude of suspicion and defense since the first class, and it was not easy to get them to collaborate with the others. Lang (2002, p. 276) stresses the "critical nature of classroom participation and the psychosocial and communicative factors that may inhibit participation by deaf students." Research indicates that the more students participate the more academically successful they will be, but active engagement by deaf students is one of the most difficult goals to meet in the mainstream classroom environment (Lang 2002). This called for personal evolution in a dialectical process of collective evolution in overcoming difficulties.

*Interview, 2008/9, CMD, Francisco, 25 years – "The dynamics was good, we were always helping each other (...) this seemed to be deliberate, hearing students had to communicate with deaf students without knowing sign language. In my group there were two hearers and four deaf."*

It was deliberate, but it was not easy, as we can illustrate with the following case of two very different students who tried, struggled and succeeded.

He was older, old enough to be her grandpa. "Sir", as she called him! He was the leader of an association for the deaf. In fact, "he is deaf, but he doesn't listen!" she said. "Everything has to be as he wants!" They had to work together, but they didn't listen to each other. "It was not because he is deaf, but because he doesn't listen with his heart!" she cried frustrated. And he became worried about her.

Away from the crowd, from the noise of the class, the learning management system, Moodle, was the neutral space where it was easier to communicate, more thoughtfully.

*Interview, 2008/9, PSL, Ana, 19 years – "The course was interesting, but I didn't know we were going to have deaf colleagues in the class. The thing that struck me most was the argument with Belchior. We think we are doing good things, but the other person thinks we are doing everything wrong. I was really upset. (...) Crying in the train. (...) Then I went home, thinking about the situation. How I'm going to explain my point of view? Then I realized I could use Moodle, send him a message. I wrote him, and I was lucky. (...) We solved the problem in Moodle. (...) In the heat of the moment, we are dealing with emotions. We are anxious, we have the boundary between deaf and hearer. In Moodle, it's different. We sit, think, and think again before we write a message, and the other does the same thing. Things were clarified, everything turned ok. We created a bond. I call him grandpa, he is the*



*class grandpa. Now we communicate well. I'm the only one with this relationship with him. This happened to me. It was terrible at the time, but now it is very positive, because we have a bond. Now it is funny, we laugh about it. I grew up."*

*Interview, 2008/9, PSL, Belchior, 58 years – "I loved to work with her, really. In the beginning she had inflexible ideas. I punched the table. I was wrong to be that impulsive. She left crying."*

*Ana explains in her portfolio:*

*Portfolio, 2008/9, PSL, Ana, 19 years – "There was a conflict in my learning group. It was a consequence of two different ways of communication, it was very intense. For me, a hearer, the world of the deaf was different and I wasn't used to it. That reflected on the frustrated attempted to try to enter it. It is a friendship that started badly, but now it gives me great joy to think of all we have overcome. We ended up knowing each other, gradually understanding our worlds. It was very difficult but it was worth it. I take from this very important memories and lessons for life, for my growth as a person."*

Belchior also learned with the situation. In his portfolio he reflected about his leadership of the group, based on his conviction that, because he was more experienced and older, the things needed to be done as he thought they should be. And why, at first, he did not feel right to accept the decision of the group to work with shared leadership.

*Portfolio, 2008/9, PSL, Belchior, 58 years – "The stubbornness and inexperience of youth will lead to failure. Because I'm more experienced and old, I could impose a rigorous way of doing things. But the group chose shared leadership, so the youngest have to learn, as I learned, with their own mistakes. It's the best way to learn"*

In the Moodle forum, talking about interpersonal communication, Belchior wrote: "*here I confess my guilt, I admit to have lost my self control. To communicate is not just to talk. The attitude and understanding allied to an affirmative dialog, and above all, to be able to "listen", are vital conditions to communicate.*"

He realized the "girl" had an important contribution to share and that perhaps her ideas were not to be rejected. She acknowledged that his life experience was useful, but he also heard that his dominating and paternalistic attitude would not work.

After a constructive dialogue, they relied on shared leadership to overcome the conflict and difficulties. With this group decision, they made a pact to make an effort to communicate assertively and to respect each other's ideas. Their commitment was visible and fruitful.

*Report work group, 2008/9, Ana, Belchior... - "The group has been led by Belchior, because he is the oldest and more experienced of the group. We discussed and worked using Moodle. That was an innovation for us. We have decided that for the future the leadership will be shared, to include everyone and to be coherent with the course goals. (...) Good communication is possible. If we want, we can."*

*Interview, 2008/9, PSL, Belchior, 58 years – "I am 58 years old, but all the ideas she shared with me, I accepted. There was communication. I learned a lot from a girl aged 19. Among young people, I feel young like them. They treat me like one of them. In certain things, I must be the youngest of them all. They may have 20 years, they could be my grandchildren. Last year they called me grandpa."*

The interaction between young and older students was an important contribution to mutual learning and shared commitment. But in this case the age was not the issue. The emotions, the previous experiences, and the expectations of the students had played an important role.

*Moodle forum, 2008/9, OC, Valter, 50 years "After years of work, daily routines and being away from school, this new adaptation is still a bit confusing to me. It is a new challenge and a new goal to be capable and achieve success. I like to relate to others and talk to people, although sometimes I feel inhibited to do so."*

Uncertainty about their own abilities and effectiveness as learners (self-efficacy), negative comparisons with other students (imagined as more successful) and fear of failure are important factors (Hurd 2008). "Emotions are not finite things, with some being good for learning, for example,

'self-esteem', and others being bad; rather, highly situated affective states as validated by peers appeared to be powerful" (Beard, Clegg, and Smith 2007, p. 250).

*Interview, 2010, ASE, Carla, 46 years – "I was afraid of failure. It is a bit difficult, it involves lots of feelings. (...) In the first year, people are gaining confidence again, after those years without being a student. (...) I was afraid, at the beginning of the course, to work with young students. I felt I wouldn't be accepted. (...) They could think I had outdated ideas. I was completely wrong! I felt they always liked to work with me. I never felt rejected. On the contrary, there were situations where they invited me to work with them. So they believed I had skills and knowledge. Once, one of the colleagues asked my age. I told her. She said: "It's the age of my mother. I can't imagine my mother doing this work with me". (...) My life context is different, but I could understand them. I felt I was a mother figure (...) I was wanted in the class. I was not a strange element, which was my fear: I was loved. They wanted me to meet their mothers. They admired me because I was, at this age, studying in higher education, it was even an encouragement to their parents."*

*Moodle forum, 2008/9, PSL, Ana, 19 years – "Our class is very heterogeneous, not to mention the age differences that bring different mindsets and perspectives of life."*

The life experiences have been recognized and valued by the teacher and the students. They have been invoked particularly by the older working students, as shown in the following excerpts from a discussion forum on this subject.

*Moodle forum, 2008/9, PSL, Belchior, 58 years - "In about 40 years within the associative movement of the Portuguese deaf, as a leader, I have developed a solid experience of interpersonal relations and groups, of conflict solving, dealing with factions, groups, policies, sometimes in opposition, that arise in every collective movement. I've always tried to manage these situations by looking for consensus that benefited the deaf community. So, I think that, unlike some of my colleagues in the class, I have practice and experience. But I don't have the theory (...). I'm available to collaborate with everyone for a better interaction in classes, to help us all achieve our collective goal: learning. I hope that what I have learned in the university of life can be useful now."*

*Moodle forum, 2008/9, OC, Diana, 43 years – "Everybody has developed some competences in the university of life. This course is a good opportunity to share those competences. To solve conflict situations, well, sometimes the attitude depends on the people involved. What is valid for one person could not be valid for another. Usually, I facilitate dialog between the parts in conflict (...). I want to recognize here a positive note about the course and the class I have chosen. I'm loving my colleagues."*

The differences were opportunities to explore and work with the students, starting from their acknowledgment of their own goals.

*Moodle forum, 2008/9, PSL, Ana, 19 years – "I'm afraid I'm not a person who is very much at ease to expose what I feel and want. I prefer someone to take the first step, because I fear the reactions of others to my opinions (I sometimes even stutter) (...). What I need to accomplish in this course is to be able to communicate mine, fight for them, but also respect the others' opinions, because I'm stubborn."*

She accomplished her goal, because she was the one who took the first step to solve the conflict, and Belchior acknowledged that and praised her:

*Moodle forum, 2008/9, PSL, Belchior, 58 years – "Dear Ana. I'm thinking about your words here in the forum. Congratulations, you are gradually coming to understand how a deaf person feels in daily life. One of the things I learned at the university of life, about interpersonal relationships, is that constructive dialog and good will can solve everything."*

*Moodle forum, 2008/9, PSL, Belchior, 58 years – "I have followed your evolution since the first class. You have developed an autonomy that you didn't have in the first days. I'm pleased to see that you can defend your opinion, fight for it when you think it is fair and consistent. It's been a pleasure in my life experience to see you grow. Keep it up, I will help you."*

*Ana replied: "Dear Belchior, you don't know how happy I am with your message! The beginning was hard, different mentality, life experiences! It is important to communicate here. I hope to learn more with you and in the future laugh about our beginning. Respectful kisses."*

*Moodle forum, 2008/9, PSL, Belchior, 58 years – "I already laugh a lot thinking of the early days. I'm used to these confrontations in daily life. I talk, listen to the others' opinions, but in the end I do what I had in mind since the beginning! Ehehehe! But your enthusiasm, joy, participation in the group, is changing my mind, and I can now leave to you most of the responsibility and leadership: so you can learn more, because you are the future and I'm a relic. And to see the results, I think it's worth: congratulations. I leave richer in terms of maturity, with a different vision about interpersonal relationships, specially about the interaction between two distant and different worlds, but simultaneously, so close and similar."*

The participation of the students creates problems because conflict is inherent to democracy. But open dialog and conflict took students to their "zone of proximal development" (Vygotsky 1978), with the students managing their conflicts, with no direct action from the teacher. The teacher only opened space for dialog, online or in person. Interestingly, the conflicts at the collective level were usually discussed and solved in classroom, while the conflicts with one or two students were overcome with messages in Moodle, to avoid confrontation face-to-face.

Most of the deaf students were not comfortable participating in Moodle, because of their poor writing skills. They did not want to expose themselves to teachers and colleagues (whether deaf or hearers). They would rather communicate only by sign language. To answer this need, some teachers use video. Straetz, Kaibel, Raithel, Specht, Grote and Kramer (2004) have presented a learning management system designed to meet the needs of deaf learners: bilingual information (text and sign language), a high level of visualization, interactive, explorative and self-directed learning, and the possibility of learning in peer groups via video conferencing. E-learning does, in fact, create new opportunities for deaf students (Mason and Rennie 2006), and, as proposed by Capuano, Monte, Groves, Roccaforte and Tomasuolo (2011), the e-learning environment should focus on utilizing the visual skills of the users.

However, there should be no indulgence towards the dismissal of the exercise of writing. The teachers must challenge deaf students to write often and write more (Brokop and Persall 2010). The ability to write is a crucial skill to be successful in an era where most activities extend to the virtual world, where most of the interaction happens in writing. Besides, writing is the highest level of communication and the most critical ability to create meaning (Giddens 2009).

We cannot, thus, avoid imposing the exercise of writing and include it in the student evaluation, even more because the students have difficulties in that respect. Inside the deaf community, as they call themselves, there are the born deaf, the deaf who became deaf, and the deaf who use a device to hear: the deaf student population is not homogeneous (Sacks 2009). A differentiation exists between these groups. Those who write correctly are those who could hear at a time in their lives, particularly if they had learned to read and write before they became deaf. The others who cannot write well do not want to expose their writing. Brokop and Persall (2010) explain that writing is often used as a testing tool, rather than as a learning tool, so the students approach the act of writing with the fear of being incorrect. An advantage of interactive writing is that it incorporates elements of writing while supporting the learners in a non-threatening way that allows them to develop writing skills alongside more experienced writers (Giddens 2009). They are not used to being asked to express their opinions or ideas in writing, so they tend to feel insecure.

Despite these difficulties, the students recognized the utility of Moodle as a means to support communication and learning in heterogeneous groups.

*Portfolio, 2008/9, PSL, Ana, 19 years – With easy access, Moodle greatly facilitated communication between colleagues and access to information on interesting topics, promoting discussion. For me and for many of my colleagues, this was a revolutionary suggestion. It was a new experience, where I obtained useful information that enabled cultural enrichment and promoted greater acceptance of the others' opinions, leading to good communication between everyone. In fact, we have eliminated communication barriers*



*between students, because in Moodle we could communicate in various ways. It was not just a course, it was a dynamics, using new technologies for personal development.”*

*Portfolio, 2008/9, PSL, Ana, 19 years – “For those who felt uneasy about the world of silence, I learned a lot from the development of the activities and dialogues that have been achieved through Moodle.”*

*Moodle forum, 2008/9, PSL, Belchior, 58 years – “Through Moodle, deaf and hearers maintained a positive dialogue that they didn’t have in the face-to-face classes.”*

We have thus promoted flexibility, autonomy and sense of community using blended-learning strategies. In Moodle, the students had their own space, with no need to rush, so they had the time to reflect, communicate, and discuss — the time that was insufficient in face-to-face classes. There were too many students, in a two-hour weekly class, to be able to explore the subject collectively and face-to-face. Diana, another working student, confessed, in the Moodle forum: “I wish it was Thursday. I long for our class.” While they were waiting for the class, they could be at Moodle, and they liked it.

Despite the difficulties of communication and of building relationships, the satisfaction, engagement and motivation of most of the students were evident in their participation in face-to-face classes and in Moodle. Just as observed by Richardson, Long, and Foster (2004), the students with a hearing loss indicated that communication in distance education was easier than in campus-based settings and enabled levels of interaction that led to a sense of belonging to a community of learners faced with shared intellectual challenges. We could unmistakably recognize this sense of belonging to the learning community, fostered by the participation in the Moodle environment. Technology was, thus, important to promote democratic participation, and the students could say, as the working student Carla observed: “*we are connected to the class and the teacher*”.

The projects developed by the students also improved inclusion, communication and interaction between and with other students beyond the course and the class, a feature that stresses the open character of the course as a complex adaptive system (Davis and Sumara 2010). The strategies we have used were diverse, but they were all oriented to enable the communication between the students. They were also oriented to improve the inclusion in class and in the academic context where they had to expose themselves, get beyond their limits, share, collaborate, negotiate, manage conflicts, and lead. These tasks were not easy to accomplish by the majority of the students, but they contributed, in various ways, to their development. It was an evolutionary process that resulted in the engagement of the students with each other, with the teacher and with the institution. It generated closeness and understanding and sustainable relationships that contributed to a greater, more inclusive, community.

#### 4. Conclusions

Rather than proving anything, this narrative had the intention of inspiring the reader. As Friesen (2008) argues, the knowledge that can be derived from a particular narrative for research and learning in eLearning is situated, practical, and, in some ways, personal. Research into the affective and experiential aspects of eLearning is growing (Pachler and Daly 2011), and the qualitative approach can be useful to tackle these highly complex issues. This is what we have tried to do, in what we hope was an inspiring and, to some extent, reproductive way.

The paper describes the challenges and potential use of a learning management system in a learning context where deaf students interact with hearing students, and where young and older students try to learn together. It illustrates how a learning management system can facilitate the inclusion and participation of the students in a democratic context. It also shows how such a system can be effective in the integration of working students. On the other hand, it illustrates how deaf students who do not want to expose themselves can benefit from the experience of community learning afforded by pedagogical strategies and tools that could never exist face-to-face. It also illustrates how students can be learning resources to each other (Pachler and Daly 2011) and how students who learn together can find ways of communicating and self-organizing themselves to improve their learning and development. Despite the difficulty of the process, the story has a happy ending, epitomized by the shared understanding discovered between the young girl who was afraid to talk and her deaf foster ‘grandfather’. Beyond what is often described as the coldness of technology, educators and

students can help each other find technology-supported contexts that never existed and where people can learn (together) to listen with their hearts.

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