Digital training in intercultural education for teacher training: analysis of an innovative experience

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Abstract: The present paper analyses the development and results of an online postgraduate training course addressed to pre-service teachers from different educational fields who aim to be trained in intercultural matters. The mentioned course was implemented in 2013–2014 at the University of Extremadura. Discussion groups and log books were used from a qualitative methodology. Seven faculty members and 16 graduate students coming from eight different training modules participated in the study. A number of comparative categories among the modules that allowed the development of a strengths, weaknesses, opportunities, and threats (SWOT) matrix were established. Results demonstrate that the online graduate training was especially beneficial to generate skills that will support potential teachers when facing intercultural classes. Nevertheless, there are still some facets related to internal teacher’s coordination on content and activities that will be enhanced in future sessions of the course.

Keywords: multicultural education; intercultural programs; online courses; electronic learning; competences.

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1 Introduction

The dialogic principle among cultures and understanding and acceptance of otherness are the most important values to work in teaching tasks because, as Reichman (2014) points out, today’s globalised world implies that higher education institutions must face multiculturalism and diversity.

It is in this latter context where intercultural education as a response to cultural diversity within the education system is described (Mostafázzadeh et al., 2015), which is
quoted as an interdisciplinary topic in several curricular proposals from a number of global educational systems.

It is true that the analysis of cultural diversity is a relatively novel topic. However, by the end of the XX century, there were a number of educators concerned about intercultural matters and we observed that this tendency is increasing.

Interculturality represents, perhaps like no other movement in Europe today, the emergence of new values, which in turn generate new expectations among different social groups and in the community as a whole. Acceptance of cultural diversity in current multi-ethnic societies, the essence of multiculturalism, involves substantial modification of the axiological profile of communities and consequently, the development of innovative targets in education, including De la Orden (1994) which includes the essential following concepts:

- to maintain the identity of the ethnic and cultural majority and minority groups
- to promote, strengthen and extend attitudes of respect for other cultures
- to understand the contributions and meaning of other cultures
- to develop attitudes and skills of communication with its members.

At the same time, it is believed that teacher training in intercultural matters should be approached from a critical angle, from a training where the commitment of education with society stands out developing a dialectical attitude with society in teachers. To this light, according to Hunt and Tickner (2015), virtual communication sites are fundamental to promote teaching approaches based on socio-cultural methods. However, it is still a challenge to sponsor virtual learning communities that support diversity as well as trying to modify behaviours, attitudes, perceptions, ways of doing things, etc.

Since a significant number of teachers were trained to serve groups of students who meet certain homogeneity, they tend to perceive culturally different students as an additional problem to the attention to diversity issue, a matter that is frequently questioned by educators. The school may be the ideal place for teacher training in the intercultural dimension as it can be observed through the recent studies developed to this purpose by Arnáiz and Guirao (2015) together with Aguado and Ballesteros’ (2015) works.

Authors such as Ortega and Del Rey (2007) state that the overall quality of the centre relays on the school atmosphere, which emerges from the perception and experimentation of interpersonal relationships by members of the educational community.

Institutionally in Europe studies on climate, violence and abuse in schools are the responsibility of the European Observatory on School Violence, which aims to advance in the understanding of the phenomena of school violence, crime and juvenile victimisation and farther issues related to these matters as well as the identification and recognition of good practices in the development of intervention and prevention programs.

Nowadays, research focus refers to studies by Debarbieux and Blaya (2003a) which talk about micro-violence and school climate, together with the analysis connected to the influence of economic globalisation in education; North-South dynamics and educational communities’ confrontation and especially youth (Debarbieux and Blaya, 2003b) along with the important role of both initial training of teachers and life-long learning (Blaya, 2002).
The materials used in this educational context to address diversity are based on free software and should gather the proposal described by Yuste and Gutiérrez (2012). This proposal is under the precepts of Cebreiro (2011, p.170) where flexibility is the fundamental key design:

- **Access to information:** offer a wide range of learning resources along with the possibility to exchange with professionals and students from similar or diverse scopes.

- **Timing and training areas:** diversify and extend learning environments (workplace, training centre, virtual classrooms, virtual labs, video conferencing, virtual communities, personal learning environments...) and the number of miscellaneous possibilities of commitment from students.

- **Materials should allow developing different learning styles for students in response to their individual needs and characteristics.**

- **Participation and interaction:** students, through networks, will be able to participate in various collaborative learning experiences, for example, discussion forums, distribution lists, online chats, etc. This will facilitate the construction of meaning and interaction.

- **Students monitor their own learning process. Therefore, metacognitive skills involved in the process (learning to learn) and making decisions about their own learning must be enhanced.**

- **Process evaluation as an instrument to regulate learning and guidance of the training program.**

In this sense, Priegue (2011, p.374) states that the potential of virtual networks and virtual learning communities for multiculturalism is higher than any other resource for the development of intercultural competences. This has to do with four issues:

- **Accomplishing a common objective.** The suitability of these structures to undertake common responsibility as well as setting team goals (above individualistic behaviour and competitiveness, relegating the differences among participants and strengthen the sense of community and collective necessities) should be taken into account. So one of the keys to success lies in creating positive interdependence among group members. In other words, the need to work together to achieve the objectives set in and for the community.

- **Contributing to education in and for democracy.** The nature of its utilisation and operation favours the establishment of democratic participation structures where cognitive, social and emotional learning are combined.

- **It is obvious that communication processes are established and constructed from each individual’s cultural significance spaces, so involvement in this kind of networks enables to become familiar with different realities and cultural representations, which will contribute to the establishment of cultural diversity in the virtual space.**
• Encourage positive acceptance and appreciation of diversity. In this sense, we are not only referring to the existing differences due to cultural or gender roots, but to our intrinsic diversity as individual beings.

Based on the causes stated above, we believe in ‘digiculturality’ a term coined by Borrero and Yuste (2011) and later developed by Leiva and Almenta (2013). Rodríguez (2015) works with the concept as well but uses a different term to conduct a study on how technologies would promote the acquisition of intercultural competence.

In a digital and culturally diverse context, as the one described earlier, this study aims to analyse a 200 h e-learning postgraduate university training course (this course is optional and addressed to pre-service teachers where they will be trained to be able to provide educational responses to cultural diversity).

This paper is part of a research conducted under Work Package 4 “Selecting and testing IT tools” of the IRNet project (Marie Curie Actions of the European Union’s Seventh Framework Program FP7/2007–2013). The research question outlined here arises from the concern to study the pre-service teacher training syllabi in order to improve their responses to diversity in the classroom once they become in-service teachers. Thus, is it possible to favourably contribute to intercultural education through an innovating training postgraduate online course addressed to pre-service teachers? Therefore, the aim of this paper is analysing an e-learning training action offered by the University of Extremadura (Spain). The project is addressed to university graduates in educational fields who demand to be trained to respond to responses to cultural diversity.

The design of the training was completed following an innovative e-learning methodology in the frame of university graduate programs. The proposal arises from the inevitable necessity to train teachers to address the complex intercultural reality faced today. The training was developed through an LMS in an e-learning context, which was proven as a useful and feasible method for this type of training as well as for the universality of themes and potential receivers.

2 Methodology

Qualitative research is the methodological choice considered most appropriate given the nature of this study since research is conceived as an active, systematic and rigorous inquiry conducted the process in which decisions about what is searchable in the field of study are taken. Although some of the data can be quantified, the analysis is mainly qualitative (Strauss and Corbin, 1994). As Pérez (1994) states, the focus lies in the implementation of detailed descriptions of situations, events, people, interactions and behaviours that are noticeable, incorporating participants’ voices, experiences, attitudes, beliefs, thoughts and reflections as are expressed by themselves.

In short, we, as well as Sandín (2003), believe that qualitative research is a systematic activity oriented to the in-depth understanding of educational and social phenomena, the transformation of practices and socio-educational scenarios, decision-making and also to determine and develop an organised body of information. Thus, the study analyses the training that was implemented in the academic year 2013–2014 at the University of Extremadura.

The participants of the study were, on the one hand, seven faculty members from the University of Extremadura. These faculty members were the teachers of the training
action analysed and their backgrounds were: Education, Psychology and Sociology; on the other hand, 16 graduate students that were enrolled in the training action analysed, all of them Spanish and held B.A.s in Primary, Nursery and Social Education. Those students were really concerned about interculturalism.

The analysed training was online and offered through a Moodle platform. It consisted of blocks of data described in Table 1. The structure of all the blocks consisted on: theoretical contents, activities (case study, problems to be solved, educative intervention based on authentic case studies), real-time synchronous as well as the asynchronous debate (forum), and final project of the course.

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It should be taken into account that in qualitative methodology, in order to solve the research problem, the research question must lead researchers towards the specific
techniques of data collection and to the most appropriate analysis. The collection of information, its interpretation and integration encounter difficulties due to the handling of a large amount of rich in content data. Consequently, a wide range of instruments is frequently used. In the case of this study, instruments are:

- **Focus groups**: online discussion groups developed in different thematic blocks to be analysed. Both teachers and students participated in such focus groups. Four focus groups composed of faculty members and students were analysed.

- **Logbook**: in the shape of a field notebook; faculty developed a logbook where they analysed and reflected on the accomplished educational practice. In order to arrange the logbook, the following dimensions were taken into account: objectives, activities, resources or materials, features of interaction with students, characteristics of the interaction of faculty with students, characteristics of interaction among students, evaluation.

### 3 Analysis and discussion of results

For the analysis of the data obtained, seven cross-cultural dimensions, corresponding to the different training modules, were categorised. All of them allowed establishing a defining framework with the aim of developing a subsequent comparison by a strengths, weaknesses, opportunities, and threats (SWOT) matrix (See Figure 1).

**Figure 1** SWOT (see online version for colours)
Dimensions articulated were:
1. title of the training action
2. objectives
3. activities
4. resources
5. characteristics of the interaction with students
6. characteristics of the interaction among students
7. evaluation.

Regarding the procedure, data units were first of all categorised among the seven dimensions which emerge from data, afterwards they were analysed and recategorised following the SWOT matrix.

Now, as a summary, the key elements of the analysis of the four training modules are explained below:

3.A  **Title of the training module**: Methodological strategies for the development of an intercultural/inclusive school:

- **Objectives**: Develop teamwork strategies, cooperative learning and collaborative work to develop an intercultural school implement assessment strategies based on peer assessment and self-assessment
- **Activities**: Discussion forum on teamwork, collaborative work and cooperative learning; a case study on the implementation of alternative methodological strategies to enhance the inclusive school.
- **Material and resources of the module**: Class theoretical lectures, significant and related reading.
- **Characteristics of the interaction with and among students**: Forum devoted to questions; a session held in the synchronous virtual classroom to solve the proposed case study.
- **Evaluation**: quality of the student’s involvement in the discussion forum on teamwork, collaborative work, cooperative learning; and the quality of the case study on the implementation of alternative methodological strategies to promote an inclusive school.

3.B  **Training module title**: The school atmosphere: School culture and living plans

- **Objectives**: To promote reflection on school’s atmosphere in relation to school culture, management of centres, teaching discomfort, leadership, cross-cultural competences: social and civic, communicative and the evaluation of the organisational, social, academic and psychological topics; to analyse intervention programs to enhance schools.
Activities: Develop personal reflection issues based on school climate; practical case study to analyse research resources (journals, conferences, etc.) in order to detect good practices that have been implemented to enrich school atmosphere; develop a conflict resolution program based on the selected topic documentation and readings for this course. The document structure should be adapted to the models proposed in the literature of the field.

Materials and resources: Mainly digital, such as research centres, journals and conferences related to education and intercultural matters; Canario Training Plan. Biennium 2011–2013, program training to improve coexistence and school climate; readings and documents on how to enhance school atmosphere through the engagement of families at school; Ecoescuelas Program to enhance school atmosphere, school culture and living plans; Golden5 Project. Educational Project addressed to teachers in order to generate a comfortable and effective climate at school.

Characteristics of the interaction with and among students: The discussion forum for questions, the discussion forum with active participation, characteristics of the interaction among students, collaborative work with an intense engagement.

Evaluation: The quality of reports generated was excellent, both in relation to the content, as well as to the structure and shape.


Objectives: Be familiar with the basic aspects in the relationship among educational community, family, immigration and school; deepen in the role played by families to encourage intercultural school; apply strategies to support multiculturalism promoted by educational community; promote a critical and conflict resolution attitude towards cultural issues promoted by the educational community.

Activities: Conflict resolution (students are provided with real examples obtained through studies of immigrant families in which conflict situations at school level where the family is involved; theoretical case study (The goal is to design a strategy for dialogic conversations with parents of students to promote intercultural dialogue); report (containing information about scientific foundations of learning communities, working methodology of learning communities, an example of learning community’s authentic cases, conclusions).

Materials and resources: School, Immigrant Families and Participation (Garreta, 2008); Families Involvement in an intercultural school: a shared vision (Sánchez and García, 2009); Family, school and civil society. Education agents (Touriñán, 2010).

Characteristics of the interaction with and among students: Discussion forum (presentation, resolution of questions and debate); an initial communication by the teacher to approach, five by students who started different lines of discussion. The rest were responses to the proposed debate. Finally, there was a reflection by the teacher that served as a conclusion of the discussion in the following terms:
First of all, I would like to congratulate you for the development of interesting debate. To sum up your comments, it could be said that all of you share the difficulties to conciliate work, family and school lives, and that schedules are one of the mail for that. To this point, one of your proposals is to favour ‘flexible timetables’ to look after the family, as well as develop awareness-raising activities. Some of you have complemented this idea pointing out that family life and work should be conciliated in different ways, not only traditional ones, so maybe it is not that important that parents have to go to school, as different meetings could be done through different alternatives (digital conferences). As one of your colleges says, it is essential to consider both, family and school, as institutions able to generate learning, with an educational role. Hopefully, more and more schools with innovating proposals as learning communities are getting established in our society, seeking the participation of all the educational community, with outstanding results for our education.

Thank you all for this depth debate.

Signature: The Teacher”

- **Evaluation**: Students positively accomplished the goals.

3.D Training module title: Curricular materials for the development of intercultural education

- **Objectives**: Be familiar with the curricular elements that influence the acquisition of student’s intercultural and digital competences; identify and use different types of materials and tools for intercultural education in their teaching activities; Intercultural; inquiring and reflecting on teaching practices and materials that work for and multiculturalism; promote interest in educational innovation by generating projects and intercultural teaching practices; design materials in Intercultural Education; encourage the use of digital tools that support collaborative work among different specialists within the same school.

- **Activities**: Conflict resolution (analysis of two images from textbooks from Gutiérrez and Llanos (2005) and Gutiérrez and Ibáñez (2013), of any matter of Compulsory Education, which collects stereotypes about cultural, social and ethnic groups, like the examples offered in the papers; entries in the Glossary following the analysis categories proposed by Luengo and Blázquez (2004)). Practical case study, Inphography (‘Tell me about yourself’, ‘Stop the rumour’, Immigrant students lower educational level at schools and promote school ghettos. Timing, ICT resources); Project/Intervention (the elaboration of a teaching innovation project where intercultural and digital competence of students in compulsory education is requested).

- **Materials and resources**: How cultural and gender stereotypes are transmitted through the images of ICT in textbooks (Gutiérrez and Ibáñez, 2013); Images provided by the textbooks about cultural (Gutiérrez and Llanos, 2005); Gender and textbooks: a study of stereotypes in images (Luengo and Blázquez, 2004); Dynamic group exercises; Infographics tool generation; ORDER of 13 February, 2013 by which the selection of projects of educational innovation in schools of non-university education, publicly funded, of the Autonomous Community of Extremadura is regulated; RESOLUTION of 26 August, 2013, of the General Secretariat of
Education, by which the selection of projects of educational innovation in schools of non-university education, publicly funded, of the Autonomous Community of Extremadura is convened.

- **Characteristics of the interaction with and among students**: The forum promotes interaction. Interaction is more frequent when explaining doubts and also when solving activities, it has also been used for the presentation of an activity and the introduction to the module. Besides, it has been used to become familiar with the evolution of the activities and monitoring of student’s performance. The medium in which the interaction occurs is the forum. The most frequent interaction comes when solving doubts, closely followed by the resolution of an activity. In addition, students interacted and exchanged ideas and tasks were initially proposed for group work.

- **Evaluation**: Students successfully elucidated the proposed activities by acquiring a high level of the level of in-depth study in the contents and also the accomplishment of tasks even above expectations. Students performed all proposed activities with guarantees of success and acquiring a deeper level of content and completion of tasks above expectations.

Once comparative parameters of different training proposals – using tools for qualitative data analysis as a resource for analysis – were established, an especially useful SWOT matrix was arranged. This tool allowed establishing where the weaknesses, threats, strengths and the training opportunities developed where located. The results discussed below are illustrated in Figure 1.

Regarding weaknesses, students’ lack of previous knowledge (their time availability and dedication to the course was also studied) was analysed. Consequently, materials and readings (basic and expansion) and/or activities proposed by teachers may have not sufficiently connected with their interests, motivations, or prior knowledge. Their previous training and teaching experience were quite unknown even within the educational field. As noted below, it would have been positive a deep coordination among content, resources and activities to be implemented during the course especially to prevent potential overlaps and gaps between modules.

As for the threats, due to students’ lack of time and commitment, probably due to a lack of coordination and appropriate planning from the teacher’s part (weakness), students chose not to make certain proposed tasks that required a laborious effort, presumably to avoid an immense investment of time and work.

With regard to the strengths, the multiplicity of activities, elective subjects and richness of the proposed contents as well as the enormous amount of resources provided were of great help. Additionally, faculty members were particularly motivated and trained on issues related to multiculturalism. The possibility of using the methodological principles to develop an intercultural school was positively valued.

Finally, with regard to opportunities, we would like to emphasise that a course of this nature allowed to train pre-teachers in intercultural issues by increasing their understanding of diverse cultures, skills and approaches to various questions related to multiculturalism by means of using technological resources available at most universities in a modern and globalised scenario within a virtual learning environment.
4 Conclusions

In this paper, a study based on an innovative graduate training proposal conducted during the academic year 2013–2014 and created to build a virtual environment in intercultural education for pre-service teachers is presented. The goal pursued throughout the study was to analyse the training provided in order to obtain answers to the success of the teaching offered and the potential variations in forthcoming courses.

The first conclusion reached, and in turn, the most noticeable, recommends that it is promising and advisable to offer e-learning training that goes beyond the acquisition of knowledge, but pursues the acquisition of students’ skills to respond to their environment’s cultural diversity. In this sense, the present study reinforces the perspective presented by Liaw (2006), who exposed diverse categories of intercultural competences whose development is viable in online environments.

However, it is frequently assumed that virtual environments are not effective settings to foster attitudes and skills and end up becoming virtual classrooms content repositories that will be subsequently evaluated under a face-to-face traditional examination. Nevertheless, after analysing the data obtained, we concluded that planned and organised online training can promote reflection, transformation and commitment towards social values such as diversity.

To achieve the desired educational response, it was established that it is constructive to offer a wide range of resources and materials where content but also attitudes are worked. Correspondingly, it is encouraging to implement diverse and effective virtual activities such as those suggested by Linser (2002) including plenty of case studies, problem-solving and interventions, employing interactions in virtual forums and adopting specific methodological principles of the competence promoted; in this case, intercultural competence. To this end, it is essential to count on highly skilled and motivated teachers that are familiar with the profile of the students involved and who devote time and effort to counselling and guidance assigned.

On the other hand, it was observed that the coordination of the training in virtual environments should pay special attention to probable overlaps and breaches, the well-adjusted development of training and communication among teachers, with the aim of making them aware that their effort will contribute to the improvement of pre-service teacher’s understanding and intercultural skills.

In summary, the creation of online courses addresses to pre-service teachers with the aim to enrich their background and intercultural competence. The courses addressed to this end should be especially innovative and follow a constructivist perspective. The training offered should be completely planned in detailed. Reflection, the transformation of ideas and compromise towards social values should be promoted. To do that, materials and current resources based on case studies and conflict resolution should be implemented. In this sense, good interaction among participants, strong faculty compromise and aspects related to strict internal coordination are fundamental.

It was tested that the method used and the typology of activities (case study, problems to be solved, educative intervention based on authentic case studies), together with interaction and real-time synchronous as well as an asynchronous debate (forum) encourage not only mutual enrichment but also the shared and collaborative construction of knowledge on this topic.

Regarding the limitations of the study, we believe that in forthcoming courses, it is under consideration to offer new calls of the course; it would be motivated to rely on
miscellaneous research tools, such as interviews, that will allow researchers to access a more intimate thinking on students. However, we also consider that this is an open line of research and in the future, we intend to continue examining the acquisition of skills and attitudes to favour cultural diversity promoted in virtual training environments.

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