

On Line Collaboration for Building a Teacher Professional Identity

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ABSTRACT

In this paper it is our intention to discuss a Teacher Education proposal that uses an on line asynchronous learning environment to develop collaborative practices and to enhance a professional identity. Using an integrated multi-method approach for analysing the on line discussions of 47 student-teachers, a research group of the University of Padua* has explored: a) how different groups of student-teachers build and modify their professional profile pre-post a *case-work* on line activity; b) the nature of the interactive processes activated during *case-work* on line activity; c) the styles of case solutions. The findings show that the collaborative learning context supported pre-service and in-service groups of students differently in their professional development and in professional identity changes. Some implications for future research on teacher education are discussed.

Keywords: *e-learning, teacher education, professional identity, collaboration, case-based pedagogy.*

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1. Theoretical Framework

In the academic year 2005-06 a research group of the Educational Sciences faculty in Padua set up a Teacher Education project that had the aim of offering trainees an on line asynchronous environment for “reflective experience”: in an on line laboratory the students could develop their own professional identity through collaboration, research, and discussion. Electronic discussion boards provided an interactive venue where teachers and future teachers could reflect, evaluate, solve problems, or exchange ideas (Pawan, Paulus, Yalcin, & Chang, 2003).

In designing the project we considered the following three points.

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1. *Currently Professional Identity is receiving increasing attention in the field of teacher education*

In the 1980's the issue of teacher beliefs has begun to draw increasing attention. In reality these beliefs, held regarding learning and teaching, seemed to strongly determine their actions. Many people asserted that the greatest part of knowledge provided during professional preparation was nullified and replaced by the whole of experiences, role models, needs, routines that constituted the beliefs of teachers. Moreover, today we see an accent shift within these studies. Initially it was considered important to find out how teachers thought about education. Today more attention is being paid to the beliefs people have about themselves, to how one sees his/her role as a teacher (*professional identity*).

Korthagen (2004; Korthagen & Verkuyl, 2007) considers the professional identity as a central dimension in search of the essence of the "good teacher". In his "onion model", he defines six levels to define the essential qualities of a good teacher: the outer levels (*environment* and *behaviour*) are easily changeable; the central levels (*teacher identity* and *mission*) are more linked to the self and are extremely resistant to change. Because until today, teachers educators have paid too little attention to the inner levels of the model, the author emphasizes the need of educational projects to aim at these levels.

Janet Alsup (2005) thinks that forming a professional identity is a central process of becoming an effective teacher. Preservice teachers need a teacher education that provides them with opportunities to develop a satisfactory professional identity: they have to take care of themselves first, in order to better take care of others later. For this, teacher educators «must bring issues of identity into the methods class [...and...] «must talk to pre-service teachers about the difficulty of professional identity development» (Alsup, 2005, p. 7).

John Loughran (2007) explain that «students of teaching need opportunities to learn, un-learn in order to better know themselves so that they might better understand how and why they teach in the way they teach; especially if they seek to change» (p. 112). To know how one's self image and professional identity have been shaped and influenced by beliefs helps prospective teachers to have more awareness of their actions and to address their professional development in a personal manner.

Watson (2006), like Connelly and Clandinin (1999) before, emphasizes the character narrative of identity and suggests that «Identity is an ongoing and performative process

in which individuals draw on diverse resources to construct selves. This process is seen as emerging in and through narratives of practice» (Watson, 2006, p.509).

In this light we think that it is important to offer educational contexts where the participants challenge themselves, describe themselves as future teachers, reconsider their beliefs, elaborate professional consciousness; and thus work on their professional identity.

2. *A key aspect of teacher's culture today is collaboration*

Woods, Jeffrey, Troman and Boyle (1997) assert that the *culture of individualism* of old school's order impedes innovation. They see the *collaborative management* of schools, the shared decision making and conversation, as the main way for restructuring schools in order to improve educational systems. They also define teachers as *collaborative professionals*; indeed collaboration is the central element in new professionalism and a requirement of the work of teaching.

In a Vygotskian perspective, Joanne Deppeler (2007) views collaboration as a central factor for professional development: teachers, like all learners, learn through collaborating with others, in articulating and sharing ideas, in creating solutions to the challenges situated within their context; so professional learning is a process of *collaborative inquiry* that determines the transformation of practices and the construction of new professional knowledge.

In our project the students had opportunities to engage themselves in collaborative inquiry as the process of reflection through which a group of peers strive to answer a question of importance to them. The laboratory activities were marked by valuing both individuality and interdependence, by awareness of belonging to a group and a collective sense of responsibility.

3. *The potentiality of a case based pedagogy in Teacher Education*

In stressing the necessary integration of theory and practice in teacher education, Miriam Ben-Peretz and Irit Kupferberg (2007), following Shulman's thinking, claim that «learning from cases is one way of effectively integrating learning with practice. Case-based learning experiences provide vicarious encounters with practice that can be negotiated by discourse communities of pre- and in-service practitioners» (Ben-Peretz & Kupferberg, 2007, p. 127). Case-based education seems to support a disposition to reflect on various elements of practice.

In effect since the early 1980s, Shulman pay much attention to case-based methods for professional development of teachers. He thinks that cases can play a critical role in learning from experience: «A case resides in the territory between theory and practice,

between idea and experience, between normative ideal and achievable real» (Shulman, 1998; 2004bp. 543).

In asserting that *a narrative is the case* he explains that when teacher-educator and students explore the question “what is this a case of?”, they move in two directions simultaneously: «They connect this narrative to their remembered (personal) experiences or to vicariously experienced cases written or recounted by others, thus relating this particular case to other specific cases. They also connect this narrative to categories of experience, to theoretical classification through which they organize and make sense of their world» (Shulman, 1996; 2004a, p. 474). Working on cases involves the same principles that characterize the conditions for effective substantive and enduring learning in the communities of learners (Brown & Campione, 1994): learners are active agents in the process of learning, they can reflectively turn around on their own thought and action and analyse how and why their thinking achieved certain ends or failed to achieve others; they are engaged in collaboration and scaffolded by the community and by the community culture. When new or veteran teachers work in a case, they are actively engaged in their own understanding; they are stimulated to reflect by the act of re-cognition of turning around on one’s own lived experience and examining them; moreover the thought process of cases is dialogic and cases become educative for teachers within teaching communities. From reading the cases of others analytically, drafting one’s cases, commenting on one another’s cases, relating stories to one another, the principles or theories emerge.

Further more, in suggesting that the heart of teaching is developing the capacity to respond to the unpredictable, the author asserts that «cases – as the narrative manifestations of chance – offer teachers the opportunities to contemplate the variety of ways in which the unpredictable happens» (Shulman, 1996; 2004a, p. 480).

Helen Harrington believes that “dilemma-based cases is intended to provide students of teaching with opportunities to recognize specific events as problematic; gain an understanding of them; reflect on them and on consequences of action; and devise sensible moral, and educative ways of acting. In doing so, dilemma case based cases provide insight into multiple aspects of critical reflection» (Harrington, Quinn-Learning, & Hodson, 1996, p. 26). Reflection on dilemma-based cases would help students to think about the consequences of their actions in wider settings, because these activities stimulate them to focus not only on the consequences of that particular case, but also on the social, political and cultural ones. *Case-based* pedagogy would stimulate the students to develop critical and complex thinking. What is more, case-

based discussion would represent the favorable setting for developing *reciprocal teaching* and peer support, and building depth of thought. In other words, case-based discussion would promote experiences that generate cognitive dissonance and would stimulate shifts in personal perspectives (ibid.).

In this light the programs of teacher courses should be organized in *study teams* and focalized on the development of «conceptual understanding of teaching, peer learning and debate or exchange, studying and working out authentic teaching problems and cases» (Tillema,1997, p. 292).

Shihkuan Hsu (2004) highlights the educational potentiality of on line case-work. She argues that student teachers became aware of their assumptions, considered multiple perspectives, developed understandings of problems and obtained knowledge and skills to deal with them while discussing their own problem cases in the so called *CaseForum*. In a few words, they gained positive attitudes towards the teaching profession. CaseForum seemed to be a positive support for opening to scrutiny the cases and for enhancing discussions on the problems encountered during teaching practice

2. Aims

The research has two aims.

The first aim is to correlate the different constructions of professional profiles in pre-service and in service teacher students, pre-post case-work activities.

The second aim is to analyse the nature of interactions among future teachers and in-service teachers, specifically social cognitive processes within shared case-work on-line discussion.

3. Methodology

3.1. Participants and Task

56 second-year female students had initially enrolled in the laboratory, 47 actively participated in all the phases of the course. 18 subjects were workers (novice and experts in-service teachers with from 1 to 3 years of work experience, respectively, or more), 29 are students (pre-service teachers) between 20-22 years old.

All the activities were on-line; the students interacted among them in an asynchronous web site especially created. The on-line course started in April and finished in July and had 5 modules. It started with a 10-days phase of familiarization with the on-line environment followed by 4 modules dedicated to knowledge sharing and reflection on working practices. The activities provided participants with opportunities to engage themselves in two roles: as sources of problem cases and as problem-solvers, at their own pace and with no time pressure. Students were required to work individually or in groups of five or six subjects. The 8 groups were:

- 1 group in-service of expert teachers (*n* 6) (INSE)
- 1 group in-service of novice teachers (*n* 6) (INSN)
- 1 group of educators (*n* 6) (EDU)
- 5 groups of students (*n* 29) (STU)

The numbers of subjects in the groups reflected in percentages the proportion of students that attended the courses for teacher preparation.

The types of activities were the following:

1. The students individually wrote two profiles of “what it means to be a good teacher”: the first before the case-work, the second at the end of the activities;
2. Remembering their scholastic experiences, the subjects shared and constructed, one problematic real life case in on-line forum;
3. They discussed and justified different solutions in forum, and wrote a shared text which was a synthesis of these by means of a collaborative writing tool.

3.2. Data Collection and Analysis

Data was collected in an asynchronous multi-participant context of discussion in which the student teachers interacted with each other without the intervention of the on line-tutor.

The data comprised:

- all the writings that students individually wrote to define the “good teacher” pre-post interactive forum;
- the sequences of messages in the forum of three different groups (INSE, INSN, STU); each sequence comprised the messages of the dialogical interactions for the choice or co-construction of real life cases to confront and discuss;
- the writing of case synthesis of three groups (INSE, INSN, STU)

We compared the *pre-post* profiles, through T-Lab, a software consisting of a set of linguistic and statistical tools which help to extract, compare and map the contents of texts. We applied the specificity analysis and the correspondence analysis to the texts.

We analysed the forum with Garrison and Anderson (2003) content analysis categories: *social presence*, *teaching presence*, *cognitive presence*. In this framework, these *presences* are the core elements that reflect meaningful learning activities essential in an e-learning environment and, at the same time, they constitute a tool to value the nature and quality of an e-learning experience.

Two researchers simultaneously coded the *social*, *cognitive* and *teaching* speech segments in the same sequences of messages; inter-rater reliability was 86%. In accepting the Garrison, Cleveland-Innes, Koole and Kappelman (2006) methodological suggestions, the unit for content analysis was the message. In the study, data was analyzed qualitatively. Analyses were undertaken by means of descriptive statistics, content analysis.

The written case synthesis were examined through Harrington's coding system (1996) to determine if aspects of critical reflection – *open-mindedness*, *responsibility*, *wholeheartedness* - could be identified in students' work. The critical interpretive analysis was refined through multiple passes of the students' written case analyses, by two researchers who discussed and negotiated a common interpretation. At the first level the researchers analysed the statements that account for the different students' teachers perspectives (*teacher-focused*, *child-focused*, *inclusive*). At a second level the texts were examined for statements that provided information on the limitedness or inclusiveness with which the participants recognized consequences of action (*for students only*, *for teacher and students*, *for teacher*, *students*, *others and broader social consequences*). The third level of coding provided information regarding taken for granted and awareness and non- awareness, students' assumptions about teaching. Finally, in the light of the previous levels of analysis, the researchers identified each text with the patterns of *wholeheartedness* (*teacher directed learning*, *education as an interactive process*, *education as a complex and interactive process*) to by which style pre- and in-service teacher of each group assume their professional role.

4. Findings

Pre-post text analyses have shown relevant changes in teacher profile elaborations. At the end of the laboratory, the students elaborated a more articulate and multi-dimensional profile than at the beginning of the activities.

In the initial profiles the "typical" lexical units, defined by means of the chi-square test computation (specificity analysis) are closer to personal attitudes and feelings, instead of professional competences and knowledge. We found statistical significance to words *love, transmission, sweetness* (df = 1; p. 0.001), *patience, passion, sensitivity* (df = 1; p. 0.01).

The final descriptions became more detailed, there were more qualities listed and the writings cited specific profession-related skills and means as *reflection, professional ethics, open-mindedness* (df = 1; p. 0.01), *assessment-evaluation, technologies* (df = 1; p. 0.05). An idea about the school as a community emerged from their writings, a community where teachers are able to interact not only with their students but also with colleagues, families and the like. The ability to work in a team - "*group*" is the lexical unit more frequent (df = 1; p. 0.001) - and to collaborate with the families was often underlined in students' final profiles.

Less significant are the *pre-post* changes in students in service-teachers; yet in their initial profiles we noted some common traits of teacher's expertise, (experts' characteristic strengths and weaknesses such as functional rigidity), corroborated in final profiles.

The correspondence analysis on the same corpus of texts corroborate these findings., In the scatter chart where we can see the relationship between typical lemmas used in the profile descriptions and variables (INSE, EDU, STU, INSN) we see that, at the start of activities, the novice teachers and students are near the cross axes (meaning a light professional identity) while expert teachers and educators have well-defined positions showing their professional imprinting (see Figure 1).

Moreover we noted that, between the pre- and post-forum activities (see Figure 2) - the expert teachers (INSE) do not change their position very much, whereas students (STU) and novice teachers (INSN) take a more defined position in the graph.

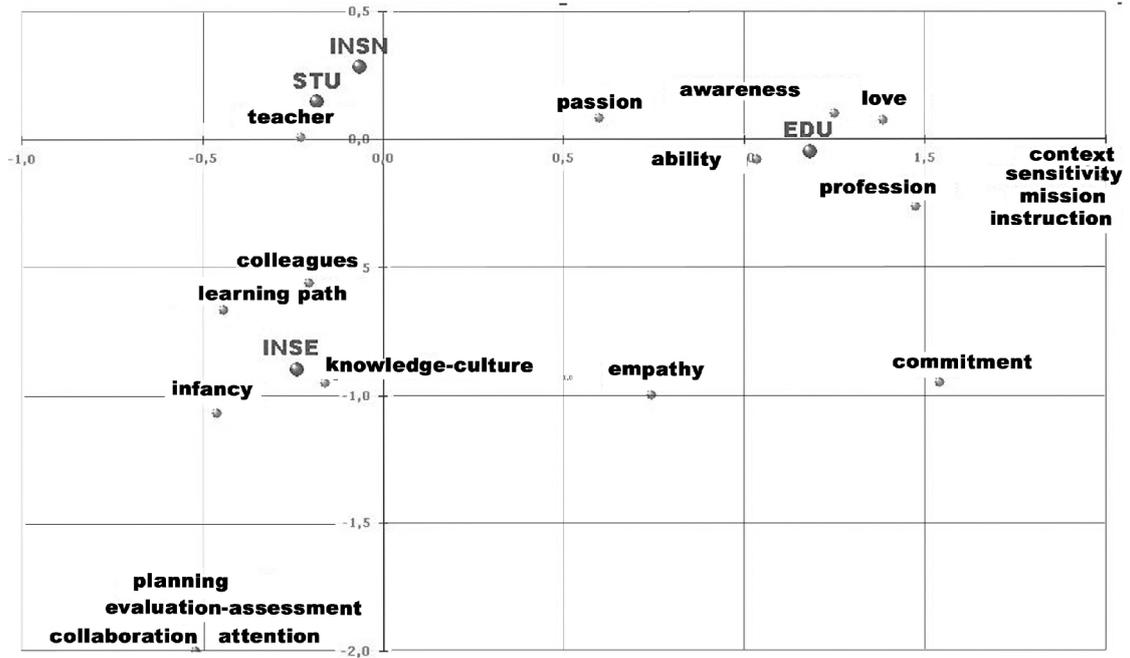


Figure 1. Correspondence Analysis at the Start of Activities.
Relationship between Typical Lemmas and Variables

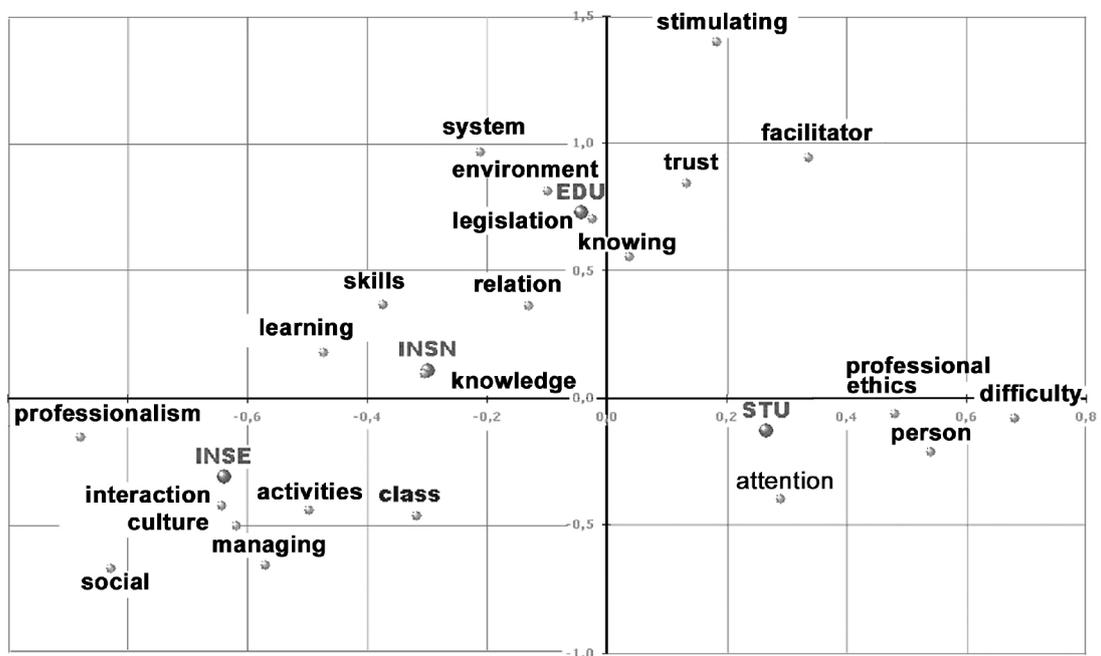


Figure 2. Correspondence Analysis at the End of Activities.
Relationship between Typical Lemmas and Variables

The second level of analysis of this study was the content analysis of the forum dialogical processes. We analysed the frequencies of the Garrison and Anderson

categories in the messages of 3 groups (INSE, STU, INSN) and the *density* figures for each discussion (Rourke, Anderson, Garrison, & Archer, 2001).

In general we can see that all the groups of students engaged in a high level of social activity (45.8% INSE, 44.7% STU and 38.1% INSN), higher than teaching activity (33.3% INSE, 36.2% STU, 33.6% INSN) and cognitive activity (20.8% INSE, 19.1% STU, 28.3% INSN). In effect Garrison and Anderson (2003) acknowledge the importance of social element in CMC discussion; they argue that «social presence is an important antecedent to collaboration and critical discourse» because «it means creating a climate that supports and encourages probing questions, skepticism and the contribution of more explanatory ideas » Garrison and Anderson (2003, p. 50).

In examining the findings of the 3 groups in more detail, the content analysis of on-line discussions have shown:

1. a dialogical co-constructive model of discussing in teacher-students vs a “strategic individualism” in in-service teachers;
2. a rooted professional identity in teacher-students unable to modify themselves because their professional identity is extremely embedded;
3. the emergence of a professional identity in students correlated with flexible, personal and social identities.

The analysis of writing case works with Harrington et al. (1996) model demonstrates that the students and the teachers solve their cases through different styles. The students’ writings are student-centred but the students elaborate their problems with reference to authoritative and theoretical sources, and show they are able to elaborate their emergent professional identity. The teachers’ perspective is more holistic, but the in-service teachers’ analyses, as well as the solutions, are strictly based on experience and practical knowledge with no attempt to link the issue to theoretical concepts. Their digital messages show that the student teachers’ discursive explorations lacked theoretical considerations and are grounded in the local professional environments.

5. Conclusion

Inspired by the literature of teacher education and distance education, this study explored the shared construction of professional identity and the nature of interactions among student teachers in a cyberforum that focused on professional cases drawn from the participants’ professional or student’s life. The changes of awareness of

personal professional profiles pre-post case work in different groups of student teachers were identified. The nature of processes enabled by the case work was explored.

We have had some indications for pre- and in-service teacher education courses but the main problem that we think emerged from this study are the different behaviours in pre- service and in-service teachers, in view of the different formative proposals (forum, case work).

We think that there is a strong need to explore this point (e.g. the in-service teachers rigidity facing the educational proposals) in relation to in-service teacher education, particularly in the light of present Italian school politics that place particular attention of in-service teachers lifelong learning.

Our research corroborated the findings of Ben-Peretz and Kupferberg (2007). The expert teachers lack theoretical reasoning in the forum. We agree with the authors that in teacher education contexts, we need to provide a space for supporting these students to reflect more about and to create possible links between theory and practice. In this way their experiences can become professional knowledge.

Another point vital to reflect on, in relation to in-service teacher education, is that in our research the expert teachers seem to assume the *inflexibility* and the *functional fixedness* that Michelene T. H. Chi (2006) refers to as being some limitations of experts (vs novice).

In this light, inside of our work in progress study, we are now introducing different variables in the educational context. We would like to explore if the on line tutor's specific intervention in the forum or the heterogeneous groups can contribute to modify some of the in-service teacher's characteristics that the more knowledgeable participants can exhibit in a problem-solving context.

Following Bobbie Turniansky and Dina Friling, when they assert that «openness to learning with and from others is possible only if our own expertise is not allowed to take center stage» (Turniansky & Friling, 2006, p. 781), we can suppose that our teacher students were too much linked to our expert condition to effectively “put themselves in the game”. The authors affirm that the *novice state of mind* is critical to the learning process of group as well as of individual: «It allows for true dialogue based on the premise that there is always room for what I can learn from others and with others. The novice state of mind, trust, sharing, individual and group learning - all these are critical components of true professional development» (p.783) and enable real changes.

In their contribution they focus on the necessary conditions for encouraging the expert to approach each situation with the fresh eyes of the novice: he has to feel individual confidence in the group and trust in others to open himself, his views, values, understandings, knowledge to examination and re-evaluation.

In this light we think that we have to pay particular attention on foster students, to familiarise each other and to get confidence in the group, before the starting of and during the educational activities with experts.

There are other future perspectives to this study.

Some limitations stems from our analysis of discussion transcripts over a short period of time. We included only 4 weeks of discussions to understand collaborative interactions: less time to verify the changes in personal depth dimensions such as professional identity.

Future research could include information gathered for a longer period of time and from additional sources such as interviews with students and instructors to provide insight into additional factors responsible for collaborative interactions, or the lack of them in discussions.

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