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A study of teacher/student relations in a formal face-to-face university context supported by online tools within an enactive approach

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Abstract

The university didactics now requires a re-examination both in terms of objectives, and in terms of didactical formats. If the objective is to enable students to develop a professional *habitus*, the hypothesis is that the use of a situated approach and the presence of contexts of negotiation supported by new technologies can be effective. This paper analyses the relations that occurred within the “General Didactic” course at the Faculty of Education (University of Macerata) with more than 200 students and identifies the role of interactions in both an online environment and in the face-to-face class context in order to understand the evolution of the system according to an enactive approach.

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1. Introduction

Higher education didactics is undergoing a process of deep analysis in a variety of educational contexts. The main issues being focused on are related to learning and its transferability, and tied to the need for stronger interaction between research and didactics (Brew, 2003; Halliwell, 2008).

Rethinking college didactics requires a reflection on the kind of professionalism a university has to create. If we deal with the concept of the “practitioner”, what kind of *dispositifs* (Hursen, Ozcinar, Ozdamli & Uzunboylu, 2011; Perrenoud, 1983; Peraya, 1999) are useful in the initial student training to foster a professional *habitus*? Surely, when training a practitioner it is a goal that cannot be achieved by a university program. To attain such a goal the working context is essential for authentic learning like taking part in a community of practice (Wenger, 1998). But is it possible to predispose students to an attitude that could facilitate the acquisition of a professional attitude and encourage processes of reflexivity and consciousness of practices?

A further reflection addresses the issue of the structure of the college courses. The fragmentation of the disciplines and the more and more convulsive rhythm of activities especially in Italy, and the net generation’s way of conceptualisation are aspects that require the structure of college education to be examined. Youngsters are often viewed as having difficulties with the process of structuring their conceptualisations and managing their autonomous study.

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The above mentioned reflections fostered the elaboration of some hypotheses that are being tested in the courses run at the University of Macerata, Italy, through tools such as interviews and questionnaires, used with students in order to understand the existing status, and experiments with the support of purposely designed didactical *dispositifs*.

Within the area of professional didactics it seems that the crucial point is to define how to give significance to knowledge and theories proposed by the teacher. The professional didactics (Pastré, 2011) underlines the role of your own experience and the relevance of what has been experienced during the process of learning. The enactive approach (Li, Clark, & Winchester, 2010) highlights the mind-body-artefact-world *continuum* and emphasises how living a situation in a holistic approach also thanks to technologies, fosters a transformation of the whole system connected to learning. Thus, the attribution of meaning seems to be connected to experiences and to “participation” in the relation highlighted by Wenger (1998).

In a move towards enactive didactics we are experimenting with approaches that present context-related practices, simulations in classroom, video presentation and related discussion (*vicariant* practices) (Bandura, 1986). In a similar vein we aim to recover personal experiences lived by the student: the student, a future teacher, has already had at least 13/16 years’ school experience when he/she starts the program of higher education. Among the *dispositifs*, used in experiments that took place in the case study presented here, the ones that gained a central role were those that let students discuss their experiences, on the videos provided in class and on their past teachers’ practices, but also the *dispositifs* that let them inhabit environments where comparison was allowed, as well as free expression of naive opinions, hypotheses and different viewpoints without being inhibited by assessment. The attention was directed towards learning environments that could combine the students’ personal experience with their active participation.

The choice of indicators is connected to the enactive approach in didactics. The enactive approach highlights that a system transforms itself thanks to the interaction between different subjects and to the mind-body-artefact-world *continuum*. The co-emergence, that is the transformation of the system, is the product of the structural combination of different subjects and different practices. The experimentation of such an approach requires the study of the co-evolution of the system during the time, the study of the changes of the relational dynamics between teacher and students, and the modification of teachers’ and students’ behaviour.

The research questions are as follows. Does the discussion among peer students about *vicariant* practices and personal experiences enable a contextualization of their knowledge and the attribution of significance that can train them towards a professional *habitus*? Also, can the participation and the development of the community be the indicators for the research on the role of university in professional training and on the practices of significance?

2. The case study

The present case study deals with a face-to-face course, namely “General Didactics”, run in the academic year 2010–2011 in the first year of the degree course “Science of Education for Primary School Teachers” at the Faculty of Education at the University of Macerata, Italy.

The course, which was attended by 190 students, was structured in classes of two hours, each occurring twice a week, and lasted about ten weeks.

Along with the face-to-face instruction an online open environment, a class weblog, was introduced.

The kind of blogging used in the course can be ascribed to the “complex” model (Richardson, 2006, p. 32) where analysis and synthesis made by the teacher cover a rather long period of time, the full semester, and builds on the series of posts published in that term, including comments by students.

The weblog was mainly used to:

- report class-related information;
- offer prompts for reflecting and interacting;
- provide online resources for students to react to;
- clarify and provide additional information about topics students are addressing in class.

The weblog has been hosted by “Blogger” (<http://didattica10.blogspot.com/>), which is owned by Google and is one of the easiest blogging services and also flexible. Students were not allowed to be “authors”, but their participation was expressed through the comment function. The comments settings were configured to let anyone post a comment, avoiding the restriction for registered users or registered members of the blog therefore enabling students to interact in an anonymous way (even if it a registration was recommended by the teacher).

In order to better focus on the data that were gathered through the study and the related analysis it is necessary to emphasise that the course comprised first year university students.

Scaffolding students in the use of the weblog was a primary task since most students didn’t have any active experience of blogging. In fact, more than 80% stated that they never or almost never used weblogs for educational purposes.

3. The objectives of the study

Teacher/student interactions are the focus of the study, which aims to highlight the potential change in the overall course in terms of the teacher’s management and students’ engagement. The variables that can affect those aspects can be different and tied to the communication dynamics that occurred in the formal face-to-face instructional context and in the online space through a weblog.

The first element to be considered is the level of communication, that is, the presence of the different varieties of language used, functional-contextual varieties (Coveri, Benucci, & Diadori, 1998) due to the medium used (oral channel versus written channel) and the environment (class versus weblog).

The second aspect of interest is to identify the time and space of students’ participation in order to check if different environments and tasks can affect the students’ overall behaviour towards their teacher and the discipline.

The hypothesis is that a higher level of informality in communication caused by the students’ participation at a distance (i.e. online) and, in many cases, anonymously, can affect the potential impact on students’ involvement since they feel engaged in conversations and debates that are not limited to the online context but can be also continued in the classroom context enabling further comment by the teacher and peers.

What makes weblogs a promising learning environment is that “they are not built on static chunks of content. Instead they are comprised of reflections and conversations” (Richardson, 2006, p. 18).

Being easily accessible, updatable and searchable, it can become a source for content created by teachers/students making the weblog a constructivist tool for learning.

The weblog is not a self-centred environment but “a format constant (archives, links, time stamps, chronological listing of thoughts and links), personalized, community-linked, social, interactive, democratic, new model innovation built on the unique attributes of the Internet” (Siemens, 2002).

The objective of the study is to determine if integrating class activities with a weblog can somehow affect:

- the overall student/teacher relationship (quantity and quality of interactions);
- the peer tutoring (supporting actions among the members of the group class);
- the teacher’s attitude (e.g. conversation versus lecture format)
- the content presentation (concepts introduced as the input for a social process of knowledge acquisition, not as a fixed ending point).

These aspects will have to be analysed taking into consideration both the face-to-face formal teaching context and the online context.

4. The analysis of data

Data were collected using as a source the two instructional environments, the face-to-face classes and the weblog, and a written questionnaire that students were asked to fill in after completing the course.

The teacher’s posts and students’ comments, published in the weblog, were compared with the analysis of the communication dynamics that occurred in the face-to-face classes, recorded and stored in mp3 files.

Sources, consisting of textual data (blog posts and related comments) and audio data (recordings of the classes), were organised through a qualitative analysis software, namely NVIVO8.

Regarding the teacher/students’ interaction, overall the following trends can be identified as the course develops:

- increase of time dedicated by the teacher to class interaction: from an initial format where the teacher is more focuses on topical presentations to an organisation of classes that requires students to partake in the processes of examining and arguing supported by the use of multimedial resources (e.g. videos);
- greater and more frequent student participation in class: students react to the teacher’s inputs but also intervene spontaneously, asking questions and expressing opinions;
- active presence in the weblog: students’ engagement in posting comments starts with a slow curve, rapidly increasing during the core of the course development, reaching a peak when asked to argue about a specific issue and/or to post questions and reflections and finally stabilizing at the end of the course.

The first classes’ recordings compared with those of the final classes clearly show a different flow of communication, which somehow accompanied the participation in the weblog. Just 6% of students accessed the weblog less than once a week and 78% stated they accessed it at least twice a week as we can see from figure 1, which demonstrates the visits in the weblog during the whole term.

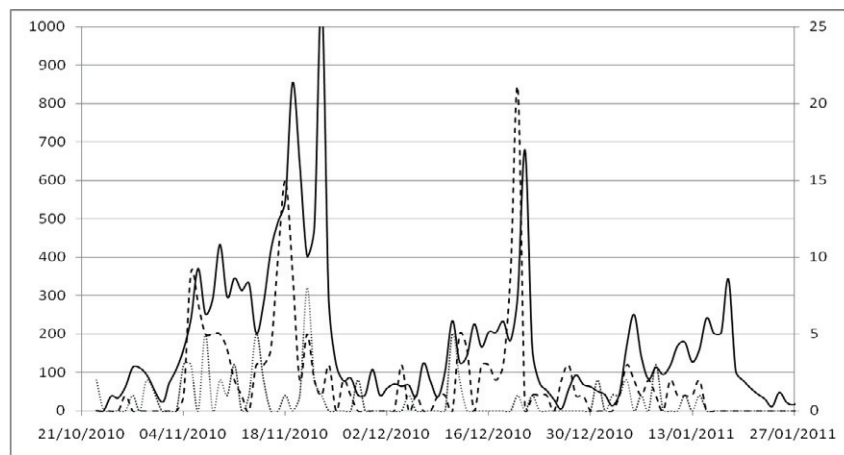


Figure 1. Weblog statistics. Solid line: visits; broken line: students’ comments; dotted line: teacher’s posts.

When asked if the weblog supported them in their study they answered by marking 4–5 points on a scale of 5 in the following given options:

- they found useful inputs posted by the teacher (92%) and useful comments by peers (81%);
- they could ask questions (47%);
- they had opportunities to complete exercises (50%).

Finally, 78% of students stated that the weblog was a useful support for learning. That figure acquires an interesting value if we bear in mind that the percentage related to the usefulness of the textbook is 82%.

If we further investigate the concept of usefulness expressed by the students in relation to the weblog we find the recurrence of two main aspects: the weblog as an opportunity of clarification and of comparison/exchange. In addition, when students were asked to express their opinion on the role played both by the teacher and peers in the weblog they stated that comments posted by their course colleagues were very explanatory since the language used was clear and simple.

By analysing students’ language in the written comments it’s possible to identify the use of an informal register that can be ascribed to the variety of the Italian language called “italiano colloquiale” that is pretty different from the “neostandard” variety the same students used during face-to-face classes. A kind of informal communication occurred online. It was regarded as a privileged channel to interact with the teacher but actually seemed to foster the creation of a learning community encouraging more students to take active part in face-to-face interactions: the recorded classes don’t show a change in the students’ use of language, rather they show a change in the quantity of questions, comments and interactions.

The analysis of the data related to the questionnaire shows further elements that validate the research questions. The first is related to the replies gathered with the question “Was the weblog useful or not, and why?” The 32% of students who added a motivation underline the exchange of ideas with peers, another 33% refer to the opportunity to clarify their doubts. The interaction with peers in addition to studying by oneself enabled students to gain more understanding of the concepts.

The contraposition is not between individual and collective, but between (1) absolute truth and (2) contextualised truth, between (1) learning as acquisition of truths proposed by the teacher and (2) learning as re-examination of knowledge through one’s own interpretative lens and an exchange among peers. The data show viewpoints shared by the group. Two statements clearly highlight that position: “Very useful the blog because, through the exchange of doubts, I have clarified mine (doubts)” and “Effective, because the doubts of some other students were the same I had”.

Those elements seem to be tied to the need to connect the study and the context for an effective learning. Just 3% of students stated that the weblog was not useful or scarcely useful. Also, 6% of students found that the teachers’ questions had a negative impact.

The analysis of the graph highlights an increase of students’ presence when the teacher deals with topics related to their personal experience. At an early stage the teacher published the following post in the weblog: “The present space has to be used to post doubts and concepts you hardly understood. It’s your turn!”(post: 20/10/2010).

In the previous academic year the use of a weblog was experimented with, but was not successful. Students suggested the lack of interest was caused by the difficulty of expressing opinions on theoretical issues felt as external and, in any case, not suitable to take part in a debate. That experience prompted the teacher to change the focus and topics presented in the current weblog, thus the following task was assigned: “Certainly, Thinking back to your previous years as a student will remind you of some of the *dispositifs* you used. Some were used frequently, others just once, but this does not mean they are less significant. Try to describe some of them and show the elements that made that *dispositif* effective or not” (post: 30/10/2010).

The role of the teacher is not secondary to the success of the weblog. Following the enactive approach, the teacher is part of the system and changes during the process. In the reported experience that modification results in the flexibility of the tasks according to the students’ interaction, the attention to their comments, and the motivation related to the didactical choices. Some students said that it was useful to read the posts where the teacher admitted why he had modified the typology of tasks or communicated his choices and difficulties in the assessment process.

It’s also necessary to underline that the teacher didn’t post regularly during the term. In the first phase his presence was aimed at motivating and fostering students’ participation (20/10/2010–5/11/2011). After the first weeks he continued to be always assiduous and watchful (6/11/2011–30/11/2011), then there was a gradual reduction in his presence and, even if the teacher participated, he acted a devolution (Brousseau, 1997) letting students reply to their colleagues. Some students, in fact, offered support to their peers. The course ended on 22/12/2010, but students and the teacher interacted in the weblog until 15/12/2011 and the environment is currently still visited.

5. Conclusion

Two statements seem to be proved by the experience: learning is directly fostered with reference to the real world and by the presence of web 2.0 tools.

The case study shows that learning is not facilitated by reference to the real world (or just by it), but by the opportunity to relive in a critical and reflexive way, personal experiences and observe the world, also the theoretical framework, from one’s perspective. Also the weblog’s efficiency depends on the tasks and on the opportunities to exchange opinions. It seems that what in the past was achieved by individual study is now the result of progressive negotiations with others: the student goes deeper into the topic to study and develop his/her conceptualizations, exchanging viewpoints with an audience of peers.

Those issues are connected with the themes proposed at the beginning of the paper: professionalism and an enactive approach. The need of a path that can foster the development of professionalism requires knowledge to be activated by personal experiences and is related to one’s life. The context that is emotionally experienced, according to the enactive view, assigns significance to knowledge that, otherwise, would seem abstract and detached.

Past experience, in the case study, consists of the retrieval of the remembrances of one's experience as a student and the conceptualization that derived on the role and function of the teacher and on learning.

It's not the case that most students stated in the "general observation" section of the questionnaire that the course had activated a process of reflection and put into discussion some concepts such as the role of teaching and the role of teachers. Many students declared that the course has modified their viewpoint on the concept of the teacher's professionalism. The success of the weblog was due to the emotional engagement and the social exchange among peers. The exchange introduces the new knowledge from the students' perspective. In line with the enactive approach it's necessary to analyse the evolution of the class system during the three months of the course duration, evolution that affected both students and the teacher. The use of the indicator "participation", connected to the analysis of Wenger on the community of practice, seems to be appropriate and generative.

Some of the elements present in the current path will be the starting point for future experiment in order to identify what characteristics can be generalised for the research on university didactics. *Vicariant* tools such as videos and simulations will be used to widen the experimentation and further features of the weblogs and other web 2.0 tools, that can guarantee sustainability and usability, will be introduced.

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