

# From daily language to scientific jargon: the role of peer interaction in web forum

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## Abstract

The paper presents the activities and the results of the “Child Observation in school context workshop”, an on line course realized during the last academic years at Macerata University.

The contribution is articulated into two parts: the first one describes the theoretical frame (Arfelli Galli, 1997; Bruner, 1990; Carugati et Selleri, 1996; Doise et Mugny, 1982; Mason, 2001, 2006; Mason et Boscolo, 2000) and the on line activities aims and design (Moroni et Nicolini, 2008; Nicolini et Lapucci, 2008; Nicolini et Moroni, 2006; Nicolini et al., 2007a; Nicolini et al., 2007b; Nicolini et al., 2007c); the second section illustrates some of the outcomes, in terms of changes in the language used by the participants while they are engaged in discursive interactions within the web forum. Our approach outlines the power of discursive interactions in teaching-learning process (Ajello et al., 1991; Galatolo et Pallotti, 1999; Nussbaum et Novick, 1982; Pontecorvo et al., 1995; Pontecorvo, 1999; Pontecorvo, 2005), confirming the conception of knowledge as a progressive development towards *different communities of practice* (Bereiter et Scardamalia, 1987; Scardamalia et Bereiter, 2002).

In fact the analysis of the web forum texts permits to show a continuing homogenization towards a technical jargon, which characterizes the subject matter. These processes demonstrate the progressive sharing of a common encyclopaedia and point out the moment in which the knowledge of the single individual (Gardner, 1993) is shared to the benefit of the whole group (Nicolini et Pojaghi, 2006).

We intend to present both a qualitative and a quantitative analysis, mainly based on psycholinguistic instruments.

**Keywords:** peer interaction, conflict, conceptual change, naïve theories, scientific jargon.

## 1. Introduction

Following socio-constructivism, learning processes are considered as activities through which participants acquire some of the peculiar skill and linguistic instruments of a professional community. It is language that, also in a communicative situation different from the traditional didactic context, plays an irreplaceable work of sharing.

## 2. Activities' structure: the online Child Observation in School Context Workshop

According to the presented theoretic motivation, we constructed a learning methodology, summarized in the Table n.° 1. The first column shows the plan of the activities; in the second column the related goals are specified; the third column refers to specific tasks. In the fourth column the methodological approach is illustrate.

Core activities	Goals	Tasks	Guidelines
Naïve theories recognition	Eliciting self explanation and using naïve theories	Write down an observation text after downloading the videotape available at the url... Publish it.	1. employ of several instruments in teaching-learning activities, 2. discursive negotiation, 3. interest both about contents and relationships;
Peer discussion: analogies and differences	Discussing among peer to realize limits and errors of subjective point of view. Promoting conceptual change	1st web forum: within your own group find analogies and differences among the realized individual tables	
Encounter	New knowledge acquisition	Read the recommended handbook	

with scientific theories	supported by the activation of personal conceptions. Promoting conceptual change		4.teacher's and tutor's scaffolding; 5.students' self regulation;
Peer discussion: negotiation	Searching and negotiating toward a possible agreement Promoting conceptual change	2nd web forum: within your own group discuss and negotiate till you agree to realize only one table containing the necessary and sufficient indicators to realize the most complete and correct observation written text	6. reflection about learning experience; 7. employ of several instruments in teaching-learning activities.
Hands-on activities	Applying new learning and new achieved theories	On the base of realized activities and apprehended concepts, realize by yourself an observation text related to videotape available at the url...	
Peer discussion: evaluation and self assessment	Discussing among peer to evaluate the whole activities and encouraging metacognitive reflection	3rd web forum: speak about the realized activity within your own group, expressing a self assessment and an assessment on the Child Observation in school context Workshop	
		Send a personal dossier to the Faculty composed by written texts of every tasks	

Table n° 1. The teaching-learning methodology

As it can be seen, the on line Workshop is strongly based on peer interaction. The teacher is “silent” during all the time of the activities. A tutor is at disposal, but only for organizational questions.

### 3. The sample

Our sample is composed by the students of the online course during the academic year 2007/2008. They are 125 adults, moreover already graduated and employed, as it can be seen in the Table n° 2:

Sample characteristics	
<b>Number of participants</b>	125
<b>Birth year range</b>	1956-1985
<b>School level</b>	95 university graduated 30 high school graduated
<b>Employment</b>	56 employees in educational institutions 10 educationalists 5 other occupations 17 full time students
<b>Geographic provenance</b>	69 South of Italy 54 Centre of Italy 1 North of Italy 1 foreigner

Table n° 2. Sample characteristics

### 3. Qualitative data analysis

In this part we present some extracts of the three web forums from the Workshop. In particular we intend to stress the progressive work of negotiation of one of the thirteen groups. We start the analysis with some examples of the discussion realized in the first web forum. In the initial task the students are requested to see a video tape and to write a text describing the action they saw. The aim of the next forum is to permit to the participants the recognition of their conception about how to observe. In order to obtain this result, the

students are invited to read the other observation texts and to compare each other, focalizing their attention on analogies and differences.

The discussion of the Group n°. 1 begins with a critic intervention: a student declares her disagreement about the approach used in the observation text by one of her colleagues.

*The text of B. disoriented me a lot, because there are very much different elements from my work. I read that the children join them spontaneously, but can we objectively affirm that? Do we know that? Also the assertion that one of them had the idea and the others collaborate because are attracted by the game, puzzle me (from what can you infer that?) [...] Also the affirmation that the child knocks down the wall to feel joy, seems to me a subjective deduction, not a descriptive data.*

At the beginning the student speaks directly to the author (B) explaining her personal opinion (*that disoriented me, from my work, I read*), but soon afterwards extends her doubts to the group, using “*can we objectively affirm*”, “*Do we know*”. She then proceeds explaining her point of view and offering argumentations about her doubts. She suggests to reflect about a more general concept: the difference between interpretation and description. It’s a crucial issue in order to develop toward a scientific way of conducting an observation. Another student immediately expresses her agreement.

*I am agree with you. I read the observation text of B. and I didn’t find in the video what she described. Especially the intention of demolish the tower and the purpose to feel joy. [...] We have to observe and to keep attention to what we saw without hazarding interpretations. The fact that many people disagree shows the different meanings that persons can give to the same actions.*

The student investigates the matter of individual interpretations of facts and she underlines that “*we have to observe (...) without hazarding interpretations*”.

The answer arrives from the author of the criticised observation text.

*I affirmed the children join them spontaneously because it was a spontaneous game, not guided by adults, so that the children are pushed to organise by themselves. I wrote that because of my experience of apprentice in an infant school. There is a tendency of children to imitate the classmate: they play and they collaborate.*

In a first moment she tries to justify her approach. The research of explanations in order to be understood by the others is an important process in the construction of shared meanings. She then offers a generalization of her personal experience: in this way a contextualized data is used as an absolute one. In the following assertion she shows awareness about the limits of her previous affirmation: the interventions of her classmates were useful to understand her own error and to reach another set of knowledge.

*Maybe you’re right when you tell me that I did some subjective deductions [...].*

Soon afterwards other interventions follow, in order to discuss the same topic. The discussion starts again with a critic and gets in touch with a general reflection about the useful elements to realize a correct observation text:

*You observed that the group of children is disappointed. In particular a child says: “Stop to do so! It falls down!”, “Now you have to rebuild it!” [referring to the structure they were building]. I would like to know if you are sure about the words of the child, because I was not able to understand. If the child says distinctly that, I can’t exclude the possibility to speak about disappoint, also because of objective data (the words of the child that I didn’t considerate). Integrating our opinion, in this case we could say that some children express their disappoint, but the game seems to have the possibility of new developments. I know that it’s a mix between objective and subjective data. Nevertheless it is quite impossible to do, because the observer is never free from her/his point of view.*

The discussion goes on and involves the whole group more and more. Other students note the same problem:

*I read your text and I was been surprised because of the different aspects that you handed over. The division you used between objective data and subjective interpretation makes me reflect.*

The relevance to distinguish objective and subjective data becomes a common idea and a shared starting point to build an expert observation text. This process leads to another fundamental acquisition: the use of adequate language to make the separation appreciable. In fact:

*It's true that nobody separated objective description from subjective one, but I believe this distinction is very important in every observation text to avoid that our feelings at a precise moment could influence the analysis.*

As it can be seen in the following text, the author quotes a classmate who used the verb “to seem” speaking about a common group’s impression while observing the tape. She utilized the expression “In my opinion”:

*Hi S.! You propose to integrate our observation in four points: 1. The action is played in an Infant School, 2. The activity is not guided by adults; 3. It seems a spontaneous game; 4. It seems a cooperation game. In my opinion it isn't a real summary. We can considerate the four points as a results of the maximum possible group's agreement.*

The process of knowledge construction becomes even more evident in the second webforum. During the exchanges the group builds a shared list of indicators to organize an expert observation, recommending the fundamental use of an adequate jargon. The same list (in part or completely) will be used from the majority of the team to realize the last observation texts. 9 components improve their final works. Only one student participates sparsely at the negotiation webforum and so she doesn’t use the shared indicators: she is the only one who doesn’t improve the quality level of her final test.

The same happens in the other groups. We can assume that a low participation to the forums probably influences in a bad way the quality of learning. It can be seen in the last observation texts. Some quantitative data can be useful to clarify.

#### 4. Quantitative data analysis

Comparing the observation texts realized at the beginning of the course with the last ones, we can see a general improvement of texts quality level, like it can be seen in the following Table (n° 3):

Initial observation text: total 125		
Low level: 39 (31%)	Medium level: 65 (52%)	High level: 21(17%)
Final observation text: total 125		
Low level: 8 (7%)	Medium level: 49 (38%)	High level: 68 (55%)
-30	-17	+47

Table n° 3. Outcomes: differences between initial and final observation texts

To conduct this kind of evaluation we used categories such as *text structure*, *context* and *linguistic expression*. In *text structure*'s category we consider for example its length and structure; in *context* we take into consideration dimensions as references about videotape duration, observation methods adopted, quotes from handbooks, concepts coming out from

the forum; by *linguistic expression* we intend descriptive or evaluative expressions, references to observable data - such as actions, language and observer's internal world - or to unobservable data - such as thoughts, feelings and intentions of the observed subject.

## 5. Conclusions

Assessing the final outcomes, we assume like a manifestation of an expert way of observing both the use of an adequate language and the process of collective construction of a professional point of view. The analysis of the web forum texts permits to show a continuing homogenization towards a technical jargon, as we assumed. The analysis of verbal exchanges demonstrates not only a progressive sharing of a common knowledge and encyclopaedia but overall a true conceptual change. The on line activities and the requested peer interaction seem to stimulate a modification in the way the participants can observe a group of children from the beginning to the final activities. It can be considered not only a grow of information but also an acquisition of correlate new competences, as the quantitative data stress.

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