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Collaborative learning understood through a micro-level analysis of building common professional knowledge in mentor-mentee interactions

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Abstract

The analysis proposed in this article is situated at the micro-level of inter-individual formative encounters between a teacher-mentor and a beginning teacher, participants in program for initial teacher education. Findings of this analysis indicate that whilst engaged in collaborative work on the object of their activity – building common professional knowledge as part of the professional identity formation process – the participants come to shape the space of their joint exploration of the tools available and engage in producing their professional culture, by generating between them a space of communication where tools are to be born, transformed, melted into practice, questioned and then transformed again. In return, the conceptual actions performed function as maps for participants’ expanding professional agencies. This work has been supported by CNCSIS -UEFISCUS, project number PN II-RU 21/2010.

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1. Introduction

The tendency to consider all collaboration and partnerships unequivocally valuable and commendable for the creation and transposition of teacher knowledge has been challenged over the past decade (Orland-Barak & Tillema, 2006; Baumfield & Butterworth, 2007). Potential characteristics, conditions and principles of collaboration along with models of professional development are beginning to be scrutinized in discourses within current educational research with a more critical intent.

In this article an analysis of collaboration within the space of the collaborative work of one teacher-mentor and one beginning teachers is proposed. The conversational act we’ll be focusing on in this analysis is located in a program for initial teacher education arranged as a partnership between a university and schools. The conceptual tools provided by the taxonomic levels of collaboration elaborated by Engeström et al (1997) are employed to form an understanding of the manner in which individual participants engage in interactions and come to shape their collaboration as a space where questioning and transforming the available rules, actions and tools are possible and bound to shape collaborative learning as ‘communication’ (see Engeström et al., 1997).

The claim in the analysis presented here is that collaboration enacted as an opportunity to communication opens up opportunities for learners to engage with producing their professional knowledge and appropriate increasingly wider horizons of questioning, authoring and positioning in it by means of joint exploration of the motives, tools and rules available in the various sets of professional practice. Findings of this analysis indicate that whilst engaged in collaborative work with the object of their activity – building common professional knowledge as part of the professional identity formation process—the teacher mentor and the novice-teacher come to shape the space of their joint exploration of the tools available and engage in producing their professional culture, by generating between them a space of communication where tools are to be born, transformed, melted into practice, questioned and then transformed again. In return, the conceptual actions performed in the course of working with the tools of their profession function as maps for participants’ expanding professional agencies. By means of questioning the tools available and possible actions with them in various contexts of professional practice, participants come to legitimately appropriate them and whilst it, affirm and explore their professional identities. Role-boundary erosion becomes visible as both teacher mentor and intern-teacher engage in turn taking to question, author and position in the problem spaces they collaboratively work on.

2. Method

2.1. Tools for identifying learning in the discourse of the formative assessment meetings between intern-teacher and teacher-mentor

The conceptual tools for the proposed analysis were located in Stenning et al (2002)’s chains of actions uniting problematizing, authorship and positioning as indicators for participants engaging with the tools and object of activity. Problematizing stands for identification of contradictions or questioning the context of activity in its current functioning. Locating a problem presupposes the potential of opening a new problem space or exploring the object currently worked upon from a fresh new perspective. Authorship stands for participants positioning in conversational chains, so that their voices are heard; what could be authored is either arguments supporting a claim, explanations or any other expressions exploring alternatives for action relevant to the object worked upon. Positioning stands for actions expressing a stance in relation to the object being worked upon; recognizable in “I” statements, positioning becomes the sign of recognizing one’s agency in the activity and of identity in the context.
The conceptual tools helping localize the language where collaborative actions set up as communication (Engeström et al, 1997) are present in the teachers’ conversation were found in Edwards’ notion of *dialogical reasoning* (Edwards, 2005b). Developed from the notions of *dialogic inquiry* (Wells, 1999) and *exploratory talk* (Mercer, 2004), the concept Edwards proposes places emphasis on the public (dialogical) character of reasoning – visible in language in the manner of structuring the lines of questioning, arguing and contradiction - for which internalizing (Vygotsky, 1987) dialogues with others is an essential constitutive dimension. Understood as exploration and dialogue, reasoning –as Edwards argues- escapes the privacy of the individual mind and becomes visible in language as a space where multiple voices engage in disputational, cumulative or exploratory (Mercer, 2004) actions on the activity object. *Disputational talk* is characterised by disagreement and individualized decision making. There are few attempts to pool resources, to offer constructive criticism or make suggestions. *Cumulative talk*, presupposes that speakers build positively but uncritically on what the others have said. Partners use talk to construct common knowledge by accumulation. Cumulative discourse is characterized by repetitions, confirmations and elaborations. *Exploratory talk* is considered that in which partners engage critically but constructively with each other’s ideas. Statements and suggestions are offered for joint consideration. These may be challenged and counter-challenged, but challenges are justified and alternative hypotheses are offered. Partners all actively participate and opinions are sought and considered before decisions are jointly made. Compared with the other two types, in exploratory talk knowledge is made more publicly accountable and reasoning is more visible in the talk.

Engaging in dialogue and exploration (as arguing for alternatives of action and response) is considered in this analysis a form of participation confirmatory for both the activity and the engagement of participants with its object and tools. Both sets of conceptual tools proposed are employed in putting forth an understanding the activity of learning to be a teacher as one that is anchored in a context with which develops a reciprocity, visible in the interplay between tools transformation and participants transformation.

2.2. Setting up the study

The analysis presented here is part of a larger study aiming at exploring collaborative learning in the context of initial teacher education. The program of teacher education where the conversational episodes between teachers were taken from could be described as a program providing a formative experience that takes the student-teachers to practical school-based activities up to two thirds of its entire duration. For this reason, the program is often referred to in institutionally relevant documents (i.e. course books, mission statement, website, etc) as ‘an internship’. The program consists of a curriculum where the time spent by intern-teachers in school-based activities covers 24 out of the total 36 weeks of the program, while the time spent within the university is spread throughout the whole year and reference to these in the paper will be made through the phrase ‘departmental weeks’. The beginning-teachers are gradually introduced in the space of the school during the first four months of the program, when the duration of their presence in the school increases from one day a week in the early stages of the program to full-time school-based activity by the end of the 14th week in the course of the program (early January in the university year). The full-time presence of the beginning-teacher in the school for two-thirds of the program justifies calling their experience an internship for teaching.

Participants in the data proposed for analysis in this article agreed to having me present in their weekly formative assessment sessions with the teacher mentors during the school based periods of the program (from March until end of May). In these sessions I have observed and voice-recorded conversations between the participants. The audio-data were transcribed at a later stage and then analyzed as micro-sequences of activity able to provide relevant information about the way(s) in which collaboration was
structured within the formative context of the weekly assessment sessions. The participants in the analyzed episode are Dan – male, 23 years old, who pursued his undergraduate studies at the same university where he also took the post-graduate program in initial teacher education – and his teacher mentor – Dana – who was 26 years old and herself a graduate of the same university in both bachelor and masters degrees.

3. Collaborative learning objectified in intern-mentor speech interactions

Dan and Dana discuss one of the performance descriptors in relation to which the intern needs to show that he had produced relevant proof of work in the classroom exhibiting his accomplishment of the standard performance imposed by the national authority embodied by an Agency for Training and Development in Schools (ATDS). In the speech events analyzed in this paper, the two participants focus on the beginner’s mastery of pitch – a metaphor signifying a set of teaching tools (clues, problems, concepts, questions, etc) used to stimulate students’ participation in the classroom task at a superior level of comprehensive action and practical approach than the current one. The level of coordination between the pitch technique used and the students’ actual needs must be perfect, as too low or too high pitches are equally inefficient, students’ refusing to engage at the desired level of comprehensive and practical action, either because they lack the tools to do so (the pitch is too high) or because they trivialize the task by considering too easy (the pitch is too low).

The speech acts proposed for analysis are relevant for the way in which the teacher-mentor and the beginning teacher come to explore deeper theoretical facades of the various aspects of practical, classroom based actions. They start off at exploring a contradiction between what the beginning teacher believed was an appropriate level of difficulty for the year-group he used his pitching technique with. This contradiction proves generative enough for the two to engage in pursuing reflective action on two trajectories: one vertical trajectory of knowledge arising in the actions of exploring theory into practice and vice versa, and one horizontal trajectory of searching for arguments in spaces of action expanding from the confines of the classroom to those of the school and further of the community at large.

This exploratory work becomes visible in the language the two participants employ in their meetings when they problematize (question) the actions or parts of actions, author possible alternatives for building common knowledge and then position in relation to those alternatives.

3.1. Learning as participation to a collective discourse of practice

Learning appears as a shared responsibility and a public enterprise, an open space where multiple-voice discourses come into play in decision-making actions. In Excerpt 1 an example of teachers talk is presented; this example is relevant for how the multi-voiced exploratory talk is shaped in participants’ discourse:

3.1.1. Excerpt 1: Mentor [m]-Intern [i] formative assessment session during S1†

† Transcripts exemplified in the Excerpts 1-5 in this paper follow Rampton’s (2007) key transcription conventions:

( . ) brief pause (under one second)

(1) longer pause (the number indicates length in seconds)

so emphasized relative to surrounding talk

[ overlapping talk or action
M: Ok (.) ehm (.) *pitch* we've already talked about that one
2 M: I just put it in there because it happened a few times with year ten (.) but I have to say yest'day wasn-
3 I: [yeah
4 M: an  issue (.) ehm so ()
5 I: [yeah:::
6 M: I don't think this is really necessarily more
7 I: [no no no it was just with that (.) one or two lessons of Radiation 1
8 M: [I think (.) I just tick a radiation topic
9 M: keep it really dumb down
10 I: [yeah:::
11 M: [an' I mean (.) the thing is if you're not sure how far to go in terms of keeping it
12 M: down ()
13 I: [yeah
14 M: talk to the teacher of the group
15 I: ok
16 M: I mean with year ten I would just say as low as possible
17 I: [ yeah
18 M: and NAME1 would say to me different for year seven and year twelve obviously NAME2 ()
19 I: [yeah I know
20 M: she sort of said the pitches she approaches a bit like you're doing (.) so you know

The discourses of absent members of the relevant professional practice is evoked here and come as support and constitutive part of the mentor’s argument in exploring reasons why should a certain differentiation strategy work in a certain pedagogical context. Dana employs in her speech the conditional mode of addressing (L6). Using this particular modal form makes Dana’s utterance bare the significance of ‘as if NAME1 was here and saying this now’, thus creating the sense of an agora where multiple members of the professional practice voice knowledge, share meanings and permanently engage in dialogical thinking with absent others, considering the many positions and stances they may take in the matter under scrutiny. This action makes visible the collective enterprise that producing professional knowledge is, an activity in which beginner and mentor are engaged by committing to building common understandings of the pedagogical tools the teachers use in their work with various groups of students.

3.2. Participation as exercising agency through engagement in producing professional culture in the course of exploring available conceptual and material tools

The language in the two teachers’ talk shows learning to be an activity in which both teacher mentor and student teacher engage with comparable discursive means crossing stages of identifying problem spaces, authoring alternatives of action and positioning through ‘I’ statements in relation to the alternatives. In the course of engaging in building common knowledge, role-boundaries are eroded and the learner–teacher dyad appears in many shifting moves with both participants engaged in learning.

Opened by the assertive positioning of the intern in assessing the efficiency of the pitch used with one year-group, the conversational episode is imbued with examples of exploratory talk between mentor and
beginner in which through turn-taking to authoring practice based observations about why the specifications of a scheme of work concerning one particular pitch didn’t fit with the year group it was recommended for, the two participants join in a variety of attempts to problematizing available tools (specifications in schemes of work). This turn-taking episode in exploring shared knowledge (explicit in ‘we’ statements the mentor uses, in the supportive manner of emphasizing shared emotions through paraverbal characteristics of mentor’s speech and many confirmations in both intern’s and mentor’s speech) is conducive of the beginning teacher’s use of the common ground created in the conversation through linguistic tools in order to exhibit professional agency through language packed with ‘I’ statements indicative of position taking about his field observations related to his use of available teaching tools. In Excerpt 2 an example of this sort of teachers’ talk is presented.

3.2.1. Excerpt 2: Mentor [M]-Intern [I] formative assessment session during S1

44 I: I saw the bias on my supervision (.) like the higher the lower (.) they just need to know 'bout
45 I: the chain reaction and that's 'bout it
46 M: [yeah yeah
47 I: and it was kind of like right uhm I wish I'd know that
48 M: [an' the thing is they've got that 'cause your room analogy was excellent
49 I: [yeah
50 M: and that was really positive because I've actually I've never heard that analogy before
51 I: [ok
52 M: and I'm gonna use that (.) because it's such an easy way to explain it

Whilst exploring the contradiction between student-teacher’s expectations as to what the teaching tools (i.e. textbooks, schemes of work) available in the planning phase of a lesson promise and what they actually cover as teaching information and suggestions needed, the mentor-teacher ends in exploration of a teaching tool (i.e. an analogy) the beginning teacher has successfully used in his practice with a group of pupils. The fact that the new tool becomes one to be included in the mentor’s teaching repertoire shows that learning is far from reduced to a one-way enterprise. The novelty of the student-teacher’s view on what could work in the classroom challenges mentor’s old practices and provokes a widening of her own horizon of thinking about available teaching tools.

Another type of contradiction becomes visible due to the manner in which the two participants author and position themselves in relation to the tools and practices of their profession. The contradiction is at the level of the role played by the teacher-mentor. Traditional mastery-type conceptions of expertise and consequently of the mentoring role are incompatible with the fashion of structuring learning in this dialogical episode between the beginning-teacher and his mentor. Transfer of expertise from a more experienced to a novice member of a professional practice is not the point here, as it is engagement with building common knowledge, an enterprise by which the two embark on producing their professional knowledge. This is the object of their inter-actions.

In this manner of understanding and filling roles during formative sessions the beginner is afforded a more agentic role in the making of his learning trajectory which becomes an exploratory enterprise within the space of acting and thinking like a teacher. Through ‘I’ statements and using a succession of active verbs at present tense the student-teacher positions himself within the dialogical space used for displaying and exploring expert-like tools for pedagogical reasoning.

3.3. Learning as appropriation of expanding horizons for problematizing and exploratory participation to collectively producing professional knowledge
In the following turns in conversation, Dan takes leadership in opening a new problem space and firmly positions in how he feels towards the recommended usage of the pitch. Opened for explorations the problem of explicitly lowering the pitches elicits argumentative work that takes the teacher mentor and the beginner through various routes of reasoning and therefore exposing for exploration new objects and tools.

Whilst the teacher mentor argues for the school having to respond to the requirements of a program providing it with technological support in return of the science curriculum being inclusive of all children in the school, Dan opens a new problem space, expanding his questioning over the epistemological implications of the school’s requirements. He positions unequivocally in what he thinks not to be a good assessment policy – that of communicating target grades to the students. The ‘target grades’ refer to the school’s policy of communicating to pupils their results in tests and to emphasize the higher level of acquisition and performance they could reach out to. The beginning teacher attempts an exploration of an issue that emphasizes the vertical dimension of building knowledge – that of theory growing into practice and practice growing into theoretical tools for action. His language is fractioned and exploratory in both content and structure of phrasing. Many words are attempted, then dropped showing that in the search of what could be the best possible way to express his thoughts, his own thinking is organized in relation to the meanings of the many possible signifiers and possible phrasing. In this search, the idea he’s looking for links to what looks like knowledge related to another culture - one that most likely relates to his readings at the university, and is rather research informed - than that of the context of practice which he subjects to reflection. The idea he’s authoring is that consequential to the school practices of assessment, young people may not base their motivation for learning on anything other than extrinsic factors and may miss the satisfactions and rewards that learning encapsulates in itself.

A new problem space, wider than that of policies and practices objectified in the school, is identified by the mentor in the requirements of the national body for inspecting, assessing and regulating the activity in schools and institutions providing educational and care services in the country.

The horizon of exploring the implications of classroom teaching are thus expanded to the level of the national school system upon which the governing authority of control and regulation is exercised by a national agency. This does not mean that the explorations end for either the beginner or the mentor once the name of the authority figure has been thrown in the conversation. What follows is a series of disputational episodes in which both participants take the stage to problematise, author and position, creating opportunities for learning. Excerpt 3 presents one of the disputational episodes in the teachers’ talk:

3.3.1. Excerpt 3 : Mentor [M]-Intern [I] formative assessment session during S1

101 M: shh the problem you've got is [name] (.)[name] insists we show them now where they are
102 I: [I don't think that giving them in so much detail as like m- my
103 I: whole six A seven A and so on on the SATs (. ) it's a little bit too much detail
104 M: [I think is important that' givin' them in so much detail as like m- my
105 I: [I don't know
106 M: but I think is really important because a six C child is different from a six B child
107 I: [yeah yeah yeah yeah

In dept exploration of the assessment issue brings to light forms of thinking about the classroom practices, policies and pedagogy that present both beginner and mentor as engaged participants appropriating the object worked upon (reaching a shared understanding of the assessment policies and of the related practices in the school context) and the conceptual tools employed in the course of the conversation. As such, the debate presents both participants as equally engaged with the shaping of the
problem worked upon and of the tools worked with. On one hand, the intern argues the excess of details in assessment reports, the importance of differentiating between the effects of information upon various actors in the learning setting (L 102) and, then, the relevance of the effects generated by labeling children’s performance levels. As he completes his argumentation, the intern leaves open the space for authoring new ways for communicating assessment results to children. On the other hand, the mentor positions with a set of arguments placing emphasis on the relevance of correct differentiation between levels of performance, the need for children to become aware of the differences in value of increasingly complex knowledge, drawing attention on the so-called transit groups (groups of pupils who’s grades are situated in an in-between levels position, presenting difficulties to be located along the lines of a week-medium-high type of hierarchy) and the importance of using suggestive and appropriate terms to name the levels of acquisition. The discourses the two participants bring in the conversation employ different sets of conceptual tools. Familiar with the academic culture of the teacher education program which she completed three years prior, the teacher mentor responds to the arguments the intern states with an understanding of the context of practice located in more than one discourse. In the teacher mentor’s conceptual tools the culture of the classroom practice, long term observational experiences of children’s progress, the pressure of being accountable both as an individual and as a member of a significant collective – the school - to the national agencies for control and regulation – all play important roles in informing her discourse. As such the histories of the conceptual tools the two employ in their dispute needs consideration, as different meanings to the same issue (i.e. communicating assessment results to school students) are employed and explored by the two participants in the conversation.

Excerpt 4 is introducing teachers’ language making visible a new horizon for exploration, one wider than any of the previous.

3.3.2. Excerpt 4: Mentor [M]-Intern [I] formative assessment session during S1

142 I: [it's not 'bout (.), they don't seem t- see it as self improvement (.), they just seem to see it as (.)] I d - know
143 I: [1 (.), hitting their target target group grade (.), they don't want to (.), work because they want to]
144 M: [I see what you mean]
145 I: work (.), they want to work because they want to (.), you know they get their target grade they don't
146 I: want to do anything more(.), that's it (.), we're through now
147 M: [yeah (.), that's it that's for cultural reason in this town (.), fo' town (.), it's not about]
148 M: achievement (.), it's about achievement in social aspects
149 I: [ok (.), ok]
[...]
165 M: ideally (.), I think your view (.), if children wanted to learn is better for themselves it's perfect
166 I: [yeah]
167 M: but you don't get in most comprehensive in NAME-county it's unfortunately not a good county fo'
168 M: that ok so yeah (.), I agree with you that volumentation with the children is got (.), but I think if we
169 M: could just move away from class competition to individual ones with yourself that's a tiny step in
170 M: the right direction
171 I: [yeah]

The episode is relevant for the manner in which the speech and thinking of participants are intertwined in the course of being elaborated, as partners take turns in questioning actions on the problem-spaces authored by themselves or by others who become relevant non-present participants to their dialogical, collective reasoning. The discontinuities and multi-voicedness of the collaborative, discursive practices enacted by the two participants are generative of the transformations in the conceptual tools employed in the dialogical action of building common knowledge.

The mentor finds in the community’s lack of support for the activity of the school a solid base to state her argument for the importance of developing correct assessment systems along with intrinsic
motivations for learning and related type of competitiveness - the one with one’s own performance. More than their own histories of learning concur to configuring the horizons of exploration. Both beginner and mentor place important emphasis on the implications that different understandings and employments of the tools available in the various practices of school-teaching and learning bare for their future actions in the classroom. Participants’ own projections come into play when tackling the object and the tools worked upon in the course of learning. ‘I’ and ‘we’ statements spread throughout the entire episode indicate clear intentions for positioning and exhibiting agency.

4. Discussion and final considerations

Understanding how collaborative work was structured in the learning situated in teachers’ talk meant understanding the nature and functionality of this space, where publicly ruled divisions of labor and structures of power enter the jurisdiction of private decision-making, judgment, engagement, will and responsibility. It was the meeting of these two planes that became visible in the contradictions located in participants’ dialogic actions through problematizing entries. Participants’ engagement visible in the attempts to author and situate in the myriad of possible contextualized meanings that the exploration of these contradictions made bring to the fore, put light on participants’ moves towards inwardly and outwardly engaging with, revising, and developing the repertoire of tools mediating their actions in and with the world. An increasingly informed use of the tools afforded in the space of the activity and progressive engagement of newcomers (student teachers) with the development of existing tools bring along a sense of legitimate questioning, indicative of a sense of legitimate appropriation of the collective where to tools. The dialogical episodes proposed for analysis exhibit a language that is rich in problematizing – authoring – positioning sequences (Stenning et al, 2002) sustaining an image of learning that emphasizes learners’ increasingly informed engagement with the objects and tools of the various sets of practice that make their profession. This progressive sense of ownership of ground for thinking and acting professionally is suggested in language by the many ‘I’ phrased contradictions, authoring statements and positioning actions performed by both participants in relation to the increasingly wider perspectives for addressing common practical issues. This may be indicative of expanding senses of professional agency.

A beginning-teacher’s exploration of a teaching technique (pitch) took him and his teacher-mentor across problem spaces for which a direct sense of responsibility, therefore appropriation, isn’t required in approaches to teacher learning promoting a best-practice delivery type of curriculum. Striving to understand the interplay of movements and dynamics in the learning activity located in the encounter between the teacher mentor and the beginner, analysis has moved towards the moral-ideological dimension (cf. Engeström, 2010) of the object expansion, as participants engaged with questioning ‘who else was responsible’ in the making of the pedagogical tools they employed in their classroom activity. In their dialogical actions, participants pushed the boundaries of their perspectives on the analyzed pedagogical tool (object worked upon) in the direction of instances and spaces of presumed shared responsibility expanding far beyond the confines of the classroom or school. The conversational episode proposed for analysis in this paper exhibits a teacher-mentor’s and an beginner’s struggle with an object – understanding a pedagogical tool related to their classroom activity – which presented participants in the conversational episode with the opportunity of addressing it from increasingly wider perspectives.

In the findings of this study, learning is reflected in the way participants explore meanings of certain conceptual tools in various contexts of practice. This manner of exploring led participants to broaden the horizon for their quests. Approaching the object worked upon from increasingly wider perspectives led to reshaping the conceptual tools the teacher mentor and her mentee were working with. Explored in
language, these continuously reshaped conceptual tools help understanding the interplay of transformations of both the object worked upon in conversation and of the participants working on it.

Configured as participation to the production of professional knowledge, the communication-type of collaborative work between teacher mentor and beginning teacher opens up opportunities for participants to engage with the tools of the professional practice and appropriate increasingly wider horizons of questioning and positioning in relation to them through situated actions alongside others – partners in learning. Accommodating such an idea in the practices and curricular designs of teacher education programs implies reflection and conceptualizations going beyond simply predicing participatory and collaborative requirements. Deeper, contextualized understandings of participation and collaboration seem to be significantly important to tackle, as neither remains inconsequential to how learning is shaped in the work and learning settings. It implies, as Edwards (2005b) suggested that conceptualizations, approaches and assessments of teacher education shift towards an expanding understanding of this activity, going beyond the mere socialization of newcomers to a space of professional activity. Instead, interest in how worlds are being transformed through participants’ increasingly informed actions on them is stressed.

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