The paper presents a part of a study that focuses on the analysis of various teachers’ identities. The teachers participated in an in-service training course and their narratives were used and complemented by other data to construct – from our point of view – their various identities. Characteristic examples are presented in order to show how teachers’ narratives can be related with their participation in the training course.

Keywords: identity, teacher training, narrative

INTRODUCTION

Teaching mathematics and mathematics itself can both be considered as communicational activities, which would not be made possible without language. In fact, for some researchers mathematics is a language by itself (e.g. Usiskin, 1996). Regardless of the acceptance of that ‘radical’ view, it is widely accepted that the way language is used in any setting – including classrooms – may affect the establishment of a community of learners (Wenger, 1998) and shape or constitute the participants’ identities (Sfard & Prusak, 2005). This last view was the trigger of the study presented here. The main aim was to relate teachers’ narratives with their participation in a training course. Our interest was not theory-driven; given the large number of studies on teachers’ beliefs we wanted to see if the notion of identity can be useful (i.e. operational) in teacher training and which narratives would be related to the various identities.

THEORETICAL FRAMEWORK

The literature in teachers’ and students’ beliefs and attitudes concerning Mathematics is vast and evolving (e.g. Cooney & Shealy, 1997; Franke et al., 1998; Leder, Pehkonen & Törner, 2002). An important and common conclusion is that teachers’ beliefs and their practice are related. However, there are researchers who claim that “the relationship between teachers’ beliefs and their instruction is not as direct as sometimes thought. (…) it is not unusual for an individual to hold contradictory beliefs making it difficult to determine how particular beliefs influence instruction” (Warfield, Wood and Lehman, 2005, p. 442). This assumption is not new; Blumer (1969) claimed that “any fair appraisal of the known universe of attitude studies forces one to conclude that no high conformity has been established between asserted attitudes and subsequent action” (p. 94). This has led a number of researchers to adopt a different approach. Instead of looking for connections between (assumed) attitudes and observed actions (verbal and non-verbal), the focus can be
the people’s actions themselves. Thus, when a teacher is e.g., talking about his views on Mathematics, this talk becomes the object of analysis as it is and not as the means that will lead us (as researchers) to the teacher’s ‘actual’ beliefs. The notion of identity may be used in that approach in order to group – thus analyse more systematically – the wide spectrum of data that describe people’s participation in a community of learners. According to Wenger (1998) identity is related to three modes of belonging: engagement (in meaningful activities and interactions), imagination (willingness to explore and take risks in order to create new images of the world and ourselves) and alignment (coordinating perspectives and actions and finding a common ground from which to act). The notion of identity as a narrative that was adopted in this study focuses attention on the participants’ narratives which are identified as “a series of at least two temporally sequenced clauses that are linked causally” that include “evaluation, the teller’s point of view on recounted events” (Juzwik, 2006, p. 16). Identity can be differentiated between:

... actual identity, consisting of stories about the actual state of affairs, and designated identity, consisting of narratives presenting a state of affairs which, for one reason or another, is expected to be the case, if not now, then in the future. (Sfard & Prusak, 2005, p. 18)

By seeing learning as the way to close “the gap between actual and designated identities” (Sfard & Prusak, 2005, p. 19) the notion of identity can be used as a tool to explain our teachers’ practices in training and eventually teaching. The way this was done in our study is shown in the next section.

CONTEXT AND METHODOLOGY

Fifty five in-service teachers (35 female and 20 male) had enrolled in the obligatory course named “Didactics of Mathematics”, which is placed in the second – and last – year of their training. In order to participate in the training course they had to meet two requirements: over five (and less than 25) years of teaching in schools and passing a national exam. The duration of “Didactics of Mathematics” was one semester (three hours weekly). These teachers had little – if any – experience with enquiry classroom approaches (Cobb & Bauersfeld, 1995) or realistic mathematics (De Lange, 1999; Freudenthal, 1978), although most of them expressed their willingness to be informed about them.

The study was based on the assumption that teachers’ identities (actual and designated) may account for their choices concerning their teaching practice. The following types of data were on our disposal:

(a) transcribed discussions and notes taken during the course,
(b) notes made after the sessions, based on our recollection of events that occurred before, during or after the sessions,
(c) teachers’ handwritten texts taken during sessions,
(d) teachers’ texts produced as part of their assessment.

We initially assumed that our main source of data would be (a) and (b), while (c) and (d) could be used complementarily. Soon we realised that (c) and especially (d) were a reliable source of teachers’ designated identities, although sometimes the relation was implicit. In the present paper, however, we focus only on data (a) and (b), in order to demonstrate the flow of our research. Following Sfard and Prusak’s (2005) categorisation, three types of identifying stories were used:

\[ A_{AC} = \text{an identifying story told by the identified person herself. This story we call A’s } \text{first-person identity (1st P).} \]

\[ B_{AA} = \text{an identifying story told to the identified person. This story we call A’s second-person identity (2nd P).} \]

\[ B_{AC} = \text{a story about A told by a third party to a third party. This story we call A’s third-person identity (3rd P).} \]

Our main aim was to use the above data to identify the teachers’ emerging identities. Our analysis was guided by the following principles:

a) The teachers’ identities came from our interpretations of the data at hand.

b) No predetermined categories were used or invented for the identities, thus all titles used from now on were put during or after the analysis.

c) The data did not come from our explicit request to the teachers to talk about themselves (or somebody else), but were selected from actual discussions during the training sessions.\(^2\)

d) Since it was impossible to obtain all types of data (e.g. 1st P, 2nd P and 3rd P stories) about all participants our analysis is far from providing a ‘complete’ account of all identities – if such an account can ever exist.

e) The fact that the teachers knew that they are assessed by their participation (which included among other things some assignments) is taken as a contextual element (thus, it cannot be isolated in order to study its effect).

The analytical scheme is summarised in Table 1, where (a), (b), (c) and (d) stand for the types of data mentioned before. As shown in Table 1 we were interested in actual and designated identities. According to Sfard and Prusak (2005) “designated identities give direction to one’s actions and influence one’s deeds to a great extent, sometimes in ways that escape any rationalization”. (p. 18)

<table>
<thead>
<tr>
<th>Data types</th>
<th>Story types</th>
<th>Formulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Identity</td>
<td>(a) (b) (c) (d)</td>
<td>[ A_{AC} B_{AA} B_{AC} ]</td>
</tr>
<tr>
<td>Designated Identity</td>
<td>(a) (b) (c) (d)</td>
<td>[ A_{AC} B_{AA} B_{AC} ]</td>
</tr>
</tbody>
</table>
Table 1: Methodological scheme

For brevity reasons, we have chosen particular examples to demonstrate our analysis. These examples are not supposed to reflect by any means a ‘general trend’ among the teachers; they rather represent some of the most characteristic identities that emerged during the training course.

RESULTS OF THE STUDY – EXAMPLES OF TEACHERS’ IDENTITIES

Most teachers participated actively in the training course, which was a good opportunity for them to:

a) familiarise themselves with group work and contemporary approaches in mathematics education, and

b) express their views on (their) teaching as a complex and demanding task.

It is obvious that the teachers’ identities were highly related to their occupational demands. This is not to say that there were not any narratives related to other aspects of their lives; however, these were significantly few, appeared rarely and most of the times not during the session hours. This is totally justifiable by the context of the situation: the teachers participated in a training course provided by an instructor they had never seen before, thus they were reluctant to talk about other things than their work. Next we present some characteristic identities that we have encountered.

The politically-active teacher identity

The excerpt that follows is taken from a task that the teachers were asked to work on and comment. The task started by showing the advertisements of the three major Greek mobile telecommunication companies; their common element was the focus on the ‘population coverage’ which “is over 99%” or “touches 100%”. The focus from a teaching point of view was the use and misuse of percentages, together with the notion of limit. But once the task was presented a teacher reacted and the following discussion took place between him, another colleague and the instructor (and author of the paper). Our notes are in brackets, where we also put a code to signify the type of story told. The letters A to H refer to particular teachers:

Teacher A: I am sorry [for the interruption], but I believe that you [the instructor and at the same time designer of the task] shouldn’t use the companies’ names in this task. [A Instructor]

Instructor: Why?

Teacher A: Because it’s like ‘pushing’ the students to buy or use a mobile phone from these companies. [A Instructor]

Teacher B: But there are no other companies in Greece!
Teacher A: Yeah, but it’s still like hidden advertisement! These tasks shouldn’t be in the textbooks...

Instructor: But the names [of the companies] are there because they are taken from real advertisements. I didn’t want to delete the names, or put something like: “Company A” and “Company B”. [Instructor, Instructor A]

Teacher A: ... and it reminds me of some other tasks with hidden advertisements – but I don’t remember now. Anyway, it’s a pity that the whole educational system is working with market rules. I believe that in a while companies will take over schools. [ACompanies, All] And we [teachers] will be just their employees... I can see it coming. [AAll]

Some teachers showed their agreement with Teacher A’s remarks; others said things like: “Come on, don’t be so stuck with your politics!”. So, he continued by saying:

Yeah, yeah... You know what? I will never agree to such kind of policies! [AAll]

Later on, during the break we had the chance to discuss a bit on his views on teaching and the current situation in Greek educational system. His main point was that teachers are trying hard to overcome their financial problems (due to their low salary) but the government does nothing to assist them. Actually, according to him every reform is to the wrong direction:

And every now and then they [the government] come up with a new big plan. And they’ve never been in a real classroom. [AGovernment, Instructor] And I have to teach 25 to 30 students. [AAInstructor] And some of them [children of immigrants who sometimes do not have the chance to attend extra Greek language courses] don’t even speak Greek! [AImmigrants, Instructor] And what do I do? [AAInstructor] Did you hear the story about that teacher who was giving extra-school Greek language lessons to children? She got herself into real trouble! [ATeacher, Instructor] That’s why we need to support each other! [AAInstructor]

The previous transcripts are rich in the actual and designated identities involved. And actually, one can find data not only for teachers’ identities, but also for the identities of the instructor and the policy maker(s). By focusing on Teacher A we can firstly locate the utterances which are directly related to his identity:

Actual identity:
- where I have to teach 25 to 30 students. And what do I do?

Designated identity:
- And we [teachers] will be just their employees... I can see it coming.
- Yeah, yeah... You know what? I will never agree to such kind of policies!
- That’s why we need to support each other!
From the above it is obvious that Teacher A’s identity does not comprise of only the above short narratives, but should be enriched by his narratives about the other participants. Thus, we may conclude this identity includes teachers who feel on the one hand helpless in their own classrooms and on the other hand threatened by the reforms who – according to them – are driven by ‘market’ criteria (e.g. of competitiveness or productivity). This usually leads them to organise themselves around politically-oriented syndicates, which are most of the times sceptical to any reform movement.

The intelligent teacher identity

There was only one teacher with the particular identity – we will name him Teacher C. In the second session of the course this teacher – who was always sitting alone in the first line of desks – invited me to visit his personal website. It turned out that the site was part of the Mensa members, i.e. the people whose IQ was measured within the upper 2% of the general population. Thus, the first ‘narrative’ of that teacher already had a title – “Mensa member” – and some electronic content (mainly ‘artistic’ landscape pictures shot by him). During a break of the third session we talked about the site and he was eager to talk about his main interest, photography:

I hope you enjoyed it. It’s my big passion [photography]. Sometimes it takes me hours to get a proper shot. I prefer shooting landscapes. [cC_Instructor]

During all sessions he showed great interest in all tasks, especially those that included non-standard solution paths. Usually, he was the first that completed the task; this fact irritated some of his colleagues:

Teacher D: Come on, you always finish first! Give us some time too! [D_C_C]

Teacher C: I never asked you to hurry up! [C_D]

Instructor: It’s okay, you have as much time as you need.

Teacher E: Yeah, because he is so intelligent he thinks we’re all the same! [C_E_C]

Instructor: Please...

Teacher C: Come on, colleague...

At the end of the course he was one of the few who came individually to express his gratitude for the organisation and the realisation of the course and his views on teaching:

I think we should take advantage of all opportunities for training. And our teaching should not be based on the ‘average student’, but on each person’s characteristics, which make him unique. [C_Instructor] Something which is not easy at all. And you also have the head of the school who puts pressure on you... [Head_Instructor] [C_Instructor]

Until the present moment he keeps sending informative emails about his new collections of photographs. However, it is worth mentioning that his final assignment
was far from showing signs of uniqueness or originality. The above transcripts can be categorised as follows:

**Actual identity:**

- It’s my big passion [photography]. Sometimes it takes me hours to get a proper shot. I prefer shooting landscapes.
- Come on, you always finish first! Give us some time too!
- I never asked you to hurry up!
- Yeah, because he is so intelligent he thinks we’re all the same!
- And you also have the head of the school who puts pressure on you...

**Designated identity:**

- I think we should take advantage of all opportunities for training. And our teaching should not be based on the ‘average student’, but on each person’s characteristics, which make him unique.

The intelligent teacher identity is comprised of two components, stories of the 1st P type and stories of the 2nd and 3rd P types. The 1st P stories talk about a teacher who has more interests than teaching (in our case photography) and seems to be aware of the fact that his abilities should not raise a barrier between him and his colleagues. Actually, he was participating in all discussions, trying – like all the rest – to express his views and eventually convince the others. His view on the teacher’s positioning between policy makers, school authorities, parents and students was not much different than the one presented before: the teacher is most of the time helpless when s/he has to confront most classroom and out-of-classroom problems.

**Other teacher identities**

Other identities that have emerged include the insecure teacher identity (in two different manifestations) and the passive teacher identity (expressed as indifference to participation).

The insecure teacher identity in the first manifestation comprised of teachers who were continuously asking clarification questions concerning the tasks they worked on. They relied highly on the instructor’s expertise to evaluate their work and they rarely showed any initiative during group work. However, they seemed to be working hard with their colleagues, always striving to deliver their work on time.

The insecure teacher identity in the second manifestation comprised of teachers whose insecurity was justified by them on the grounds of improper mathematical background. Their narratives usually included stories about a mathematics teacher who – in a certain moment of their school life – halted their learning of mathematics by his attitude towards teaching and towards “those who were not so good in maths” (according to a female teacher who was explaining her attitude during a whole group
discussion. These teachers usually delivered poor assignments and always asked for more ‘loose’ assessment.

The passive teacher identity was manifested as an indifference to active and meaningful participation; in other words, those teachers were usually more interested in the deadline for the next assignment than its content. Some of them arrived late for the session or even asked to leave earlier. There was one teacher who asked to deliver an assignment in handwritten form, because she doesn’t have a PC at home and she doesn’t have time to work in the PC laboratory that was available to them (note that all teachers in the particular course had already at least one course in new technologies). Most of them were asking for extending the deadline for giving the assignment, because they were busy (although during the training course they are free from their teaching duties). Most of their narratives were focused on their difficulty in managing all components of the Greek educational system. Some narratives were focused on particular issues, like the new textbooks:

Teacher F: Especially the 5th grade book is so hard. You know, they [the authors] have put so hard maths in it! And it’s so dense! Children don’t understand what I’m talking about! For example, once we were dealing with decimals and I had to go over and over again the same chapter...

Teacher G: Yeah, and the 6th grade book is also hard...

Teacher H: The previous ones were better...

**FINAL REMARKS**

The observation and analysis of the teachers’ identities has led us to some commonalities, which may be attributed to their common experiences gathered from years of teaching in the Greek schools – and from years of practice in the Greek educational system. One such commonality is the ‘resistance’ of most teachers to employ any ‘novel’ approaches, which is related to an actual identity-narrative of the ‘helpless’ teacher caught between the various forces that are active in the system classroom-school-society. These narratives are complemented with narratives about policy makers (eventually personalised in the face of the ministers of education or university professors holding decision-making governmental positions). At the same time, these teachers sometimes used their teaching experience to justify their insistence on ‘traditional’ teaching approaches or to criticize the new textbooks – which proved to be one of their favourite and most provocative topics of discussion.

Concerning our methodological scheme, which was based on Sfard and Prusak’s (2005) approach, we realised that in order to efficiently describe teachers identities we need first, second and third person narratives, together with other elements related to their participation in a community of learners (in our case the community of the training course), e.g. their willingness to adhere to the norms established. For example, some teachers’ disagreement to any ‘novel’ approaches was usually
accompanied with reluctance in e.g., working collaboratively or participating actively in whole-group discussions.

Few teachers’ narratives included elements from their out-of-school life; these were related to their hobbies or to general topics related to politics or current significant events.

Some teachers’ designated identities-narratives included statements like “I hope that my (teaching) practice will be improved once I get back to school”, but it was obvious that they were mostly interested in making their teaching effective but at the same time easier, i.e. without conflicts (e.g. with parents or the school principle) or tensions (e.g. related to classroom management issues). This was apparent in their participation and their work, which sometimes could not move beyond what has been discussed or suggested during the session. This is not in line with the view that learning should pose challenges to the learner in order to stimulate his/her interest.

Finally, returning to our initial aim, the notion of identity as a narrative seems more operational for the purpose of analysing teachers’ participation in a learning process. Our results have shown that particular identities are related with specific behaviours and particular narratives which appeared rather stable in time. The sources of these narratives can vary from verbal interactions to written assignments; the more varied the spectrum of data, the closer the researcher can get in the actual and designated identities of any participant.

NOTES

1. When we talk about teachers’ practices or behaviours we refer to them as either observed by the researcher or expressed in teachers’ narratives about them.

2. This is a difference between our approach and Sfard and Prusak’s (2005) research where some of the narratives came from students’ self-reports.

3. The content of the teachers’ work is not the focus of the present paper. What can be noted is that sometimes when the teachers were asked to design tasks for their classrooms they merely reproduced (by slightly changing the data) the tasks that were given to them during the sessions.

REFERENCES


