Educational Research and Reviews

Full Length Research Paper

Effects of doctorate program on a novice teacher's conceptualization of an effective teacher: A case study

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This case study, the framework of which is provided by Kelly's Personal Construct Theory, investigates how a female novice ELT teacher structures her constructs on the qualities of an effective teacher. Repertory grid, a cognitive mapping approach, based on Kelly's theory was used as an elicitation technique in the study. The study focused on four main questions. These are how the participant conceptualized an effective teacher, the meanings she attached to the constructs through which she portrayed an effective teacher, the participant's view of "Self" as a teacher, to what she attributed the evolution of these constructs and finally the probable role the program played on these changes, if any. The findings of the study reveal that although the participant's educational repertoire played a major role on the evolution of her theories, we find that theoretical knowledge does suffice to make a teacher an effective one. The study results indicate a need for improvement and change in teacher education at graduate and undergraduate teacher education programs.

Key words: Teacher education, teacher thinking, personal theories, professional development, change.

INTRODUCTION

Teachers' professional learning, development and conceptual change have long been the focus of research at global level. These studies shed light to various aspects of pre and in-service teacher education in various contexts. For example, with the results they reached Labone and Long (2014) validated the importance of focus, learning components, feedback, collaborative practices, temporal elements and coherence in teacher learning activities. Celik (2011) explored the consequences of putting explicit standards for teacher educators by means of a comparison between the currently present systems in three countries; contexts with defined standards for teacher educators in U. S. and Australia and less defined standards in Turkey. Semerci and Kara (2004) evaluated the ways teaching profession courses showed themselves in the doctorate students' attitudes towards the teaching profession. Hsiao et al. (2015), on the other hand, conducted their study in a secondary school context and investigated the effectiveness of peer tutors trained through two different approaches. Cheatham et al. (2014) examined pre-service teachers' presumptions about language learners.

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From another perspective, Hökkä, and Eteläpelto (2014) attempted to find novel ways to overcome the obstacles to developing teacher education in Finland. Similar to the variety in the approaches utilized for these studies, the theories that underlie them vary from one study to another.

Kelly (1955)'s personal construct psychology propounds that we experience, organize and describe our environment in terms of cognitive personal constructs that can be transformed into bipolar verbal labels (in Roberts, 1999, p. 118). Repertory Grid technique based on Kelly's Personal Construct Theory has been a cohesive elicitation technique to serve the purpose of the studies aimed to shed light on the ways people construed their environment in all fields including education. Several studies benefitted from this technique to explore the personal constructs as Clark (1986) and Sendan (1995) in teacher development, Christie and Menmuir (1997) in early education, Rayment (2000) in teachers' views toward the curriculum, Hoogveld et al. (2002)'s in instructional design practices, Ilin (2003) in teacher education, and Bayat (2010) in childhood teacher education, among others.

Context of the study

In this case study, a professional development program, that is, a six year doctoral program the first year of which is devoted to the lesson phase at the English Language Teaching (ELT) department of a Turkish university constituted the research context. The objectives of this program are to equip the PhD candidates with adequate knowledge and skills to conduct independent research, provide the candidates with opportunities to adopt a deeper and broader perspective to scrutinize issues and finally, help the candidates to gain the ability to comment on, analyze and reach new syntheses on educational issues (Official Journal, Sep. 2013). In the first year of the program, according to their area of interest students select among a variety of courses offered in the department. These courses uniformly require reading, reflection, discussion, researching, project preparation, giving seminars, making presentations, and pair and group work activities.

Taking into account the aims and nature of the program, the study within this ELT context aims to explore a PhD candidate conceptualization of the qualities of an effective teacher. Then, it proceeds by looking for changes in the participant's views in the course of the PhD program, if any, and finally tries to find out what the participant attributes these probable changes to. Thus, the study serves as a tool to draw a picture of the intellectual path the participant proceeded to comment on, analyze and reach new syntheses on educational issues as mentioned in the Official Journal above.

METHODS

According to Kelly, each person has a unique system of personal constructs through which he experiences life, categorizes and makes use of his experiences. As he suggests, similar events lead to different behaviours in different people (in Shaw, 1980, p. 9), which implies the need for research on an individual basis. Moved by Kelly's personal construct theory, in this study, we set off to explore how the lesson phase of the doctoral program lead to changes, if any, in the case of an individual's inner representations regarding the qualities of an effective teacher.

To go in more detail, in general terms this case study investigates how a PhD candidate working as a research assistant at the ELT department, namely Sinem, (pseudonym) structures her constructs on the qualities of an effective teacher at the beginning and end of the lesson phase of the doctoral program. The study further explores how she evaluates herself as a teacher within this period and, the probable impact of this program on these changes, if any.

Repertory-grid as defined in Shaw (1980) is "one of the best attempts to examine and bring into awareness the conceptual system built in and held by an individual". The technique, originally utilized for understanding how individuals construe the objects and people in their environment, functioned as the main data collection tool in the study. It served to identify the patterns of how Sinem conceptualized an effective teacher without directing her to any expected answers. As Fransella et al. (2004) warns, grids are about constructs and construing and thus, more data collection instruments are needed in repertory grid studies. Similarly, Green (2004) draws our attention to the depth the content analysis of the constructs would bring to studies. In the same vein, in this study, while focus analysis of the grids revealed Sinem's personal theories at the beginning and at the end of the study, the content analysis of the constructs cited displayed the variety of themes in the grids. In addition, the follow up interviews served to expose the meanings Sinem attached to her constructs and her epistemological explanations for her theories as she perceived. The exchange analysis of the two grids, on the other hand, displayed the change in her views. In addition, due to the nature of repertory grid technique, Sinem evaluated herself as a teacher on the basis of her constructs. The following research questions guided this study:

1. How does Sinem conceptualize an effective teacher at the beginning and end of a professional development process, that is, the first academic year of the doctoral program at the ELT Department?
2. What meanings does she attach to the constructs by means of which she portrays an effective teacher?
3. What is her view of "Self" as a teacher at the beginning and end of period under question?
4. Can any statistically significant changes be observed in her views at the end of the study?
5. What does she attribute the evolution of and change, if any, in her personal constructs to?
6. What is the role of the program, if any, on the change, if any, of Sinem's conceptualization of herself as a teacher as she perceives?

Repertory grid procedure

In a repertory grid elicitation procedure, the participants are invited to write about their constructs on the qualities of a specific group of people (teachers in our case). To begin with, they are asked to think about the qualities of three (the number may vary depending on the nature of the study) Effective, three Typical and three
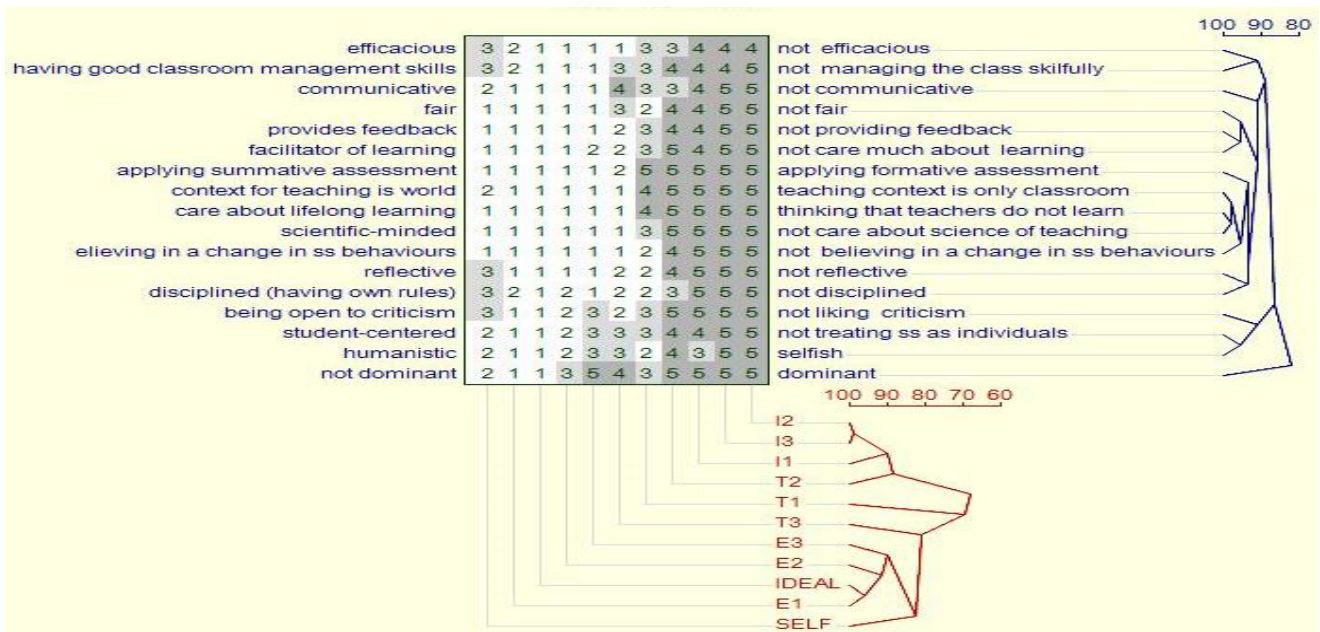
Figure 1. Qualities of an effective teacher Time 1.

Ineffective elements (teachers) from their own repertoire without giving names. In order to trigger the participants' minds to fill in the bipolar grid, triads such as E1, E2 and T1are formed randomly by the researcher and the participants are asked to think about the similarities and differences between the elements (teachers) in the triad. Such an implementation enables the researcher to elicit answers from the participants without directing them to any expected answers as may be the case in questionnaire and interviews procedures (Taggard and Wilson, 2000). The triads are given until the participants come to a point that they cannot produce any more constructs. Following this, the participants rate each of these constructs on a 1 to 5 scale, 1 being the closest and 5 farthest to the construct. They also rate themself as teachers and their ideal teacher (role model). Finally, the participants select five high priority constructs and list them in the order of importance. Then, the data gathered are computed and each grid is subjected to focus analysis to picture the way thoughts are organized in the participants' mind. In order to find changes between two grids exchange analysis is used.

FINDINGS AND DISCUSSION

Figure 1 displays how Sinem's constructs are represented in her mind at the beginning of the study. In the grid, we observe three clusters and five pairs on the qualities of an effective teacher. The first pair is a tight match at 90% level and reveals that Sinem believes that a teacher who is "*good at classroom management*" is "*efficacious*". She elaborates the meaning:

Excerpt 1: By being efficacious, I mean one's beliefs in his personal efficacy as defined in the literature. Classroom management is the skill that requires this kind of efficacy. As an inexperienced teacher, I know that I

cannot handle classroom management.

In addition, an effective teacher should also be "*communicative*". However; Sinem cannot yet accommodate this construct within any of the clusters showing that she needs more time to construe over this construct. In the first cluster "*provides feedback*" and "*facilitator of learning*" associate at about 95% match level while "*is fair*", though still above 90% level forming a looser cluster with these two. This means that Sinem is sure that a facilitator teacher will certainly provide feedback to the students and thus, become a fair person. The second cluster consists of five constructs. An effective teacher thinks that "*the context for teaching is the world*" rather than the classroom only, and considers "*lifelong learning*" while teaching. These two constructs associate highly at almost 100% match level and another construct, "*scientific minded*" is similarly tied to these two at the same level. Sinem's voice may be more enlightening:

Excerpt 2: Starting the M.A. program, I realized that knowledge is not static and there is not an end to learning. A teacher who does not follow the developments in her field cannot be said to be an effective teacher.

Within the same cluster, we see the construct "*believes in change in student's behaviours*". The quotation better explains her understanding:

Excerpt 3: Education aims to realize intended changes in a person. However, first of all a person needs to go

through a change in their beliefs. Only then, can we observe behavioural change.

An effective teacher who bears all these qualities coalesced in this cluster will "*benefit from formative assessment techniques*" rather than summative assessment. This last construct appears to be a super-ordinate to the remaining four in the cluster. Constructs "*reflective*" and "*disciplined*" constitute a pair at 90% match level. To Sinem, a disciplined teacher has a well-established repertoire of interrelated rules and is able to reflect upon and revise them when necessary. Within the last cluster, there are four constructs two of which associate above 95% match level. Based upon this, we infer that Sinem strongly believes that if a teacher is humanistic, s/he conducts student-centered classes. In addition, s/he is "*open to criticism*" is loosely tied to these two constructs. She views criticism to be directly influential on an effective teacher's professional development:

Excerpt 4: A teacher who is able to think analytically about the criticism he receives will question his beliefs and go through changes and consequently become an effective teacher.

The last construct of this cluster "*is not a dominant figure*" which means to be a democratic, egalitarian and humanistic person appears to associate with the others at a lower level, 80% showing that Sinem needs more time to accommodate it in her mind in a more determined way. When it comes to how she views and accommodates herself among the Effective Typical and Ineffective teacher groups, we see the composition that although she appears to be slightly undecided about the typical teachers all of which are isolates, she courageously places herself within the cluster where effective and ideal teachers are positioned. She associates Effective teacher 1 and Ideal teacher at above 95% match level which suggests that her Effective teacher 1 bears considerable similarities with her Ideal teacher portrait. Her Effective teacher 2 and Effective teacher 3 qualities correspond to each other at below 90% match level. When it comes to how Sinem construes over her own qualities as a teacher, although she associates with the effective group, she gives room for herself for professional development and ties herself with the others in this cluster at 80% match level, closer to Effective teacher 3 but farther from the Ideal. The excerpt below displays her views through her own words:

Excerpt 5: I learnt a lot during my undergraduate, M.A. and Ph.D. studies. Regarding literature and content knowledge, I have confidence in myself. However, I have not had the chance to put my knowledge into practice. That is why I cannot say that I am an effective teacher.

To sum, in the way Zimmerman and Cleary (2006) distinguish from each other, Sinem has self- esteem, and in other words, she feels herself worthy. However, she

Table 1. High priority constructs at Time 1.

S/N	High priority constructs
1	Is student centered
2	Believes in change in students' behaviors
3	Is a facilitator
4	Is humanistic
5	Has a scientific perspective

does not have self-efficacy which means that she has poorer cognitive judgments of her capacity as a teacher (in Dinther et al., 2010: 96). Thus, she appears to need practice to become an effective, if not, an ideal teacher. When she finished her grid, Sinem rank ordered her constructs in terms of the priority she gave each one of them. Table 1 displays the first five constructs that bear the highest priorities.

When we have a closer look at Sinem's constructs she attributes more importance to, we find that these are related with the teacher's perspectives only. We encounter no constructs on classroom practices or any kind of teacher student interaction. The content of the constructs Sinem cites in her first grid is rather inward - looking and limited to what a teacher thinks, what a teacher believes, and what a teacher expects from the teaching learning environment.

Regarding how Sinem construes over the qualities of an effective teacher at the end of the study, that is the end of the lesson phase, Focus analysis of Sinem's grid displays two sub- clusters in one main cluster as seen in Figure 2.

In the first cluster, a pair of constructs associates at above 90% level. These are "*is well planned for the lesson*" and "*knows that each student is an individual*". As also verified during the interview, this association shows us that Sinem holds the belief that a teacher who views her students as unique individuals rather than as a group bearing similar preferences, styles, expectations and needs is a teacher who makes better lesson preparation. Within this cluster, there are three loose matches; "*maintains authority by being emphatic with students*", "*sets attainable goals*" and "*shares his experience, knowledge and materials with students*". These give us the impression that Sinem has been going through an assimilation accommodation stage (Piaget, 1952). In the manner that Piaget explains the situation, she has been trying to integrate new elements into the already existing structures in her mind (assimilation) which will be followed by the phase that modification of elements of an assimilatory scheme by the elements it assimilates (accommodation) will be realized (Piaget, 1970 in Block, 1982: 284). To put more simply, these constructs have newly occurred in Sinem's mind and although she placed them close to the ones in the first cluster, she has not yet
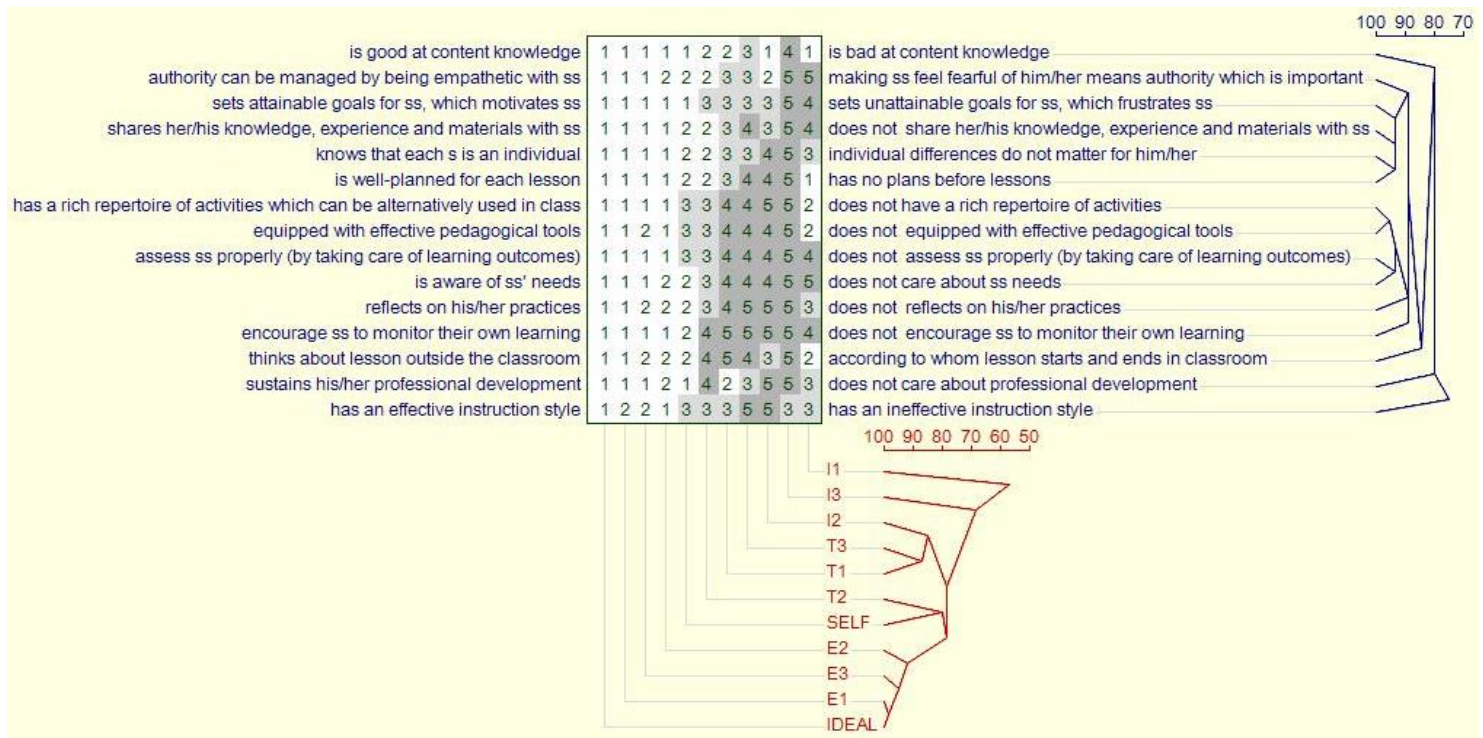
Figure 2. Qualities of an effective teacher Time 2.

made a clear association with the others. Thus, she needs more time to construe over and accommodate these new constructs within her schema.

In the second cluster, Sinem accommodates two pairs and two loose matches. Both pairs are tightly matched at above 90% level. In the first pair, "*has a rich repertoire of activities which can be alternatively used in the classroom*" associates with "*is equipped with effective pedagogical tools*". Sinem clarifies the meaning she attaches to "pedagogical tools as follows:

Excerpt 6: By "pedagogical tools" I refer to anything a teacher uses to conduct his lesson. For example the methods, techniques, adaptations, and any kind of actions he does in the light of his pedagogical knowledge. The second pair is formed by constructs "*assesses students properly*" and "*is aware of students' needs*". By means of this pair, we anticipate that a teacher who is aware of his students' needs is also able to benefit from appropriate assessment techniques. When we consider all the constructs in this cluster, we find that Sinem views individual differences of students as of utmost importance to be taken into account by effective teachers. Within this cluster, we also see two loose matches which, in fact, have the same concept "assessment". One of them deals with teacher's reflection and self- evaluation, namely, "*reflects on his own practices*" while the second one is

concerned with the students' self –assessment, that is, "*encourages students to monitor their own learning*". The last construct tied to this cluster is "*thinks about the lesson outside the classroom*". Sinem tells the difference between "*reflects on his own practices*" and "*thinks about the lesson outside the classroom*" as in the following:

Excerpt 7: I think what I really wanted to mean by "thinks about the lesson outside the classroom" was related with the preparation phase of the lesson. "*Reflects on his practices*" however, was to do with the post lesson stage. On the other hand, "*is good at content knowledge*" appears as a super-ordinate construct that embraces all the mentioned so far. This finding demonstrates that Sinem deems this quality as a pre-requisite for all the other remaining qualities. In the follow-up interview, she uncovers the reason:

Excerpt 8: Teachers' possessing content knowledge for me is a priority. I know that a teacher should possess content knowledge, pedagogical knowledge and pedagogical content knowledge. However, without content knowledge you cannot talk about the rest. It is like teaching English without knowing English.

Finally, constructs that "*sustains her professional development*" and "*has an effective instruction style*" are two isolates which requires an accommodation phase to

Table 2. High priority constructs at time 2.

S/N	High priority constructs
1	Reflects on his practices
2	Sets attainable goals to motivate students
3	Has a rich repertoire of constructs to be alternatively used in the classroom
4	Encourages students to monitor their own learning
5	Shares his knowledge and experience with students

be placed more tightly in the structure of her personal theories.

In the second grid administered ten months after the first, we detect that Sinem gives herself poorer evaluations as a teacher than she did at the beginning of the lesson phase of the program. She associates herself with Typical teacher 2 at slightly below 80% match level although she still places herself close to the cluster consisting of Effective teachers 1,2,3 and the Ideal teacher. By means of this finding, we may suggest that the learning experiences she had may have given her an idea that she needs to learn more to become an effective teacher. That is, she leaves even more room than before for herself to develop professionally. Regarding the other elements, she puts together the Ineffective teacher 2 and Typical teachers 1 and 3 in the same cluster and leaves Ineffective teacher 1 and 3 as isolates. Sinem interprets this composition in the interview:

Excerpt 9: I do not have adequate teaching experience. That may be because I viewed myself further from my role model. In general terms, what I talk about teaching related issues are limited to "If I were the teacher…" However, if I really were the teacher, I cannot imagine how successful I really would be.

As for the ones bearing high priority among the constructs in her second grid, Sinem made a selection as seen in Table 2.

Regarding the high priority constructs of the second grid, we see that "*reflects on his practices*" bears the highest priority. The second highest priority construct "*sets attainable goals to motivate students*" is followed by the third high priority construct "*has a rich repertoire of activities which can be alternatively used in class*". The last two constructs with priorities are "*encourages students to monitor their own learning*" and "*shares his knowledge and experience with students*".

As compared to the high priority constructs in Time 1, in the second grid, we realize that Sinem adopts a more outward looking approach and cites constructs taking into consideration the consequences of her own teaching on students, ways to encourage and motivate students, giving way to students to take the responsibility of their own learning. Thus, at the end of the study, we can easily suggest that the outcomes of the program show

themselves by the way Sinem gives more credit to student related issues rather than being teacher focused. To put in a nutshell, the Focus analyses of the Time 1 and Time 2 grids reveal that Sinem has been experiencing changes though this professional development process. The Exchange analysis of the two Focus grids demonstrates whether these changes are statistically significant or not.

The exchange analysis of Sinem's grids at Time 1 and Time 2 reveals hierarchical and structural changes in the way she construes an effective teacher. Although these have not been concretely accommodated in Sinem's mind and all, other than one, not yet matured enough to appear statistically significant, we find that even the number of constructs cited at Time 1 and 2 has gone through a change. To illustrate, at the beginning of the study she cited seventeen constructs almost all of which (13) were on academic qualities. She also used four constructs on personal qualities to make a teacher an effective one. In the second grid, however, she deleted these personal qualities and shifted the focus to teachers' awareness on individual learner differences as well as self-assessment procedures on behalf of teachers and learners alike. The structure of her thoughts, that is, the way constructs are organized and associated to one another, has also undergone a process of change. For example, in the first grid construct "*reflective*" associates with the construct "*disciplined*". However, in the second grid, it is one of the loose matches of the second sub-cluster together with "*encourages students to monitor their own learning*".

In addition to Sinem's constructs on the qualities of an effective teacher, the consequences of the professional development process show themselves on the way she viewed her Typical teacher 3. In the first grid, we found this teacher was an isolate like all the other Typical teachers. However, in the second grid, Sinem's views about Typical teacher 3 went through a change and we observed that Typical teacher 2 and 3 associated at % 90 match level. The exchange analysis of the two grids (Figure 3) serves to finding out whether the changes detected in the study are significant or not at individual level. In this study, the exchange analysis revealed only one significant change in the participant's views. The computer analysis places the constructs that show

Figure 3. Exchange grid.

significant changes below a horizontal line in the figures. In the exchange analysis, we find that the change in Sinem's views about Typical teacher 3 bears the only significant change in the study and is placed below the horizontal line.

As also seen in Figure 2, the analysis displays a change in Sinem's construction of Self as a teacher at the end of the study. Based on this finding and as also revealed in the interviews, we can say that the readings Sinem made, the academic discussions she involved in, the research she did, projects she completed, and general speaking, the knowledge she acquired during this ten month period led her to reconsidering her conceptualization of Self as a teacher. Shortly, the more she learnt the more aware she became about her weaknesses and strengths and consequently the more open did she become for more professional development.

Conclusion

As the answer to our first research question, the findings of the study revealed that the participant's conceptualization of the qualities of an effective teacher and her view of Self as a teacher went through changes. At the beginning of the study, Sinem cited totally 17 constructs 13 of which were associated with teachers' academic qualities. Regarding this finding, although personal theories are often common sense and tacit in

nature (Sendan, 1998) we find that the academic experiences Sinem accumulated played visibly an influential role on the way she conceptualized an effective teacher. The answer to the second question, that is, the fact that all the meanings she attached to her constructs had their roots from her educational repertoire also concretizes this finding. Moving back on with the first inquiry of the study, namely the changes detected between the beginning and the end of the study, in her first grid, Sinem cited only four constructs on personal qualities while none on teaching behaviors. Similarly, four out of her five high priority constructs were again related with teachers' academic qualities. This, as also Sinem voiced, emphasizes her perceived need for more actual classroom practice as a teacher. To conclude, in the first grid we find that Sinem relates effectiveness in teaching with inward-looking and teacher-focused issues. In those, she thinks that she lacks pedagogical content knowledge leaving room for more professional development.

On the other hand, when we consider the findings obtained by the second grid, Sinem cited totally 15 constructs. These are ten academic qualities and unlike the first one, she cited three constructs related with teachers awareness on individual differences (Gardner, 2001). This shows that Sinem had adopted a more outward-looking manner directing her attention to student-related issues rather than teacher-focused concerns and consequently, she cites constructs on both teachers' and students' self-assessment. Another

difference was detected in the way she viewed learning. In her first grid, Sinem cited the role of life-long learning to become an effective teacher attributing it to her raised awareness that knowledge was not static but continually changing. When compared to her understanding of assessment in her first grid, we see that Sinem cited a construct on assessment. However, it was related with the teachers' use of formative and summative assessment techniques. In the second grid, we detect another change and observe constructs both on students' and teachers' self- assessment which relate to life-long learning. Thus, we suggest that at the end of the ten month period Sinem's thoughts have matured and even started to ramify.

The findings we obtained through the exchange analysis of the two grids administered at the beginning and end of the study enabled us to find answers to the third research question. The findings revealed a change in the way the teacher conceptualized herself as a teacher. Contrary to how she evaluated herself at the beginning of the study, we found that Sinem made poorer self-evaluations becoming more open to change and leaving more room for professional development at the end of the study.

As for the answers to the fourth and fifth questions, all the changes, only one being significant, as to Sinem, were the consequences of the doctoral program. In her opinion, teachers gain confidence through actual teaching experiences. The academic qualities you gain by means of professional development programs may make you more knowledgeable in your field. However, as she put it, if not accompanied by adequate hands-on teaching experience, theory remains as theory and those qualities do not suffice to make you an effective teacher. We have to note that this study focuses on the development of a case and the above opinions and explanations are not generalizable but specific to the participant of this study only. Similar studies may end up with contradictory conclusions.

Finally, when it comes to her comments on these changes, Sinem attributes the evolution of her theories to the pedagogical content knowledge (Schulman, 1986; Lee and Luft, 2008) she acquired as a result of her involvement in the professional development process and the layers of educational experiences she compiled. This is due to the fact that Sinem does not have a long teaching history to accumulate experiences but rather, at least for now, what she adds to her repertoire of knowledge comes from her on-going education.

To put in a nutshell, in our case we found that going through professional development experiences led to observable changes in the content and structure of a teacher's personal theories. In addition, the hierarchy of the constructs and all those rated as the highest priority underwent changes. The experience triggered the teacher's awareness on learner differences ending up with a shift in the content of the constructs by means of which the teacher portrayed an effective teacher.

IMPLICATIONS

The findings draw our attention to the necessity for pre-service teacher education programs to accommodate more classroom experience opportunities for prospective teachers. Building upon such experiences, professional development programs as M.A.s or PhDs. may lead to more fruitful results triggering self-efficacy and giving way to human development, adaptation and change at both individual and collective levels (Bandura, 2012). A more courageous implication that emerges from this study may be the restructuring of the doctorate programs according to the working fields of the applicants. Similar to Kumar and Dawson (2012) distinctions can be made in the terminal degrees in the field of education as doctor of philosophy and doctor of education (Ed.D). The applicants who work or wish to work in research focused fields may take PhDs. while the ones "who are likely to apply research-based knowledge and to generate contextually based knowledge to improve and advance practice" may take Ed.Ds (Shulman, 2005 in Kumar and Dawson: 1).

To conclude, we further suggest studies that exploring teachers' thinking at individual level will, in time, build the whole picture like the pieces of a puzzle and lead to a deeper awareness on teaching related issues, illuminate teachers' personal theories and constitute a sound ground for more realistic discussions and decisions.

Conflict of Interests

The author has not declared any conflict of interests.

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