This paper describes how the experience of carrying out qualitative research contributes to student teachers' development of reflective thinking, promotes constructivist approaches in teaching and learning to teach, and supports feminist perspectives in teacher education. Data was collected from a Research on Teaching class at an Israeli teacher education college over 3 years. Data came from students' qualitative research papers and tape recorded protocols of: (1) college classes in which students presented pieces from their field notes and discussed their observations and interview data and (2) individual tutorials in which student teachers reported their research progress, discussed their data, offered interpretations, and attempted conclusions. Results highlight how qualitative research experience contributed to the development of reflective thinking, constructivist learning, and feminist perspective in five areas: (1) developing awareness of the complexity of the educational situation and ability to note details; (2) identifying problems and naming and framing phenomena as characteristics of reflective thinking; (3) connecting the particular to the general and connecting theoretical concepts from educational research literature to practice; (4) showing conceptual growth and generating personal theories and original categories; and (5) deepening personal and practical knowledge and developing personal theories and learning approaches in ways demonstrating acceptance as well as criticism. (Contains 37 references.) (SM)
On the Contribution of Qualitative Inquiry to the Development of Reflective, Constructivist and Feminist Perspectives in Student Teachers

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The idea that practice should become the basis for thinking, learning and theoretical development in teacher education is well reflected in the "Inquiry Oriented Teacher Education" model with its emphasis on student teachers' experiences in a variety of research activities as preparation for teaching and as a means for professional development (Tabachnick & Zeichner, 1991). According to this model teaching is perceived as a reflective, constructivist and personal occupation that one should be prepared for through exploring educational phenomena, cases, and characters in schools and classrooms. There are various ways and tools offered in teacher education to assist student teachers to observe unique phenomena as basis for development of personal-practical knowledge (Elbaz, 1983) and of generalizations that are formulated from the particular observations. Among these ways: case studies (Shulman, 1987; Shulman, 1992), teachers' narratives (Connelly & Clandinin, 1987), action research (Noffke & Brennan, 1991) and others.

One of the recommendations for developing teachers as researchers is that student teachers experience qualitative inquiry concerning educational settings and educational issues while in their pre-service or in-service stages of teacher education. Such an experience has been offered at a teacher education college, within the framework of research seminars in which both student teachers and practicing teachers participated. The aim of this paper is to suggest that the experience of carrying out a qualitative study contributes to the student teachers' development of reflective thinking, promotes constructivist approaches in teaching and learning to teach and supports some feminist perspectives in teacher education. These are related theoretical and practical bases for educational research and for the improvement of educational practice, with which interpretive, qualitative research of various kinds shares common ground.
Theoretical background

Qualitative research is the title for various modes of inquiry, among them ethnographic research, case studies and others (Shulman, 1988). Different from quantitative positivistic research models that attribute to social phenomena and situations an independent and objective status, qualitative research proposes an interpretive approach to particular events. The qualitative researcher attempts to decode naturalistic phenomena that emerge from observing the daily life of groups and societies. The researcher focuses on processes, identifies patterns and provides interpretations that are based on understanding their meanings according to the perceptions of the actors in the social frameworks being investigated.

Qualitative methods have been widely used in educational research for over a decade now, and have contributed to insights concerning the complexity of teaching processes in educational settings. Among the main characteristics of these methods are participant observations, open interviews, and document collection as dominant research activities. Other characteristics are: a holistic approach to the context of the setting investigated, hypotheses generating, the researcher as main research tool, subjectivity as a legitimate approach, representation of the actors' emic perspectives, and thick descriptions (Geertz, 1973; Jaeger, 1988; Eisner and Peshkin, 1990).

Qualitative methods are also being offered in teacher education. Student teachers function as researchers of the classrooms and the schools in which they do their practicum. Using observations, interviews and document collection and in a process of analysis, hypotheses generating and interpretation, they produce case studies, ethnographies and action research assignments under the tutorial of the teacher educator and consultations with their peers in the teacher education program (Teitelbaum and Britzman, 1991; Noffke and Brennan, 1991; Alpert, 1992).
The experience of qualitative inquiry contributes to the development of reflective thinking (Alpert, 1998). As in the phenomenological and interpretive standpoint underlying qualitative research (Howe, 1998), in a reflection oriented professional development approach, the starting point is the phenomena and the ways they are presented for the researcher or practitioner. Situations of practice are usually ambiguous and complex and do not get organized so one can apply to them the rational techniques stemming from existing research and theory. The aim of reflective thinking is to turn a situation of ambiguity and conflict into a situation of clarity, coherence and harmony (Dewey, 1933; Schon, 1983, 1987). This process involves examination of inferences, either through explicit action or through imagination. One examines the phenomena in light of beliefs, perceptions and former experiences, and identifies possibilities not yet available. Schon (1983, 1987) rejects “technical rationality” models as a basis for problem solving and supports artistic and intuitive processes in unique situations of ambiguity and difficulty that emerge in professional training and the professional world. The purpose of developing reflection in professional training, like in qualitative research, is interpretation and a search for meaning in a complex world that requires identification and explanation. Developing such research competencies in student teachers may contribute to their coping competencies in practical professional real-life situations.

The use of qualitative research in teacher education also promotes constructivist teaching and learning to teach. According to constructivism, human knowledge - whether it be the bodies of public knowledge such as the various disciplines, or the cognitive structures of individual knowers or learners - is constructed (Phillips, 1995). Knowledge is subjective and situated in time and space for any individual. What we take to be objective knowledge and truth is the result of perspective. Knowledge and truth are created, not discovered by mind. According to Schwandt (1994) “we invent concepts, models, and schemes to make sense of experience and, further, we continually test and modify these constructions in the light of new experience” (p. 126). Guba and Lincoln (1989)
explain that the findings or outcomes of an inquiry are themselves a literal creation or construction of the inquiry process. Constructions exist in the minds of the persons who create and hold them; they are not part of some 'objective' world that exists apart from their constructors.

The act of inquiry begins with issues and concerns of participants and unfolds through a "dialectic" of iteration, analysis, critique, reiteration, reanalysis, and so on that leads eventually to a construction of a case, including findings or outcomes (Schwandt, 1994). In the constructivist approach the teachers' role is to demonstrate that knowledge is not final, to encourage students' questions and to lead in processes of personal discovery and inquiry. Interpretive approaches underlying qualitative methodology share with constructivism similar underpinnings and perceptions of knowledge and truth. Qualitative researchers elicit knowledge and theory from unique and particular situations and provide their audience with subjective and constructivist interpretations.

Constructivist epistemological considerations are the focus of attention of feminist theorists. Central to feminist theory is the claim regarding the nature of knowledge, the perception of truth and the feminine experience. Feminist theory challenges ideas of universal truth and criticizes the empiricist tradition in European science and in modernism regarding a single essential humanism. These, according to feminist theorists, represent patriarchy and the reality and experience of white, middle class men (Maher, 1985; Noddings, 1985; Weiler, 1997). Feminist pedagogy seeks to develop knowledge based on the difference grounded in the specific and conflictual history of the female subject (Culley and Portuges, 1985; Leck, 1987). Since feminists perceive power as exercised in part through a process wherein "master narratives" become accepted as normative truth, their knowledge quest is self-reflexive in nature and more open-ended than that of other pedagogies. Postmodern feminist epistemology provides an alternative to forms of knowledge that reflect masculine assumptions about legitimacy and significance (Thompson & Gitlin, 1995). According to Schwandt...
(1994) feminist constructivist persuasions blend the phenomenological interpretive perspective with critical hermeneutics. They are concerned with portraying the lived reality of women's lives, giving voice to women's perceptions and identifying ways women create meaning and experience life from their particular position in the social order. Another feature common to feminist standpoint epistemologies and developments in postmodern ethnography is the careful, public scrutiny of the inquirer's history, values, and assumptions. The social, dialogic nature of inquiry is central in constructivist thinking. Inquiry methodology requires attending both to the inquirer's own self-reflective awareness of his or her own construction and to the social construction of individual constructions (Schwandt, 1994). Given the similar underpinnings of phenomenology and feminism one can see why feminists researchers use qualitative models and a variety of qualitative styles: ethnographies, narratives, life histories, etc.. They share the assumptions held by qualitative or interpretive researchers that interpretive human actions, whether found in women's reports of experience or in the cultural products of reports of experience can be the focus of research (Olesen, 1994).

To summarize, qualitative inquiry shares common grounds with the reflective approach and with constructivism and is the main research mode of feminist research. In all of these domains, knowledge is perceived as situated and socially constructed by individuals who create their own meanings of their reality, and as best developed by observation and interpretation of inquirers who apply particular perspectives, standpoint epistemologies, intuition and creativity to the research process. In this paper I will demonstrate how these approaches are being supported through a qualitative research experience of student teachers.

The research
The data which is the basis for the arguments presented in this paper were collected in seminar classes that I conducted within a B.Ed program at a teacher education college in Israel over three academic years. Following is some
background information about the seminars, the student population and the qualitative research process.

The seminar: this is a class conducted throughout an academic year. The class meets every week for two hours of teaching. The topic of the seminar was “Research on Teaching”.

The student population: In each seminar class there are about 20 students, some of them study 4 years toward a B.Ed degree, some are licensed teachers who come to the college to complete their academic degrees. The student teachers and the practicing teachers were studying in various programs at the college - early childhood education, elementary education, secondary and special education. A precondition for the seminar was participation in a qualitative methodology course.

Experiencing qualitative inquiry: the process
Students in the seminars are either going through practical training in schools and classrooms, or are practicing teachers working in their schools and coming part time to study at the college. Each student has, then, a natural field for research. Participation in the seminar enables the students to return to the field as researchers who are making observations, collecting data and elicitting from these data meanings and insights. The following stages are included in this process:

Initial stages - After one or two seminar meetings the students receive an assignment to start preliminary observations in their classroom and schools in order to develop a research question and topic. This stage involves ambiguity and confusion and my role as the teacher of the seminar is to assure them that these feelings are common and natural at the beginning of the research process. Feelings of difficulty and problem are described as a starting point for reflective thinking (Dewey, 1933; Schon, 1983, 1987).
In the seminar the students read pieces from their field notes. Other students in
the class comment, make suggestions, help interpret, raise questions, etc.. From
their readings, other student questions, and suggestions directed by myself, they
start to formulate a possible direction for their research - an interesting pattern to
explore, a problem to be confronted with, or a question that emerges out of the
phenomena which may become the focus of the inquiry.

Once the research topic is formulated, the students continue in the field with
focused observations, interviews and document collection. During this stage they
formulate hypotheses, examine them, some are rejected, some are being
pursued further on. The data is recorded in field notes and sometimes the
students use tape-recorders and other audio-visual aids.

The students complete their observations when they feel that the phenomena are
constructed into a whole that has some meaning and that more observations will
not add new insights. The students have at hand a large amount of data which at
this point may give rise to some anxiety. The role of the teacher is to direct the
students how to look at their data and analyze it. In individual and group
meetings the students are guided to name and frame patterns and events. This is
an important component in a reflective and constructivist process.

The last stage is the writing of the qualitative research paper. The writing process
is personal and unique and has its own value. Writing is "An elaborated form of
speech" (Vygotsky, 1962). It contributes to learning because of some
characteristics that distinguishes it from oral speech: permanence, visibility,
articulation, and explicitness (Gregg & Steinberg, 1980). In spite of the difficulties
involved in the writing process, it is important in deepening the reflection and in
clarifying thinking. The drafts are checked by the student and myself, I make
comments concerning both content, interpretation and style. The students correct
their papers.
The data and its analysis

The following data was collected and analyzed in the study:

1. **Students' qualitative research papers** - 30 qualitative research papers of student teachers that I evaluated as good and excellent were included in the study. The papers deal with a variety of topics that emerged from the natural educational environments in which the students were trained or in which they worked. Their common theme is teaching in its different contexts. Some papers focused on the teacher as representing a pedagogical approach. Some papers examine teaching processes in classrooms in which various instructional methods are used, and other papers deal with different aspects related to individual children, especially children with special needs and their inclusion in regular classrooms. Other topics included education for values, social interactions in the classroom, etc..

   In most papers, the students teachers in their capacity of researchers acted as participant observers. The papers include characteristics of ethnographic qualitative studies such as thick descriptions (Geertz, 1973), triangulation, pieces of observations and quotes from interviews, theoretical and research references integrated in the findings and discussions and interpretations. Some of the papers of the practicing teachers were based on action research of their own classrooms and schools.

2. **Recorded protocols** - The process of the student teachers' experience in doing qualitative research from the initial classroom and school observation stage to the interpretation and theory development was analyzed. The sources of data were tape recorded protocols of:

   a. College classes in which students presented pieces from their field notes and discussed with their peers the observation and interview data.

   b. Individual tutorials I held with the student teachers in which a student, or a pair
of students, reported their progress in the research, discussed their data, offered interpretations and attempted at reaching insights and conclusions.

The written papers and the protocols were analyzed and interpreted as texts reflecting human processes and products. One of the purposes of the analysis of texts - written or oral, is to understand the ways and contents of learning and knowledge acquisition. In this sense, the protocols of oral conversations and the written research products of student teachers provided evidence as to the processes of learning and knowledge development that took place through the student teachers' experience as researchers using qualitative inquiry.

Results
The analysis and interpretation of the papers and protocols elicited a number of categories that present the contribution of the qualitative research experience to the development of reflective thinking, constructivist learning and a feminist perspective. The categories are not mutually exclusive, nor are they presented in any order of importance. They are formulated as propositions and statements that describe thought and attitude processes that were elicited from the research texts: the written papers and the oral protocols. They are organized in a way that reflects a development of the knowledge constructed from initial awareness and identification to a more theoretical and personalized thinking - processes that appeared in the papers: The categories are:

1. Developing an awareness of the complexity of the educational situation and an ability to note details.
2. Identifying problems, naming and framing phenomena as characteristics of reflective thinking.
3. Connecting the particular to the general, connecting theoretical concepts from educational research literature to practice.

5. Deepening personal-practical knowledge, developing personal theories, and learning approaches in ways demonstrating acceptance as well as criticism.

Following I will present the results in five sections according to the categories, and discuss the ways the contributions of the students' qualitative research process, are reflected in the data, including examples from the students' papers and classroom discussions.

1. Developing an awareness of the complexity of the educational situation and an ability to note details.

Observations in educational settings as part of the practicum are common practices in teacher education. Observations in the framework of a qualitative research turn the classical, common observations that are usually documented in "pedagogical journals" (Alpert, 1992) to a more strict process of documentation of complex and multi-faceted phenomena. The descriptions that the students/researchers develop are "thick descriptions" (Geertz, 1973) of various layers of occurrences that the research detects and documents, from the external, explicit layers to more tacit ones. The in-depth exploration, through understanding of the contexts of these occurrences, enables the elicitation and identification of these layers.

The student papers are based on their field notes and include details of events, descriptions of classrooms, schools, characters, quotes from conversations and interviews, protocols of classrooms discussions, etc. Out of the descriptions the students identify patterns, while incorporating pieces from their observations, conversation protocols, interviews and documents, and using triangulation (Fetterman, 1989) to substantiate their propositions and arguments.
The following piece is taken from a paper that deals with three 6th grade "problem" students in various classes. The two students/researchers who wrote the paper demonstrate how relationships of different teachers with the students have a differential effect on the students' behavior and attitude in the classroom:

The differentiation in the teacher-student relationship is most apparent in the behavior of Ja'afer, Ines, and Samer. These three students were different from lesson to lesson in a very salient way. Samer who was disruptive and not concentrating at all in Geography class was concentrating, serious and participating in English class even though English is relatively a difficult subject, and Geography a lesson that anyone could participate in, even those who do not have basic knowledge in this area. The topic was food you eat in Israel compared to food in other countries, and one of the questions was what do you eat for breakfast. Ja'afer, who achieved the pick of disruptive behaviors in Geography, changed sharply in English and in Hebrew classes. This student was known as a problematic student. Lots of complaints from teachers and many times being expelled from the classroom. He likes to be seen and noticed all the time. Even teachers who don't have him in their classes know his name. Also his physical appearance is unusual - relatively tall for his age, red-hair with blue eyes, which is not typical in the Arab population...Not only his behavior changed from lesson to lesson, but also his thinking, efforts and learning achievements. For example, he wrote his homework for English even though this paper was much more difficult than the Geography homework. The English teacher was serious in his attitude towards Ja'afer. His expectations are completely different and Ja'afer apparently responds to these expectations. Also Ines, who was bored in Geography, moving in his seat from side to side and looking for books, pictures and all kind of appliances, changed substantially in English class... Following are the students' views regarding the English teacher as expressed in the interview we

*All the excerpts from papers and discussions were translated from Hebrew.
conducted with the students:
Ja’affer: I like the English class the most, because the teacher is serious, and does not allow the students to be disruptive.
Samer: I like English because the teacher explains and if I don’t understand something I ask and he explains again.
Ines: I like English because the teacher explains everything to us.

One can see how the students/researchers portray details of behaviors, attitudes, and differences in teaching styles that explain a common problem in schools - disruptive behavior. Further on in the paper, the students/researchers connect their observations to the research literature about classroom student-teacher interaction.

2. Identifying problems, naming and framing phenomena as characteristics of reflective thinking.

Reflection refers to the way a person related to situations of practice, which he/she observes or is involved in. Schon (1983) speaks about "reflection in action" and "reflection on action". In both cases situations of practice are not presented as well designed structures and also not as problems, but as unclear and complex situations that one cannot apply as they are to known theories and to rational techniques recommended by scientific research. The first task is to construct the problem or the issue from the materials of the situation and to present it in a way that will enable clarity, coping and resolution. Constructing the problem or the issue and presenting it is a process in which one is naming the phenomena and framing its context. Naming and framing are thus important characteristics of reflective and constructivist thinking.

Some of the students’ papers and the classroom discussions dealt with situations of difficulty and conflict. For example, in one of the papers the student/researcher describes a strict and authoritative Math teacher, who has difficulty in accepting
the ideas of a student who apparently is capable and creative, but non-conforming to the teacher's way of solving Math exercises. The problem is the conflict between student and teacher and the daily price the student pays for his teacher's attitude. The framework of the situation is what the student-teacher/researcher characterizes as "a model of frontal teaching", that in this particular case is being abused by the teacher.

Some of the student teachers' papers and discussions in the seminar dealt with situations that reflect positive actions of the participants. In the next piece from a protocol of a seminar discussion, a student-teacher, Eti, reads from her field notes. When she starts reading she feels there is nothing interesting in her observations that is worth further exploration:

Eti: I would like to read but this is nothing, this is boring...I also don't think this is what I am going to write my paper about.
Teacher: Is it indeed boring? Does it have to stay boring?
Eti: I entered a Bible class in 4th grade. The teacher is also the school principal. She came late 10 minutes. The teacher stands in front of the class, the children sit in groups...(Eti reads from her field notes, her tone of reading is dry. She describes a discussion in the class about Bible laws and about sins and punishment).
Anat: This is a parliament...
Teacher: What do you think? What is happening here?
Rachel: A classical frontal class.
Anat: A ping pong.
Tamar: A presentation of a problem.
Rachel: The teacher is controlling the class.
Tamar: Directing.
Alia: What would have happened if the teacher was not the school principal?
Eti: There is no connection. Not because she is the principal they behave this way or that.
Dalit: There is something there...there is something that she does with the Bible class,
something very good...(Dalit is searching for the words, then she says assertively)
Transfer to life! A lot of transfer to life! This is something very good.
Eti: She always does it...
Rachel: Yes, transfer to life...there is a discussion, in fact, in the class the children sit in their seats, there was no movement, but the class discussion was interesting. The class was interesting...(to Eti): Why did you say it is boring?
Eti: Because I did not observe a child or something.
Rachel: No, this is very interesting, I don’t think what she read was boring.
Eti: This is a simple class. Because I also do it all the time, transfer to regular life, I don’t see anything special in it.
Dalit: OK, but this is also not boring.
Eti: All right...
Dalit: There are also a lot of questions and answers.

Eti is not convinced at first that what she has at hand is interesting, but her peers do see things she would not consider worth mentioning. They discuss the instructional events and search for words, for concepts, or titles to describe what they sense is going on. The first few attempts focus on the instructional techniques, and then, Dalit, who sensed “something very good” in what the teacher does, turns the interpretation toward the content of the teaching which she describes as “transfer to life”. This turn elicits more interest, and in the continuation of the discussion, not quoted here because of space limits, the students come up with more ideas and detect more interesting instructional behaviors.

Whether the situation examined is a problem, a difficulty that needs resolution, or a positive action that may be instructive to students teachers, though it is somewhat ambiguous and perplexing - it needs clarification and elicitation of meaning. This is done through naming and framing as important components of the process. The clarification and interpretation in qualitative research is often related to the educational research and literature as will be explained below.
3. Connecting the particular to the general, connecting theoretical concepts from educational research literature to practice.

Students in teacher education programs often have difficulties to connect theoretical knowledge from education courses, such as "foundations of education", psychology or sociology courses to practice. In the process of doing a qualitative inquiry they relate real life events from their field notes, to theoretical notions and concepts from the educational literature, in order to interpret and unfold the meanings of what they observe. The process is inductive, from practice to theory. Following I will demonstrate how theoretical concepts and arguments nourishes the interpretations of particular phenomena, and how the phenomena provide theoretical knowledge, that is often perceived to be detached from practice, a dynamic and concrete meaning.

The following three pieces are taken from a paper about Shlomit, a 2nd grade teacher, who, according to the student-teacher who observed her, exemplifies in her teaching a humanistic and an artistic teaching approach:

There is trust and equality between Shlomit and the children. When you treat the other equally, then ones' trust in him, from him being equal to you - increases. Dewey emphasizes in his writing that we should see in the students’ group individuals within a wider community, and abandon the common hierarchy of supervisor-principal-teacher-student. Instead, we should cultivate devotion, responsibility and independence, and develop democrats with cooperation, loyalty and equality competencies (Dewey, 1964). The democratic expression and the feeling that an individual is part of a society can exist only when everyone is equal - students and teacher. Equality in my view starts from small matters, for example the fact that Shlomit gathers her hair in front of the class... or appologizes to the children for anything she senses was done not in an appropriate way and might harm the children, even small things that may seem to have little meaning relative to the extent of the appology...
In "Freedom to Learn" Rogers (1973) quotes Martin Buber who says that the good teacher: "should be a man that really exists, and he has to really be present for his students; he is educating though touching. Touching is the basic word in education". One of the salient things in Shlomit is the extent of warmth and love that she provides her students through touching, and also through different gestures toward them. These gestures are sometimes almost implicit, but in my opinion they have a great importance: when she bends down towards the students, when she always looks at the speaker and does not let things evaporate in space, when she smiles a warm smile toward a student etc. etc.. One may think that these things are self-evident, but no, the extent of these gestures, the way they are done, naturally and toward everyone with no exceptions, the great encouragement that stems from them indicate that these are not self-evident and are very special to Shlomit. When she asks something from a child - always using the word "please", with a tone of request and not a demand - the request is followed by a hand on the shoulder, always with a touch that will give her request a sense of intimacy, of closeness and of warmth...

The great warmth that Shlomit gives her students stems, according to her, not from ideologies or Philosophy of Education. "I am a mother", she says, "and since I am a mother I learned to give warmth to students". Strong feminine intuitions are those that light her way, and her calculation involves ensuring equal amount of warmth to all her students.

The humanistic ideas become alive and concrete in the descriptions and the details of the interaction in the class, and at the same time they also help interpret the teachers' behaviors, even though the teacher herself is not aware of the full meaning of her actions. The writing of the student-teacher is impressionistic, somewhat literary, non-discursive, and her data is based on direct, real life experience. This kind of writing reflects the personal "voice" that feminist researchers seek (Weiler, 1997). In addition, the themes in the above pieces also touch feminine concerns and tendencies: touching, warmth,
intuitions, and a motherly approach are guiding the teacher's behavior and attitude, she says, and not theories and ideologies, even though these can be traced by the observer in her work.

In all papers, the students connected concepts, theories and research findings from the educational literature to the classroom events and processes that they presented in their papers. Educational concepts and theories were also discussed in the seminar classes and in the tutorials when the students presented their observations and data and consulted the seminar teacher and their peers.


In professional studies the development of concepts and arguments to characterize and interpret the data collected are some of the highlights of the inquiry which require quite a bit of thinking effort within the variety of the research activities. The researcher is asked to process the wealth of materials collected and to give it a generalized meaning. That is, he/she takes a particular case and turns it into a case of something that enlarges our insights about the phenomena. The educational sociologist Noblit (1993) re-constructs the notion of "power" which is a concept in sociology and social psychology, on the basis of a one academic year in a 2nd grade of a special American teacher. In an article, rich with both concrete descriptions and theoretical analysis, he attaches to the notion of "power" the notion of "caring" (Noddings, 1989). After a detailed explanation of the two concepts, Noblit discusses the way these concepts bring to him new meanings in the teacher's classroom. In the present study, the theoretical concepts, some of them from educational literature, are connected to the cases observed. One may see in them a "conceptual growth" of the researcher as the concept comes to life in relation to reality. In one of the papers, two students who are practicing teachers, tried to deepen their understanding of the concept of
"responsibility" through an action research in which they looked reflectively on their own actions with their classes and the effects of these actions on the students. The paper describes how a 5th grade teacher and an 11th grade English teacher try, each one in her classroom, to develop in the students some bases of responsibility:

Each one of us went through a long and tiring process with her classroom, a process that was not always as fruitful as we expected. This teaches us that there is no one good method for everyone and shows how different our students are from one another regardless of age and where they live. The difficulties we experienced brought each one of us, not once, to give up the idea. But the belief in the importance of the process of promoting responsibility and its impact on the future, encouraged us to continue in this way of teaching and education.

The magic of the notion "taking responsibility" attracted all of the students. In 5th grade and also in 11th grade the students were happy with the opportunity given to them to act maturely. But the moment the work started and the time for decision arrived things changed. The difficulty took a more important place and made the issue more complex and sometimes even painful. At times it looked as if the students were ready to give up the responsibility to have easier life, without having to be accountable for their actions. Reflecting on reality was heavy for them and also angered them. But it also helped many to overcome obstacles and improve their social and learning functioning. The group interaction enabled them to hear their friends in their language, and these are things that we, as teachers, could not say. The effect of things in students' words is different from things said by the teacher.

Looking from a long term perspective, we have no doubt that the students' experience this year will affect them also in the future. Organization of the social setting by the students and developing responsibility for their actions are very important things beyond the classroom and teaching. The different ways we took are not an end in itself but a means to develop a student-person with greater consciousness to his/her
strength and capabilities. A whole person who looks at him/herself inside and makes decisions related to his/her life. In 5th grade it has been done through the social realm, and in 11th grade within the teaching of English. Unfortunately not everyone enjoyed this experience, and for many it has been a difficult and frustrating road. But also in this issue like in other issues of life there is no uniformity, and everyone is influenced from what has happened to them according to their past experience and background. There is no one way for everybody. Nevertheless it is clear to us that as long as students will experience responsible activities at a younger age, it will be easier for them to function maturely both in learning and in social life.

The two teachers who wrote the paper explored through their teaching activities and research the concept of responsibility and its potential as well as limits. They were able to notice the attractiveness and charm of the idea and at the same time the gap between an aim and its fulfillment in reality. They were able to construct for themselves the different angles and varied meanings of "responsibility" as one tries to develop it in students. Similar processes took place in other studies of the student-teachers and could be detected in their papers, as well as in the seminar discussions and the tutorials that preceded writing the papers.

5. Deepening personal-practical knowledge, developing personal theories, and learning approaches in ways demonstrating acceptance as well as criticism.

The personal-practical knowledge of the teacher (Elbaz, 1983) as well as her "wisdom of practice" (Shulman, 1987) are considered important components of teaching, more than formal, propositional, research based knowledge. The practical training enlarges the world of experience of student teachers, whether the emphasis is on actual teaching or mainly observations in educational situations. Also without experiencing qualitative research, student teachers learn ways and approaches from the practice and develop educational attitudes. The
experience of doing qualitative research helps them, moreover, to deepen these processes. It enables them to bring up subtleties, to formulate insights in words and to explicitly define arguments and perceptions that have emerged throughout the inquiry.

In one of the papers, the writer, who has had a teaching experience, wanted to compare the traditional instruction in 6th grade Math classes with the individualized instruction with which she had had experience in the past. In this case the research question was defined in advance. The answer to the question provided the student/researcher with personal and practical learning. The summary part of the paper indicates the knowledge that she elicited and constructed from her study:

I chose to examine two classes: one represents the individualized instruction, the other is a traditional class. Obviously you cannot make a complete comparison between the two classes because of the different conditions: a small school with limited resources (the traditional approach) against a large school with many resources (individualized approach), an old construction compared to a new building that was suitable to individualized instruction.

I chose these classes, because they are both considered "problematic" in their schools in terms of discipline, and such that have big discrepancies between the students in the class. I wanted to present different ways to cope with these problems.

At the beginning of the research I was not in complete agreement with individualized instruction. Today, after observing lessons with other instructional methods, I know this is the better way to cope with differences in the class and that this is a more enjoyable way to work both for the students and the teacher, even though it requires more effort administratively on the part of the teacher.
Another example of developing personal-practical knowledge is a discussion in which the student teachers clarify an approach toward teaching Math problems. They relate to what they hear in the observation that a student-teacher, Rachel, reads to them, to past experiences with the topic, and formulate the approach that they think comes out of the observation.

Tirza: What is always connected to Math is that there is some way that the teacher prefers and the student, not always the student if he reaches the answer through another way, that he learns so much to participate or share with everybody his way and she (the teacher) accepts the different ways to the same answer. Actually this is something that I also observe in my class...It is simply that she accepts all the ways of each one of the students and everyone presents his way, his opinion, which way he understands, is more comfortable for him. So I think that this is some kind of, I don't know, some kind of flexibility, she lets more students feel that they are going in the right direction even though they don't use her way.

Tamar: She lets them understand that also the way is important...

Tirza: This is something in Math I remember we always had to solve problems the way the teacher wanted...I never got along with her, I would never dare tell how I would (solve the problem).

Sara: Children are stuck in this subject...

Anat: “Problems” - you automatically have a psychological problem...why not call it an arithmetic question?

A student: verbal problems

A student: a verbal problem

Anat: I had a problem, how the language communicates messages? Verbal problem is a standard name, but she gave it...she tried to think of the meaning of what it does to the child, the concept of “problem”.

Rachel: We call it an arithmetic story.

Anat: An arithmetic story, an arithmetic question
Rachel: An arithmetic story, and do you know they understand it better because it is called an arithmetic story. By the way, after I observed, I tried to do the same thing in my class...so I learned from her something, I am also learning from the lessons...

The last comment in the piece refers to what the student-teacher learned from her observations. In some other papers, the students described practices, approaches and changes they were critical of. In all cases they acquired a personal-practical knowledge which is subjective, open and situated. This kind of knowledge is common to interpretive approaches, constructivist learning, and also feminist perceptions about the nature of knowledge and the preferred research methodologies.

**Conclusion**

The categories that were elicited from the data of this study presented above indicate that through the research experience the students were exposed to a model of reflective and constructivist thinking on teaching and education. They found out in the process that phenomena and events that seem initially simple and trivial observations - are complex and involve many layers of meaning. They learned that these phenomena are not organized in reality in an orderly manner but may be detected and presented through a rich, “thick” description that will enable the researcher to clarify and explain them. In addition, the students learned to identify difficulties and situations of conflict, and also positive and remarkable action. They learned to define the structure of the situation and to give name to phenomena in ways that advance reflecting on possible solutions. Also, the students learned to use various sources of knowledge for reflection and interpretation, not only knowledge of field events but also knowledge of generalizations and theories both from students' accumulated experience in their lives and work and knowledge from the research and theoretical education literature that they read in their courses at the college. The students were given the opportunity to construct their own new knowledge out of all of the above personal and academic sources. Through this experience educational concepts they were exposed to in their academic studies were re-constructed and also
some new concepts and categories were constructed. The student teachers used all these for the creation and construction of new knowledge that creates opportunities for improving, correcting and coping with educational-pedagogical situations.

The research process enhanced feminist perceptions of knowledge. It was an empowering process, of the kind that feminist and critical theorists advocate, in that it enabled students, most of them women, to examine educational notions through their personal experience, understanding and perception. Feminist theorists criticize existing notions of "truth," "rationality" and objectivity that have dominated social science research and scholarship and advocate putting more emphasis on intuitive, emotional and subjective expressions of understanding the world, that are more characteristic of women’s ways of approaching knowledge (Laird, 1988; Maher, 1985; Weiler, 1997). Knowledge according to feminist theorists is always situated, open and relative. Their quest for knowledge has a more self-reflective nature than knowledge of scholars from the liberal, positivistic tradition (Thompson and Gitlin, 1995). One may claim that all qualitative research enhances feminist conceptions. This kind of research, however, is more meaningful in a professional training of teachers, since the majority of teachers and student teachers are women.

Since the purpose of the present paper is to examine the contribution of qualitative research to the development of reflective and constructivist thinking and to enhancing feminist approaches to research and knowledge, I focused on papers that demonstrated these contributions. There were, however, papers that indicated a difficulty of the student to deal with the research and such that were relatively limited in what may be considered reflective and constructivist thinking. In other words, like in other areas, both academic and practical-pedagogical, there are student teachers who profit from learning processes and others who profit less. Some researchers claim that student-teachers may be in different levels of reflection (Day, 1993). In general, student-teachers have difficulty in
reflective thinking because of their tendency to focus on technical performance, because of their lack of theoretical and practical knowledge and of competencies of analyzing practices (Calderhead, 1989). It is possible, however, to characterize some of the students as more reflective than others. The reflective students have, according to LaBoskey (1993), a need to look for the "better" and to justify their actions, a more open and caring personality and more philosophical tendencies than their less reflective peers. Also, reflective students have a strong need to ask questions and to express themselves in talking and writing (Karthagen & Wubbels, 1995).

In addition to the above one can point out to difficulties that all students experiencing qualitative research have had. These include the fact that they came to the process with a background in quantitative methodologies, which required a change in perception and approach. Also, a one year experience is too short to carry out an independent research project using a new methodology. Other difficulties involved the ability to interpret phenomena, to integrate knowledge of different kinds and to produce new and unique categories and insights. Also qualitative interpretational writing is difficult and not every student-teacher can cope with it skillfully.

In the individual tutorials these difficulties came up. However, most of the students claimed that the research process enabled them to see in more detail and with a more thorough understanding, phenomena that they would not have noticed otherwise. Some reported on changes in their perceptions of the way things are in the sites they were exploring as result of the observations, writing field notes, etc. The question is asked, what is the contribution of the research experience to the practice of teaching and education and its influence on long term processes? The present study indicates that such effects are possible. It is recommended however to explore in future research how students use the reflective and constructivist approaches they developed in their work. This may be possible if the research process will be tied directly to the practical training of
the students, with the involvement of the pedagogical supervisors, and their
guidance of the process of student-teachers' inquiry. At the college in which the
study took place, pedagogical supervisors already assign research activities to
the student-teachers, though they do not follow these through to a complete
written paper. It is recommended to design activities in teacher education that will
combine qualitative research processes with the practicum in classrooms. Also,
the categories presented in the present paper to describe the contribution of the
qualitative research process can be used to: explore the extent to which student
teachers develop capabilities to analyze complex situations in detail, make
generalizations and connect field experiences to theoretical concepts from
education courses and educational literature, and also find out what is the
personal-practical knowledge that students who experience a qualitative
research process elicit from new educational experiences. The present study
indicates that reflective, constructivist, situated experiences and the one
presented here may have an influence on teachers' and future teachers' work. It
is recommended to examine these in future research. The study may contribute
to further understanding of the possible impact of educational research on the
pedagogy of teacher education and of the potential use of educational qualitative
research for the improvement of teaching and teacher preparation.

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