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ABSTRACT
        This study focused on the student teacher's process
of becoming a teacher with emphasis on reflective development during
training; the kind of development that occurred in student teachers
when the reflection ability was consciously promoted; the existence
of any differences in reflective ability between the different year
courses (1-3) and between those who were reflective or non-reflective
at the beginning of schooling; and contextual factors, such as staff
collaboration, that affect development. Written and verbal responses
of the student teachers were collected through personal histories,
narrative inquiry, dialogue journals, and small and large group
dialogue. The results of the personal and professional development of
the student teachers are preliminary, and the study in question is a
follow-up study. Their personal and professional development
increased through several routes affected by an increase in
knowledge, reflective dialogue in groups, research assignments, and
the availability of role models. There was a need for using different
teaching methods in order to progress through the process of
integrating personal and professional knowledge. Pointing out earlier
dysfunctional beliefs when the student teachers were moving toward
independent study promoted change in beliefs. The way the group
interview was conducted greatly affected student development. Three
tables present the results of the inquiry. An appendix outlining the
sequence of methods in this research is included. (Contains 13
references.) (CK)

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A PROCESS IN WHICH PERSONAL PEDAGOGICAL KNOWLEDGE IS CREATED THROUGH THE TEACHER EDUCATION EXPERIENCE

Presentation at the International Conference in Teacher Education,
June 1993, Tel-Aviv, Israel

1. INTRODUCTION

The process of learning to teach lies at the very heart of education. The more one knows about this process, the better one will be able to influence its growth and direction (Kagan,1992). Teaching and learning form a part of the same process which, although fundamental to education, has not received the type of attention it deserves. It is impossible to examine the question of learning to teach without focusing on the question: how to learn to create pedagogical knowledge of one's own. Here the emphasis is on the student teacher's process of becoming a teacher, which is related to the process of learning to understand the relationship of theoretical knowledge to practice or vice versa. We hypothesize that A) understanding the ways of how knowledge and models of thought can be created on a large scale during the training and B) how the student teacher's level of conceptualization is developing, will help us as teacher educators to discover the process of becoming a teacher and to facilitate it.

Earlier the studies of teachers have focused on 1. teachers' and students' **personal characteristics** and 2. teachers' and students' **behavior**. **Effective teaching** has been determined by what a teacher **does** and what a student **does**. An alternative approach is trying to understand the **nature** of teaching and succesful learning. According to Solas (1992) becoming a teacher means going beyond what teachers and students appear to be, into the **process** they are principally and directly involved in.

We postulate that the perspective of intertwining theory and practice is based on the experiential learning model, which will be used as a background theory in this research. Further we think that this theory had to have profound implications for the renewal of teacher education programs. The intent that student teachers are expected to redefine the personal pedagogical knowledge of action,
orms a model for the guidance of practice teaching.

2. THE ESSENTIAL CONCEPTS USED AND THEIR MUTUAL RELATIONSHIPS

The main concepts used in this research are: **personal pedagogical knowledge**, including conceptual knowledge and metacognitive knowledge and **professional development**. The above-mentioned

concepts constitute a great part of the professional knowledge of a teacher.

Professional development is described as gradual changes in the behavior, knowledge, image, beliefs or perceptions of student teachers. In 1990s it is no longer a privately pursued extra, but a publicly i plied part of teacher's regular working life (Day, 1993).

Generating personal pedagogical knowledge, which is also called one's own practical theory e.g. Handal (1990), is the area which we see connected with the topic: "becoming a teacher". It is not only the knowledge of content or structure, but the knowledge which arises out of the personal experiences and intents providing patterns that are meaningful to oneself. This practical knowledge is experientially informed by the knowledge of the subject matter, but also by the knowledge of other areas, such as personal experiences,"turned" into learning. Elbaz (1983) proved, that teachers hold and use their knowledge in different ways. **We argue that they achieve it in different ways.** The holding and using of knowledge is marked as 'practical knowledge', including: content, orientations and the structure. Clandinin (1986) offers the concept of **private experience** as a central construct for understanding teachers' personal pedagogical knowledge. Griffiths and Tann (1992) propose to label the concepts 'theory and practice' as 'public and private.' The tendency of Griffiths et al is theoretically modified here as circulation between the public, theoretical and the private, practical knowledge (Figure 1). **What that really means and how we could understand it better,** is the question, we are asking.
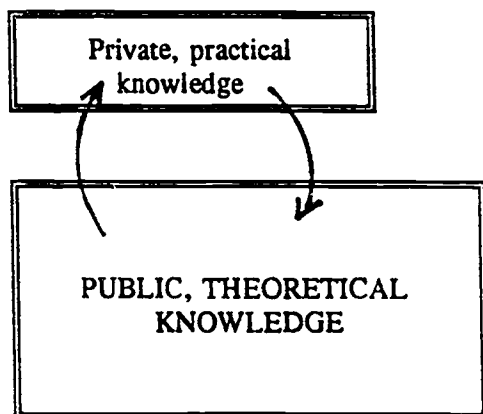

FIGURE 1 Dynamic interaction of theoretical and practical knowledge

The real learning process is an **on-going inner process,** where the private and public knowledge are continuously and actively (not necessarily consciously) **compared** in one's mind. This circle should be repeated again and again on the deeper level.

The **concept of dialogue** is essential for the construction of meaning in the situations where students are discussing. Dialogue used in small group-strategy is an aspect of metacognitive research and of peer collaboration. It is supposed to promote reflective thinking.

Intent is a personal determination, which provides a particular orientation within a given situation. Intent can be linked to core values and ideals. Intent influences the way we experience.

The prospective **teachers' perspective** combines beliefs, intents, interpretations and behavior which interact continually and are modified by social interaction during the teacher education.

Sociocultural knowledge represent a filter through which all experiences and understandings must pass (Alexander, 1991). The relationship between the main concepts used here is delineated according to Alexander et ali (1991) in Figure 2.
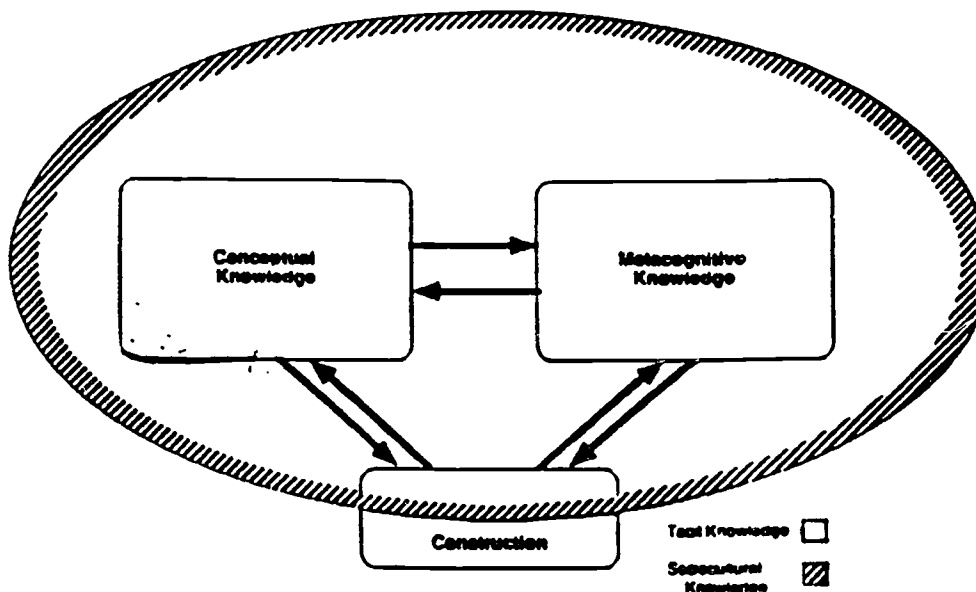

FIGURE 2. The complexities of creating pedagogical personal knowledge.

1.Conceptual knowledge includes: content, subject-matter and discipline.
2.Metacognitive knowledge includes: intent plan and goal, which guide the learning process, meta-cognitive strategies, awareness and the personal knowledge of oneself as a learner.
3.Construction is the bridge between prior knowledge and on-going process i.e. between the known and the not yet known or what had to be known.
Alexander et al (1991) argues. that after arriving at conceptual knowledge, the implicit knowledge, also routines etc., will change to explicit (= articulated).

3. THE AIM AND GOAL OF THIS RESEACH

We do not fully understand how the student teacher develops high level skills needed for reflective teaching, reflection on teaching in action and in critical reflection etc. Neither do we realize which factors hinder or facilitate the development of such skills. The essential question has been: how and when do the students learn to create personal pedagogical knowledge of their own, throughout their reflective training and education. (The reflective teacher education program of this research has been presented elsewhere in ATEE-congres, Lahti 1992.)

The abstract goal of this research is to learn to understand the relationship of theoretical knowledge to practice or vice versa. In practice it means the spiralling between the small-scale personal and large-scale public knowledge, which will be offered during the teacher training (see figure 1). We

think that understanding the ways of how personal pedagogical knowledge is developing, will help us as teacher educators to understand, facilitate and accelerate the process.

4. THE PROBLEM

Professional development requires the systematic reflection of one's personal knowledge. The lack of attention to the uncovering of personal pedagogical knowledge leads to very instrumental concern, which is contradictory to the reflective methodology. Finding the language through which to articulate the personal knowledge and to understand the relation between it and the public theories constitutes a great problem in teacher education.

Insights regarding these processes would be valuable to teacher educators, to be used in teacher education programs for promoting the professional development of student teachers. In the learning-to-teach litterature (e.g.Kagan, 1992) there are some findings describing the development of student teachers that we would like to examine further in the extensive follow-up research.
This research is a part of the follow-up study:
The prior experiences seem to determine what a student teacher is able to learn from course work in teacher education. According to Kagan (1992) there seems to be a close connection between the student teachers' own biographies and their experiences of the teacher education program. If they have a dysfunctional image of themselves, when they enter teacher education, they will not be capable of learning from the problems in the classroom and they are not willing to see themselves connected to pupils' problems. We would like to learn, how the ability to reconstruct prior knowledge develops?

- Student teachers' optimism about their future teaching assignments and conception of good teaching may center only on instrumental didactic issues or 'caring' for children. How to promote realistic proceedings to the student teacher?

- What is the significance of the inflexibility or stability of the student teachers' beliefs and images which may remain unchanged during the training.

HYPOTHESES

1) We would argue that, although there are great differences between students and also in the origins of their thinking models, the differences can be to a great extent reduced during schooling.

2) We argue that the students' earlier learning experiences, biographies, significant personal histories during their earlier school experience i.e. their personal knowledge or practice theories are the most important and powerful dimensions affecting the development process of personal pedagogical thinking as teachers. This means, however, that they have to be affected or 'touched' personally - otherwise the student teacher cannot make use of the training effectively.

3) Even if it's too idiosyncratic to provide generalizations about the change and professional development of student teachers we would like to know if there are any common themes, that emerge in contrasting groups when constructing of a model of "becoming a teacher", or a professional expert. That's why we compared 1) the starting point and further development, 2) students who were reflective and those who were non-reflective in the beginning, 3) the different year courses and finally 4) male and female students.

THE RESEARCH QUESTIONS:

1. By which **time,** after entering the teacher education is it possible to find out about reflective development during the training, and what happens in the reflection ability during the teacher training?

2. What **kind** of development has happened in student teachers and to what extent, and when the reflection ability has conciously promoted.

3. Are there any **differences** in the reflection ability between the different year courses (1-3) and between those who were reflective or non-reflective in the beginning of the schooling ?

4. what kind of **contextual factors** (collaboration of the staff, the curriculum etc) can affect and increase student teacher's development in the process of becoming a teacher.

5. METHOD

In the shaping of pedagogical thinking we hope A) to uncover increasingly meaningful ideas and purposeful pedagogy from the convergence of student teachers' writings (e.g. significant learning experiences at school and at home) and B) discussions concerning their personal histories.

According to Griffiths et al (1992) the responses of student teachers can be divided into **three cathegories: 1. practical problems** of interpretation, which describes what is happening in this situation. **2. interpretation in terms of theory:** 'Where is my evidence?" "How do I know?" It is not in plain words but with an awareness of the need to probe personal knowledge. **3. exploring:** 'What do you mean and what makes you think the evidence is worth looking at ?' This kind of exploring focuses on one's own language and the metalanguage we use when discussing meanings. Representation and communication of meanings are in close connection to the examination of personal knowledge.

The written and verbal responses of the student teachers were collected in the following way:

A 1) Personal histories i.e. the essays (biographies) of the student teachers are seen as a powerful dimension of their pedagogical thinking. Knowles (1989) refers to the many varied experiences that model the educational thinking. Pre-service teachers bring these experiences with them to teacher education.

2) Narrative inquiry allows us:
- to describe and represent the human relations and inherent interactions in the complex acts of teaching and learning and to validate their multiple realities and many dimensions.
- to acknowledge that educators know their situations in general, social and shared ways and also unique and personal ways, thus validating the interconnection of the past, the present, and the future in the educator's life.

3) The dialogue journal is not new as a useful educational tool. Reflective diary writing is an essential component which stresses the development of reflection for several reasons.

The journal in teacher education is a useful method in processing e.g. daily events/ occurrences in the school environment. It can also be viewed as a valuable means of communication between the teacher educator and the student teacher. "Journal writing tells teachers more about what students know and don't know than more formal assignments designed specifically to find these things out." In dialogue journals students, while recording their experiences, raise questions about teaching, which

helps them through cognitive developmental stages to become more reflective. The students will learn:
- how to identify the way they would be satisfied with and
- to identify ways to improve their teaching strategies in order to foster the small students learning.
By using so-called 'interpretative lenses' student teachers could analyze how they plan and implement their own teaching and how they act with pupils, and furthermore, to observe how they see themselves as teachers compared with the image they have of a good teacher. It both challenges and supports the student's reflective thinking.It provides the student with a way to critical analysis.
In addition their response to courses (theoretical knowledge) was evaluated. Stories about the practice teaching period in the dialogue journal help us to define our purposes, to locate our values and to fix our affective orientation to people and things (Beattle 1991).

B 4) Dialogue in a small group (15 h) and a **large group** experience, which was offered in the first year.

The 'products' of autobiography, narrative self-evaluation etc. were classified by the recearcher into the following cathegories: intention, professional consciousness, theoretical knowledge, self-consciousness and metacognition ability, and rated at three levels according to the following scale (the lowest level: I 1-1, 5 points, II 2-3, medium level, III 4-5, the highest level). The target population were the 1st, 2nd and 3rd year students in one teacher education institution.

7. RESULTS

The results of the **personal and professional development** of the student teachers are preliminary ones, and the study in question is a follow-up-study.

When comparing student teachers' 'answers ' (written or verbal) we found that they develop personally and professionally in **very different ways and at a different tempo**. It is possible to cathegorize the responses at least in four subgroups:

1. The students' personal and professional development was increasing through several routes (Figure 3). The different routes were affected by the following factors:

- **Increase in knowledge** which allows the student teachers to stand back from their personal beliefs. It is not only due to the acquisition of knowledge but the ability to learn to use it.

- **Reflective dialogue** in groups. Reflection is an ongoing process, which can be -if so desired- made more explicit, i.e. a) by becoming aware of the critical incidents or prior experiences of one's own school experiences, when writing (= thinking aloud) of them, and b) by becoming conscious of them in discussion, which maximizes the opportunities of learning from them.

- **Research assignments,** that allow student teachers stand back temporarily from their personal beliefs.

-**The availability of role models** or extended opportunities in practice teaching, including adequate superivision, enable a teacher to become more compatible.
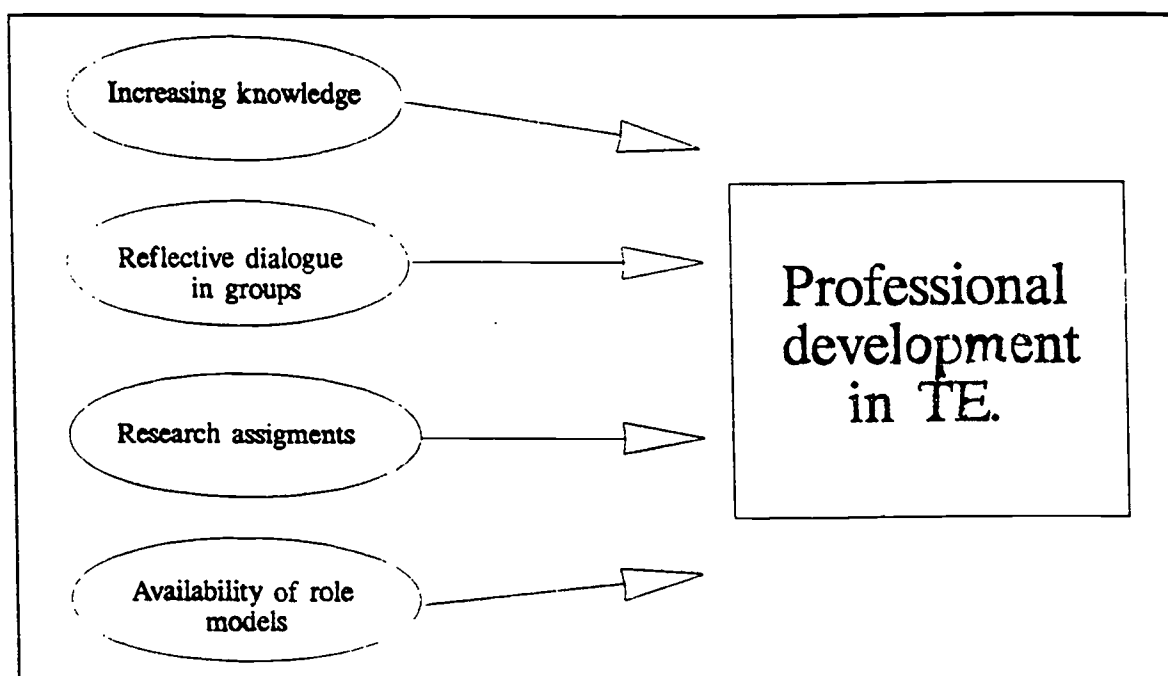
FIGURE 3   Several routes towards professional development

2. A need for using different teaching methods in order to progress through the process of intergrating personal and professional knowledge. A small group was one of the methods used here. When teachers were given the opportunity to reflect their actions, in small groups, spiralling between personal and public theories, they became aware of their own theory behind their perceptions, intentions and actions.(When interviewed in another research procedure almost all of them told about their remarkable insights.)

3.The right 'timing ' in pointing out the earlier dysfunctional beliefs means that they may change. The period when students are 'moving' towards independent studying at the university seems to be the right time for most of them. Some students profit from the years after passing the matriculation examination.

4. The 'touching' means the way how e.g. the interview in the group is carried out. The possibility for the personal development of the student teacher depends greatly on the way how the encountering is 'done'.

TABLE 1.
Correlations between the abilities evaluated in the pre- and semiquestionnaires
1st year course / 93

	1		3	4	5	6	7
1.INTENT							
2.PRO-FESS. CONSC.	.69						
3.THEO-RET. ABI-LITY	.63	.64					
4.SELF-CONSC.	.52	.48	.62				
5.META-COCN.	.58	.48	.49	.49			
6.SEMI-INQ, SELF-EVAL.	.45	.46	.55	.57	.44		
7.COURSE	.28	.19	.32	.39	.65	.29	

On the basis of the correlations (Table 1) the reflection ability is more explicit and a more orderly activity, if it is pursued with intent (=a purposive action towards achieving a goal).
The meaning of intent is strongly (.45-.69) related to other variables, except to a certain course exam. (Which may be read by heart.)
The reflection ability can be improved inside the group. When comparing the development inside the group and the means of the 2nd year group, it was found that the means were increasing from autumn to spring. The promotion of reflection affects conceptual change (compare the significant correlations in table 3.)

TABLE 2
The Development of Reflective in the Second Year course
autumn 92 - spring 93

Variables	Cases	Mean	St. Deviation	St.Error
Dialogue	48	2.9896	1.003	.145
Semi-inquiry	48	3.1042	.852	.123

Diff. Mean	St.Error		2-tail Correlation		t-value	D. of Fr	Probab.
-.1146	.782	.113	.655	.000	-1.02	47	.315

TABLE 3

Correlations between primary reflection and following abilities: self-assesment, concepts, discussion and thoughts
Year course 2

1.PRE-QUEST				
2.SELF-ASS of prof.consc.	.75			
3.DISCUSSION in small group	.71	.73		
4.DIALOGUE JOURNAL	.41	.46	.43	
5.SEMI-INQ.	.34	.46	.46	.66

- Promoting conceptual and metacognitive changes (compare the significant correlations in table 3).

The year courses cannot be compared as such without checking the starting level. We found that the older students (third year) were not so reflective in cross research as the second year students on the basis of one-way variance analysis (table 4). There were, however, no significant differences between the groups 1,2,3.

TABLE 4

Comparing the Results of 1st - 3rd Year Course in Semi-Inguiry by One-Way Variance Analysis

GROUP	COUNT	MEAN	STANDARD DE-VIATION
GRP1=2 nd year	73	3.3055	.8670
GRP2=1	54	3.0667	.9089
GRP3=3	13	3.0769	1.2221
TOTAL	140	3.1921	.9260

F Ratio 1.1454   F Prob. .3211

The average of the second year is the highest one. The explanation to this is that the second year course has been the most excellent from the very beginning, as it is to be seen on the basis of their course exams. The course scores differ on a significant level from the level of the other courses.

THE RESULTS OF THE SEMI-INQUIRY

The semi-inquiry is one kind of self-evaluation. The statements (see appendix 1) are modified of Calderhead's statements. The extreme groups are presented in the answers only, comparing the results of male and female students, we found significant differences between them.
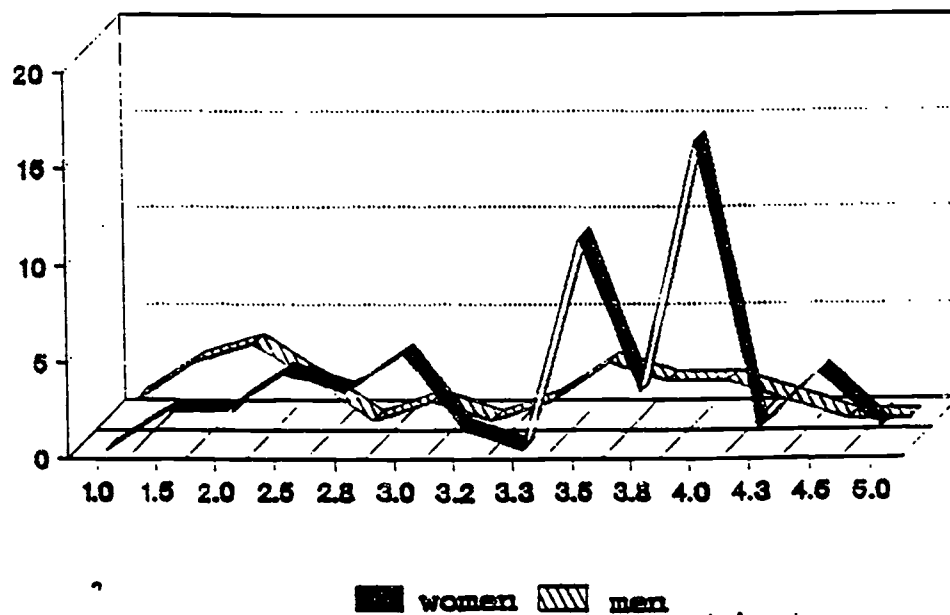

FIGURE 4 Comparing male and female students' attitudes towards learning to teach.

In the statement: "The student teachers expect that they will be told how to teach", the male students approve - the female students are strongly against. The peak is between 4 - 4,3. The finding tells of the maturity of the male sutudents. The group was rather small, about 20 student teachers.

TABLE 5
The differences of means between women (n=53) and men (n=20).

Variables	Number of Cases	Mean	St. Deviation	St. Error
Group 1	53	3.4868	.765	.105
Group 2	20	2.7600	1.024	.229

t-Value	Degrees of Freedom	2-Tail Probab.
3.29	71	.002

Training combined with adequate personality. The ability to teach doesn't burst into bloom. Generic features are needed as well as the spirit of curiosity.

5. TEACHER'S TASK WAS SEEN AS CONCEPTUALIZING THE TEACHING.

6. TEACHERS' TASK:
"The teacher may trap to give advice. "The teacher without presumptions is the best." The task of the teachers is to awake a spirit of learning in the small student."

DISCUSSION

The data provides clear observation about students being able to reconstruct their prior beliefs, images etc. about teacher's role and teaching. It is possible, provided that 1. systematic efforts in encouraging the students, and 2. making their beliefs explicit so that theoretical knowledge can merge in the student's mind into his own personal and pedagogical knowledge. For this purpose we need different teaching methods, because students use different routes in the professional development.

The indiv iual differences were to be found already during the 1st year practice, during which they wrote their first diary. That means that the students' prior beliefs must be modified and reconstructed at once when they enter Teacher Education and in a professional way, e.g. right "timing" and "touching". According to research findings until now this means: the conceptualization of knowledge and the strengthening of student's metacognitions and reflective ability, which some reserachers see as parallel. Without this, no changes will be encountered during the education. Correlations between professional consciousness and other variables (table 1) are significant. The observation of Kagan (1992) was the view that otherwise 'the prior problems will follow into the classroom'. Those student teachers who entered with a self-image more compatible with the reality were more able to adjust to and to learn from problems in practice teaching.

Group A: Those who did not achieve the high level skill (reflection)

1. The first statement:THE STUDENT TEACHERS EXPECT TO BE TAUGHT HOW TO TEACH.
The following examples describe their thinking models in the form of giving or delivering the
skill to another person.

> "Giving the teaching skill." "Most student teachers expect to be taught how to teach.
> The rest of them aim at the degree." " In the practice teaching I'll get knowledge."
> "Becoming a teacher is possible on the basis of other people's advice for the teacher."
> "The teacher educator teaches theory, so that the student teacher knows, what it is to
> be a good teacher."

2. THE SKILL TO TEACH GROWS OUT OF ONESELF

> The meaning of the experience is developed by an another person, not by one's
> own effort. "When another person evaluates me, I'll notice the errors. One has the
> ability to teach - or does not have it. Learning to teach is troublesome."

3. TEACHING IS TO BE SEEN AS A MATTER OF LEARNING FROM EXPERIENCE (I.E.
MUCH EXPERIENCE)

> **Neglecting** theory or overestimating it. "Don´t lend more weight to the matters of the-
> ory, only facts are power! In order to be able to teach, one should know." "Theoretical
> issues don't help the ability to teach."

4. LEARNING TO TEACH IS COMPLETELY UNPROBLEMATIC - EVERYONE CAN TEACH

> The evaluation of one's own development was not realistic, uncovered hopefulness of
> one's own development combined with strategic skill fulness." There are no worries
> with me, luckily, my self-image is still alive. "

5. HOW DO YOU CONZEPTUALIZE LEARNING TO TEACH ?

> Conceptualizing means didactic knowledge to them, e.g.: "When they were as-
> ked:'WHERE THEY ARE GOING' they did not understand the metaphor e.g. or when
> asked 'WHERE THEY HAVE BEEN, ARE NOW, AND WHERE THEY ARE
> GOING' they answered: "back to a small school."

6. HOW DO YOU SEE THE TEACHER'S TASK AT THIS MOMENT ?

> The teacher's task was seen in a very concrete way.

Group B: Those who achieved a high level skill in reflection

1. THE UNDERLINING OF INTENTS:

> "If one knows the intents, the motivation will stay up."

2. THE MEANING OF KNOWLEDGE:

> "If the student teacher has enough knowledge, he/she doesn't expect direct advice."

3. THE **ABILITY** TO TEACH is the result of profound learning process.

4. THE MEANING OF PERSONALITY

Training combined with adequate personality. The ability to teach doesn't burst into bloom. Generic features are needed as well as the spirit of curiosity.

5. TEACHER'S TASK was seen as conceptualizing the teaching.

6. TEACHERS' TASK:

"The teacher may trap to give advice. "The teacher without presumptions is the best." The task of the teachers is to awake a spirit of learning in the small student."

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The individual differences were to be found already during the 1st year practice, during which they wrote their first diary. That means that the students' prior beliefs must be modified and reconstructed at once when they enter Teacher Education and in a professional way, e.g. right "timing" and "touching". According to research findings until now this means: the conceptualization of knowledge and the strengthening of student's metacognitions and reflective ability, which some reserachers see as parallel. Without this, no changes will be encountered during the education. Correlations between professional consciousness and other variables (table 1) are significant. The observation of Kagan (1992) was the view that otherwise 'the prior problems will follow into the classroom'. Those student teachers who entered with a self-image more compatible with the reality were more able to adjust to and to learn from problems in practice teaching.

APPENDIX

The sequence of methods in this research, pre-, semi- and post-questionnaires

All the students responded to the following questions (narratives) immediately after entering the institution:

-Why did you decide to enter TTI?
-What do you expect from teacher education?

Then they participated in the small group. In the second and third year they kept a dialogue journal related to the practice teaching period .

THE PRE-QUESTIONNAIRE:
- Why do you want to teach ? What do I want from my profession ?
- What kinds of things should a teacher know about ? (If you were to design a test for a teacher, what types of information should that exam test for ?)
- Define teaching
- Define learning- What do you think is the relationship between learning and teaching ?
- Describe, what it will be like to be a teacher in a classroom?

THE SEMI-QUESTIONNAIRE:
How do you relate with the following statements?
(the scoring is from point 1 to 5)
1. The student teachers expect that they will be told how to teach.'I agree' 1 2 3 4 5 'I disagree.'
2. The skill to be a teacher grows out of oneself.
3. Teaching is to be seen as a matter of learning from experience (much experience).
4. Learning to teach is completely unproblematic. Everyone can teach.
5. How do you conceptualize learning to teach ?
6. How do you see the teacher's task at this moment ?
7. Would You like to do self-evaluating reflection of your learning process:
   -where have you been?
   -how do you see your task as a teacher?
   -where could you be going to?
8. What kind of development have you found in yourself during the last practice teaching?

POST-QUESTIONNARE
How would you describe yourself as a teacher ?
What kind of a teacher would you like to be ?
What kind of teaching would you see yourself doing in five years time? How do your students view you?
What is your "teaching style "?
What was the high point of the week ?
In which way could this week have been better ?
Whom did you get to know better this week ?
What decisions did you make this week ?

SOURCE

Alexander, P., Schallert, D.Hare, V.(1991) Coming to terms: How researchers in learning and literacy talk about knowledge? Review of Educational Research 61 (3), 315-343.

Beattle, Mary, 1991. New prospects for Teacher Education. Narrative ways of knowing teaching and teacher learning. ATEE, Amsterdam, September, 1991.

Clandinin, J 1986. Classroom Practice: teacher images in action.London:Falmer Press

Day, C. (1993) Reflection: a message but not sufficient condition for professional development. British Educational Research Journal. Vol 19, No 1, 1993.

Griffiths, M, Tann S.(1992) Using reflective practice to Personal and Public Theories, Journal of Education for Teaching,Vol 18 No 1.

Grossman, P. (1990). The making of a teacher. New York: Teachers College Pross

Grossman, P. Yerian, S. (1992). Pedagogical content Knowledge: The research agenda

Hollingsworth, S. (1989). Prior beliefs and cognitive change in learning to teach. American Educational Research Journal, 26, 160 - 189.

Kagan, D. (1992). Professional Growth Among Preservice and Beginning Teachers. Review of Educational Research, Vol. 62 No:2, 129 - 169.

Järvinen,A. Kohonen, V.,Niemi, H., Ojanen, S. Educating Professionals. Paper presented in AERA 1992 (in Press) San Francisco

Shapiro, B.L. (1991). A collaborative approach to help novice science teachers reflect changes. Alberta Journal of Educational Research 37, 119 - 132.

Solas, J. (1992) Investigating and Student Thinking About the Process of Teaching and Learning using Autobiography and Repertory Grid, Review of Educational Research, Summer 1992, Vol.62, No 2, pp 205-225.

Stein, C.S. (1991). Prospective elementary teachers beliefs about teaching. Teaching and Teacher Education 6,
270 - 290.