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CiCe
Institute for Policy Studies in Education
London Metropolitan University
166 – 220 Holloway Road
London N7 8DB
UK

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The Influence of Gender, Age and Experience on the Development of Teacher Perspectives

Lefkios Neophytou and Mary Koutselini
University of Cyprus (Cyprus)

Abstract

Teachers' perspectives on teaching and learning, despite being acknowledged as a major determinant of teacher effectiveness, have not been given proper weight by the scientific community. The field has been described as a 'messy construct', and has actually been treated as such since research evidence is scarce. This study seeks to illuminate certain aspects of this construct and in particular how teachers' perspectives are differentiated in relation to gender, experience and age. The sample consisted of experienced elementary teachers as well as potential teachers of both genders in Cyprus. Findings of the study can provide useful information for the development of graduate as well as in service educational programs.

Teachers' personal theory: Knowledge, beliefs and attitudes and the formation of perspectives about teaching and learning

A substantial volume of research on teaching and the teacher has been generated during the last years. Much of this has focused on psychological aspects of the teacher such as the teacher's general thought processes (Clark & Peterson, 1986). Ernest (1989) draws a distinction between the teacher's thought, distinguishing fluid processes (such as planning, interactive decision-making and reflection), and semi-permanent structures (such as the knowledge, beliefs and attitudes stored as schemas in the mind of the teacher). Scientific community has not up to date reached a consensus about common terms to describe these semi-permanent structures. Different notions such as "personal epistemologies", "perspectives", "practical knowledge" and "orientation" have been used interchangeably hence creating what Pajares(1992) refers to as a "messy construct". Having in mind the broad and encompassing nature of this endeavour, we first try to explain its major constituent parts as they derive from reviewing the relevant bibliography: knowledge, beliefs and attitudes.

Shulman(1986) distinguishes three dimensions in teachers' general knowledge: subject-matter knowledge, pedagogical content knowledge and curricular knowledge. *Subject-matter* knowledge refers to the comprehension of the subject per se; the ability to grasp the variety of ways in which the basic concepts and principles of the discipline are organized and the rules that are used for the establishment of validity/ invalidity within the specific domain. The second dimension, *pedagogical knowledge*, has to do with knowledge of how ideas are best presented in order to make it comprehensible to others. Finally, the third dimension, *curricular knowledge*, includes knowledge of curricular contents and comprehension of interconnected alternative materials for a given subject within a grade level and within various subjects.

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The second constituent part, and probably the dominant one, is the part of beliefs. Teacher belief is broadly defined as tacit, often unconsciously held assumptions about students, classrooms and the academic material to be taught (Kagan, 1992). Beliefs, as Macnab & Payne (2003) comment, are not consciously articulated and hence not rationalised or integrated into a coherent whole. They reflect an emotional way of teachers thinking and reacting in the term effective teaching (Entwistle et al, 2000) and are therefore distinguished from knowledge which is conscious and informed.

We finally shift our attention on the notion of attitudes. As most researchers agree the key aspect of attitudes is the evaluative property toward a specific object (Weinburgh & Engelhard, 1994). Attitude is defined as a mental concept that depicts favourable or unfavourable feelings toward an object (Simpson, Koballa, Oliver, & Crawley, 1994; Weinburgh & Engelhard, 1994; Zacharia, 2003). Attitudes, being an affective factor have a powerful influence on learning and are important contributors to a teacher's make-up and approach, because of the effect they can have on a child's attitudes and its learning.

Scholars seem to agree that teacher education has little effect on altering teachers' beliefs and attitudes (Weinsein, 1989). Previous experience as pupils, the apprenticeship of observation, and schools' organization and culture, have more influence than formal education in shaping the way potential teachers teach (Lortie, 1975; Surgue, 1997; Tilemma, 1997). Koutselini (2008) demonstrated how teachers preconceived ideas on curriculum development and the role of experts prevented them from developing their reflective abilities. However, as she points out, the employment of action research methodology resulted in a gradual shift from imposed, predefined teaching and learning to a reflective collaboration and response to different needs of different students. Their conceptual changes were facilitated by their understanding of the procedures of action research and appreciation of the participative procedures that diminish external control and enhance collaborative participation and meaning-making. As Florio Ruane & Lensmire (1990) note, meaningful change in instruction entails a fundamental change in what teachers know and believe. Tatto (1998) suggests a reconceptualisation of teacher education through the creation of norms of discourse, which provides cohesiveness of purpose and facilitate constructive dialogue about teaching and learning within and across learning communities.

Baring in mind the extent of semi permanent structures in teachers' thought processes, we choose to use in our discussion using the term perspectives and focus our interest on specific domains that may fall into the general domain of thought processes. We define perspectives as the outcome of an individuals' personal theory, and the way he/she chooses to operationalize his/her inner semi-permanent thought structures when asked to evaluate specific aspects of his professional life and orientation.

The present study was prompted by an interest in the kinds of beliefs and attitudes that teachers have about teaching and learning and if these differ across their professional development. The study also examined the variation of perspectives between the two genders. Li (1999) demonstrated that teacher gender is a factor that impacts their beliefs and behaviours, which in turn, influences their students.. Mwamwenda & Mwamwenda (1989) found that students of female teachers had significantly higher achievement scores in mathematics and other subjects than those taught by male teachers while

Warwich & Jatou, (1994) demonstrated a gender gap favouring male teachers in rural schools.

The main goal of this study is to investigate the relationship between teachers' perspectives and gender and to examine whether there is any difference between teachers' and student teachers' perspectives.

Specifically, the study attempts to identify:

- The nature of perspectives that teachers share about teaching and learning
- Whether there is any difference in perspectives about teaching and learning:
 - Among student teachers and in service teachers?
 - Among female and male teachers/student teachers?

Methodology and Results

This study investigated the variation of teacher perspectives in relation to gender, age and experience. A sample of 81 teachers and 178 student teachers at the undergraduate level participated in the study. The total sample of 259 participants consisted of 47 men and 212 women, numbers that reflect the ratio between men and women in the educational context of Cyprus. The instrument of the study was a scaled questionnaire consisting of 58 statements derived from literature review on teachers' beliefs and attitudes towards teaching and learning.

In order to reduce variables and help analysis, several factor analyses were conducted. Eigenvalues, H^2 , and factor loadings were examined. Items were entered or removed in order to obtain the most interpretable solution. Table 1 presents the factors that emerged after a thorough examination of multiple possible solutions.

Table 1: Rotated component matrix.

	Factor			
	1	2	3	4
10. The more questions the better	,685	-,182	,174	,088
15. The best lessons are those that without a specific purpose, result in a lively discussion in the classroom.	,649	,090	-,117	-,149
18. A quiet classroom is a productive learning environment.	,606	,225	,138	,330
16. Co-operative learning should take place as an exercise at the end of the lesson.	,605	,160	,176	,089
32. Modern technology and specifically computers, have nevertheless very little contribution to the overall learning.	-,114	,788	,166	-,063
26. Even when we implement differentiated instruction, weak students do not learn, while good students are not given the appropriate attention.	,081	,786	-,099	,118
23. It is impossible for a teacher to use learning styles in his/her instruction.	,262	,598	-,018	,077
7. A teachers role is to transmit values and ideals.	,082	-,005	,851	,053
6. A teachers role is to transmit knowledge.	,140	,039	,850	,083
12. Students should be disciplined and speak only when addressed by the teacher.	,140	-,032	,160	,800
11. The best lessons are those that students are "hanging from the lips of the teacher".	-,017	,122	-,023	,780

Varimax orthogonal rotation produced the structure presented at table 1. Four factors emerged responsible 59,31% of the variance. The first factor, named as misconceptions about the role of the teacher explained 22,78% of the variance. The second factor was named as pessimistic attitude towards new pedagogical approaches explained 14,72%. The third factor responsible for 11,13% was named teachers social role and the fourth factor, named as teacher centred interaction, explained 10,67%. Factor scores were then computed and analysed using t-test in order to determine whether responder's means were different in terms of gender and status (teacher or student teacher).

To examine if there were any differences factor scores' means, participants were grouped by status (1=in-service teacher, N=81, 2=student teacher, N=179) and then by gender (1=male, N=47, 2=female, N=212) and independent samples t-tests were performed. T-tests comparisons indicate that in service teachers means are significantly higher than that of student teachers in factors 1 and 4, namely the pessimistic perspective and the teacher centred interaction approaches. On the other hand student teachers means are higher than those of the in service teachers in relation to the two remaining factors. Hence student teachers hold higher mean average in terms of misconceptions about good teaching and in terms of their social role as educators. However, mean differences are not significant concerning the third factor. Table 2 presents t-test comparisons of factor scores means in relation to the participants' status.

Table 2: T-test comparisons of factor scores' means between in service teachers (status=1) and student teachers(status =2)

Factor's name	In Service Teachers		Student Teachers		t	df	p(2-tailed)
	Mean	S.D	Mean	S.D			
1. Misconceptions about the role of the teacher	5,7623	,60969	6,1728	,53744	-5,459	257	,000
2. Pessimistic attitude towards new pedagogical approaches	2,3086	,80584	2,0577	,60358	2,503	122,23	,014
3. Teacher's social role	3,5864	,71059	3,7514	,91242	-1,581	195,09	,115
4. Teacher centered interaction	2,8704	,86522	2,3764	,90285	4,135	257	,000

In relation to gender, significant difference was discovered only concerning the fourth factor ($t=2,667$, $Df=256$, two tailed $p=,008$). Male teachers scored higher than female (men $X=2,8478$, $SD=,97108$, women $X=2,4552$, $SD=,89051$) therefore indicating that males tend to be more teacher centred in their interaction approaches than female.

T-tests were also conducted in the remaining items of the questionnaire in order to check differences in means between gender and status. Table 3 presents significant mean differences between in service and student teachers. Students teachers means were significantly higher than those of in-service teachers in relation to statements (17) *All students should know the same things at the end of the lesson*, (28) *A teacher should be interested for his students in many ways such as visiting students' houses, organizing field trips, providing private tutoring*, (53) *On a scale from 1-7, mark the degree that reflects the social status of the teacher (1=low, 7=high)*. Statements 28 and 53 refer to the social role and status of the teacher while statement 17 indicates a misconception

about effective teaching. In service teachers agreement is significantly higher than student teachers in the remaining statements (table 3). They tend to provide higher ratings in statements describing that a teacher is born(1), as well as made(2). Their means are higher than those of student teachers in terms of the role of the teacher in enhancing social, emotional and cognitive development of the student(8). Their agreement is higher in statements highlighting the importance of specific tasks in the teaching task such as preparation, evaluation, administration and cooperation with colleagues (39,40,42,44,50,51). They also tend to consider more highly of their efficacy to perform teaching duties (57), even though they tend to believe that their profession is a soul consuming one (4). In service teachers tend to have more accurate conception of cooperative learning, since they tend to agree more with statement (22) *Co-operative learning is the mean to achieve the lessons goals*. However, they appear to hold a more blurred understanding of the notion of active learning since they consider that it is accomplished through many activities (statement 19). Finally, they place more emphasis than student teachers on a collaborative rule establishment model (31) and tend to believe more strongly that a weak student is an indifferent student (24).

Table 3: T-test comparisons of statements means between in service teachers

	<i>In Service Teachers</i>		<i>Student Teachers</i>		<i>t</i>	<i>Df</i>	<i>p</i> (2-tailed)
	<i>Mean</i>	<i>S.D</i>	<i>Mean</i>	<i>S.D.</i>			
1. Some people are born to teach.	3.62	.943	3.10	.960	4.04	258	.000
2. The abilities for teaching are taught.	3.84	.787	3.51	.803	3.01	257	.003
4. Teaching is a soul-consuming profession.	3.63	1.089	1.89	1.041	12.27	258	.000
8.The role of the teacher is to enhance cognitive, academic and emotional development of the students.	4.75	.462	4.42	.785	4.28	240.81	.000
17. All students should know the same things at the end of the lesson.	1.80	.900	2.23	1.09	-3.34	185.06	.001
19.Active learning is accomplished through many activities.	4.49	.777	4.25	.756	2.37	258	.018
22.Co-operative learning is the mean to achieve the lessons goals.	3.83	.946	3.59	.832	2.01	258	.044
24.A weak student is an indifferent student.	2.15	1.097	1.51	.824	4.64	122.44	.000
28. A teacher should be interested for his students in many ways such as visiting students houses, organizing field trips, providing private tutoring.	2.44	1.183	3.05	1.291	-3.59	258	.000
31.Rules should be decided with the students.	4.41	.818	3.60	1.09	6.56	203.04	.000
40.Differentiated teaching is a very important aspect of the teaching profession.	4.49	.573	4.23	.717	2.92	258	.004
42.Attending to discipline problems is a very important aspect of the teaching profession.	4.51	.691	4.07	.711	4.59	258	.000
44. Formative assessment is a very important aspect of the teaching profession.	4.27	.775	13.99	.779	2.72	155.29	.007

50. Administrative duties are a very important aspect of the teaching profession.	3.98	.790	3.41	.833	5.22	162.18	.000
51. Working with colleagues is a very important aspect of the teaching profession.	4.74	.441	4.31	.689	6.02	228.84	.000
39. Planning and preparing lessons is a very important aspect of the teaching profession.	4.69	.491	4.42	.669	3.68	205.55	.000
53. On a scale from 1-7, mark the degree that reflects the social status of the teacher (1=low, 7=high)	4.43	1.012	5.38	1.02	-6.90	257	.000
57. On a scale from 1-7, how sufficient you consider your self to be in order to cope up with the demands of the teaching profession.	5.88	.731	5.40	.936	4.47	195.18	.000

In relation to gender, male participants have higher means than female participants, in statements (4) *Teaching is a soul-consuming profession* (M(male) =2.85, SD=1.383, M (female) =2.33, SD=1.290, $t=2.472$, $df=257$, 2-tailed $p=.014$), (50) *Administrative duties are a very important aspect of the teaching profession*. (M(male) =3.87 , SD=.749, M (female) =3.52, SD=.868, $t= 2.542$, $df=256$, 2-tailed $p= .012$) and statement (51) *Working with colleagues is a very important aspect of the teaching profession*. (M(male) =4.59 , SD=.498, M (female) =4.41, SD=.679, $t=2.030$, $df=85,692$, 2-tailed $p=.045$), This indicates that men tend to agree more than women in terms of the teaching being a soul-consuming profession. Men also tend to give higher ratings in the likert scale in terms of the importance of the administrative duties of the teacher as well as the importance for cooperation with colleagues. On the other hand women tend to give higher marks than men, in relation to the social status of the teacher and the importance of attending to staff meetings. Women's mean scores were higher on statements (48) *Participating in staff meetings is a very important aspect of the teaching profession*(M(male) =3.54 , SD=.912, M (female) =3.98, SD=.785, $t= -3,022$, $df=60,293$, 2-tailed $p= .004$) and statement (53) *On a scale from 1-7, mark the degree that reflects the social status of the teacher (1=low, 7=high)* (M(male) =4.73, SD= 1.09, M (female) =5.16, SD= 1.10, $t= -2.331$, $df=255$, 2-tailed $p= .021$).

Further analysis was conducted in order to reveal the significance that participants placed upon certain factors for the achievement of pupil learning. Participants were asked to use a scale from 1 to 6 and rank the factors giving 1 to the most important and 6 to the least important factor. These factor were: (a) student ability, (b) teachers methodology, (c) talent in specific domains, (d) Curricula and textbooks, (e) parental interest (f)SES.

One-Sample Kolmogorov-Smirnov Test of the total sample (N=260) revealed that participants considered that statement (382)*Teacher's methods* (M=1,94, SD=1,11) entailed the most significance in student learning. The second most important factor appears to be statement (381) *Student ability* (M=2,04, SD=1,08), followed by (383), *talent in a specific domain* (X=3,64, N= 1,24), then (384) *Curricula and textbooks* (X=3,74, N=1,55), (385)*Parental interest* (M=4,35, SD=1,13) and finally (386) *Parents' educational and economic status* (X=5,23, SD=1,20). Further analyses were conducted

using Mann-Whitney U test in order to examine differences in ranks provided by the participants groups (gender and status). Table (4) presents the finding of this analysis.

Table 4: Comparison of rankings for statements 38 in terms of status(in service teacher or student) and gender. (Which is the most important factor for student learning? Give the following statements numbers 1 to 6, assigning rank 1 to the factor you consider as the most important and 6 to the least important.)

Statement	Mean Rank				Mean Rank			
	Teacher	Student Teacher	u	p (2-tailed)	Male	Female	u	p (2-tailed)
381. Student ability	105.85	141.65	5253.00	.000	118.66	131.85	4377.50	.252
382. Teacher's methods	159.07	117.57	4935.50	.000	143.48	126.47	4233.00	.134
383. Talent in a specific domain	131.67	129.97	7155.00	.862	125.45	130.38	4689.50	.676
384. Curricula and textbooks	155.39	119.24	5233.50	.000	155.72	123.81	3670.00	.008
385. Parental Interest	118.30	136.02	6261.00	.064	124.02	130.69	4624.00	.562
386. Parents' social, educational and economic status	111.35	139.17	5698.00	.002	107.64	134.24	3870.50	.012

Mann-Whitney U revealed that rankings provided by student teacher(n=179) were significantly higher than those provided by teachers (n=81) in factors 381-student ability (U=5253, two tailed $p < 0,005$) and 386, Socioeconomic status of parents (U=5698, two tailed $p = 0.002$). In service teachers provided significantly higher rankings for factors 382-Teachers methods (U=4935,500 , two tailed $p < 0,005$) and 384, curricula and textbooks (U=5233.500, two tailed $p < 0,005$). In relation to gender, men (n=47) provided significantly higher ranking than women(n=212) in factor 384, curricula and textbooks (U=3670, two tailed $p = 0,008$), while women provided higher rankings in relation to factor 386-Socio economic parental status (U=3870,500, two tailed $p = 0,012$).

Discussion

Analysis revealed a significant difference on perspectives between the groups of in-service teachers and student teachers. Student teachers appear to hold more misconceptions than in- service teachers about what is effective teaching. Despite the fact that students may have more recent and up to date experiences about contemporary pedagogical methods, they seem to be less capable than experienced teachers to distinguish effective from ineffective approaches. Moreover students compared with in service teachers, tend to attribute the locus of control for student achievement in the student him/her self and its social status. On the other hand, in service teachers provide higher rankings than student teachers in factors that can be influenced by the educational system: the methods of the teacher and the curricula-textbooks. That's also evident in the difference of importance that in service teachers provide about the specific tasks such as planning, evaluation, administration and collaboration with colleagues. In service teachers tend to rely more on teacher center interaction approaches and appear to be more pessimistic than students in terms of applying modern pedagogical approaches.

Moreover, in service teachers tend to attribute a lower social status to the teacher than student teachers do.

Summarizing the above findings we can infer that, in the process of professional maturing, teachers have a more clear vision of applied pedagogy. They feel more confident in performing their task, even though they tend to rely more on teacher centred approaches since they are reserved about the actual value of contemporary pedagogy. Based on this conclusion two inferences can be drawn: (a) experience is crucial in the refinement of effective teaching skills (b) university courses need to be restructured in order to provide opportunities for a more thorough understanding of pedagogical methodology. Focusing on the wound of teacher creation, the university setting, it is essential to uncover potential teachers' beliefs and assumptions before development can occur, enabling critical reflection and then change. Teacher educational programs should embrace a constructivist perspective (Tatto, 1998), fostering dialogue and critical reflection in order to allow for deeply rooted beliefs to emerge and modified.

However, if the actual educational setting does not foster change, then it is evident that teacher preparation programs must focus on the sustainability of the perspectives they deliver to their young graduates. Usually a system's most dominant quality is the ability to preserve its character. Young graduates entering the profession come against a conservative culture that challenges their newly, and consequently vulnerable beliefs, and forces them to align with the dominant practice and its belief structure. The usual outcome is the creation of multiple and parallel beliefs systems, some demonstrated on the outside serving the purpose of how to present your practice, while some other belief systems, stable and unaltered are those that guide teaching practice. Once again Goodlad's (1979) distinction of curricular types (ideal, formal, operational, perceived, and experienced curriculum) is justified. It seems that there is often a great difference in teacher development between the input (from the trainer expert), uptake (elements which participants find interesting and consider transferable in the classrooms, i.e. which match their own theory, and output (what is actually implemented in the participants' classes) (Donaghue, 2003).

Experience is apparently the best school. Hence, since experience is based on the actual educational setting of the school and the classrooms a new ethos must be applied in there as well. Teacher training facilities cannot compensate for society. Therefore, if we want to avoid retreat into pre held assumptions and establish the sustainability of newly established beliefs a new educational philosophy that embraces contemporary pedagogy, but also supervises and guarantees its application, should be employed by the educational authorities.

In relation to gender, fewer differences were discovered. In general, as illustrated for the results, males tend to be more teacher-centred in their interaction approaches than female. Male participants consider that teaching is more soul consuming than women. This comes as a surprise since emotionality is usually more strongly associated with women. Another interesting finding is that women tend to give higher marks than men in relation to the social status of the teacher.

Based on the findings about gender differences, we may say that gender is not a significant factor of influence in the formation of perspectives. What is however evident

is that men seem to be less content with their profession than women. In a feminised profession this does not come as a surprise. The values that are usually expected for a teacher to have (such as love, compassion, friendliness) are more usually associated with the female stereotype. Many families in Cyprus dream to have their daughter become a teacher. This of course is not the case for boys whose families want them to follow a job of higher social status such as doctors, lawyers, executives. This being the case, one possible explanation is that male teachers, after entering the profession, may feel trapped into something that it is not aligned with that that they probably could have done instead of wasting their time with children. Male discontent is also reflected by the dropout rate that it is higher in men than in women.

Conclusion

Despite the fact that perspectives, as a sum of knowledge, beliefs and attitudes, are resistant to change, it is evident from the findings of this research that experience can be a significant factor that could change perspectives for teaching. Therefore more specific insights are required in order to evaluate how teachers' perspectives are formed through the processes of professional maturation. Since experience appears to be the best school, it is essential that educational systems find ways to establish schools as learning organisations, that learn and develop in order to rise up to the challenges of the fluid reality. In addition the role of gender and the relation of gender and perspectives should also be a field of more thorough examination. Since males seem to be less pleased in the profession, additional research should be conducted illuminating ways that would increase professional satisfaction.

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