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Diversity in primary teacher education gender differences in student factors and curriculum perception

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In the Netherlands only a small number of male students opt for primary school teaching and a relatively large percentage of them leave without graduating. A small-scale research project was set up to explore the question: Can gender-specific student factors be identified in relation to the initial teacher education curriculum that leads to the differences in the dropout rate? Data were collected among a group of 15 female and 15 male students from one teacher training college (or college of education). Concepts with regard to student factors are: motivation for the profession and expectations as to the curriculum. As for the initial teacher education curriculum, the focus is on the way in which the students perceive the content, the didactic approach, the organisation and the evaluation of the curriculum. In addition, data are collected about student performance. We found meaningful gender-specific differences in students' motives for the profession and expectations as to the curriculum, and gender differences in the way students experience and assess the curriculum offered. These gender differences may explain the gender-specific performance. In order to prevent that especially male students drop out or are not educated well, it is necessary that colleges of education pay attention to the needs and desires of this relatively small group of students.

Keywords: teacher education programmes; student teachers; gender differences; gender Issues; males

Introduction

In the Netherlands gender diversity in the teaching staffs in primary education is under pressure because few male students opt for a position as primary school teacher. This gender-specific intake leads to feminisation of primary education, which is also known in other Western European countries and the United States (Benton DeCorse & Vogtle, 1997; Drudy, 2008; Skelton, 2003). Feminisation of education plays a role in social debate, where it is seen as one of the causes of the discomfort and loss of performance among boys. Scientifically speaking, this connection has never been established and it is felt in scholarly circles that feminisation is judged more negatively than is justified (see e.g. Drudy, 2008; Skelton, 2007). Also has never been scientifically proven that the so-called male role model leads to better performance of boys in primary education (Mills, Martino, & Lingard, 2004;

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Skelton, 2007) and it is hard to assume that all male teachers are good teachers (Francis, 2008). In spite of all this, it is generally maintained that more gender diversity within teaching staffs is desirable because a mainly female teaching staff combined with disproportionately many male managers forms an insufficient basis for the socially desirable breaking down of traditional gender-specific role patterns.

Teaching in primary education appears to be more attractive to women than to men. Starting in 1995, the average percentage of women starting the four-year course in primary teacher education¹ in the Netherlands is 83.8 (HBO-raad, 2009). Seeing that factors in career choice are partly related to the vocational education preparing for the career concerned, it is likely that teacher education institutes for primary education may contribute to breaking through the gender segregation status quo in career choice. This is needed all the more, because the institutes also face considerable gender-related differences in student performance. On an average, after five years of study, 45% of the males have graduated in comparison to more than 68% of the females (HBO-raad, 2009), a high dropout rate of males which is also known in other countries (Russo & Feder, 2001; Thornton, 1999). We are looking for research-based explanations for such gender-related performance in primary teacher education.²

Theoretical framework

Gender differences among student teachers

Research into gender differences among future teachers in primary education shows that students differ in professional motivation and concepts regarding the profession. Males and females both opt for the profession because they like children but in women the motivation seems to be more deeply rooted as they show concern for education and children from an early age (Brookhart & Loadman, 1996; Montecinos & Nielsen, 1997). For male students, opting for primary education is more often a second choice, because alternatives are blocked for lack of sufficient previous education or because specific requirements are set (Mulholland, 2001; Russo & Feder, 2001; Thornton, 1999).

There also seems to be a difference in task view. Males want to teach things that are of use to children in the future (Johnston, McKeown, & McEwen, 1999). Hagemann and Rose (1998) researched what primary student teachers judged positively or negatively in former teachers and they concluded that this influences the concept the students have of the type of teacher they wish to be themselves. Female students value 'learner-directed' and 'warm-hearted' teachers more than male students whereas males value strict guidance next to humour.

The influence of the teacher education institute

On the basis of the current state of affairs in the nature-nurture debate we can conclude that gender differences in general are, besides being innate, also the result of a process of socialisation. Social factors and circumstances influence this process (see among others Skelton & Hall, 2001). Teachers and student teachers develop a professional identity in similar ways (Bullough, Knowles, & Crow, 1992; Kelchtermans, 1994), influenced by their gender-specific personality as well as their professional context.

If we take a mutual influence between the individual and his/her surroundings as the basis for gender differences we may assume that gender-specific performance

is also caused by the teacher education institute itself. The primary teacher education institute does not operate in a gender-neutral way. Primary school teaching is seen as a feminised occupation because educators care for their students like teachers in primary schools care for their children (Murray, 2004, 2006).

Research into the way in which the student performance is influenced by primary teacher education itself is rare. We found two Australian studies. Russo and Feder (2001) investigated whether there are school-internal barriers for male university student teachers training to teach the below-six age range. The ten male students in their study felt positively 'singled out' but they prefer to be in a group with other males. Research by Mulholland (2001) showed that male students felt better about their training during the last two years of the programme in which teaching practice takes place and less good about the more theoretical first two years. One American large-scale research project executed by Montecinos and Nielsen (1997) on professional motivation in student teachers shows how motivation in male students diminishes as their teacher education progresses. There is no research, however, on why this is the case and it is unknown whether all this leads to early dropout.

Explanatory models for gender-specific performance

We presume that a mutual influence between the gender-specific student teachers' personal identity and their teacher education causes gender-specific performance. Student factors, school factors and their mutual influence on specific performance are part of explanatory models for gender-specific achievement (Dekkers, 1996; Eccles, 1984). The model by Eccles is based on psychosocial explanatory models and motivation as well as attribution theories, and it contains a range of interrelated factors, which influence students' choice and performance. On this basis, Dekkers developed a model of variables for gender-related performance in primary, secondary and vocational education, which shows the lasting mutual influence and relation between school-internal factors and student factors. Because of the lasting mutual influence, Dekkers' model fits well with our preliminary assumption that gender-specific performance is caused by a complex relation between student factors and the teacher education curriculum. Dekkers' model has been used to design a model for our research consisting of student factors, the 'teacher education curriculum' as 'school factors' and student performance.

Student factors

Dekkers (1996) and Eccles (1984) make explicit the workings of (hidden) gender socialisation processes on educational performance: students are guided in their study by expectations of what is to come (use and profit), based on what has actually happened in the past and by their view of the past and their experiences and appreciation of the here and now. Dekkers (1996) suggests as student factors amongst others intelligence and attitudes divided in: motivation, expectations and perceived utility. We neglected intelligence because gender-specific performance is more often related to the students' self-image regarding their potential and to the attitude towards their education than to their actual success rate in it (Eccles, 2007).

Attitude and more specific motivation (for the profession) and expectations (regarding the programme) are chosen as relevant student factors. Expectations form

part of motivation for the profession but we wanted to research it separately as we expected to find gender differences independent of professional motivation because of difference in self-image and confidence. Male student teachers tend to have a higher opinion of their aptitude as a teacher than females and have more often the feeling that their training has not really contributed much to their ability as teachers (Carrington, 2002; Hebert, 2000; Johnston et al., 1999; Thornton, 1999). These feelings are corroborated by heart-warming responses and appreciative words when they enter a school as student teachers: children, parents and future colleagues are excited (Russo & Feder, 2001).

From school-internal factors to the teacher education curriculum

MacDonald (1981) registered school-internal factors as of gender-specific influence on student performance. She introduced the notion 'Gender Code' to indicate that gender is embedded in daily life at school and has a subconscious impact on the way teaching is organised and on the implicit processes that influence performance. Gender-specific patterns and performance of pupils are caused by gender differentiation in the way the subjects are taught, the gender-specific division of functions, and the influence gender plays on the pedagogical relations between teacher and pupils. Kessler, Ashenden, Connell, and Dowsett (1985, p. 45) also point out school-internal factors as influencing gender-specific performance. As determining factors, they mention the subjects that are taught and the relationship between staff and students. For this research we use the term curriculum as defined by Tyler (1949) instead of 'school-internal factors' because it contains all the relevant aspects of teacher education. The curriculum (Tyler, 1949) involves four fundamental items: the educational purposes that the school seeks to attain (content, subjects), the educational experiences that are likely to help attain these purposes (didactic approach), the effective organisation of these educational experiences (the organisation which includes training practicum and mentor student contacts) and the way to determine whether these purposes are being attained (evaluation, assessment). As we take as given that learning is an active process in which the students interpret the curriculum and learn on the basis of their own views (Bullough et al., 1992), it is not first and foremost the given curriculum that is important for our research, but the way students experience and assess it (see Goodlad, 1979 among others). We want to know whether male and female students perceive the curriculum differently.

Student performance

Student performance is defined as the percentage of students who take their exams within a number of years after starting the education. In this article we restrict ourselves to the number of female and male dropouts during the research term. (See Geerdink, 2007 for a detailed explanation of student performance.) (See Figure 1 for a graphic representation of the research design and its concepts.)

Research questions

The assumptions made, lead to the research question: *Can gender-specific student factors be identified in relation to the way students perceive the curriculum, which may lead to the higher dropout rate of male students in primary teacher education?*

Figure 1. Graphic representation of the research design and concepts.

In order to answer the central question two constituent sub-questions are formulated:

- (1) Are motivation for the profession and expectations concerning the educational programme gender-specific?
- (2) Are there any differences in the way male and female students perceive the curriculum?

Methodology

We have chosen a qualitative research approach because the field of research was still unexplored in the Netherlands and we wished to acquire a better insight into the complex relationship among the various factors influencing student performance. As the focus is on the continuous process in which students with their specific characteristics react to their teacher education, we opted for a longitudinal research project, covering two-and-a-half years. This approach made it possible to assess a connection that exists between student factors and school-internal factors that may influence their decision to drop out prematurely.

Participants were randomly selected: 15 male and 15 female primary student teachers. Apart from gender the experimental group was composed as homogeneously as possible as to previous education, ethnicity and age.

In keeping with the approach chosen, research methods were used in which respondents could express their ideas, beliefs and concepts in their own words, so that in processing them we could closely adhere to the research data.

Data collection and analysis

Student factors

Professional motives and expectations concerning the curriculum were investigated by interviewing the participants at the beginning of their training and after

two-and-a-half years. The second interview for the dropouts took place at the moment they decided to stop. We questioned students on an individual basis, using a specially constructed 'standardised open-ended interview guide' (Cohen, Marion, & Morrison, 2000).

The contents of this guide are based on literature concerning gender differences in teacher education (Mulholland, 2001; Russo & Feder, 2001 among others). Motivation is an important theme because male and female student teachers seem to differ in motivation to enter the profession (Russo & Feder, 2001; Thornton, 1999). The literature also offers references to gender-specific expectations as to the curriculum that are related to an interpretation of previous experiences, convictions (of personal potential) and a wish to learn on the basis of those previous experiences and the interpretation of the profession they are training for (Hagemann & Rose, 1998). Besides this literature on gender differences, we made use of Kelchterman (1994) who investigated primary teachers on factors, which influence their choices and behaviour. He introduced the term 'the professional self' that contains: self-image, self-esteem, the job motivation, the task perception and the future perspective. Previous (educational) experiences of teachers influence their concepts of the (ideal) teacher they wish to become themselves. These experiences also seem to influence the motives of future teachers to choose for the profession and the expectations they harbour as to their training.

Motivation as a main topic of the interview guide is split up in: motivation for the profession, motivation for the training programme, future perspectives, leisure activities and ambition. One of the questions asked is: what made you choose primary teacher education? Under the main topic expectations concerning the training programme the topics are: educational experiences, primary and secondary school experiences, expectations as to the curriculum, teacher task conception and self-image. An example of a question is: Which primary school teacher do you remember most? The interviews that lasted about an hour to an hour-and-a-half were audio-recorded and transcribed in their entirety for analysis.

The transcribed interviews were subdivided into segments consisting of not too extensive logical content, based on the interview topics. We used the Kwalitan computer program (Peters, 2000) for the analysis according to the Grounded Theory-approach of Glaser and Strauss (1967), Wester (1995). The analysis starts with five random interviews in which as many relevant codes are determined as possible by constantly comparing students' statements and assigned codes. The next step consists of analysing the remaining interviews along the codes that have been set and defined. At last an analytical framework (a tree diagram of codes) emerges that covers the material. The 30 interviews of the first investigation on differences in student factors produced for instance 2627 segments and 238 different codes. Subsequently, the material together with the assigned codes was split up as to gender. Then the codes used remarkably more by women than men and vice versa, were separated.

Curriculum perception

We used two different methods, each of them at a different time, to measure whether curriculum perception is gender-specific: content analysis on portfolios and interviews. Using Tyler's rationale (1949) we investigated both times how content, didactic approach, organisation and the evaluation of the curriculum were experienced and assessed by the students.

To start with, curriculum perception was researched after a year-and-a-half of education, by executing a content analysis of parts of the respondents' portfolios. We used a portfolio that all students have to submit at the end of each semester. The content is prescribed by the supervisors and includes assignments, evaluations and reflections. We selected the documents in which statements were to be expected concerning the way they perceived the curriculum. The most revealing parts of the portfolios are 'written reflections'; reports students write every week while looking back on their teaching practice and theory offered during 'theoretical preparation'.

Perception of the curriculum was investigated for a second time after two-and-a-half years by interviewing the respondents individually (in combination with the second interview concerning student factors). The interview guide includes questions on the assessment and valuation of the: content, didactic approach, organisation and the evaluation of the curriculum offered. Examples of questions are: What was your most beloved subject? What does an ideal teacher educator look like? The data gathering is comparable with the gathering of data concerning student factors as described above.

Content analysis of portfolio

Of each 11 male students and 13 female students of the research group five reflections were collected and analysed. We analysed each document separately and established the average score, using an approach provided by Miles and Huberman (1994). Their approach in analysing unordered material concerns the development of matrixes and using these to select and order essential elements from the data. This process of constructing matrixes and ordering content is repeated until a matrix of measurable variables develops that allows for the drawing of conclusions. The variables were given values from 1 (most negative statements) to 5 (most positive statements). We started the analysis (a first matrix) with the four curriculum components as described by Tyler (1949): content, educational experiences provided, organisation and evaluation. Due to the first step in analysing three of the four were split up in two sub-categories. Eventually we found measurable differences on these seven distinct sub-categories:

- (1) Curriculum content (content): statements about the annexes in the course book and the lectures.
- (2) Educational experiences provided (theoretical assignments): statements about the assignments in the course book and the way they had to do them.
- (3) Educational experiences provided (cooperation): statements about the cooperation in the study group containing statements on the exchange of experiences.
- (4) Organisation (teaching practice [TP] assignments): statements about the results and procedures of TP and the TP assignments.
- (5) Organisation (aligning theory with TP): a statement about the way theory is aligned with TP.
- (6) Evaluation (length of reflections): this is concerned with the length of the documents analysed.
- (7) Evaluation (usability reflections): statements about the usability of the prescribed reflection models or reflection in general.

Validity and reliability

The internal validity of data collection and analysis was strengthened by using triangulation (Cohen, Manion, & Morrison, 2000). Research concepts were critically screened at different points in time and with the help of a variety of instruments. In interviewing the students, triangulation was practised on certain components by repeating themes and questions about the same topics. Interview guide and analyses were tested in a pilot (Geerdink, Bergen, & Dekkers, 2004). The reliability of the open coding is in all cases checked by repeating the coding process after an interval of three months: the intra-reliability check (Wester, 1995). The Cohens Kappa per interview varied from 0.75 to 0.79, with an average of 0.77. In addition, the rate of reliability of the assignation of codes was established by means of an inter-reliability check. Two ‘critical friends’ checked the coding of ten random interviews. The rate of agreement was 0.86 (Cohens Kappa) with a variation of 0.81–0.90.

The reliability of the content analysis was checked by repeating the various steps of the content analysis and having a colleague researcher analysing parts of the data. The Cohens Kappa was above 0.86 in all cases.

Findings

Student factors

Male and female student teachers seem to differ in motivation and expectations concerning the curriculum at the start of their training as well as after two-and-a-half years. Motivation for the profession is for the empirical part of the research divided in: motivation for the profession, motivation for the training programme, future perspectives, leisure activities and ambition. Expectations as to the curriculum are divided into educational experiences, primary and secondary school experiences, expectations as to the curriculum, teacher task conception and self-image. The differences emerged because a number of codes were attributed more often to segments taken from the interviews with male students, whereas other codes – often their counterparts – more often emerged from interviews with female respondents.

The gender-specific codes attributed during the first investigation were categorised for content and placed in five dimensions formulated and defined by the researchers, in which a ‘male’ and ‘female’ pole is to be distinguished. It appeared that we could class the codes that emerge from the second investigation under the same dimensions. The gender-specific differences per dimension and the corresponding codes offer insight into the underlying factors that lead to differences in motivation and expectations of male and female students (see Table 1 for dimensions and gender-specific poles).

Table 1. Dimensions and gender-specific poles.

Dimensions	Male pole	Female pole
Educational focus	Content-oriented	Student-oriented
Motivational source	Extrinsic	Intrinsic
World view	Objects/things	Human beings
Other orientation	Self-oriented	Other-oriented
Approach to curriculum	Closed	Open

Of the total 'female' and 'male' research material we noted down how often a code was mentioned (frequency) and how large the percentage male or female respondents was to which the code was attributed. In more than 50% of the codes the male–female differences were striking. For many codes the differences in frequency of occurrence as well as the percentage of students for whom the code is valid, appear to be significant (see Tables 2 and 3 for the significant, gender-specific attributed codes in the first investigation of student factors). Two investigations into student factors show the same, more fundamental, gender differences that appear to underlie differences in student factors. The findings described here are limited to a general overview and the list of codes used in the first investigation. We describe per dimension the most striking and most frequent gender-specific differences. Interview quotations referring to one of the examined student factors offer an insight into the way students express their beliefs and conceptions.

Educational focus

The dimension 'educational focus' contains the quintessence of thinking and talking about education as an activity targeting children. Male students are more content-oriented (preference upper primary education; subject teacher/administration) in their motivation for the profession and female students more student-oriented (being with children; working with children). Male students expect the training course to help them decide what and how to teach (acting as a teacher is important). Female students opt for the profession because they want to 'work with children' especially those who need extra care (upbringing perspective; remedial care). These results are corroborated by what we find in current research (Fischman, 2000):

Motivation for the profession

Interviewer: What appealed to you in the profession when you decided this?

Respondent: I think I like teaching and also doing presentations and that sort of things. I take after my father in this, he is a gifted speaker in front of a class and he is also a minister in church (male).

Motivational source

Men and women draw their motivation from different sources. Women are more intrinsically motivated for the profession as well as for learning in general. They opt for the teaching profession in the first place because they like working with children (long standing idea; playing at being a teacher). Men choosing a teaching career do so because they do not immediately see an alternative career (recent idea; job choice dissuaded; alternative job choice). Males are more extrinsically motivated also for learning. Learning is not fun and this goes for children as well (discipline; children have to learn). Females, who themselves are more intrinsically motivated; take the children's learning for granted as long as the circumstances are favourable (offering security, create classroom fun).

After two-and-a-half years of training, male students are less motivated for the profession than they were previously. For female students the profession has proved to be more complex and thus more interesting than expected. Their motivation has

Table 2. Gender-specific differences in motivation and expectations to the curriculum. Five dimensions with *male* poles distinguished as to gender-determined number of codes and percentage of respondents.

<i>Dimension: male pole</i>	<i>Codes</i>	Males <i>N</i> = 15		Females <i>N</i> = 15	
		<i>f</i>	%	<i>f</i>	%
Educational focus: content-oriented	Acting as a teacher is important	* 12	** 46.7	1	6.7
	Preference upper primary education	6	* 26.7	2	6.7
	Subject teacher/administration	16	** 66.7	4	26.7
	(Content of education) subjects	7	** 40.0	2	13.3
	Primary education content	* 4	* 20.0	0	0
	Primary education activities first	* 21	** 80.0	5	26.7
	Primary education-extracurricular activities	14	* 66.7	6	33.3
	Gripping storyteller	4	* 26.7	1	6.7
	Secondary education-methodology directed	25	** 93.3	9	40.0
	Teaching aptitude to appear	6	** 40.0	2	13.3
	(Co-op claim) efficiency	12	* 66.7	8	33.3
Motivational focus: extrinsic	Past activities	** 53	100.0	21	73.3
	Recent idea	21	** 100.0	7	33.3
	Job choice dissuaded	16	** 73.3	5	26.7
	Alternative job choice	14	* 66.7	6	
	Unusual teacher	10	** 53.3	2	13.3
	Discipline	10	** 53.3	5	20.0
	Being straight is important	14	** 53.3	4	20.0
	Children have to learn	** 23	** 80.0	6	40.0
Worldview: things	World studies-positive	15	** 73.3	6	33.3
	Environment familiar	* 6	** 40.0	0	0
	Different career	19	** 80.0	7	33.3
	Activities with (friends)	4	* 26.7	1	6.7

(Continued)

(Continued).

	Males <i>N</i> = 15		Females <i>N</i> = 15	
	<i>f</i>	%	<i>f</i>	%
Other orientation: self-oriented	Self-oriented	**100.0	8	33.3
	Behaviour self-oriented	*66.7	5	33.3
	Friendship will look after themselves	**53.30	0	0
	(Behaviour) claiming attention	**53.3	2	13.3
	(Atmosphere) acting friendly	**60.0	1	6.7
	(Co-op claim) same idea	**60.0	2	13.3
Curriculum approach: closed	Minimalist	**60.0	5	13.3
	No school ties	**73.3	8	33.3
	Self-development	**60.0	1	6.7
	Educational programme-dependent	**33.3	1	6.7
	Student development-oriented	*26.7	1	6.7
	Will be looked afteradaptive	**40.0	2	13.3
		**46.7	2	13.3

Note: **P* < 0.05, ***P* < 0.01.

Table 3. Gender-specific differences in motivation and expectations to the curriculum. Five dimensions with *female* poles distinguished as to gender-determined number of codes and percentage of respondents.

	Males <i>N</i> = 15		Females <i>N</i> = 15	
	<i>f</i>	%	<i>f</i>	%
<i>Dimension: female pole</i>				
Educational focus: student-oriented				
Codes				
Being with children	8	33.3	**37	**100.0
Being	0	0	*4	*26.7
Remedial care	2	6.7	*15	**60.0
Primary education-excurricular-atmosphere	6	40.0	18	**86.5
Secondary education-excurricular-atmosphere	8	46.7	20	*86.5
Varied teaching	1	6.7	5	*26.7
(Upbringing) protective	2	13.3	11	**60.0
Expressive subjects	2	13.3	8	**46.7
Pedagogical knowledge to appear	1	6.7	7	**46.7
(Co-op claim) dividing equally	1	6.7	7	**40.0
Motivational focus: intrinsic				
Playing with children	11	53.3	**36	86.5
Playing at being a teacher	0	0	**10	**46.7
Activities with children	8	40.0	18	**80.0
Long standing idea	1	6.7	**17	**60.0
Similar educational programme	4	26.7	*18	**66.7
Child-centred	2	13.3	**9	**60.0
Necessary personal attention	0	0	*5	*26.7
Security	3	13.3	*16	**53.3
Offering security	9	33.3	*298	**73.3
Create classroom fun	1	6.7	**2	**80.0

(Continued)

(Continued).

	Males <i>N</i> = 15		Females <i>N</i> = 15	
	<i>f</i>	%	<i>f</i>	%
Worldview: persons				
Teamwork person oriented	1	6.7	10	**53.3
World studies-negative	3	13.3	9	**46.7
Secondary education world studies-negative	0	0	*6	33.3
Family-oriented	2	13.3	*16	**73.3
Familiarity person-oriented	0	0	*7	**46.7
Other orientation: other-oriented				
Activities including others	3	20.0	10	**53.3
Person-oriented	3	20.0	**19	**66.7
Emotional	2	13.3	12	**53.3
Behaviour other-oriented	5	33.3	10	**66.7
Making friends at school	0	0	**11	**60.0
Amenable	2	6.7	*16	**66.7
Close-knit class	3	13.3	*17	**66.7
Curriculum approach: open				
Nice and creative	3	13.3	9	**46.7
Educational programme-oriented	17	46.7	27	*80.0
Maximalist	4	26.7	**24	**73.3
Student-dependent	5	33.3	*18	**86.5
Coaching students	0	0	*5	*26.7
Modelling and coaching	2	13.3	**21	**66.7

Note: **P* < 0.05 ***P* < 0.01.

increased. These gender differences are corroborated by results from other research on student teachers (amongst others: Malmberg, 2006; Thornton, 2001):

Leisure activities

Respondent: I always played at mistress and pupils and lots of people tell me now, of course, when playing school games you had to be the mistress. I played with one girl-friend and then toy bears and dolls were the pupils and a bear had to stand in a corner of the room for punishment, all that sort of silly games, but really fully committed to the teacher role (female).

Worldview

Male students have an orientation on life and the world around them that is more material (world studies positive; activities with friends) than that of women, who are more people-oriented (world studies negative; teamwork person-oriented). Male students like to work with people who share their ideas and in surroundings that are familiar to them (environment familiar). Female students prefer to work as members of a team of colleagues in which they feel at home (family-oriented; familiarity person-oriented). This 'thing orientation vs person orientation' distinction has been known from research into career choice (Morgan, Isaac, & Sansone, 2001):

Future perspectives

Interviewer: Why is a team important to you?

Respondent: Well people with whom you co-operate well, people who are on the same wavelength, of course not exactly the same but who have the same ideas about teaching, then you learn best I think because as teachers you all have classes and then it's good if you all teach in the same way, or more or less the same (male).

Other orientation

Gender differences become manifest in the way in which students are approachable by others. Female students are, and feel, more dependent on support and approval by others (close-knit class) and are more occupied with relations with people around them (activities including others; behaviour other-oriented). Male students are more preoccupied with their own development and choices, and relate to people depending on how the latter fit in with such preoccupation (self-oriented; friendship will look after themselves):

Self-image

Interviewer: On what basis do you take important decisions in your life?

Respondent: On discussions mostly with my family and my boy friend, this is something I do not often do on my own (female).

Curriculum approach

The differences in the way males and females approach the curriculum are in keeping with the previous dimension. The way in which the male students approach the curriculum is more closed (no school ties; minimalist). They know why this

profession is right for them and what they have to learn to become good teachers (self-development). They expect the training to meet these needs (student development-oriented). Female students expect the training course to contain what is necessary to make them good teachers (maximalist; modelling and coaching; educational programme-oriented).

We conclude that male and female students at the start, as well as after two-and-a-half years of training, differ in a number of crucial aspects that influence conceptions, ideas and interest concerning the motivation for the profession and their expectations as to the teacher education course. Male students are more confident as to their own abilities and are more convinced of their aptitude for the profession. They, therefore, feel less dependent on what the course has to offer them. On the basis of the similarities in the results between the first and the second assessment of relevant student factors, we concluded that the influence of the training on the professional conceptions and ideas of male students is not great.

Perception of the curriculum

Content analysis on portfolios

Documents of students' portfolios were analysed per respondent on positive or negative statements on seven sub-categories and found differences on five out of seven. (See Figure 2 for the average scores of male and female students.) The differences are illustrated by quotes from the documents.

Content of the curriculum (content)

Male students prove less positive about content than female students: 2.8 vs 3.9. Male students, like the one below, more often comment negatively:

I have more than once given my opinion of the theoretical preparation and I have not changed my mind. As with a lot of subjects taught, too much time is spent. Subject matter, which to my mind is not relevant, is dealt with for much too long. I think content can be dealt with in a much more powerful and condensed way (male).

Figure 2. Average scores per curriculum aspects category as to gender.

Males and females are equally satisfied with their cooperation with other students (cooperation: 3.3 vs 3.3). Males are less satisfied with the theoretical assignments set them during their training (theoretical assignments: 3.1 vs 4.0). One of the female students voices her satisfaction with the theoretical assignments as quoted below:

I thought this a good and important week. I learned a lot and liked doing the assignments. After all, they are important for your later career. I felt myself becoming 'enriched' (female).

Male students are considerably less satisfied than are female students with the way theory and teaching practice are matched in their training programme (aligning theory with TP: 2.9 vs 3.9) and also less satisfied with the assignments for TP (teaching practice assignments: 3.1 vs 4.5). Female students view theory more often as a necessary and desirable preparation for the activities they will have to perform during TP. Male students feel they will 'play it by ear' in their TP:

I was focussed on TP as the most important part. I honestly feel that theory is of less importance than TP. That is going to take up too much time, I fear (male).

Male students are a little less enthusiastic on average about reflecting than the female students (usability reflections: 3.2 vs 3.8). Male and female students score the same on average as to length of the written documents analysed (length of reflections: 3.1 vs 3.1). Male students vary more than the females; there are two males who need less than two pages for everything and there was a male student who scored with 17 pages the maximum length.

Findings by interviewing

Clear gender differences in curriculum perception emerged: 58 of the total 116 codes were attributed more often to segments taken from the interviews with male students or over against the segments taken from the interviews with female respondents. The codes were categorised according to the four topics: content, educational experiences provided, organisation and evaluation. This second way of measuring curriculum perception at a different moment leads to the same results but the additional value of the interview is that we are better able to establish on what points male – and also female – students are less satisfied. The description here will be restricted to the additional gender differences in curriculum perception.

Curriculum content is less satisfying for males than for females. Male students find subjects like pedagogy and educational science less interesting and prefer subjects like history or geography. Women, on the other hand, prefer the first and do not think much of the latter:

Respondent: I dislike subjects like pedagogy and educational theory. I am not interested in all that stuff. I didn't know these things in advance because I had no idea what to expect when I started two years ago. And it is really disappointing considering the time it takes and what it's all about. It is theoretical nonsense (male).

There is also a difference concerning the educational experiences provided and the assignments. Male students dislike being set a large number of papers and assign-

ments, whereas women like writing them. Men often feel forced to do things in a way that does not suit them.

Both males and females seem, where the organisation of the curriculum is concerned, satisfied by the amount and organisation of the teaching practice but there are differences in accepting institute involvement. Male students reject interference by the institute supervisors if they bother them with all sorts of tasks. Male and female students differ in their expectations concerning the supervision of practical training. Males want an assessor to tell them whether they are doing well or not whereas female students prefer someone they can trust. A good relation is most important:

Interviewer: What about the supervision of practical training?

Respondent: Well it is ok if it feels good. There should be enough space and confidence to do what you like to do. The most important thing is that we get along (female).

Both genders are dissatisfied with the low level of the tests. In contrast with the female students the males never find the training programme really demanding, so much so that they claim it causes them to lag behind in working their way through the curriculum. Female students work with devotion in spite of this, as they gradually realise the complexity of the profession and that there is a lot to learn if they are to become successful teachers:

Interviewer: How did you experience the assessments?

Respondent: It was quite difficult for me and it meant hard work in the beginning. Writing essays and doing assignments is a lot of work but less stressful and it is always satisfying. I learn a lot by doing assignments (female).

These findings correspond to the results of (amongst others) Mulholland and Hansen (2003): the training does not always provide what male students find important.

Dropout rate

Out of the experimental group only one female and as many as six males dropped out in the first two-and-a-half years of the training. In comparison with the institute cohort fewer women (6.7% vs 19.7%) dropped out of the experimental group and only marginally fewer men (40.0% vs 44.8%).

Student factors and curriculum perception in relation to each other

To answer the research question we confronted gender differences in motivation and expectations with the way in which parts of the curriculum were experienced and judged. We identified three categories in which we expected correspondence on the basis of the results emerging from the two sub-questions concerning successively student factors and curriculum perception:

- (1) The training course suits the more learning-process oriented and pupil-centred female students better than the male students, who are more content-

oriented and subject matter-centred, which explains why women are more satisfied than men with the curriculum offered.

- (2) The training course suits the more intrinsically motivated female students better than the more extrinsically motivated male students, which explains why the women meet the assignments set faster and more easily than the males.
- (3) Female students approach the training and what it has to offer them more open-mindedly, which results in their being more easily satisfied with the curriculum than the male students. Male students approach the curriculum more closed. They are more easily dissatisfied because they don't get what they expect.

We found that there is a causal link plausible between these student factors/curriculum perception on the one hand and the gender difference in dropout rate on the other. As the training is less geared to a more product-oriented professional attitude and a greater need of external motivational stimuli as well as closely defined expectations regarding the training course, male students decide more often to drop out. The reverse holds for female students. They get more what they expect and what they are motivated for, and are therefore more willing and able to stay.

In order to consolidate this interpretation of the relationship between student factors/curriculum perception on the one hand and dropout rate on the other, we also tried a different approach to the research results. We drew up four sub-groups consisting of students who, in comparison with students of the same gender, were very feminine (i.e. pupil-centred, intrinsically motivated), very masculine (product-oriented and extrinsically motivated), moderately feminine or moderately masculine. We tested per sub-group whether the results we scored in investigating student factors and curriculum perception tallied in the degree of femininity or masculinity. We concluded that female respondents with a predominantly feminine professional attitude were, on an average, more satisfied with the curriculum offered. The two less feminine female students proved less satisfied with the curriculum and one of them dropped out.

We found less coherence among the male students between student factors and curriculum perception. Male students who are more conspicuously learning process-oriented and intrinsically motivated than other students of the same gender, are on an average more dissatisfied with the training. This discrepancy can be explained by taking into account the more closed attitude of male students towards the curriculum offered in general. Their judgement regarding the training is less related to their professional motivation and attitude. They tend to judge their training more generally. There is, however, among male students a correspondence between student/training factors and dropout ratio. The sub-group consisting of very masculine men, on an average dropped out more frequently (two out of four) in contrast to the sub-group consisting of moderately masculine men (none).

Conclusions and discussion

We found gender differences in student factors as well as in the way male and female students perceive the curriculum. Concerning the student factors, males and females differ in professional motivation and expectations concerning the curriculum at the start of their training and after two-and-a-half years. We found underlying gender differences in five dimensions:

- educational focus: male students are more content-oriented whereas female students are more pupils oriented;
- motivational source: males are more extrinsically motivated for the profession as well as for learning in general vs the females who are more intrinsically motivated;
- world view: male students have an orientation on life and the world around them that is more material than that of women, who are more people-oriented;
- other orientation: female students feel more dependant on support and approval by others than male students do; and
- curriculum approach: the way in which the male students approach the curriculum is more closed vs the more open approach of female students.

We concluded that there is a correspondence between these student factors and the differences in curriculum perception. Male students, being more interested in content and things, find curriculum subjects like pedagogy and educational science less interesting and prefer subjects like history and geography. A shortage of intrinsic motivation makes it more difficult for male students to fulfil the large number of papers whereas women like writing them. Whereas male students are less open to guidance from the institute and prefer 'doing it their own way' they are much more and faster dissatisfied which causes to decide more frequently to drop out

This complex interaction is connected with the many different aspects involved, but also with the combination of factors that enhances contrasts between male and female students. Male students who initially opt for primary teacher education often have had to overcome resistance in their circle of family and friends, but have persisted in spite of it. Subsequently, they find themselves in a training course that employs professional concepts foreign to them and an atmosphere that is often too feminine to their liking. As the training does not really link up with their ideas of what is important, they have to cross further barriers in order to stay motivated whereas what they really need are more extrinsic motivational stimuli for study in general, and especially for this professional training that is often not their first choice. In addition, it is harder for them to adjust to a professional training because, more than the female students, they are convinced that their view of the profession and their approach are justified.

The theoretical contribution made by this research project is situated in an area where research into gender differences in education and teacher education meet. We gain more knowledge about the influence of gender difference on the professional development of (student) teachers and a better insight into the various educational needs of male and female students in primary teacher education. Next to it we have a more specific and better insight in the consequences of the feminisation of education. Due to the results of our investigation it is possible that boys perform better in schools if cared for by female teachers because of the more pupil/learning process oriented female attitude and their typically female 'other orientation'. Due to the gender differences in worldview, feminisation might have consequences for the content of the primary education curriculum. Gender differences in orientation – things vs human beings – might lead to less enthusiasm for subjects like math, physics, geography and astrology in schools with a feminised teaching staff.

Strength and limitations of the study

Because our field of research had hardly been explored, we opted for an approach in which respondents could formulate as much as possible in their own words. The research method used – qualitative, longitudinal and theory building – was necessary in order to gain an insight into the complex relationship between student factors, as well as school-internal factors and student performance. Certainly where gender differences are concerned this distinction is often overlooked as it is so self-evident.

Given the scale of the research we must be very cautious regarding the general validity of the findings. Nevertheless, we assume that the results are somewhat beyond this small group because it links up with results in current relevant research (see among others Montecinos & Nielsen, 1997; Russo & Feder, 2001; Thornton, 1999). We did not come across conflicting findings. The familiarity of the findings also goes for the primary teacher education institutes in the Netherlands. Finally the results have more validity due to the many measures taken to strengthen the validity and reliability.

Further research

Our findings suggest a number of directions for further research. In the first place we recommend that – owing to the existing gender-specific allocation of roles and functions in schools and training institutions – gender and gender-specific differences be given a more prominent place on the research and policy agenda, so that these may be taken into account while planning and organising the curriculum. In addition, we plead for national as well as international comparative research in order to gain a better insight into factors influencing the gender-specific output of primary teacher training and ways to qualify male teachers. A last and important recommendation concerns research on what makes a good teacher. If training institutes are willing to invest in training more and especially more diverse teachers, it is important to investigate which qualities and characteristics make a good teacher. A related question is what more gender diversity in education means for the development of children, in which not only results in mathematics and languages need researching but also aspects like the child's social and emotional development and his orientation on the world.

The teacher education institutes should pay more attention to the desires and needs of the relatively small group of male students. Their special, masculine attitude towards the curriculum must be taken into account and play a role in adapting the curriculum, including the methodology, the organisation and the evaluation of the training. Adapting the curriculum for the sake of male students means not only recognising gender diversity but also knowing the way female and male students differ and knowing what is needed to qualify males as good teachers (Skelton, 2007).

Notes

1. The only way to a qualification as a primary (4–12 age range) teacher.
2. The article is part of a doctoral dissertation (Geerdink, 2007).

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