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Contribution of a professional development programme to the quality and retention of teachers in an urban environment

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This study examined the effects of a professional development programme aimed at equipping teachers for the challenges of teaching in urban schools. The contribution of the programme to teacher quality and teacher retention was evaluated using a mixed research design in which both quantitative ($N = 133$) and qualitative ($N = 42$) approaches were used. The results showed a significant effect of the programme on teacher knowledge and self-efficacy. Furthermore, teachers greatly appreciated the programme and they perceived a positive impact on their competences, self-efficacy and professional orientation. The opportunity to share experiences within a network of teachers was considered the most valuable element of the programme.

Keywords: teacher education; professional development; beginning teachers; teacher retention; urban teaching

Introduction

Shortage of competent, qualified teachers is a significant problem in many, although not all, countries (Ingersoll 2003; Moon 2007). Teacher shortages have major implications for the quality of education and thus the potential development of children. Therefore, many studies have focused on the causes of teacher shortages and ways to reduce them.

Teacher shortages primarily result from a lack of young people entering the education profession and the propensity of new teachers to leave the profession after a few years of teaching (Ingersoll 2003; Moon 2007; Stokking et al. 2003). Teacher retention is a considerable problem in urban areas, particularly in disadvantaged schools (Ingersoll 2003). For a variety of reasons, including violence and cultural differences, teaching in urban schools is difficult and challenging (Groulx 2001; Haberman 1995; Smith and Smith 2006). This can lead to an outflow of teachers from these schools and from education in general.

This study evaluated the contribution of a professional development programme ('Mastery') aimed at preparing beginning teachers for the challenges of teaching in urban primary schools in the Netherlands to the quality and retention of beginning teachers in these schools. Teacher quality was assessed in terms of the teachers' (a) competences; (b) professional orientation; and (c) self-efficacy. Teacher retention

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was evaluated on the basis of the teachers' (a) job motivation and (b) career choices. In addition, information was gathered regarding how the participants perceived the programme with respect to the active elements in the design of the programme.

Teaching in urban environments

Research has shown that teaching in urban environments differs from teaching in other environments (Knoblauch and Woolfolk Hoy 2008). Teachers in urban environments have to teach in a complex environment where they encounter several challenges, like dealing with cultural differences and violence (Groulx 2001; Haberman 1995; Smith and Smith 2006). Despite several initiatives intended to professionalise and motivate teachers to teach in urban schools, there are still teacher shortages in urban areas and beginning teachers are more likely to leave urban schools compared with non-urban schools (Freedman and Appleman 2009; Ingersoll 2003).

In contrast to most studies on urban teaching, in this study, urban teaching is not only conceptualised as teaching in 'disadvantaged' schools where students come from culturally diverse and low socio-economic backgrounds. In our study, urban teaching also refers to teaching in 'more advantaged' schools where most students are of Dutch heritage and have highly educated parents, and to teaching in 'mixed' schools where the student population is a mix of both Dutch pupils and students from culturally diverse backgrounds. This broad definition is used in this study because these different types of schools are characteristic of the situation in many Dutch large cities (Hooge 2008).

Teacher quality in urban environments

Teaching in an urban environment places heavy and diverse demands on the quality of teachers. This study focused on teacher quality as assessed in terms of the teachers' competences, professional orientation and self-efficacy.

Teacher competences

Teaching in urban contexts demands specific competences. Research shows that teaching in large cities in the US demands that teachers be skilled in handling cultural diversity and language deficiencies (Groulx 2001; Olmedo 1997). A heavier appeal than in other schools is made on teachers' ability to collaborate and build effective relationships with people within and outside the school (Voltz et al. 2008). Furthermore, urban teachers must deal with violence and unsafe environments more often than other teachers (Smith and Smith 2006). We found that the problems that urban Dutch teachers encounter partially depend on the types of schools in which they work. For instance, working in 'disadvantaged' schools demands that teachers be able to deal with cultural diversity, whereas teaching at 'more advantaged' schools demands that teachers can collaborate with highly educated parents (Gaikhorst et al. 2013).

Teacher professional orientation

In today's society, teachers are expected not only to perform well within their own classroom but also to demonstrate professionalism that extends beyond the classroom. Thus, an extended professional orientation is an important criterion for teacher quality

(Mahieu, Forest Diet, and Peene 1999). Hoyle (1980) distinguishes 'restricted professionality', in which teachers focus primarily on their own classroom, from 'extended professionality' in which teachers are involved in the school organisation and have an interest that extends beyond the classroom. There are indications that job satisfaction of teachers is positively promoted by shared responsibility and mutual support of the team of teachers, which is typical for extended professionalism (Mahieu, Forest Diet, and Peene 1999). We presume that an extended orientation is particularly important for working in an urban setting, as urban teachers must operate in a complex educational environment, where it is even more important that teachers support each other and that there is shared responsibility among teachers.

Teacher self-efficacy

This study follows the literature on 'teacher efficacy', which is defined as 'the teacher's belief in her or his ability to organise and execute the course of actions required to successfully accomplish a specific task in a particular context' (Tschannen-Moran, Woolfolk Hoy, and Hoy 1998, 233). Self-efficacy affects not only teacher effort, but also the extent to which the teacher can flexibly cope with mistakes and stress from dealing with demanding situations (Tschannen-Moran, Woolfolk Hoy, and Hoy 1998). Research also indicates that teachers with low self-efficacy are more likely to experience burnout than are teachers with high self-efficacy (Evers, Brouwers, and Tomic 2002). Siwatu (2011) found that starting teachers have lower self-efficacy regarding teaching in urban areas than regarding teaching in suburban areas. According to Siwatu (2011), it is conceivable that teachers in urban areas who doubt their capabilities to manage daily challenges may be the ones who will leave the teaching profession after a few years of teaching.

Teacher professional development

Several studies have shown that professional development programmes can improve teacher quality and teacher retention (Borko 2004; Gilles, Davis, and MacGlamery 2009). Teachers who participated in professional development programmes remained in the profession longer than teachers who did not participate in such programmes (Gilles, Davis, and MacGlamery 2009). Although there is agreement regarding the importance of professional development programmes, it is not clear what form of professionalisation is most effective for teachers. There is a growing consensus that programmes situated in the workplace are more effective than those situated outside the workplace, though there exists no unequivocal evidence to support this conclusion (Van Veen et al. 2010). The content appears to be more relevant than the form, and programmes that primarily focus on classroom practice seem to have a greater effect on the development of teachers than programmes with a more general focus (Van Veen et al. 2010). Studies on new forms of professional development for teachers found that networks of teachers that allow teachers to exchange and discuss their experiences are promising ways for teachers' professional development and job motivation (Angelides, Stylianou, and Leigh 2007; Hofman and Dijkstra 2010). However, previous research has not taken into account the effects of professional development programmes in different contexts (Van Veen et al. 2010). A specific context in which teacher professionalisation must be further investigated is that of the urban educational context (Freedman and Appleman 2009).

Present study: purpose and research questions

This study examined the contribution of a professional development programme ('Mastery') to the quality and retention of beginning teachers in Amsterdam, the capital of the Netherlands (approximately 780,000 inhabitants). The programme aimed to prepare teachers for the challenges of teaching in urban primary schools and thus focused on specific competences required for teaching in an urban context, such as dealing with cultural diversity and language differences. The development of an extended professional orientation was also addressed. The research questions are:

(1) What is the contribution of participation in the 'Mastery' programme to the *quality* of teachers with respect to
    (a) teachers' competences for teaching, particularly for teaching in a complex urban environment?
    (b) teachers' professional orientation (extended vs. restricted professionality?)
    (c) teachers' self-efficacy?
(4) What is the contribution of participation in 'Mastery' to the *retention* of teachers with respect to
    (a) teachers' motivation to remain in the profession?
    (b) teachers' intended and actual career choices?

In Figure 1, the basic conceptual model of this study is presented.

To gain more detailed insight into the active elements involved in the professional development of the participants in the context of 'Mastery', the following question was formulated:

(1) What do the participants perceive to be the crucial learning experiences that 'Mastery' provides?

The research questions were addressed in a quasi-experimental study ($N = 133$) and a qualitative study that involved interviews ($N = 42$).
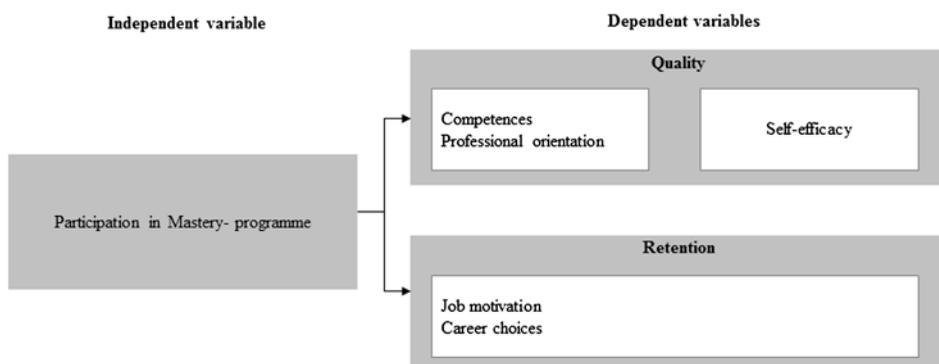

Figure 1.   Basic conceptual model guiding the study.

Method

Research design

The core of this study was formed by a quasi-experimental design. The contribution of participation in the professional development programme to the different dependent variables (competences, professional orientation, self-efficacy, job motivation and career choices) was measured using a knowledge test and questionnaires (pre- and post-measures). To gather complementary information regarding teachers' evaluation of the programme and to obtain a detailed understanding of the active elements of the programme, interviews were conducted and analysed qualitatively.

'Mastery'

The intervention consisted of participating in 'Mastery', a professional development programme for beginning primary school teachers from Amsterdam. The programme, which was developed collaboratively by the teacher education institutes in Amsterdam, had a twofold purpose: to contribute to the *quality* and the *retention* of beginning teachers in an urban educational context.

The programme focused on the core competences required for teaching in an urban context, including dealing with cultural diversity and language deficiencies, cooperating within the school environment and ensuring safety. The intention was that participants would increase their expertise in these four areas as a result of their participation in the programme. The programme comprised four modules: 'school and environment', 'safety', 'language' and 'cultural diversity'.

The content of the programme was focused on the acquisition of skills necessary to meet the challenges of teaching in a complex urban environment – such as communicating with parents of different cultural backgrounds – and on developing an extended professional orientation.

The programme lasted one year and consisted of the following three components: group meetings (these involved theoretical input from experts regarding the four urban themes, opportunities for sharing experiences and group assignments), classroom application (participants apply new insights to their teaching practice) and lectures (in which experts explored substantive themes). Additionally, supervision was organised, offering a context for beginning teachers to share experiences and expertise.

The participants were divided into groups of approximately 15 members and the groups met once every two weeks. All participants were required to invest an average of four hours every two weeks.

Participants

In all, 133 teachers participated in the quasi-experimental study. The experimental group consisted of 66 teachers who taught at a primary school in Amsterdam. For these teachers, the intervention consisted of their participation in 'Mastery'. The control group comprised 67 teachers who did not participate in 'Mastery'.

The participants were not randomly assigned to the experimental and control conditions because it would have become too difficult to motivate those teachers not selected for participation in 'Mastery' to participate in the study. Instead, a non-random set-up was used in which teachers who wanted to participate in 'Mastery' were

all permitted to follow the programme; they formed the experimental group. Teachers who were selected for the control group were not familiar with 'Mastery', so they were not disappointed that they were not selected for participation in this programme. To derive clear conclusions regarding the effects of the intervention, a matching procedure was developed whereby the participants of both conditions were matched on several potentially interfering variables. These variables are:

Work environment

The experimental group consisted of teachers who worked in Amsterdam. Therefore, the control group included only teachers from one of the four major cities in the Netherlands. Almost all the teachers in the control group were from Amsterdam.

Potential

The teachers in the experimental group were nominated for participation in 'Mastery' by their principals; only teachers 'with potential' (that is, motivated and ambitious teachers) were selected. To get in both conditions teachers 'with potential', for the control group beginning teachers were selected who also participated in a professional development programme, but another programme than 'Mastery'. We selected teachers for the control group from a database of the largest Dutch teachers' union, as we considered this to be an indication of their active involvement in the teaching profession.

Furthermore, information regarding other potential interfering variables, such as years of teaching experience and gender, was collected.

We compared the two conditions and the conditions appeared comparable in all characteristics (Table 1) except 'teaching experience' ($p < 0.01$). Teachers in the control group had more teaching experience than the teachers in the experimental group. Therefore, we controlled for teaching experience by adding this variable as a covariate to our model.

Table 1. Comparison of condition in terms of general characteristics of the teachers.

	'Mastery' condition			Control condition		
	M	SD	*N*	*M*	SD	*N*
Teaching experience[a]	3.34*	2.04	64	4.90*	2.16	67
Gender[b]	0.94	0.25	63	0.94	0.24	67
School population (SES)[c]	2.52	1.30	64	2.49	1.12	67
School population (ethnic background of parents)[d]	2.78	1.27	64	2.94	1.13	67
Highest achieved level of education[e]	2.25	1.07	64	2.60	1.01	67
Place of teacher training[f]	0.36	0.48	61	0.29	0.46	67

*$p < 0.05$.
[a]1 = 0.5 year, 1 = 1 year, 2 = 2 years, 3 = 3 years, 4 = 4 years, 6 = 5 years, 6 = 6 years, 7 = 7 years.
[b]0 = male, 1 = female.
[c]1 = 0–30% pupils with lower SES, 2 = 30–50% pupils with lower SES, 3 = 50–70% pupils with lower SES, 4 = 80–100% pupils with lower SES.
[d]1 = 0–30% non-Dutch pupils, 2 = 30–50% non-Dutch pupils, 3 = 50–70% non-Dutch pupils, 4 = 80–100% non-Dutch pupils.
[e]1 = lower secondary education, 2 = higher secondary education, 3 = pre-university education, 4 = other.
[f]0 = inside a large city, 1 = outside a large city.

For the qualitative study, 21 teachers and 21 principals were interviewed. Teachers from 'disadvantaged schools', 'mixed schools' and 'more advantaged' schools were included in the sample for the interviews. From each type of school, seven teachers and their principals were randomly selected.

Instruments

Several questionnaires were used to measure the dependent variables. In the experimental group, the questionnaires were administered before and after completion of the programme. The teachers of this control group filled out the questionnaires at the same time as the teachers of the experimental group; thus, the period between the two measurements was the same for both groups (one year).

In addition to the questionnaires, interviews were conducted to gain more insight into the perceived effects of the programme and the elements of the programme that were effective in the professional development of the teachers.

Competences for teaching in an urban environment

Competences for teaching in an urban environment were operationalised as knowledge of ways of coping with language deficiencies, threats to safety, cultural diversity and various actors in the school. To measure these competences (in terms of knowledge), a knowledge test was developed by the educators of the programme and the researchers. We realise that knowledge is a poor operationalisation of competence, but in the context of the programme this was the most efficient and feasible way to measure it. Because we are aware of the limitations of such operationalisation, we collected additional information regarding teachers' competences in the interviews. The knowledge test consisted of 54 multiple-choice questions that addressed the four urban themes. The variable 'knowledge score' was calculated by computing the number of correctly answered questions. Cronbach's alpha was 0.70 for the pre-test and 0.71 for the post-test, which are considered as adequate alphas (Kline 1999). The following is an example of a question:

'The three pillars of language-oriented vocational education are as follows:

1 = ask questions, generate answers and give instruction

2 = provide context-rich work, provide interactive work and provide language support

3 = give feedback, provide structure and use understandable language

4 = explicate concepts, explain thought processes and formulate course objectives'.

Professional orientation

The questionnaire that was used to assess professional orientation was developed by Jongmans, Biemans, and Beijaard (1998), based on Hoyle (1980)'s characterisation of teachers with a restricted or an extended professional orientation. The questionnaire consists of 13 items. The teachers were asked to indicate to what extent they agreed with each of the 13 statements using a five-point scale that ranged from 'totally disagree' to 'totally agree'. Negative responses were interpreted to indicate a

restricted orientation, while positive responses were interpreted to indicate an extended professional orientation. The variable 'professional orientation' was calculated by taking the mean of the 13 items. Cronbach's alpha was 0.76 for the pre-test and 0.80 for the post-test. The following is an example of an item: 'Cooperation with other teachers is necessary for the adequate completion of teaching tasks'.

Teacher self-efficacy

Teacher self-efficacy was measured using the 'Attitude towards the teaching profession' questionnaire (Meijer and Van Eck 2008). This questionnaire was translated and adapted from Kyriacou and Kunc (2007). The scale consists of nine items and teachers were asked to indicate the extent to which they agreed with each of the statements using a five-point scale, ranging from 'totally disagree' to 'totally agree'. Negative responses were interpreted to indicate low self-efficacy and positive responses were interpreted to indicate high self-efficacy. The variable 'self-efficacy' was calculated by taking the mean of the nine items. Cronbach's alphas were 0.86 and 0.88 for the pre-test and post-test, respectively. The following is an example of an item: 'I am satisfied with my performance as a teacher'.

Motivation to remain as a teacher

The job motivation of the teachers was measured using the 'Vision of teaching and job satisfaction' questionnaire (Meijer and Van Eck 2008). The teachers were asked to indicate the extent to which they agreed with each of the 10 statements using a five-point scale that ranged from totally disagree to totally agree. Negative responses were interpreted to indicate low motivation and positive responses were interpreted to indicate high motivation. The variable 'motivation' was calculated by taking the mean of the 10 items. Cronbach's alpha was 0.71 for the pre-test and 0.78 for the post-test. The following is an example of an item: 'I am satisfied with my job as a teacher'.

Career choices

The career choices of the teachers were measured using questions about actual and planned career choices. The questions addressed the intention of teachers to remain in education, steps taken to orient into other sectors and the actual actions taken to leave the education profession. The following is an example of an item: 'How long do you expect to continue working as a teacher?' (1 = less than one year, 2 = one to five years, 3 = six to ten years, 4 = more than 10 years, 5 = my whole career).

Teachers' experience of 'Mastery'

To gather complementary information regarding teachers' evaluation and perceived influence of 'Mastery' on the dependent variables and for a detailed understanding of the elements of the programme that played an important role in the professional development of the teachers, semi-structured telephone interviews were conducted with the participants of the programme and their principals.

The interviews consisted of two parts. In the first part, the interviewer asked openly about the teachers' experiences with the programme. In the second part, the interviewer specifically asked about the perceived influence of the programme on

the dependent variables. Thereby, the participants were asked what elements in the programme played an important role in their professional development.

Data analysis

Quantitative data

Multilevel modelling was used to determine the effects of 'Mastery' on the different dependent variables. Measurement occasions (level 1) were treated as nested in teachers (level 2). The independent variables in the analyses were condition and measurement occasion, while the dependent variables were competences, professional orientation, self-efficacy, job motivation and career choices. The independent variable 'teaching experience' was included in the analyses as a covariate. To facilitate interpretation, the scores of the continuous variable 'teaching experience' were mean centred (i.e. a value of zero refers to the overall mean for teaching experience). As the other independent variables were dummy variables (with scores of 0 and 1), there was no need to centre these variables. The assumptions for multilevel modelling were checked and no indications of violation were found.

Qualitative data

A content analysis was employed to analyse the qualitative data (Miles and Huberman 1994). Responses to the questions were coded by the first author. The coding process was an interpretative and iterative process whereby the responses of the interviewees were coded and grouped together. The codes referred to the perceived effects of 'Mastery' on the dependent variables (for example, an increase in extended professional orientation) and to the elements of the programme that played an important role in the professional development of the teachers (for example, the opportunity for sharing experiences in a teacher network). Because of the interpretative and iterative nature of the data analysis, it was difficult to determine interrater reliability (Akkerman et al. 2008). To enhance the trustworthiness of the analysis, the following procedures were followed:

(1) All fragments that were, in the perception of the coder, difficult to code were discussed with another experienced researcher. These fragments and codes were discussed until consensus was reached and the coding was adjusted to the outcome of this discussion.

(2) The outcome of the interpretation of the meaning was audited by a procedure whereby the codes of four (randomly chosen) scored interviews (10%) were checked and discussed in a peer review by two experienced researchers (Kvale 2007). One of these researchers was the coder; the other researcher was not involved with the study. The researcher who did not participate in the study examined the different fragments and codes to determine whether he concurred with the assigned codes. Coding for 'competences', 'professional orientation', 'self-efficacy' and 'career choices' demonstrated a 100% concurrence rate. However, coding 'motivation' was less uniform, with an 80% concurrence rate. Accordingly, the codes for motivation were discussed until agreement was reached and the coding was adjusted to the outcome of the discussion.

Results

Descriptive statistics of the main variables

In Table 2, the descriptive statistics of the dependent variables included in the study are presented.

Evaluation of 'Mastery's' contribution to the dependent variables

Influence of 'Mastery' on teachers' competences

In Table 3, the outcomes of the multilevel analysis are presented. As the interaction effect between condition and measurement occasion was significant, it can be concluded that teachers' knowledge increased relatively more in the 'Mastery' condition from the pre-measurement to the post-measurement than it did in the non-'Mastery' condition. The standardised coefficient for the interaction effect was 0.48, which is considered to be a large effect (Cohen 1992).

The results of the qualitative analysis confirmed the conclusion of the quantitative analysis; in the interviews, the teachers and their principals were explicitly asked to identify, from their perspective, 'Mastery's effect on the competences of the teachers. The majority of the respondents indicated that the teachers developed

Table 2. Descriptive statistics for the dependent variables.

	Pre-test				Post-test			
	M	SD	Min	Max	*M*	SD	Min	Max
'Mastery' condition								
Knowledge	27.31	5.39	14	39	34.56	5.19	21	44
Professional orientation	4.19	0.33	3.54	4.92	4.19	0.40	2.85	5
Self-efficacy	3.81	0.37	2.67	4.89	3.92	0.42	2.89	4.89
Job motivation	4.10	0.36	3.44	4.78	3.83	0.33	2.89	4.44
Career choices	3.41	0.96	2	5	3.13	0.94	2	5
Control condition								
Knowledge	28.85	6.65	15	42	29.30	5.76	18	43
Professional orientation	4.37	0.34	3.54	4.92	4.42	0.34	3.69	4.92
Self-efficacy	3.98	0.53	2.44	2.89	3.90	0.54	2.56	5
Job motivation	4.06	0.45	2.89	4.89	3.67	0.49	2.67	4.67
Career choices	3.06	1.01	1	5	2.84	1	1	5

Table 3. Parameter estimates for multilevel models of teachers' knowledge as predicted by measurement occasion, condition and teaching experience.

	Knowledge			
	Coeff.	SE	*P*	Std. Coeff.
Measurement occasion	0.39	0.76	0.61	0.03
Condition	−1.51	1.17	0.20	−0.86
Teaching experience	−0.02	0.23	0.93	−0.01
Measurement × condition	6.98	0.99	<0.001	0.48
N	116			

several competences for urban teaching, such as dealing with cultural diversity and language deficiencies.

One teacher stated the following:

> Especially with 'language', I feel empowered in my profession. I know now better how to provide language education to non-Dutch children. Before participating in the programme, I was rather more doubting (may I describe a word in their native language or not?), but now I know better what stimulates language development.

The teachers and principals of the more advantaged and disadvantaged schools were more positive about the influence of 'Mastery' on their competences than were the teachers from the mixed schools. The reasons for this difference, however, cannot easily be retrieved from the data.

Influence of 'Mastery' on professional orientation

The interaction effect between condition and measurement occasion was not significant (Table 4). This means that teachers' professional orientation did not increase more in the 'Mastery' condition than in the non-Mastery condition. The main effect regarding teaching experience appeared to be significant. In general, teachers with more teaching experience appeared to score higher on the professional orientation scale than teachers with less teaching experience. The standardised coefficients for the predictor variables and the interaction effect were below 0.30, which are considered to be small effects (Cohen 1992).

However, the results of the interviews showed that in the opinion of the respondents 'Mastery' did contribute to the development of a broader view on teaching. After participation in the programme, the teachers were more involved in the process of school development (they conducted for instance research within their schools), were more interested in theory and educational development, and collaborated more with colleagues.

One teacher declared the following:

> The value of 'Mastery' for me was that I began to look beyond my own classroom; I became interested in policy and I joined the participation counsel.

The teachers and principals of the disadvantaged and more advantaged schools were more positive about the influence of 'Mastery' on the professional orientation of the teachers than were the teachers from the mixed schools.

Table 4. Parameter estimates for multilevel models of teachers' professional orientation predicted by measurement occasion, condition and teaching experience.

| | Professional orientation | | | |
	Coeff.	SE	*P*	Std. Coeff.
Measurement occasion	0.05	0.05	0.31	0.06
Condition	−0.11	0.06	0.05	−0.20
Teaching experience	0.04	0.01	0.01	0.25
Measurement × condition	−0.04	0.06	0.52	−0.05
N	131			

Influence of 'Mastery' on self-efficacy

The interaction effect between condition and measurement occasion was significant (Table 5). Accordingly, it can be concluded that teacher self-efficacy increased more in the 'Mastery' condition from the pre-measurement to the post-measurement than it did for those in the non-'Mastery' condition, as there was an (small) increase in teacher self-efficacy in the experimental group and a (small) decrease in the control group (see Table 2). The standardised coefficient for the interaction effect was 0.17, which is considered a small effect (Cohen 1992).

The results of the interviews confirmed the conclusion of the quantitative analysis; in the opinion of the respondents, 'Mastery' positively affected the self-efficacy of the teachers. After participating in the programme, the teachers felt more confident in their contact with parents and colleagues, in providing language education and in the creation of a safe school environment.

One teacher stated the following:

> I feel more confident about myself when giving language education. I know now that I am doing it right.

Influence of 'Mastery' on job motivation

The interaction effect between condition and measurement occasion was not significant (Table 6). This means that teachers' job motivation did not increase more in the 'Mastery' condition than in the non-'Mastery' condition. The main effect for measurement occasion appeared to be significant. In general, teachers' scores regarding job motivation were higher in the pre-measurement than in the post-measurement

Table 5. Parameter estimates for multilevel models of teachers' self-efficacy predicted by measurement occasion, condition and teaching experience.

	Self-efficacy			
	Coeff.	SE	*P*	Std. Coeff.
Measurement occasion	−0.09	0.05	0.08	−0.02
Condition	−0.15	0.08	0.07	−0.16
Teaching experience	0.01	0.02	0.43	0.07
Measurement × condition	0.19	0.07	0.01	0.17
N	131			

Table 6. Parameter estimates for multilevel models of teachers' job motivation predicted by measurement occasion, condition and teaching experience.

	Job motivation			
	Coeff.	SE	*P*	Std. Coeff.
Measurement occasion	−0.40	0.05	<0.001	−0.43
Condition	0.06	0.07	0.42	0.07
Teaching experience	0.01	0.01	0.41	0.06
Measurement × condition	0.10	0.07	0.17	0.10
N	131			

(see Table 2). The standardised coefficients for the predictor variables and the inter-action effect were below 0.30, which are considered small effects (Cohen 1992).

The conclusion from the quantitative analysis is consistent with the results of qualitative analysis, as the majority of the respondents stated that 'Mastery' had no impact on teachers' job motivation. Several respondents indicated that the teachers were very motivated to be a part of the teaching profession before they started with 'Mastery' and they were still motivated after completing the programme.

Influence of 'Mastery's' programme on career choices

There were no significant interaction effects regarding teachers' career choices. The p-values of the interaction effects of the different items were all >0.05, indicating that the teachers' career choices did not increase more in the 'Mastery' condition than in the non-'Mastery' condition. This conclusion is consistent with the results of the qualitative analysis that the majority of the respondents indicated that 'Mastery' had no impact on the career plans of the teachers.

Evaluation of valuable elements of 'Mastery'

The quantitative results showed that the teachers who participated in the programme greatly appreciated the opportunity to do so. The teachers were very satisfied with the expertise of the educators and the teacher network. However, the participants expressed dissatisfaction with the fact that no strict requirements were enforced. For example, there were no checks to verify that homework assignments had been completed.

The interviews revealed several elements of 'Mastery' that played an important role in the professional development of the teachers. Teachers mentioned that the most valuable elements of the programme were:

Modules

The different modules of 'Mastery' focused on the core competences required for teaching in an urban context. The teachers noted that the modules contributed to their urban teaching competences.

One teacher stated the follows:

> I can now better deal with parents of different backgrounds and I have more insight in how the school organisation works, because I've learned this in the different modules.

The content of the modules was not only focused on the classroom practice, but also on topics as the school organisation and schools' language policy . Accordingly, the teachers were inspired to look beyond their own classroom and developed an extended professional orientation.

Teacher network

Our study confirmed the conclusion of Hofman and Dijkstra (2010) that networks of teachers that allow teachers from different schools to exchange experiences are promising ways for professional development and job motivation of teachers. In

addition, the results of this study indicate that being part of a network is very important for beginning teachers who work in a complex educational environment. Teachers who participated in 'Mastery' mentioned that, for them, the network was the most valuable element of the programme.

One teacher stated the following:

> What was most valuable for me is absolutely the knowledge of colleagues from other schools in other places in Amsterdam and how they experience things. To hear that sometimes their situation is comparable to your own situation so that you think 'we are not alone' and to hear from other schools and get ideas and approaches that work in these schools was valuable.

Discussion

This research aimed to contribute to our knowledge of teacher professionalisation and teaching in urban schools. The results of the study revealed several elements of professionalisation that are valuable for urban teachers. One of the most valuable elements of 'Mastery' for the participants was the opportunity to reflect on shared experiences as beginning teachers in urban schools. This finding is consistent with the finding of Hofman and Dijkstra (2010), who determined that establishing networks of teachers that allow teachers of different schools to exchange their experiences is a promising way for teachers' professional development and job motivation.

In fact, meeting teachers from other schools and exchanging experiences were such an important element in the success of the programme that it mitigates the conclusions from previous studies that posited that professionalisation activities for teachers are best situated in the workplace. This study showed that professional development programmes outside the workplace have a value of their own.

The results of the quasi-experimental study and interviews showed that 'Mastery' had a positive effect on teachers' competences and self-efficacy. Although the quasi-experimental study showed no effects of the programme on teachers' professional orientation, the interviews revealed that, according to the respondents, the programme challenged teachers to deal with educational issues that are beyond the ones they encounter in their daily teaching practice. This is an indication that the participants and their principals experienced a contribution of the programme to the development of an extended professional orientation and underlines the value of a professional development programme that has a broader focus than classroom practice.

The reason for the differences between the quantitative and qualitative results regarding professional orientation could be that there was a ceiling effect in the quantitative analysis, as both conditions had high scores on the professional orientation scale for the pre-test and post-test.

There was no impact of participation in 'Mastery' on teachers' job motivation or career choices. This lack of an impact could have been observed because the teachers who participated in the study were all motivated teachers before they started the programme, as evidenced by the fact that the teachers had very high scores on the motivation scale according to the pre-test (ceiling effect). This was also the case with the teachers from the control condition. Another reason that no significant differences were found between the two conditions regarding these (and other) dependent variables might be that the teachers of the control group were also participating in professional development programmes.

The present study has some limitations, and more research on the professionalisation of urban teachers is needed. In this study, we focused on motivated teachers, but it would also be interesting to investigate the contribution of such a programme to the quality and retention of less-motivated teachers.

Furthermore, in this study, we focused only on the effects of a professional development programme on the quality and retention of teachers, but it would also be interesting to investigate whether the programme has an effect on pupil performance.

In this study, indications for differences among teachers from different types of urban schools were found. Accordingly, it would be interesting to further investigate those differences in a follow-up research, as teachers of different types of urban schools may experience different problems and therefore may have different support needs.

Despite its limitations, this study demonstrated the value of a professional development programme for beginning urban teachers. The teachers considered the modules, which offered a broader focus than just the direct classroom practice, and the network wherein teachers could share their experiences and expertise to be the most valuable elements of the programme. We do not know whether these elements are of particular importance to this specific group of teachers. It seems reasonable to assume that these elements are also valuable for non-urban teachers. However, we do know from previous research that teaching in urban contexts is difficult and challenging for teachers, as they are confronted with specific urban problems, such as dealing with unsafe atmospheres in and around the school and dealing with parents from culturally diverse backgrounds. These are complex issues that extend beyond the walls of the classroom. Therefore, we assume that for urban teachers, it is of particular importance to receive guidance with a broader focus than the classroom practice only and to have the opportunity to share experiences and expertise in a network of teachers who are confronted with similar challenges.

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