

CHAPTER 6

First-year pre-service teachers' reading enjoyment and knowledge of classroom practices that promote literacy

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ABSTRACT

Teachers' own reading enthusiasm may have consequences for the quality of their teaching. In this study among 152 students at a university of applied sciences for primary school teachers, we compared students who were enthusiastic readers ($n = 65$) with their non-enthusiastic peers ($n = 87$). We investigated their knowledge of classroom practices that effectively promote literacy, and their expectations of their own future reading behavior. We further examined whether the knowledge and expectations of the two reader types were affected differently by their first semester at university. Results showed that enthusiastic readers had more knowledge of literacy classroom practices. In addition, they showed a greater increase in their awareness of the importance of reading books than non-enthusiastic readers after their first semester. These findings imply that teacher educators should not focus exclusively on enlarging pre-service teachers' knowledge of classroom practices that promote literacy, but also on enhancing their reading enjoyment.

INTRODUCTION

Pre-service teachers' reading habits and reading enjoyment vary widely when they start their university education program. Even though it will be their job to teach their pupils to read and to enhance their reading enjoyment (Burgess, Sargent, Smith, Hill, & Morrison, 2011; Perkins, 2013), not all pre-service teachers can be qualified as enthusiastic and avid readers themselves (e.g., Applegate et al., 2014). Previous studies have shown the importance of having an enthusiastic reading teacher for stimulating pupils' reading enjoyment. Teachers who like to read in their leisure time have been shown to use more classroom practices that effectively promote literacy (McKool & Gespass, 2009; Morrison et al., 1999). Furthermore, they are better able to serve as an inspiring reading role model to their pupils (Dreher, 2003; Gebhard, 2006). In other words, literacy classes given by teachers who do not enjoy reading are thought to be less effective and also less motivating for their pupils. While the relation between classroom practices that effectively promote literacy and reading enjoyment has been established for teachers (McKool & Gespass, 2009; Morrison et al., 1999), it is not known if this relation can be found in the case of pre-service teachers as well. Yet, this is important because pre-service teachers are still being educated, which means there is still ample opportunity to address the topic in their education program. Therefore in the current study, we followed 152 pre-service teachers over the course of their first semester at university, with the aim of researching the relation between reading enjoyment and classroom practices that effectively promote literacy among this group.

Various literacy practices have been shown to be effective at promoting children's reading enjoyment. Relevant examples are: providing choices of reading material; providing opportunities for book discussions; and recommending books to students (Applegate et al., 2014; Nathanson et al., 2008). These practices, and in particular the last of these, require (pre-service) teachers to keep their knowledge of recent children's literature up-to-date. However, previous studies have shown that many teachers lack knowledge of recent children's literature. These teachers were not able to recognize popular children's book titles on a print-exposure checklist or to list several names of authors of children's books (Cremin, Bearne, Mottram, & Goodwin, 2008; Cunningham, Perry, Stanovich, & Stanovich, 2004). Teacher education programs play a central role in teaching classroom practices that effectively promote literacy to pre-service teachers and in providing them

with information about recent high-quality children's literature. This role is very important, as it has been shown that younger, less experienced teachers used these practices more than older, more experienced teachers. This was probably because the former had been trained recently in these practices (Morrison et al., 1999). The pre-service teachers in our sample started working as trainee teachers in classrooms about one month after the start of their university education program. This means that they were confronted with the task of motivating children to read without having taken literacy courses. Therefore, we were able to determine their pre-existing knowledge of classroom practices that promote literacy and their reading enthusiasm at the start of their university education program.

Previous studies have shown that pre-service teachers' reading enthusiasm varies considerably. For example, only 51.1% of the pre-service teachers were found to be enthusiastic readers in a sample of 348 participants in the United States (Applegate et al., 2014). A study of 1,051 Spanish pre-service teachers showed that 18.3% reported to have read no books over the past year, and 48.4% had read only one to three books (Granado, 2014). There is therefore a growing concern for 'aliterates', i.e., people who are capable of reading, but lack the intrinsic motivation to do so, even among (pre-service) teachers (Applegate et al., 2014; McKenna et al., 1995a; Nathanson et al., 2008). This is particularly alarming for unmotivated readers who aspire to become teachers and are faced with the task of passing on a positive reading attitude to the next generation. It is considered one of the main tasks of teachers to create successful reading experiences for their pupils and to encourage them to develop a life-long positive attitude toward reading (Burgess et al., 2011; Perkins, 2013). This is especially important since previous studies have indicated that negative reading experiences can have long-lasting effects on children's reading enjoyment (Applegate & Applegate, 2004), reading performance (e.g., Mol & Bus, 2011), and career perspectives (Taylor, 2011).

One way in which teachers can enhance their pupil's reading enjoyment is by demonstrating their own love for reading and in this way acting as a reading role model. Studies prove that teachers who enjoy reading are more likely to create positive reading experiences in their classrooms (Applegate & Applegate, 2004; Benevides & Peterson, 2010; Dreher, 2003; Gebhard, 2006; Nathanson et al., 2008; Pitcher et al., 2007). Therefore, it seems worthwhile for teacher education programs to start early with identifying pre-service teachers who do not enjoy reading (i.e., non-enthusiastic readers), because these pre-service teachers will

probably have more problems with inspiring their pupils to enjoy reading and with creating a positive reading climate in their classroom. Identifying these non-enthusiastic readers at an early stage will enable teacher educators to create a specific educational intervention to try and enhance their reading enjoyment.

The aim of this study is twofold. Our first aim is to examine whether first-year pre-service teachers who enjoy reading (i.e., enthusiastic readers) differ from those peers who can be qualified as non-enthusiastic readers. We focus on their reading habits, knowledge of classroom practices that effectively promote literacy, and on their expectations of their own future reading behavior as a teacher (i.e., functioning as a reading role model). We expect that enthusiastic readers will obviously read more. We examined this by using print exposure lists, which are less sensitive to social desirability factors, and therefore objective measures of reading behavior (Stanovich & West, 1989). Furthermore, we are not aware of any studies that examine whether enthusiastic readers who aspire to be teachers will indeed know more about classroom practices that effectively promote literacy and have higher expectations of their own future reading behavior as a teacher than non-enthusiastic readers when they are just starting their teacher education program. Examining this aim therefore allows us to examine the relation between reading enjoyment and pre-service teachers' classroom practices that effectively promote literacy.

Our second aim is to examine whether enthusiastic and non-enthusiastic readers differ with regard to the knowledge they gain from their first university literacy course, and whether their plans for their own future reading behavior (e.g., of children's books) differ accordingly. Research shows that motivated students tend to engage more with the study material, which is positively related to learning and performance (e.g., Pintrich & De Groot, 1990). We therefore examine two hypotheses. First, we hypothesize that enthusiastic readers, compared to non-enthusiastic readers, will gain more knowledge about literacy practices during the first semester at university. Second, we expect that enthusiastic readers will plan to read more frequently when they are teachers, because they are probably more motivated to learn about teaching literacy classes and to read themselves.

METHOD

Participants

In this study, 152 first year pre-service teachers participated (i.e., completed both pre- and post-test) who attended a university of applied sciences for primary school teachers. Of these, 11.2% ($n = 17$) were male, which was a little below the national percentage of male students enrolled in a teacher education program for primary schools in the same year, which was 18.4% (Center for Statistics Netherlands, 2015). Because 222 first-year students were enrolled in the teacher education program in February (i.e., at the post-test), the participation rate in our study was 68.5%. This indicates that our sample was representative of the first-year student population.

All students were studying to become primary school teachers at the same university of applied sciences in the Netherlands, which has two locations in the Amsterdam area. Students from nine different classes participated. Their mean age at the start of our study was 19.1 years ($SD = 1.33$), with a range of 17.0 – 23.9 years. Almost all participants (97.4%) had the Dutch nationality. With respect to their educational background, 86 students (56.6%; 12.8% males) had just graduated from secondary school and 66 students (43.4%; 9.1% males) had earned a previous degree (i.e., intermediate vocational level).

Procedure

The data were collected in two rounds: 1) at the start of the first semester (beginning of October), to which we will refer as the pre-test; and 2) at the start of the second semester (beginning of February), i.e., the post-test. Only students who completed both questionnaires were included in the study. More specifically, 59 students who only responded to the pre-test and 34 students who only participated during the post-test were excluded and therefore were not part of our sample of 152 pre-service teachers. Pearson's Chi-square tests and t -tests did not show any significant differences between these excluded students and the remaining group of students on our variables of interest.

At the time of the pre-test questionnaire, the pre-service teachers had not taken any literature classes at this university. When they responded to the post-test questionnaire, the pre-service teachers had completed their first semester at university, which means they had taken their first classes about children's literature and they had read at least a few compulsory children's books.

The questionnaires were handed out to the pre-service teachers by their own teacher educator at the beginning or the end of a class. They were instructed to choose one answer only to each question, and they were explicitly told that their answers would remain anonymous and would be used for scientific purposes only.

Materials

The pre- and post-test questionnaires were designed to show some overlap in background questions about pre-service teachers' demographics. This was done in order to match the questionnaires of our two measurement moments. Furthermore, in both questionnaires the pre-service teachers were asked to respond to statements about their knowledge of classroom practices that effectively promote literacy, and about their expectations of their own reading behavior as a teacher. The remaining questions were only asked once, either in the pre-test, or in the post-test.

Demographics

Pre-service teachers were asked to indicate the date, their date of birth, gender, class, and their prior level of education.

Reader type

On the pre-test, we included the eleven reading enjoyment questions from the PISA research questionnaires (OECD, 2010). Pre-service teachers were asked to indicate on a four-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree) to what extent they agreed or disagreed with eleven statements, such as "I read only if I have to", and "Reading is one of my favorite hobbies". Five statements were reverse coded, so that a higher score on each statement reflects more reading enjoyment. Only participants who had less than three missing values were included in our sample. The mean score was 2.09 ($SD = .53$), with a range of 1.09 – 3.82. Cronbach's alpha of this scale was .89.

Pre-service teachers who had a mean score of 3 or higher were classified as enthusiastic readers, because a score of 3 or higher on our Likert scale indicates a positive attitude towards reading. In our sample, 42.8% of the pre-service teachers could be classified as an enthusiastic reader, and the remaining 57.2% were therefore labelled as non-enthusiastic readers.

Pre-service teachers' knowledge of classroom practices that effectively promote literacy, and expectations of their own reading behavior as a teacher

Pre-service teachers responded to sixteen statements, based on existing literature, to measure their knowledge of classroom practices that enhance children's reading enjoyment, and their expectations of their own reading behavior as a teacher. We aimed to examine whether there would be reliable subscales within this set of items. All items are listed in Table 6.1. The participants responded to all items on a four-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree). Their answers were reverse coded (except for the six negatively formulated statements), so that a higher score reflects more knowledge of classroom practices that effectively promote literacy and higher expectations of their own reading behavior as a teacher.

An exploratory principal axis factor analysis was conducted on these sixteen items with oblique rotation. We used pre-service teachers' responses on the post-test, because we were interested in the development of their knowledge and expectations. The Kaiser-Meyer-Olkin measure of sampling adequacy was .75, which is well above acceptable (Field, 2013). Bartlett's test of sphericity was significant as well ($\chi^2(120) = 478.85, p < .001$). The diagonals of the anti-image correlation matrix were all over the recommended .5, except for two items that were not included in the factors. Six factors had eigenvalues over Kaiser's criterion of 1. However, some of the factors that were extracted were difficult to interpret and not in line with theoretical assumptions. For example, it appeared that pre-service teachers varied extensively in their interpretation of some of the items in these factors. Therefore, we decided to keep only two factors in our analyses. The first one tapped into the pre-service teachers' knowledge of classroom practices that effectively promote literacy and explained 25.5% of total variance (six items). The second factor was based on the pre-service teachers' expectations of their own reading behavior as a teacher and explained 8.2% of total variance (two items). Table 6.1 shows the factor loadings of the items that were included in our two factors.

Reliability analyses were conducted for the two scales, for the pre- and post-test separately. Scales were more reliable at the post-test (factor 1: $\alpha = .74$; factor 2: $\alpha = .61$) than at the pre-test (factor 1: $\alpha = .57$; factor 2: $\alpha = .35$). For both scales, a composite score was calculated for the pre- and post-test separately, based on the pre-service teachers' mean scores on the statements. One missing value was allowed for the first scale (knowledge of classroom practices that

effectively promote literacy), and this was the case for 3.9% of our participants. No missing values were allowed for the second scale (pre-service teachers' expectations of their own reading behavior as a teacher), because the scale consisted of two items only.

Table 6.1 Rotated factor loadings of all items in the questionnaire

Item	Knowledge of classroom practices that effectively promote literacy	Expectations of own reading behavior as a teacher
Silent reading is more important than talking about the things you have read (reverse coded)	.34	.05
I want to know how the children experience the stories they read	.56	.18
Children will enjoy reading more when you let them talk to each other about books	.61	.14
I find it important that children learn to express their opinion about what they have read	.59	.06
As a future teacher, it is my job to introduce children to different book genres	.65	.30
As a future teacher, I will have my students discuss books in small groups	.40	-.01
If I expect my the children in my class to read books, I should read books myself too	.28	.44
As a future teacher, it is important to read many children's books myself	.24	.91
As a future teacher in higher grades, I will put silent reading in the class schedule every day	.16	.02
As a future teacher, it is my job to make sure that children choose books with the appropriate technical reading level	.35	.05
If you let children tell about a book they have read, other children will want to read that book as well	.30	.07
I want children to finish the book they chose, before I allow them to choose a new book (reverse coded)	-.08	-.12
I do not know much about children's literature (reverse coded)	.22	-.01
I cannot find the time to read children's books (reverse coded)	-.05	.20
If weak and good readers are paired up to talk to each other about books, the weak readers will be discouraged (reverse coded)	-.02	.03
Children have their own book preferences, so promoting books to each other will not really affect their book choices (reverse coded)	.05	-.02
Eigenvalues	4.07	1.31
% of variance	25.5	8.2
α	.74	.61

Factor loadings over .40 appear in bold

Pre-service teachers' reading habits

Three different aspects of the pre-service teachers' reading habits were examined: their print exposure to both adult literature and children's literature, and the amount of books they owned.

Author recognition test (ART)

The author recognition test (ART) is a list of 40 real author names and 20 foils. The participants were asked to tick the names that they recognized as belonging to an author. They were informed that the list contained fake names as well, but they were not told the amount of real versus fake names. The ART can be considered as an objective measure of print exposure and reading behavior (Mol & Bus, 2011; Stanovich & West, 1989). Frequent readers are expected to recognize more author names, not only from their own reading experiences, but also because they are more likely to come across these author names through visiting book stores and libraries. The authors that were included in the ART had written an adult fiction book that had been in the Dutch book charts in the years prior to the study. Both Dutch and foreign authors of various book genres were included (except non-fiction). The fake names were selected from the editorial board of an international psychology journal and a Dutch monthly journal.

The ART score was calculated following the instructions of the original authors (Stanovich & West, 1989). First, two proportion scores were created by dividing the correctly ticked names by 40 and the incorrectly ticked names by 20. Next, the pre-service teachers' ART score was computed by subtracting these scores. A higher score on this measure indicates more print exposure and therefore more frequent reading by the participant. The mean ART score was $M = .11$ ($SD = .09$, $range = -.03 - .43$).

Children's book author recognition test (CART)

This test was similar to the ART, yet it contained only names of children's book authors. Young adult books were excluded, because even if they are read by primary school children as well, this is not their target audience. Care was taken to include authors of books across the whole primary school age range, including authors of picture books. The fake names were selected from the editorial board of two Dutch newspapers. The CART score was created in the same way as the ART, which is described above. The mean CART score was $M = .22$ ($SD = .06$, $range = 0 - .38$).

Amount of books at home

The pre-service teachers were asked to estimate how many books they owned, as an indication of the quality of their home literacy environment. Previous studies found that this variable is related to children's and adolescents' reading enjoyment and reading frequency (e.g., Clark & Poulton, 2011). The amount of books was scored on a six-point scale and ranged from 0-10 books (= 1) to over 500 books (= 6). The mean score was 2.44 ($SD = .91$, $range = 1 - 5$), which indicates that pre-service teachers owned on average between 11 and 100 books.

RESULTS

We controlled for age and prior education in all analyses. As is shown in Table 6.2, females were slightly younger than males (19.0 versus 20.0 years; $p = .003$). Pre-service teachers with a previous degree had a significantly lower score on the ART ($p < .001$) and were older ($p < .001$) than pre-service teachers who had just graduated from secondary school. There also was a significant relation between reader type and prior education ($\chi^2(1, N = 152) = 5.02, p = .025$), yet there were enthusiastic readers among pre-service teachers with (53.0%) and without (34.9%) a previous degree. Furthermore, Pearson's Chi-square tests showed that prior education and gender were independent of each other ($\chi^2(1, N = 152) = .52, p = .473$), as were reader type and gender ($\chi^2(1, N = 152) = 1.39, p = .238$).

A Comparison of Enthusiastic Versus Non-Enthusiastic Readers: Reading Habits, Knowledge of Classroom Practices That Effectively Promote Literacy, and Expectations of Own Reading Behavior

To investigate our first aim we compared the enthusiastic readers of our sample to the non-enthusiastic readers. Specifically, we examined their reading habits (i.e., the ART, CART, and amount of books at home), their knowledge of classroom practices that effectively promote literacy, and their expectations of their own future reading behavior.

The three aspects of pre-service teachers' reading habits that served as our dependent variables are assumed to be interrelated, so we performed a one-way multivariate analysis of variance (MANOVA). Prior to performing the MANOVA, we tested the assumption that the within-group covariance matrices were equal by performing the Box's test. This showed a value of 37.47 with a p -value of .007,

which can be considered as non-significant according to the guidelines that recommend a significance level of $p < .001$ (Field, 2013). Hence, our assumptions were met. Using Pillai's trace, we found a significant effect of reader type on pre-service teachers' reading habits ($V = .10$, $F(3,146) = 5.52$, $p = .001$). Both covariates, i.e., prior education ($V = .15$, $F(3,146) = 8.33$, $p < .001$), and age ($V = .09$, $F(3,146) = 4.51$, $p = .005$) were significant as well. Separate univariate ANOVAs showed significant differences between enthusiastic and non-enthusiastic readers on the ART ($F(1,148) = 4.28$, $p = .040$), the CART ($F(1,148) = 5.69$, $p = .018$), and number of books at home ($F(1,148) = 12.35$, $p = .001$). On all these variables, enthusiastic readers scored significantly higher than non-enthusiastic readers (see Table 6.2).

Next, we performed univariate analyses of variance (ANOVAs) to check for pre-existing differences between reader types on knowledge of classroom practices that effectively promote literacy, and on their expectations of their own reading behavior (see Table 6.2). The pre-test showed no significant differences between reader types, neither on knowledge of classroom practices that effectively promote literacy ($F(1,148) = 1.59$, $p = .210$), nor on expectations of their own reading behavior ($F(1,148) = .98$, $p = .324$).

Change in Pre-Service Teachers' Knowledge of Classroom Practices That Effectively Promote Literacy

To examine whether enthusiastic readers or non-enthusiastic readers learned more from their first literacy course, we conducted a two-way 2 (time) x 2 (reader type) mixed design analysis of variance. Results showed no significant interaction effect ($F(1,148) = 1.33$, $p = .250$). There was a significant, between-subject main effect of reader type ($F(1,148) = 4.44$, $p = .037$, $\eta_p^2 = .03$). Pairwise comparisons indicated that on average, the enthusiastic readers had more knowledge about classroom practices that effectively promote literacy than the non-enthusiastic readers (Mean difference = .09, $SE = .04$, $95\%CI = [.01, .17]$).

Table 6.2 Mean scores on reading habits, age, knowledge of classroom practices that effectively promote literacy ("knowledge"), and expectations of own reading behavior ("expectations") for the whole group and subgroups in our sample

	Total		Gender		Prior educational level			Reader type		p
	Male	Female	p	Pre-academic	Vocational	Enthusiastic	Non-enthusiastic			
ART	.11	.11	.933	.13	.08	<.001	.12	.10	.040	
CART	.22	.22	.209	.22	.22	.454	.23	.21	.018	
# Books at home	2.44	2.12	.121	2.47	2.41	.709	2.71	2.20	.001	
Age	19.11	19.0	.003	18.37	20.08	<.001	x	x	x	
Knowledge pre-test	3.10	3.11	.121	3.09	3.10	.673	3.13	3.07	.210	
Knowledge post-test	3.15	3.16	.167	3.13	3.18	.405	3.23	3.10	.023	
Expectations pre-test	2.56	2.56	.807	2.58	2.53	.560	2.58	2.53	.324	
Expectations post-test	2.79	2.79	.994	2.79	2.80	.961	2.95	2.67	.002	

Note: p-values for gender and prior education are based on independent sample t-tests; *df* = 150. p-values for reader type are based on separate ANOVAs, while controlling for age and prior education; *df* = 151

Change in Pre-Service Teachers' Expectations of Their Own Reading Behavior as a Teacher

A two-way mixed design ANOVA showed a significant interaction between time and reader type ($F(1,148) = 4.95, p = .028, \eta_p^2 = .03$) on the pre-service teachers' expectations of their own future reading behavior (see Figure 6.1). Simple main effects analyses showed that for both reader types there was a significant increase in their planned reading behavior between the pre- and the post-test. For non-enthusiastic readers the mean difference was .14 ($SE = .06, p = .027, 95\%CI = [.02, .27]$), and for enthusiastic readers the mean difference was .36 ($SE = .07, p < .001, 95\%CI = [.22, .51]$). Furthermore, the increase was significantly larger for enthusiastic readers, as the analyses showed no difference between reader types on the pre-test ($p = .324$), whereas we did find a significant difference (of .30) on the post-test ($SE = .10, p = .002, 95\%CI = [.11, .49]$). Thus, enthusiastic readers showed a greater increase in their awareness of the importance of reading books as a future teacher than non-enthusiastic readers.

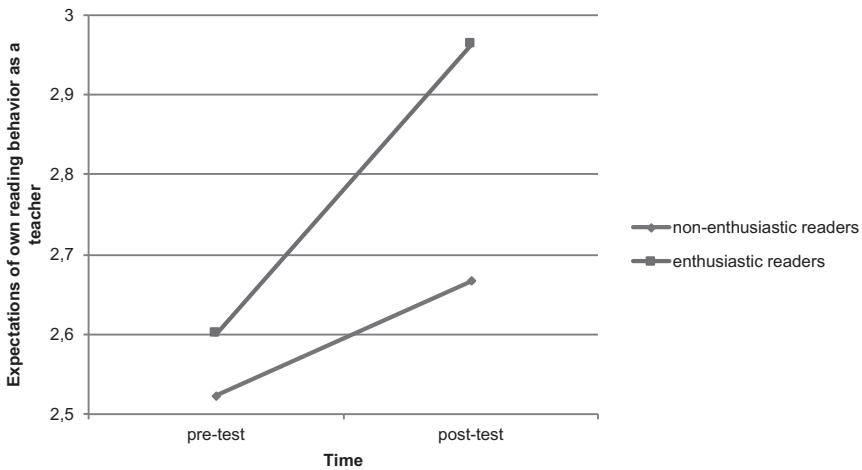


Figure 6.1 Interaction between reader type and pre-test/post-test on pre-service teachers' expectations of their own reading behavior as a teacher

DISCUSSION

This study shows that pre-service teachers' reading enjoyment and reading habits vary greatly when they start their teacher education program at university. Not only did enthusiastic readers (42.8% of our sample) possess more books and know more authors of adult literature, but they also recognized more children's book author names, which means they are better equipped to recommend appropriate books to the children in their classroom. As expected, enthusiastic readers showed a greater increase in their awareness of the importance of reading books themselves, compared to non-enthusiastic readers. Furthermore, enthusiastic readers seemed to know more, on average, about classroom practices that effectively promote literacy than non-enthusiastic readers. Overall, our results imply that first-year pre-service teachers' reading enjoyment is related to their knowledge of classroom practices that effectively promote literacy.

Our analyses further showed that both reader types were more aware of the importance of reading after their first university course, but enthusiastic readers showed a greater increase in the expectations of their own reading behavior as a teacher. This indicates that the literacy course might have contributed to the motivation to read for both groups, but that this was especially the case for enthusiastic readers. This is not surprising, as this group simply enjoys reading more. Perhaps enthusiastic readers were also more convinced of the importance of being a reading role model, and of having knowledge of children's books. The latter is reflected in their higher score on the children's book author recognition test. However, even enthusiastic readers recognized on average only 9.74 out of 40 children's book authors, with a maximum score of 15 correctly recognized authors. Considering the fact that these authors had all been in the book charts, this result seems to indicate that first-year pre-service teachers in general have a poor knowledge of recent children's books, which is consistent with comparable research among teachers (Cunningham et al., 2004; Cremin et al., 2008). This raises concerns about the variety of books that (pre-service) teachers may be able to suggest to their pupils, which can harm the development of a positive reading attitude (Cremin et al., 2008; Kollof, 2002).

Implications for Teacher Education Programs

Our results suggest that after just one semester of taking literacy classes at university, perhaps in combination with their experience as a trainee teacher at

primary schools, especially the enthusiastic readers showed an increase in their awareness of the importance of their own (future) reading behavior. Increasing knowledge of classroom practices that effectively promote literacy is usually the main aim of teacher education programs. However, our study suggests that enhancing pre-service teachers' own reading enjoyment and encouraging them to read might be just as important a task for teacher education programs, as teachers' reading enjoyment can affect their quality of teaching and therefore their pupils' reading enjoyment (e.g., Dreher, 2003; Gebhard, 2006; McKool & Gespass, 2009; Morrison et al., 1999). In addition, perhaps education programs should particularly focus on the pre-service teachers who are non-enthusiastic or reluctant readers. Teacher educators need to have an idea of their students' reading enjoyment, for example by having first-year pre-service teachers respond to reading attitude questionnaires, like we did in our study. It is important to identify the reluctant readers early in their education program and to reverse the negative reading beliefs and habits that these pre-service teachers might have, as these can affect the choices they make (e.g., whether to read or not), as well as their effort and perseverance in reading (Pajares, 2003; Petscher, 2010).

Teacher educators could positively affect pre-service teachers' reading enjoyment and motivation by using classroom practices that effectively promote literacy themselves in their university literacy course. Examples of these are: (a) creating a classroom environment that is rich with literature, in which reading is positively valued, and in which pre-service teachers can have successful reading experiences; (b) creating collaborative reading experiences, which allow pre-service teachers to discuss books with each other; (c) providing pre-service teachers with choices of interesting and relevant reading materials; (d) allowing pre-service teachers time for sustained silent reading during literacy courses and considering reading a useful activity in itself; (e) sharing and modelling their own reading enthusiasm with the pre-service teachers and recommending (children's) books to them (Applegate & Applegate, 2004; Durrant, 2008; Garcia & Pintrich, 1996; Gebhard, 2006; Guthrie et al., 2007b; Thoonen, Slegers, Peetsma, & Oort, 2011). It has indeed been shown that especially children's books may help enhance pre-service teachers' reading enthusiasm, as these future teachers can experience the enjoyment of introducing children's literature in their classrooms (Powell-Brown, 2003).

Suggestions for Future Studies

The current study investigated a sample of students at a university of applied sciences for primary school teachers who differed in background characteristics, such as prior educational degree and age. Such a sample is representative for the actual student population of first-year pre-service teachers attending a teacher education program for primary schools in the Netherlands. It was not our goal to examine the relation between first-year pre-service teachers' background characteristics and their reading habits and literacy teaching knowledge. Therefore we controlled for these variables, and we focused on differences in reading enthusiasm between the pre-service teachers instead.

Future studies, however, might examine pre-service teachers' background characteristics in relation to their reading habits and literacy teaching knowledge in a larger sample. This would make it possible to design interventions that are targeted at specific subgroups. These studies might also include pre-service teachers who are in the second, third and fourth year of their education program at university. Another issue that should be further examined is the reliability of our scales for assessing pre-service teachers' knowledge of classroom practices that effectively promote literacy and their expectations of their own reading behavior. Reliability analyses showed (more or less) acceptable Cronbach's alpha for the post-test measure, but not for the pre-test. Perhaps the statements were not clear enough for first-year pre-service teachers who had just started their education. We suggest examining the wording of some of the statements on the questionnaire and then re-testing all items in a larger sample to replicate our findings.

Conclusion

In sum, our study of students attending a teacher training program for primary schools shows that pre-service teachers' reading enjoyment is related to both their reading habits and their increased knowledge of literacy teaching. Teacher educators should therefore not only provide pre-service teachers with knowledge of classroom practices that effectively enhance children's reading enjoyment, but also aim to enhance pre-service teachers' own reading enjoyment. Turning pre-service teachers into enthusiastic, frequent readers should be a primary goal for literacy education programs at teacher universities.