Master thesis

Pre-service teachers
as engaged readers of children's literature: Is it fiction?

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by

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Abstract

Recent studies at teacher training colleges show that most pre-service teachers are not very engaged readers. Research has shown that the teachers' reading frequency, attitude and knowledge of children's literature could have a positive influence on the teaching practices. This indicates the importance to tempt pre-service teachers to read children's literature, expand their knowledge of children's literature and stimulate a positive reading attitude. Subsequently these students, in their turn, can tempt children to read.

How can teacher training colleges influence pre-service teachers to become knowledgeable, reading and enthusiastic reading promoters? In this study characteristics of pre-service teachers that may influence the reading frequency of children's literature, the reading attitude and the knowledge of children's literature, were identified. A distinction was made between personal and environmental characteristics.

For this study 347 pre-service teachers from a Dutch teacher training college participated in an online questionnaire. Results show that the pre-service teachers did not read children's literature on a regular basis during their spare time. For reading attitude, more positive results were found. Very few students gave evidence of a negative reading attitude. Knowledge of children's literature seems to concentrate on authors and titles that were popular in their own youth. Recent publications were underrepresented.

Results of regression analyses indicate that there were significant positive associations for reading frequency of children's literature based on reading frequency of adult literature and a positive reading climate created by supervisors during primary school internships.

Pre-service teachers who had positive reading experiences in the past, were highly imaginative and felt less anxious choosing the right book, had a more positive attitude towards reading. Also a positive reading climate created by friends, parents and teacher training college was related to a positive reading attitude.

The longer students were enrolled at the teacher training college and the more positive past reading experiences students had, the more knowledge of children's literature could be found.

The findings of this study have a number of important implications for future research and practice at teacher training colleges. These implications will be described in the discussion section.

Keywords: Pre-service teachers, reading attitude, knowledge of children's literature, reading frequency, teacher training colleges

Contents

1 Introduction

Research has indicated that teachers' attitude and behavior towards reading may have an influence on reading habits and abilities of their students (McKool & Gespass, 2009; Lundberg & Linnakyla, 1993; Pečjak & Košir, 2008). Primary school teachers could serve as role models and can motivate, interest and stimulate children to become capable, enthusiastic and lifelong readers (Applegate et al., 2014). Therefore, some scholars state that a goal of teacher training colleges should be to stimulate their students to become engaged readers and reading promoters themselves (e.g. Jongstra, Adolfsen & Pauw, 2014).

However, different recent studies at teacher training colleges in the Netherlands and abroad, show that most pre-service teachers are not very engaged readers (Chorus, 2007; Applegate & Applegate, 2004). In most studies, the reading frequency was lower than the researchers expected based on the value they attribute to reading frequency, and is often described as "worrying" (e.g. Applegate et al., 2014; Chorus; 2007; Rijckaert; 2014). Based on their research, Benevides and Peterson (2010) argue that regular reading habits cannot be assumed to be present at the behavior of pre-service teachers. For example, knowledge of children's literature can be seen as a prerequisite for the reading instruction of soon to be teachers, but some studies show that children's literature is barely read by pre-service teachers (Rijckaert, 2014; Pearce, 2015). The reading frequency of children's literature does not seem to improve when pre-service teachers become in-service teachers (Medwell, Wray, Poulson & Fox, 1998). The results raise concerns: are non-frequent readers capable to become good reading promoters?

According to Pearce (2015), reading children's literature frequently is essential to develop knowledge of children's books which in turn is important for pre-service teachers if they have to become reading promoters. The lack of professional knowledge of children's literature can have serious consequences for learners, argue Cremin, Mottram, Bearne and Goodwin (2008). Especially children from minority groups without a stimulating literacy environment at home are affected. The reading ability and interest of these children may be highly dependent on teacher's own reading repertoires (Cremin et al., 2008). Teachers who are unfamiliar with a diverse range of writers can experience difficulties when selecting literature for young readers with different needs and interests. In addition, different researchers found evidence for the hypothesis that knowledge of children's books and the behavior of teachers are positively correlated (Burgess, Sargant Smith, Hill and Morrison, 2011; Cremin, Mottram, Collins, Powell & Safford, 2009). Research of Burgess et al. (2011) describes the differences in teaching practices between teachers with a lot of knowledge about children's literature and those with only a very narrow knowledge. Teachers who had a greater knowledge of children's literature used best practice techniques related to book usage more often, such as reading aloud daily. The use of these best practices showed a positive association with reading pleasure and student performances.

It is argued by both researchers and practitioners, that teachers should model their love for reading in the classroom (e.g. Applegate & Applegate, 2004; Stichting Lezen, 2014). A positive reading attitude is therefore seen as an important characteristic for teachers (Applegate & Applegate, 2004). The concepts of reading frequency and reading attitude seem to be reciprocal. People who read more do have a higher reading attitude and vice versa (Petscher, 2010). Applegate et al. (2014) describe the possible negative consequences of teachers with low interest in reading: "Perhaps the most alarming scenario that emerges from the research is the notion of a recursive cycle of teaching producing large number of uninspired students, many of whom go on to become teachers who struggle to ignite in their students a love of reading that they have never experienced."

The low interest of pre-service teachers in children's literature is not only an issue in other countries, but also in the Netherlands. According to the Dutch Inspectorate children in the Netherlands have a

concerning low level of reading pleasure. The inspectorate states in a recent report that more attention should be given to the stimulation of reading pleasure at school (Stichting Lezen, 2014). In literature, a positive reading attitude has been associated with higher reading attainment (Petscher, 2010). Results of the Progress in International Reading Literacy Study (PIRLS) 2011 showed that although children in the Netherlands score well above the international average in reading (above for example France, Belgium, Germany and Sweden), there is a small decline in the absolute scores compared to the results of PIRLS 2001 and 2006 (Meelissen et al., 2012).

Taken together this indicates the importance to tempt pre-service teacher to read children's literature, expand their knowledge of children's literature and stimulate a positive reading attitude. Subsequently these students, in their turn, can tempt children to read.

Research goals

How can teacher training colleges influence pre-service teachers to become knowledgeable, reading and enthusiastic reading promoters? A first step will be the identification of pre-service teachers' personal and environmental characteristics that may influence the reading frequency of children's literature, the attitude and the knowledge of children's literature for pre-service teachers.

Throughout this thesis, the term children's literature is used to refer to: "the body of written works and accompanying illustrations produced in order to entertain or instruct young people" (Fadiman, 2015). A distinction can be made between personal and environmental characteristics. A personal characteristic is for example a personal trait such as fantasy proneness. An environmental characteristic is for example the reading climate at the home of students. The identification of these factors is the goal of this study.

The main problem statement of this study is:

"To which extent are pre-service teachers' characteristics related to their knowledge of and interest in children's literature?"

The interest of the pre-service teachers will be measured by their actual reading frequency of and attitude towards children's literature. The knowledge of children's literature will be measured with the focus on both authors and titles of children's books.

To address this problem statement, a study was conducted at one of the Dutch teacher training colleges. The Katholieke Pabo Zwolle (KPZ) is an independent (not part of higher vocational training institute) teacher training college in the Netherlands. In 2014, the KPZ started a longitudinal research project on the topic of reading. This project is aimed at the development of strategies to stimulate students to become engaged reading promoters. In 2014, in the first phase of the project, 347 full-time KPZ students completed a survey to investigate the reading characteristics of students such as reading frequency and reading attitude. This survey data will be analyzed in this research to identify the reading characteristics of students concerning children's literature and personal and environmental factors that can be associated with the reading frequency of children's literature, the attitude towards children's literature and knowledge of children's literature.

The KPZ student data will be used to answer the following three sub questions:

1. What is the current state of pre-service teachers' behavior, attitude and knowledge concerning children's literature at the teacher training college Katholieke Pabo Zwolle?

2. To which extent do personal factors correlate with the reading behavior, attitude and knowledge of pre-service teachers concerning children's literature?

3. To which extent do environmental factors correlate with the reading behavior, attitude and knowledge of pre-service teachers concerning children's literature?

Relevance

This study will contribute to the discussion about the importance of reading behavior, attitude and knowledge of teachers with regard to children's literature. Despite the often assumed importance of reading children's literature for pre-service teachers little is known about the factors that correlate with the knowledge of and interest in children's books. Most studies in the field of reading and (pre-service) teachers focus on reading habits of teachers in general. It is yet unclear if the results of these studies translated to the context of children's literature.

The outcomes of the research project will support an intended curriculum redesign at the Katholieke Pabo Zwolle, which will educate students to be reading teachers and effective reading promoters. The outcomes of this research and other publications in the context of this project can also be useful for other teacher training institutes that struggle with low reading interests of their students.

2 Theoretical framework

2.1 Overview

In this research we will study the factors influencing the reading frequency of children's literature, the attitude about children's literature and the knowledge about children's literature of pre-service teachers. This chapter introduces the theoretical framework for this research. In order to create a framework that will function as a foundation for this study, a literature search was carried out. This review of the literature focused on three main questions:

1. To what extent is there empirical evidence that the reading frequency, reading attitude and knowledge of children's literature of primary school teachers are related to, or have an influence on the reading instruction strategies of teachers and the reading attitude and achievement of their students? (section 2.4)

The main assumption of this and many other studies is that primary school teachers are able to enhance the reading interest and ability of their students if they are knowledgeable and interested readers themselves (e.g. Applegate et al., 2014; Jongstra, Adolfsen & Pauw, 2014). Therefore, the review of the research literature started by a search of literature showing empirical evidence for this assumption.

2. What does recent research show about the reading frequency, reading attitude and knowledge of children's literature of pre-service teachers? (section 2.5)

3. Which factors correlate with the reading frequency, reading attitude and knowledge of pre-service teachers concerning children's literature? (section 2.6)

In this study, children's literature is used to refer to: "the body of written works and accompanying illustrations produced in order to entertain or instruct young people" (Fadiman, 2015) and encompass a broad range of literature such as picture books, story books, fiction, novels, non-fiction, poetry and newspapers for children.

2.2 Search Method

A systematic search was conducted. Searches were initially executed in ERIC, Web of Science, Google Scholar and Scopus. The search actions were performed corresponding to the different literature research questions described in the previous section. Apart of the terms such as described in Table 1, different synonyms and broader terms were used (e.g. reading habits for reading frequency). Based on titles and abstracts, articles were selected per question and aspect (frequency, attitude or knowledge). Articles about (pre-service) teachers reading children's literature were scarce. Therefore the results were supplemented with articles about reading characteristics of teachers in general. Also in order to identify factors that correlate with the reading frequency, reading attitude and knowledge of children's literature of pre-service teachers (question 3), a broader perspective was used to generate enough relevant results. Factors were identified based on articles about factors for (a) pre-service teachers, (b) the same age group as pre-service teachers or (c) in-service teachers.

Only peer-reviewed articles in English and Dutch were examined. The publication date was not used as an exclusion criteria. Both qualitative and quantitative studies were considered relevant. Based on these search criteria, 28 articles were selected.

Because relevant articles turned out to be rather limited, the lists of references of relevant articles were used to collect additional studies. In this way another 12 studies were identified.

In total 40 articles were found, focusing on one or more of the questions mentioned above.

Table 1.

Number of articles sorted by the three research questions of this literature review and aspects of reading

Questions of this literature review	Aspects of reading		
	Frequency	Attitude	Knowledge
1. Influence on strategies and pupils	4	6	3
2. Current reading frequency, attitude and knowledge of pre-service teachers	8	7	5
3. Identification of factors	10	8	3
Total*	21	18	10

Note:*Several articles were used for different questions and aspects. In total 40 articles were used.

2.3   General findings

In the following paragraphs the questions described above will be answered. Articles in paragraph 2.4 show the relationship between reading frequency, reading attitude and knowledge of children's literature on the one hand and instructional strategies on the other hand. Conversely the relationship between the aspects and achievement of pupils was very difficult to demonstrate. The next paragraph, 2.5 shows an overview of the current research about reading frequency, reading attitude and knowledge of children's literature for pre-service teachers. The absence of a benchmark and the differences between contexts result in difficulties when transferring results to other contexts. In the last paragraph factors that correlate with reading frequency, reading attitude and knowledge of children's literature are identified. These factors are used to construct a conceptual framework.

2.4   The influence of reading characteristics of teachers

In this paragraph the influence of reading characteristics of teachers on instructional strategies and consequently achievement of pupils will be discussed. First the influence of teacher's reading frequency will be discussed (paragraph 2.4.1), second the influence of teacher's reading attitude will be described (paragraph 2.4.2) and third the influence of knowledge of children's literature will be outlined (paragraph 2.4.3).

2.4.1   Reading frequency
Many scholars assume that the amount of reading done by teachers can be expected to be related to teacher behavior and student's reading achievement. Only a few researchers studied this relationship (e.g. Lundberg and Linnakyla, 1993 & McKool & Gespass, 2009).

Lundberg and Linnakyla (1993) explored the relationships with data of the IEA Reading Literacy Study. Data were collected from teachers and pupils (9- & 14-year olds) from 9073 schools in 32 national systems of education. Teachers reading habits were assessed by questions on how often they read various materials. Three categories were distinguished: professional reading, expository reading and literature reading (including children's literature). Results indicated significant correlations between reading habits of teachers and their instructional practices. For example teachers who reported

frequent reading in any domain tended to have more discussions of books, used more self-prepared teaching materials and used a more student-oriented style of teaching. In general teachers who read more used more instructional best practices. Some correlations were more domain specific. Teachers reading literature (including children's literature) used the following instructional practices more often: 1. Reading plays; 2. Learning library skills, 3. Assessing literary appreciation and 4. Dramatize stories.

McKool and Gespass (2009) found similar results. According to their research only half of their research participants (consisting of 65 elementary school teachers) did read more than 10 minutes per day for pleasure. In their research, McKool and Gespass associate reading for pleasure with instructional best practice strategies. The instructional activities characterized as best practice activities were based on a literature review of Zemelman, Daniels and Hyde (2005). Best practices were for example guided reading lessons, literature circles, comprehension discussions, periods of silent reading, sharing insights of personal reading experiences and recommendation of books to students. Teachers who read for pleasure more than 30 minutes per day, did use more of these best practice activities than those who read less than 10 minutes.

Conversely Burgess et al. (2010) reported no significant difference in activities between frequent and non-frequent reading teachers. The authors state two different explanations for these results: 1. Measurement of reading habits in their research did produce less extreme comparison groups between the frequent and non-frequent readers or 2. The teaching practices included in their research were less tied to the use of books and the interest in literacy. The practices focused more on basic skill literacy such as phonemic awareness. The teachers' leisure reading behavior was measured by asking the participants how many books they read per month. No categories of literature were distinguished.

McKool and Gespass (2009) found evidence that frequent reading teachers (reading for pleasure more than 45 minutes a day) use only strategies to promote the intrinsic reading motivation of children such as discussing and recommending books in class and offering choice in materials. In contrast almost half of the total group of respondents did use only extrinsic rewards, such as prizes. According to Schiefele, Schaffner, Moller & Wigfield (2012) intrinsic motivation of pupils has a positive effect on their reading behavior and reading competence. Conversely, they describe extrinsic reading motivation has a relatively small or negative contribution to reading behavior and reading competence of children.

Lundberg and Linnakyla (1992) found teacher readership was an important discriminator in 17 countries when the most effective classes (achievement higher than expected given to the background of students) were compared to the least effective classes. The researchers conclude that teacher readership may be an indication of high quality teaching.

Taken together, these studies suggest that reading frequency of teachers correlate with 'best practice' instructional strategies related to literature reading. A direct relationship between reading frequency of the teacher and achievement of pupils could not be found.

2.4.2   Reading attitude

Several scholars studied the relationship between reading attitude of teachers and instructional strategies. The relationship between teachers' reading attitude about children's literature and instructional strategies has up to today never been examined. What is known about the influence of reading attitudes of teachers on instructional strategies is largely based upon general reading attitude measures.

Unfortunately reading attitude seems to be poorly defined term. Different definitions of reading attitude are used or not given at all. An example of a definition is the definition of Stalpers (2005). He defined reading attitude as "a stable evaluative predisposition towards reading, organized by

experiences, based on expected outcomes, that gives direction to behavior" (Stalpers, 2005, p.147). The word stable refers to the fact that attitudes don't change quickly. This distinguishes attitude from motivation. Organized by experiences indicates that the reading attitude is formed by reading experiences. Expected outcomes of reading are for example an increase in knowledge or feelings associated with the plot. This definition is not described in the articles described below.

Schofield (1980) studied the impact of the attitude of teachers towards reading in general. Unfortunately no definition of reading attitude was given. Higher attitudes of teachers towards reading were positively associated with higher achievement and higher attitudes of pupils. While Schofield focusses on the impact on attitudes, Morrison, Jacobs and Swinyard (1999) focus on the instructional activities performed by enthusiastic reading teachers (questions about children's literature were not included). In their study enthusiastic readers were more likely to use instructional activities that promote engagement in reading. The PIRLS 2011 International Results in Reading report (Mullis, Martin, Foy & Drucker, 2012), shows that engaged instruction and engaged students are related to higher student achievement in reading.

Similar results were found by Pečjak and Košir (2008). They suggest that teacher's beliefs about the importance of reading are significantly related with activities that promote reading motivation. According to their outcomes, teachers who think reading is highly important, organize activities in the classroom in such a way that pupils read more and they often act like a model when reading aloud, teaching strategies and in discussions with pupils. This teacher behavior influences reading motivation and achievements.

Ruddell (1995) identified qualities of teachers who made a long-term and vital difference in the lives of children. One of the qualities these teachers possessed was the "aesthetic stance". These teachers were actively immersed while reading, identified with the characters and reacted thoughtfully to texts. Similarly Nathanson, Pruslow and Levitt (2008) assert that 56% of the unenthusiastic readers in their research did not have a teacher who shared a love of reading, whereas 64% of the enthusiastic readers did have such a teacher. The findings show that enthusiastic teachers meaningfully affect pupils with their enthusiasm for reading.

In summary these studies indicate a relationship between the reading attitude of teachers and the instructional strategies performed in the classroom. A relationship between teachers' reading attitude and pupil achievement could not be found. However, there is limited evidence for the relationship between teachers' reading attitude and the attitude of pupils.

2.4.3   Knowledge of children's literature

Research of Burgess et al. (2011) seems to confirm the importance of extensive knowledge of children's literature to teach literacy effectively. In their study, they examine the differences in teaching practices between teachers with a lot of knowledge about children's literature and those with only a very narrow knowledge. Teachers who had a greater knowledge of children's literature used more often literacy best practice techniques related to book usage. For example 75.4% of the knowledgeable teachers reported reading aloud daily against 55.4% of the teachers with the least knowledge of literature. The best practices were also evident in the more basic literacy skills areas. The researchers argue: "Knowledge of children's literature may help by aiding teacher more adeptly identify books and authors for the specific student while a general favorable disposition towards leisure reading may increase the enthusiasm of the teacher for the entire process."

In the UK a project was started in 2006 to develop knowledge of children's literature among teachers. Teachers were stimulated to read books and talk about them with colleagues. Findings indicated that not only the knowledge and the enthusiasm of the teachers increased but also the reading pleasure and reading results of children (Cremin, Mottram, Collins, Powell and Safford, 2009).

However only the knowledge of children's literature will not guarantee good teaching practice and good results. Three knowledge domains can be distinguished (Collins & Safford, 2008): 1. Knowing the books themselves; 2. Understanding how and when to use the texts in the classroom 3. Understanding children's development as readers. Teachers' knowledge of children's literature alone does not guarantee results.

In summary, this paragraph provides less evidence for a relationship between knowledge of children's literature and instructional strategies or student achievement, than the proceeding paragraphs did for reading frequency and reading attitude. However the studies of Burgess et al. (2011) and Cremin et al. (2009) can indicate a relationship between teachers knowledge of children's literature and best practice instructional strategies and increased reading attitude and achievement of pupils.

2.5 Recent research about reading frequency, reading attitude and knowledge

The previous paragraph has shown that reading characteristics of teachers (such as reading frequency, reading attitude and knowledge of children's literature) influence instructional strategies and classroom practices. Taken together these findings suggest that teachers should have high reading frequency, high reading attitude and knowledge of children's literature. This raises the question to what extent pre-teachers possess these reading characteristics. In this paragraph recent research about reading frequency, reading attitude and knowledge of children's literature for pre-service teachers, will be examined. Because relevant articles about reading frequency and attitude specific for children's literature turned out to be limited, research about general frequency and attitude for (pre-service) teachers will also be included.

2.5.1 Recent research about reading frequency

The reading frequency of both in-service teachers and pre-service teachers has worldwide been described as concerning. Despite the different research methods, there seems to be a consensus among scholars: the reading frequency is insufficient (Granado, 2014; Rijckaert, 2014; Pearce, 2015). This problem is also acknowledged at different teacher training colleges in the Netherlands (Chorus, 2007; Stichting Lezen, 2014; Jongstra & Pauw, 2015).

Granado (2014) investigated the reading frequency of future teachers in Spain and compared the results with national data. He reported whereas the average number of books read per year by young people in the same age range as pre-service teachers was in between 12 and 16 books per year, according to his study only 3% of the pre-service teachers read more than 12 books per year. He found that 60% of the future teachers spend between five and six hours weekly on reading any kind of material. According to Granado this is just below average of six hours for the entire Spanish population above fourteen.

Rijckaert (2014) performed a similar study with a population of pre-service teachers for primary and secondary education at an institute for higher education in Belgium (N = 326). She calculated that more than 60% of her respondents (pre-service students for primary and secondary education) spend less than one hour a week on reading fiction. Approximately 19% of the respondents indicated that they never read fiction. Further 70% of the students answered that they did spend less than one hour on reading non-fiction and 22% even stated that they never read non-fiction in their free time. Reading of picture books was measured with a separate question. Pre-service teachers with a specialization in younger children were asked about the time they spend on reading these books in a week. Nearly 8 % of the students stated that they never read picture books, 51.9% of the students did read less than 1 hour a week, 31.6% between 1 and 3 hours, and 8.9% more than 3 hours a week. Although Rijckaert

(2014) interprets these results as concerning, as the time needed to complete a picture book is not that long, it is not surprising that the option "less than 1 hour" a week was chosen most often.

Pearce (2015) distinguished three different aspects of reading frequency of children's literature: Reading to children, reading children's books and reading children's poetry. The difference between reading for pleasure and for school assignments, was not made. In his research 54% of the pre-service teachers (N = 168) said they read children's books regularly or very often. Nearly 29% of the students indicated that they read books infrequently and 17% rarely. Regarding children's poetry, Pearce (2015) found that only 24% of the students read this genre regularly or often. Other students read children's poetry only infrequently (40%) or rarely (36%). Besides this, 58% of the students indicated that they read to children regularly or often.

In the Netherlands, the decline of reading can be seen as a trend among young people (Stichting Lezen, 2014). However results of older studies about reading frequency of pre-service teachers show that this problem has been recognized for years (e.g. Mour, 1977; Gray & Troy, 1986). According to Gray and Troy in 1986, 29 of the 80 pre-service teachers were currently reading a book. They advise teacher training to learn students the importance of reading. In 1977, 39 years ago, Mour signaled similar results. 50% of the respondents (graduate students at a pre-service training college) did report reading less than two books a year. Are the expectations too high? The absence of a benchmark makes it difficult to conclude if students read enough books. This depends solely on the interpretation of the researcher or reader of the research results.

2.5.2   Recent research about reading attitude

Besides the low reading frequency, a growing body of literature has investigated the reading attitude of pre-service teachers. Sources specifically focusing on reading attitude towards children's literature were scarce. Only one source was found. Pearce (2015), asked 168 pre-service teachers the question if they enjoyed reading children's literature. A large majority of the students (79.8%) enjoyed reading of children's literature regularly or often.

One of the most cited articles about the reading attitude of pre-service teachers is the research of Applegate and Applegate (2004). They classified a population of 379 pre-service teachers into the categories unenthusiastic (51%) and enthusiastic readers (49%). Does this imply that pre-service reading attitudes are as concerning as their reading frequency? In the survey instrument of Applegate & Applegate, questions about reading frequency were included to measure the enthusiasm of the students. They classified students as enthusiastic readers when they reported a positive attitude towards reading and engaged in reading during the summer. Students who associated no or very little enjoyment with reading and who did little or no reading during the summer were classified as unenthusiastic. This will possibly have a negative influence on the results.

Although students do not exhibit personal reading, they acknowledge the importance of reading is the conclusion of Nathanson, Pruslow & Levitt (2008). They found 81.4% enthusiastic readers against 18.6% unenthusiastic readers among 747 students enrolled in a graduate school of education, who are currently teachers or prospective teachers. Rijckaert (2014) did not find substantial differences. She studied undergraduate student teachers. She found 45% of these students had a positive reading attitude and 45% a neutral reading attitude. Only 10% of the students had a negative reading attitude. A recent study at the Katholieke Pabo Zwolle, showed that the reading attitudes here are even higher. Here 51% of the students had a positive reading attitude, 45% a neutral reading attitude and only 4% a negative attitude (Jongstra & Pauw, 2015). These results are substantially different from the findings of Applegate and Applegate (2004). Nevertheless, it could be argued that a neutral reading attitude is simply not enough to become a good reading promotor. Researchers such as Schofield (1980) and Pečjak and Košir (2004) describe in their research (paragraph 2.4.2) the impact that teachers with high

reading attitudes have on the results of children. Teachers with a neutral background do have less impact.

2.5.3   Recent research about knowledge of children's literature

The amount of books students are required to read at teacher training colleges, differs between the teachers training colleges in the Netherlands. Some students are required to read at least 60 titles, whereas others do not have these obligations. Some teacher training colleges give a lot of attention to children's literature, whereas at others colleges, students rarely learn about children's literature. Concerns are therefore legitimate according to Stichting Lezen (2014). However, these results do not give indications about the actual knowledge of the pre-service teachers. Unfortunately, only one study about knowledge of children's literature for pre-service teachers, was available. This study by Pearce (2015) will be described first. The other studies found, focus on in-service teachers and will be described next.

Pearce (2015) used a title recognition test that consisted of 25 actual children's books and 14 foil titles. Students could get a score from 0 to 25. Participants' (N = 168) scores ranged from 2 to 24. On average the participants were familiar with nine (existing) titles of children's books (SD = 3.4). He suggests to implement a children's and adolescent's literature course at the beginning of teacher training college. This would improve the knowledge of children's books.

Research among 1200 primary teachers in the UK revealed that in-service primary teachers lean on a very narrow knowledge of children's books (Cremin et al., 2008). Although three quarters of the teachers did read for their own pleasure at least once a month, most teachers relied mostly on children's literature they knew from their own childhood. Fewer than 48% teachers surveyed could name six good children's authors. Naming six children's poets and six picture books authors/illustrators was a more challenging task. Only 10% could name six poets. 22% named no poets at all. 62% named two, one or no picture fiction creators: 24% named none and only 10% named six. The lack of knowledge worried the researchers, because they expect that these teachers are not capable enough to expand the reading repertoires of their children and recommend books to individual learners that can motivate them to become readers.

Cunningham, Perry, Stanovich and Stanovich (2004) used a test similar to the test of Pearce, to assess the knowledge of in service teachers. The researchers used a Title Recognition Test including 35 children's book titles and 15 false book titles. 90% of the 722 teachers questioned were not familiar enough with the most popular children's literature to recognize a majority of the titles.

Carpenter (1997) used a qualitative approach and asked the students in her children's literacy class at the beginning of the semester to list some of their favorite authors for children or adults. Almost everyone listed "old" authors such as C.S. Lewis, Dr. Seuss and A.A. Milne. The younger students also mentioned young adult authors such as Cynthia Voight. Only one student named authors of more recent work. She worked in a book shop.

Although most published studies are limited to research about the knowledge of in-service primary teacher, the conclusions of these studies can be used to give an indication about the knowledge of pre-service teachers.

2.6   Factors influencing reading frequency, reading attitude and knowledge.

In the previous sections the influence of reading frequency, attitude and knowledge on instructional strategies and recent research about reading frequency, attitude and knowledge of (pre-service) teachers have been presented. This section provides an overview of predictors of reading frequency,

reading attitude and knowledge of children's literature identified in literature. These predictors can be personal characteristics such as age and gender, but can also be environmental such as reading climate and instructional strategies. Because research about factors influencing reading frequency, reading attitude and knowledge concerning children's literature for pre-service teachers is scarce, a broader perspective was used to generate enough relevant results. Factors were identified based on articles about factors for 1. Pre-service teachers, 2. The same age group as pre-service teachers or 3. In-service teachers and were based on both adult and children's literature. An overview of the identified factors is given in Table 2. These factors will be described in detail in the next sections.

Table 2.
Overview of identified factors for frequency, attitude and knowledge of children's literature of (pre-) service teachers.

Aspects		
Reading frequency	Reading attitude	Knowledge of literature
- Gender	- Gender	- Literacy education
- Age	- Age	- Exposure to books
- Educational level	- Educational level	- Past reading experiences
- Student-centered education	- Student-centered education	
- Courses about children's literacy	- Reading frequency	
- Reading attitude	- Personality	
- Reading climate	- Reading climate	
Parents	Parents	
Friends	Friends	
Teachers	Teachers	
- Reading activities with children outside school	- Self-efficacy in reading	
- Perceived opportunity to read		
Criteria for selection		
Knowledge of books		
Perceived risk		

2.6.1   Factors influencing reading frequency.

Socio-demographic background variables

Gender. According to different authors (Stokmans, 1999; Knulst & Kraaykamp, 1998), women are more frequent readers than men. Figures of the SCP affirm these conclusions. The results of a Dutch time-budget study (Sociaal Cultureel Planbureau, n.d.) showed that women read 1.7 hours a week, while men read 0.9 hours. Literary works, romance novels and thrillers are more read by women than by men.

Age. Another background variable indicating reading frequency is age. Age and time spent on reading are positively correlated (Stokmans, 1999; Knulst& Kraaykamp, 1998). The results of a Dutch time-budget study (Sociaal Cultureel Planbureau, n.d.) indicate that the reading frequency of people in their twenties and early thirties is equal to the reading frequency of teenagers. The reading frequency of older people is higher. However, because of an overall decline in time spent on reading, younger cohorts will probably not read as much as previous cohorts did (Knulst & Kraaykamp, 1998).

Educational level. A third background variable is the educational level of people. Higher educated people read more than people who received less education (Griswold, McDonnell & Wright, 2005). Gallik (1999) notices a positive relationship between college students' academic achievement and the time spent on reading for pleasure during vacations. Outcomes of the time-budget study of the SCP show that students from secondary schools and vocational education read less than students from (applied) universities.

Literacy education

Student-centered education. Verboord (2005) found that approaches of literacy education affect the book reading frequency of people as adults. His multilevel analyses showed that student-centered literacy education in secondary education leads to higher reading frequency later in life. This is mediated by the development of a positive reading attitude. When people had more culture-centered education, they tend to read less as adults. Education was defined as student-centered if: 1. The goal was directed to personal development; 2. Text and authors were more often chosen for their popularity among students; 3. Instructional techniques were pointed towards reading experience and class discussions; 4. Importance of learning about the canon was stressed through a small compulsory reading list. Education was defined as more culture-centered when 1. The goal was more directed to transmission of literary knowledge and norms; 2. Discussed texts and authors were more prominent in literary criticism and literary studies; 3. Instructional techniques were pointed towards texts and authors rather than to the experience; 4. The importance about the canon was stressed through a large compulsory reading list.

Courses about children's literature. In contrast to Verboord, Pearce (2015) specifically focused on the reading frequency of children's literature for pre-service teachers. He identified significant correlations between reading frequency and different courses about children's and adolescents' literature and reading instruction at a teacher training college.

Reading attitude

The most contributing factor to reading frequency in the work of Stalpers (2005) is reading attitude. The hedonic/experiential component of reading attitude explained in his study more than 40% of the variance in reading frequency for teenagers. Stalpers explains: "the decision to read is guided by emotions and expected pleasure rather than rational thought and perceived usefulness". In his study, reading attitude mediates between self-efficacy and perceived opportunity to read and reading frequency. He recommends reading promotors to acknowledge the importance of pleasurable reading experiences and to create meaningful reading experiences with books of students' own interest.

Reading climate

Another important factor contributing to reading frequency is the reading climate created by parents and friends. According to Stalpers (2005) reading frequency is dependent on parental support and peers. When parents and friends of respondents read and talk about books frequently, these respondents are likely to be readers themselves (Stalpers, 2005). In Stalpers research 9% of the variance in reading frequency could be explained by reading climate (parents and friends). These results are in line with the conclusions of other studies (e.g. Stokmans, 1999; Nelck-da Silva Rosa & Schlundt Bodien, 2004). Stalpers also studied the influence of teachers. This influence was substantially lower than the influence of friends and parents.

Reading activities with children outside school

Research of Pearce (2015) shows that another element plays a role for reading frequency of children's literature. His study shows that participants who reported daily contact with children outside of school settings had higher current reading habits of children's literature.

Perceived opportunity to read

A last factor found by Stalpers (2007) is "perceived opportunity to read". This can be divided in three components: Criteria for selection, knowledge of books and perceived risk. Criteria for selection such as judgement of books by its thickness or cover correlated with low reading frequency while reading short fragments correlated with a negative reading attitude in Stalpers research. Knowledge of books correlated with reading frequency. This correlation was not mediated by reading attitude. Perceived risk can be interpreted as the fear to choose the wrong book or the expectation that books you choose are not to your satisfaction. Stalpers found that this factor was important for predicting the reading frequency. Students who perceived a higher risk read less.

2.6.2 Factors influencing reading attitude

Socio-demographic background variables

Gender. The socio-demographic variables that influence reading frequency, were also found for reading attitude. Women are more likely than men to have a positive reading attitude (Nelck-da Silva Rosa & Schlundt Bodien, 2004). Nelck-da Silva Rosa and Schlundt Bodien argue that this difference can be explained by a difference in ego development and level of reflection.

Age. Results of Van Schooten and De Glopper (2002) show that students in higher grades of secondary school have less positive reading attitudes. Does reading attitude improve in college? No publications were found that studied this development.

Educational level. Several scholars show that students with a higher educational level have higher reading attitudes (Nelck-da Silva Rosa & Schlundt Bodien, 2004; Van Schooten & De Glopper, 2002)

Literacy education

In a study conducted by Witte, Rijlaarsdam and Schram (2008) it was shown that literacy education can have impact on reading attitudes of students. When literacy teachers adapt their advice and learning activities to the student's needs and preferences, this improves the development of a positive reading attitude. Especially students who are not stimulated in reading at home can benefit from this approach.

Reading frequency

Although most studies focus on the predictive value of reading attitude on reading frequency instead of the other way around, reading frequency can also be a factor for predicting reading attitude (Stokmans, 2006). This view is supported by With (2005a). He found that students in the higher grades of havo and vwo, who read more, had a more positive attitude than their fellow students who read less books.

Personality

Stalpers (2007) identifies two personality traits related to reading attitude: Need for cognition (need for knowledge and reflection) and fantasy proneness (fantasy and imagination). He explains that these traits are relatively stable and very difficult to change.

Reading climate

Another factor contributing to reading attitude is reading climate. According to Stalpers, pupils from reading families have a five times higher change to develop a positive reading attitude. Also "reading" language teachers can contribute to a positive reading attitude. When students describe their teacher as somebody who recommends books, talk about books and reads books they are more likely to have a positive reading attitude. There is also a correlation between adolescents and friends in terms of reading attitudes. However in contrast to teachers and parents, people can choose their own friends. It is possible that reading people choose reading friends.

Self-efficacy in reading

Self-efficacy is predictive for reading attitude (Stalpers, 2005). Self-efficacy can be defined as the strength of one's belief in one's own ability to complete tasks and reach goals (Bandura in Stalpers, 2005). The self-efficacy items of the surveys of Stalpers (2005) focus on the self-perceived reading ability and the level the student expects to perform at when reading. A meta-analysis of Petscher (2010) showed a relationship between reading attitudes and achievement in reading and between self-efficacy and reading for elementary and middle school students.

2.6.3 Factors influencing knowledge of children's literature

Literacy education

Pearce (2015) found significant correlations between knowledge of children's literature and a course in children's and adolescents' literature and a course in reading instruction.

Exposure

Exposure to children's literature was positively associated with teacher's knowledge of children's literature (Randall, 2011). According to Randall, teachers do not have knowledge of current book titles and exposure can affect this deficiency. Surprisingly Pearce (2015) found no statistically significant relationship between daily contact with children and knowledge of titles of children's literature. Research in secondary education showed that reading frequency correlates with knowledge of authors of novels for adolescents and adults (With, 2005).

Past reading experiences

Students, who reported positive past reading experiences, had high knowledge of children's literature in the research of Pearce (2015). Questions asked to measure the past reading experiences were for example: "As a child, how often did you visit the library?" and "How frequently were you read to at school?"

2.6.4   Conceptual framework

The results shown in the previous paragraphs provide important insights into the factors predicting reading frequency, reading attitude and knowledge of children's literature. In Figures 1, 2 and 3 below these factors have been summarized. A distinction was made between personal characteristics and environmental factors. Personal characteristics are factors that can be attributed to a pre-service teacher such as socio-demographic characteristics and personal traits. Environmental factors can be attributed to the environment of a pre-service teacher such as access to books or the reading climate at school

Figure 1.
Overview of environmental factors and personal factors for reading frequency of children's literature.
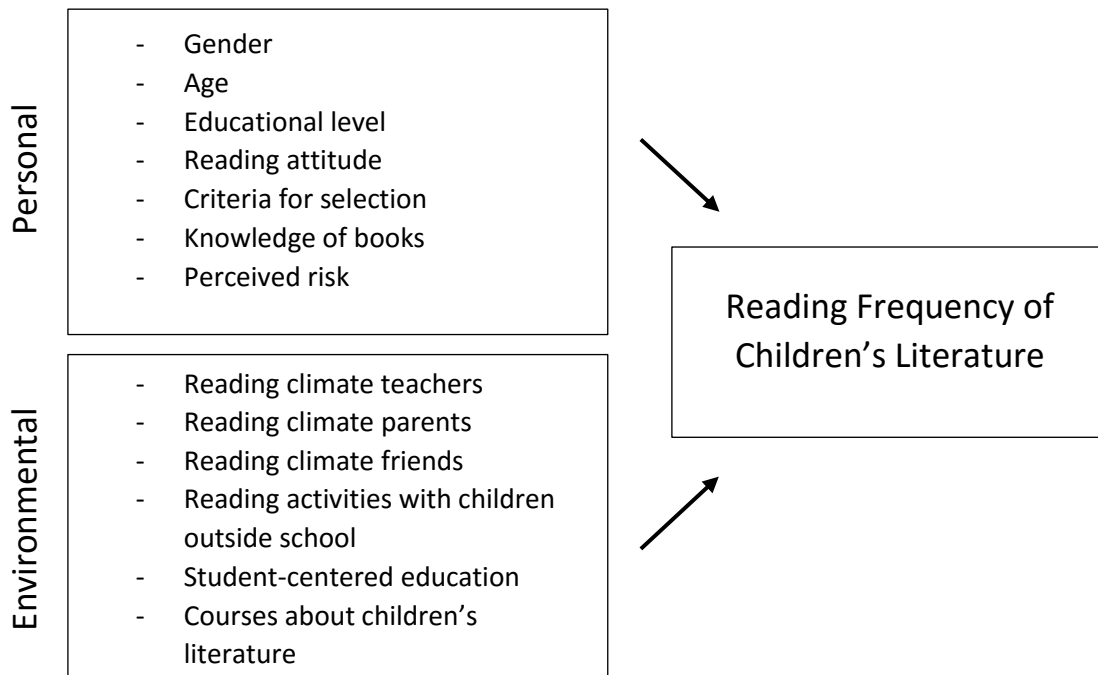

Figure 2.
Overview of environmental factors and personal factors for reading attitude.

Figure 3.

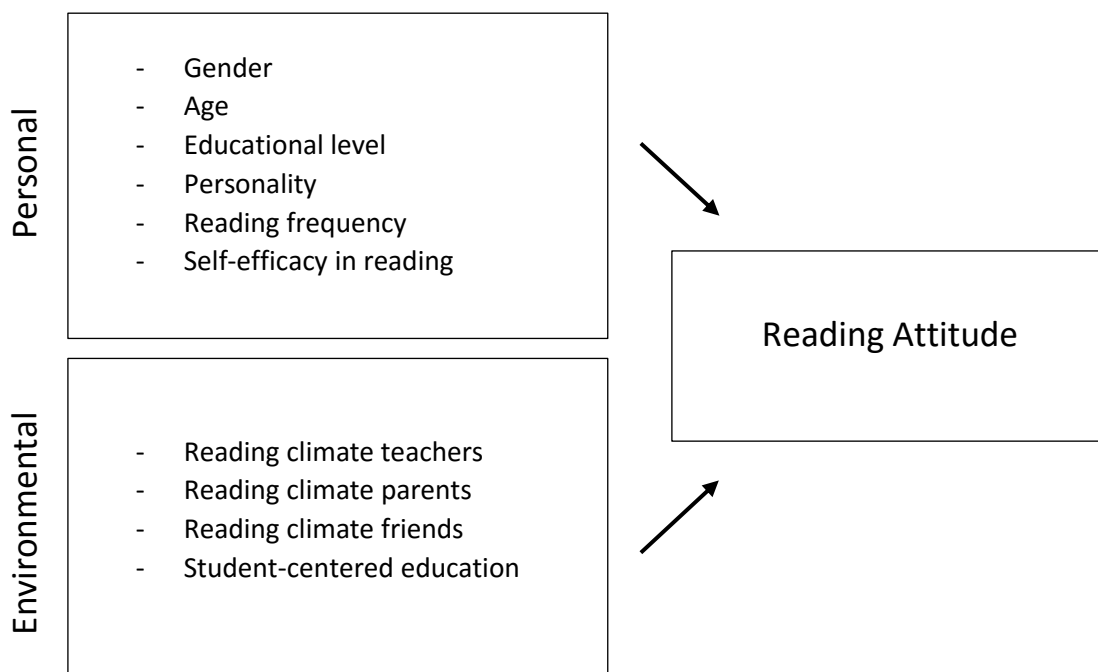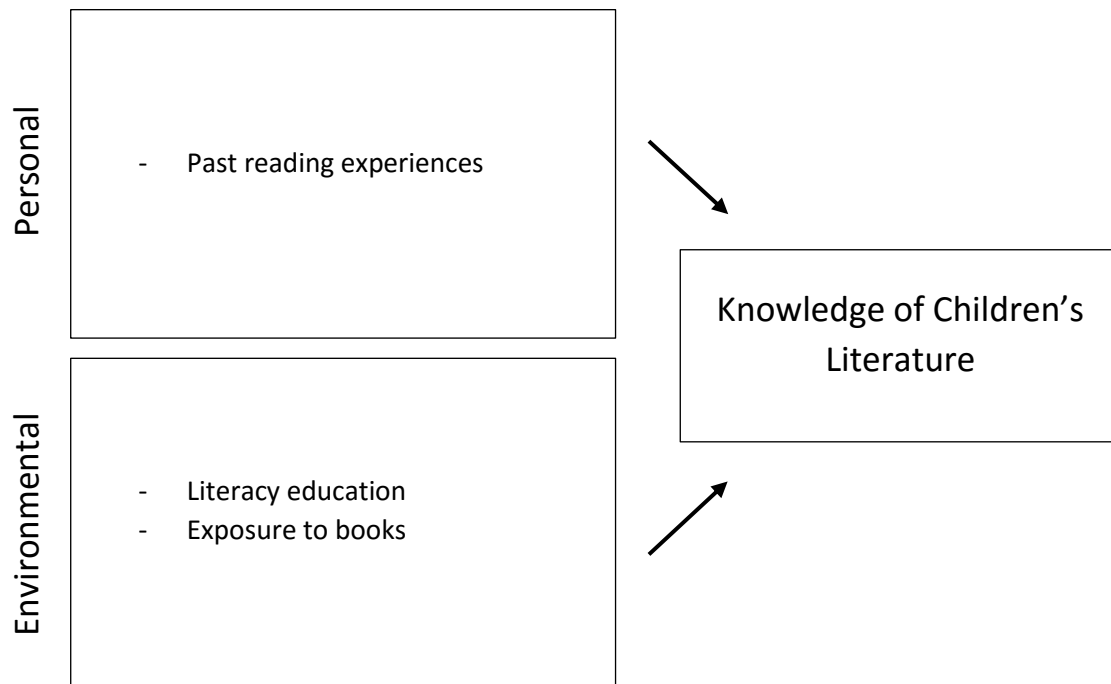*Overview of environmental factors and personal factors for knowledge of children's literature.*

Personal	Past reading experiences

Knowledge of Children's Literature

Environmental	- Literacy education - Exposure to books

3 Research approach

3.1 Design

This study employs a quantitative method with a correlational design. The purpose is to determine if associations exist between or among variables. Data was obtained from a questionnaire administered at the Katholieke Pabo Zwolle. The dependent variables reading frequency of children's literature, reading attitude and knowledge of children's literature and several independent variables were measured with this questionnaire. The independent variables included in this research, were selected based on the identified factors in section 2.6 of the theoretical framework. A few factors identified in section 2.6 have not been measured in the survey, because this research is based on earlier collected data. Therefore it was not possible to include these factors in this study.

3.2 Respondents

This study is based on data of fulltime students at the Katholieke Pabo Zwolle obtained with the use of a questionnaire. The questionnaire was completed by 347 (71%) of the 488 registered fulltime students in spring 2014, from the first (n = 134), second (n = 84), third (n = 75) and fourth (n = 54) year (Table 3). The lower response rates in the higher years could be attributed to absence because of teaching practice or foreign internships. In a few cases there were no apparent reasons for absence.

The initial number of participating students was 359, but 12 students were excluded based on incomplete surveys (due to absence of valid student numbers, computer problems or showing up to late). The age of the students varied between 17 and 27, with a mean age of 20. Only 16% of the overall sample was male. This gender imbalance is representative for the total population of students at the Katholieke Pabo Zwolle (21% is male). The prior education of the students was mbo (39%), havo (56%) or vwo (5%). All students combined classes at the teacher training college with a part-time internship at a primary school. Students were divided over different grades of the primary schools (Table 4).

Table 3.
Amount of student per year compared to response rate.

Year	Amount of fulltime students	Response rate
Fulltime - year 1	151	88.7%
Fulltime - year 2	125	67.2%
Fulltime - year 3	116	64.7%
Fulltime – year 4	96	56.3%
Total	488	71.1%

Note. Reference date: 13-2-2014

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Table 4.
Internship class for students included in the sample.

Class at internship	Frequency	Percentage
Grade 1-2 (Kindergarten)	58	16.7%
Grade 3-4	119	34.3%
Grade 5-6	93	26.8%
Grade 7-8	77	22.2%
Total	347	100%

3.3 Procedure

The questionnaire was administered in January and February 2014 (Adolfsen, 2015). Prior to the first year of their study, all students signed a statement confirming that their data can be used for research proposes. Prior to data collection, all participants received an invitation with general information about the research. The research topic was not mentioned and anonymity was guaranteed to avoid social desirable answers. The questionnaires were administered in a computer room during six scheduled sessions, depending on optimal presence of the students of different cohorts. The sessions started with five minutes of instruction about the goal of the research, the procedure and rules. The questionnaire was administered in the presence of a researcher.

3.4 Instrumentation

The questionnaire is an adaptation of the reading frequency questionnaire of Stalpers (2005, 2007) adapted by Adolfsen (2015). The questionnaire consists of six sections: personal details, the meaning of reading, the reading environment of the student, personal (reading) characteristics, reading frequency and reading behavior and read genres. It was pilot-tested in 2014. An overview of the variables with corresponding items is included in Appendix 1.

3.4.1 Dependent variables

Reading frequency of children's literature

To measure the reading frequency of children's literature, 5 items were used related to different genres of children's literature: children- and young adult novels (fiction), informative books for children, poetry for children, comic books for children and newspapers for children. The responses were measured on a six-point scale (1 = never, 2 = once half a year, 3 = once in two to three months, 4 = once a month, 5 = once in two to three weeks, 6 = once a week or more often). Cronbach's Alpha for this scale is .65.

Besides these items, four additional items were designed about reading frequency of children's literature across genres (α = .69): One dichotomous question ("Are you currently reading children's literature?") and three six-point scale questions ("How many books for children did you read during your summer holiday?"/ "How many books for children did you read since the end of your summer holiday?" / "When did you finish a children's book for the last time this half year in your spare time?"). In the survey the respondents were instructed to exclude obliged literature for educational purposes and to focus on reading in spare time. Students were allowed to include both fiction and non-fiction.

Because the original survey of Stalpers (2005) did not focus on pre-service teachers, all items about reading frequency of children's literature were adapted by Adolfsen (2015) in cooperation with the educational institute (Katholieke Pabo Zwolle).

Reading attitude

The measurement of reading attitude was not designed specifically for reading attitude about children's literature. Because data was collected previous to this research it was not possible to adapt to the focus on children's literature.

The concept of reading attitude can be divided in two different aspects: a utilitarian and hedonic aspect (Stokmans, 1999). The utilitarian (cognitive) aspect focuses on the results of reading: the beliefs of functional benefits, such as "reading fiction helps in forming opinions". This is connected with concepts such as individual development and educational utility. The hedonic aspect focuses on the affective opinions about reading, like "reading makes me happy". Concepts such as enjoyment and escape from the real world are related to this aspect.

Six items were designed by Stalpers (2005) to measure the hedonic aspect of reading attitude (α = 0.84) and seven items for the utilitarian aspect (α = 0.78). The responses were measured with fivepoint-semantic differentials. One advantage of the semantic differentials is that both respondents with a negative and positive attitude can read their opinion explicit in the survey. This can reduce undesired interference (Stalpers, 2005). The Cronbach's Alpha of reading attitude in total is .86.

Knowledge of children's literature

The assessment of the knowledge of children's literature consisted of an assignment of two minutes during the survey. The students were instructed to write down as much names of authors of children's books or titles of children's books as they could come up with during two minutes. The time was clocked by the researchers. 20 cells were available in the survey tool.

3.4.2   Independent variables

The independent variables were selected based on their match with the identified factors in the theoretical framework (visible in Table 5). Due to the constraints of this research the factors about contact with children, self-efficacy and the structure and instructional strategies at the educational institute (student-centered education, courses about children's literature and literacy education) were not translated in constructs.

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Table 5.
Match between identified factors in literature and factors the student questionnaire.

Identified factors in literature	Measured factors
1. Dependent variables	
Reading frequency children's literature	Reading frequency children's literature
Reading attitude	Reading attitude - Hedonic
	Reading attitude - Utilitarian
Knowledge of books	Knowledge of children's literature
2. Independent variables	
Background variables	
Gender	Gender
Age	Age
Educational level	Prior education
	Year of study
Past reading experiences	Past reading experiences
	(primary and secondary education)
Personal characteristics	
Reading frequency adult literature	Reading frequency adult literature (including fiction, non-fiction, professional literature and magazines)
Personality	Personality - Fantasy Proneness
	Personality - Need for cognition
Perceived risk	Perceived risk
Criteria for book selection	Advice of others (friends, adults, advertisements etc.)
	The appearance of the book (individual item)
	(Pre) tasting and previous reading experiences (individual item)
	Thickness of the book (individual item)
Self-efficacy	*Not measured*
Environmental characteristics	
Reading climate parents	RC - parents
Reading climate friends	RC - friends
Reading climate teachers	RC - teachers Dutch
	RC - teachers general
	RC - mentors internship
Student-centered education	*Not measured*
Courses about children's literacy	*Not measured*
Literacy education	*Not measured*
Reading activities with children	*Not measured*
Exposure to books	*Not measured*

In Table 6 (below), all the composite constructs in the data set are described with corresponding items and reliability. A few factors are not included in this table because these factors were not constructed with several questions. The dependent variable knowledge of children's literature is not included because this variable is constructed based on qualitative data as will be described in section 3.5. The socio-demographic factors identified in the theoretical framework (gender, age, educational level and year of study) were all measured with single multiple-choice questions. Criteria for selection is divided into one composite construct for advice of others and three factors consisting of individual items.

The internal consistency was calculated for every construct. For some constructs, items were deleted (if item-total correlation < .30) to create an acceptable level of internal consistency. All subscales appeared to have good internal consistency with a Cronbach's α > .6.

Table 6.

Overview of composite constructs in the data set (N = 304-347).

Construct		Removed items	*n* items	α	Example items
Reading frequency	Children's literature	0	5	.65	How often do you read (in your spare time): children's novels
Reading attitude	Hedonic	0	6	.84	I think reading is boring-exciting
	Utilitarian	1	7	.78	I think reading is useless-useful
Past reading experiences		0	4	.92	I liked to read at primary school
Reading frequency	Adult literature*	1	13	.64	How often do you read (in your spare time): Professional literature (such as Praxis/ Didactief)
Personality	Fantasy proneness	0	7	.79	My fantasies are often lifelike
	Need for cognition	2	4	.77	I have much interest in history
Perceived risk		4	3	.58	I often choose books that disappoint me afterwards
Advice of others as a criteria for book selection		3	3	.62	Choosing books based on advices from peers (for example friends)
Reading climate	Parents	1	6	.78	At least one of my parents likes to read
	Friends	2	4	.76	My friends read frequently
	Teachers Dutch*	1	3	.75	My teacher recommends books
	Teachers General*	0	4	.72	My teachers read stories in class
	Mentors internship*	0	5	.83	My mentor talks with me about books.

Note. Adult literature encompasses three categories: literature, professional literature and magazines. Teachers and mentors at the teacher training college.

3.5   Data analysis

The data analysis involved descriptive statistics, correlational analysis and regression analysis. The descriptive statistics were used to describe the current state at the Katholieke Pabo Zwolle concerning reading frequency, reading attitude, knowledge of children's literature and the dependent variables. The correlational analysis made it possible to gain insight in the strength of the relationship between the dependent and independent variables. Hierarchical multiple regressions were used to calculate the relative contribution of different categories of variables to reading frequency, reading attitude and knowledge of children's literature and to calculate the unique contribution of predictors.

Statistical analysis was performed using SPSS (version 23). For the dependent variable knowledge of children's literature, the qualitative data was translated into a quantitative five-point scale using Atlas.ti (version 7).

3.5.1   Descriptive statistics

Descriptive statistics were used to answer sub question one. Frequencies, percentage distribution tables and measures of tendency and variability were reported. If significant differences were found between male and female students, these differences were described and tested for significance with independent sample t-tests.

3.5.2   From open ended-question to quantitative data

As mentioned before, the question indicating the knowledge of children's books, was an open question. Therefore, to analyze this question, first a qualitative approach was used. The analyses were

based on the three phases of Miles and Huberman (1994): 1. Data reduction, 2. Data display and 3.Conclusion drawing/ verification.

The first step was the reduction of data. The raw output of the survey tool Thesistools was adapted for importation in Atlas.ti (Friese, 2013). Irrelevant questions were deleted in such a way that only the 347 answers to the question about knowledge of books were displayed in 347 different primary documents. Prior to coding the documents, a first version of the coding scheme was made based on a suggestion list with 64 titles and corresponding authors of children's books for Dutch student teachers composed by the Dutch writer Jacques Vriens (n.d.). To increase the reliability of the coding process, documents were coded automatically: a code was selected and linked to a search expression. These search expression included names with spelling mistakes. Based on the search expression, all hits in all primary documents were scanned and coded automatically. In order to code remaining authors and titles, the remaining answers of respondents were studied to identify new titles and to create new codes and quotations. To identify if for all respondents all titles and authors were coded, all primary documents were checked manually. This resulted in an overall total of 3571 quotations and 540 codes.

Based on the outcomes of the data reduction, the next steps: data display and conclusion drawing/verification could be performed. To transform the qualitative data in quantitative data, students were given points based on their knowledge of books. Additional points for award winning books were used to prevent that students with more knowledge of award winning book titles, would get a lower ranking compared to other students who did recall a lot of titles that are less valued.

The Gouden Griffels, Zilveren Griffels and Gouden Penseel are important awards given to children's or teenager's literature in the Netherlands. Since 1971 the awards are given during the Dutch Children's Book Week. The Gouden Griffel can only be won by novels written in Dutch, the Zilveren Griffel can also be given to translated work. Using these awards, an attempt was made to measure quality of books using objective indicators. Nevertheless, we can't rule out that there was a difference in quality between the other (non-award winning) books.

The following rules were applied:

1. For every title or author mentioned, students received one point.

2. When students mentioned titles and authors that were Gouden Griffel Winners or Zilveren Griffel winners between 1971 and 2009 or Gouden Penseel winners between 2000 and 2009 they received two points instead of one point for these specific titles or authors.

3. When students mentioned recent winners of the Gouden Griffel, Zilveren Griffel or Gouden Penseel (since 2010), they received three points for these specific titles or authors.

The total score per student varied between one and 30. These scores were translated into a five-point scale, which was used as a variable for the SPSS analysis.

3.5.3 Inferential statistics

Data were screened for normality. The non-normally distributed data (reading frequency of children's literature) was transformed using Blom's formula (rank transformations). After the transformation, the data were approximately normally distributed. The relationship between the predictor variables and reading frequency, attitude and knowledge of children's literature was calculated using Pearson correlation coefficients. One-way ANOVAs and independent *t*-tests were conducted to measure if there were significant differences among groups for age, gender, prior education and year of study.

Three separate hierarchical multiple regressions were used to compare the contribution of different groups of variables (individual background characteristics, individual student factors and environmental factors) to the three dependent variables reading frequency, reading attitude and

knowledge of children's literature. Only variables that correlated significantly with the dependent variable according to the Pearson correlation coefficient, were included in the regression analysis. The groups of variables were entered in steps. A parsimonious model was tested using only the significant predictors from the previous step and the new group of variables as an input for the next step. After the last step the R-square was calculated for the full model (including only the remaining significant predictors).

4 Results

The first sections of this chapter (section 4.1, 4.2 and 4.3) will focus on the first sub question of this study "What is the current state of pre-service teachers' behavior, attitude and knowledge of concerning children's literature at the teacher training college Katholieke Pabo Zwolle?"

The second part of the chapter (section 4.4 and onwards) deals with the second and third sub question. "To which extent do personal characteristics correlate with the reading behavior, attitude and knowledge of pre-service teachers concerning children's literature?" and "To which extent do environmental factors correlate with the reading behavior, attitude and knowledge of pre-service teachers concerning children's literature?"

4.1   The current state concerning behavior, attitude and knowledge

In this paragraph the current state at the teacher training college Katholieke Pabo Zwolle concerning behavior, attitude and knowledge of pre-service teachers concerning children's literature, will be described.

4.1.1   Current state: Behavior/reading frequency of children's literature

As can be seen from Table 7 below, very few students reported reading children's literature frequently during their free time. The percentages show that students who read once a month or more are barely represented. Across all genres, the most selected category was "never". For all categories of literature over 60 percent of the students read only once half a year or even never.

Table 7.
Reading frequency of different materials, percentages (*N* = 344-347).

	Never – Once half a year %	Once every 2 or 3 months – Once per month %	Once every 2 or 3 weeks – Once per week or more often %
Novels for children	65	26	9
Informative books for children	60	32	8
Poems for children	90	8	2
Comics for children	63	22	15
Newspapers for children	89	8	3

At the moment of data collection only 10% of the students was reading a children's book. Another question asked was: "When did you finish a children's book for the last time this half year in your spare time?". According to 50% of the students it was six months or longer ago since they read their last children's book in their spare time. Only 37.8% of the students read a children's book in spare time during the last month. For 11% of the students the last book was read in the previous week. Data from this question can be compared with data from the question "how many children's books did you read since the summer holiday?" Because the survey was administered in the end of January, this was a period of six months. Here 45% of the students answered they did not read children's books for this period. A similar result. Only 5 percent of the students read more than eight books.

In the summer holiday students, most students did not read children's books (64%). Only 3 percent read more than 4 books for children.

Table 8.
Reading frequency of children's books during and since the summer holiday, percentages (*N* = 346-347).

	0 books	1-2 books	3-4 books	5- >8 books
	%	%	%	%
During the summer holiday	64	26	7	3
Since summer holiday (5/6 months)	45	29	14	13

4.1.2 Current state: reading attitude

For reading attitude, more positive results were found. On average students agreed more with the positive statements than with the negative statements. Very few students gave evidence of a negative reading attitude. On average only 1% of the students had a general preference for the negative statements above the positive statements. 82% of the students had a mean score of 4 or 5 which indicated that students showed a positive attitude towards reading. The differences between men and women are highlighted in the table. Men scored significantly lower on reading attitude than women. Women are more positive about the hedonic aspects of reading than men (the hedonic aspect focusses on the affective opinions about reading, the utilitarian/cognitive aspect on the functional benefits of reading). From the data can be seen that students had higher scores on the hedonic aspect (affective opinions) of reading attitude than on the utilitarian aspect (the cognitive results of reading).

Table 9.
Reading attitude of students, mean and standard deviation, subdivided in hedonic and utilitarian and by gender (*N* = 342-345).

	Average	Women	Men
	M*(SD)*	M*(SD)*	M*(SD)*
Reading attitude – Hedonic aspect	4.13(.64)	4.20(.58)	3.75(.82)
Reading attitude – Utilitarian aspect	3.85(.53)	3.86(.52)	3.80(.60)
Reading attitude – Total	3.99(.52)	4.03(.48)	3.78(.65)

Note. 1 = total agreement with negative statement, 5 = total agreement with positive statement

On all individual items, the mean was above 3.5 (out of 5) (visible in Table 10). Category one was rarely selected. Comparing the answers of men and women on individual items, it can be seen that largest differences were visible for the item "Reading is unpleasant" – "Reading is pleasant" (mean and SD for men = 3.55(.99) and for women 4.16(.92)) and the item "The persons in a book do not touch me" – "When I'm reading, I sympathize with the persons in a book" (mean and SD for men = 3.89(1.04) and for women 4.42 (.67)). For all items measuring the hedonic aspect of reading, an independent t-test revealed significant differences between men and women. These significant differences were not found for the utilitarian aspect. Details about the differences between men and women are described in Appendix 2.

Table 10.
Statements of reading attitude, mean and standard deviation (*N* = 345-347).

Negative statement	1	2	3	4	5	Positive statement
Hedonic						
Unpleasant				○		Pleasant
Boring			○			Exciting
When I'm reading I seldom get absorbed in the text.				○		When I'm reading I usually get absorbed in the text.
Stories mean nothing to me				○		Stories often evoke feelings to me
I do not fantasize what people in stories look like				○		I fantasize what people in stories look like
The persons in a book do not touch me				○		When I'm reading, I sympathize with the persons in a book
Utilitarian						
Useless				○		Useful
I learn little from reading			○			I learn a lot from reading
I learn little about other people by reading			○			I learn a lot about other people by reading
Meaningless				○		Meaningful
Through reading I learn little about the world			○			Through reading I learn a lot about the world
I seldom think about what I have read			○			I think about what I have read
Through reading I learn few new words			○			Through reading I learn a lot of new words

4.1.3 Current state: Knowledge of children's literature

To assess the knowledge of children's literature, the students were asked to write down as much names of authors of children's books or titles of children's books as they could come up with during two minutes. Overall the students (*N* = 347) wrote down 344 different titles and 122 authors. On average the students wrote down 3.5 different authors and 6.5 titles. The student with the most different authors/titles came up with 24. This was possible because some students wrote down both title and author in one answering field. Titles and authors were separately coded.

Carry Slee, Annie M.G. Schmidt and Paul van Loon were the most popular authors, mentioned by 280, 161 and 145 students. The most mentioned titles were *Hoe overleef ik* (written by Francine Oomen and mentioned 111 times), *Spijt* (written by Carry Slee and mentioned 88 times) and *Jip en Janneke* (written by Annie M.G. Schmidt and mentioned 87 times). Most of the titles mentioned, where titles of series. What is interesting in the data of authors in Table 11, is that there is a relatively small group of authors that was mentioned often. Most of the authors and titles are famous since the students were primary school children. Did students recall these titles and authors from their own childhood? *Floortje* (place 14) and *De Olijke Tweeling* (place 15) are examples of titles that were popular books

for girls during the childhood of the students and are nowadays less popular. New award winning authors such as Simon van der Geest and Jef Aerts are in the top 15 of most mentioned authors, but were only mentioned 18 and 12 times. From the data about titles in Table 11, it can be seen that the mentioned titles were more diverse. However, as could be expected, there is a correspondence between the top 15 titles and the top 15 authors: most mentioned titles were written by most mentioned authors. Overall, another finding was that almost all titles mentioned by students were titles of fiction books instead of informative books.

Table 11.
Top 15 of most mentioned titles and authors (*N* = 345)

	Most mentioned titles	Frequency		Most mentioned authors	Frequency
1	Hoe overleef ik (series)	111	1	Carry Slee	280
2	Spijt	88	2	Annie M.G. Schmidt*	161
3	Jip en Janneke (series)	87	3	Paul van Loon	145
4	Meester Jaap (series)	67	4	Francine Oomen	124
5	Mees Kees (series)	66	5	Jacques Vriens*	108
6	Dolfje Weerwolfje (series)	58	6	Roald Dahl*	71
7	Afblijven	48	7	Dick Bruna*	40
8	Achtste groepers huilen niet	48	8	J.K. Rowling	38
9	Pluk van de Petteflet*	45	9	Thea Beckman*	31
10	Kikker (series)*	39	10	Simon van der Geest*	18
11	Griezelbus (series)	36	11	Jef Aerts*	12
12	Harry Potter (series)	35	12	Edward van de Vendel*	11
13	Nijntje*(series)	34	13	Marianne Busser	10
14	Floortje (series)	28	14	Maren Stoffels	10
15	De olijke tweeling (series)	25	15	Mirjam Oldenhave	10

Note. * = winners of Gouden Griffel, Zilveren Griffel or Gouden Penseel

Additional points were used to give students with more knowledge of award winning books a higher ranking. Overall, new winners of Gouden Griffels and Zilveren Griffels were not often mentioned. In Table 12 can be seen that the most mentioned title in this category, *Spinder*, was only mentioned by 19 of the 345 students.

Almost all authors and titles in Table 12 were used in the curriculum at the Katholieke Pabo Zwolle in 2014 or in the previous years. Some of the authors visited the teacher training college to read from own work (such as Simon van der Geest from his book *Spinder*). Other books were for example used in literature class.

Table 12.

Top 15 of most mentioned Gouden Griffel/Zilveren Griffel winners since 2010 (*N* = 345)

	Most mentioned Gouden/Zilveren Griffel winners since 2010	Frequency
1	*Spinder* (Simon van der Geest)	19
2	Simon van der Geest	18
3	Jef Aerts	12
4	Edward van de Vendel	11
5	*Winterdieren* (Bibi Dumon Tak)	6
6	Hans Hagen	4
7	*Dissus* (Simon van der Geest)	3
8	Sjoerd Kuyper	3
9	*Toen kwam Sam* (Edward van de Vendel)	2
10	Bibi Dumon Tak	2
11	*Groter dan een droom* (Jef Aerts)	2
12	*Mister Orange* (Truus Matti)	2
13	Truus Matti	1
14	*Vuurbom* (Harm de Jonge)	1
15	Tjibbe Veldkamp	1

When the rules such as described in the method section, were applied, to calculate the knowledge of children's literature on a five point-scale, students had an average score of 2.32 with a standard deviation of .93. The highest categories 4 and 5, were only given to 9.9% of the students.

4.2 The current state concerning personal and environmental factors

In the previous paragraph, the current state concerning behavior, reading attitude and knowledge of children's literature was presented. This section will describe the descriptive statistics for the different factors (the independent variables). The described factors are: Reading frequency of adult literature (4.2.1), reading experience in the past (4.2.2), fantasy proneness and need for cognition (4.2.3), perceived risk and criteria for selection (4.2.4) and reading climate (4.2.5). If significant differences for constructs were found between male and female students, these differences will be described.

4.2.1 Reading frequency of adult literature

As can be expected, Table 13 reveals that students read more material intended for adults than for children. Nevertheless almost for all categories of reading material, never and once half a year are the most selected answers. Blogs and magazines were read relatively often. Poetry was the least read category. There was no difference between reading frequency of poetry for adults and poetry for children. Only 10% of the students read poems more often than once in six months.

Table 13.
Reading frequency of reading material for adults, percentages (*N* = 344 to 347).

Types of reading material adults	Never – 1 x half a year	1 x 2,3 months – 1 x per month	1 x 2,3 weeks – 1 x per week or more often
	Adult literature:		
Novels	55	31	15
Poems	90	8	2
Comics (for adults)	85	10	5
Biographies	85	12	3
Travel guides	77	19	5
Other informative books	63	26	11
	Magazines (including blogs):		
Magazines (general)	30	36	34
News magazines	91	6	3
Travel/nature/science journals	79	16	5
Blogs or letters - personal	38	25	37
Blogs or letters - interest	54	21	25
	Professional literature:		
Journals	57	28	16
National newsletters for teachers	83	14	4

4.2.2   Reading experience in the past

Despite the fact that most students did not read books on a regular basis during the time of the survey, 63% students of the students considered themselves as a "real reader" during elementary education. In elementary school 68% of the students liked to read.

Looking back at secondary education, only 49% of the students considered themselves as a "real reader". Only 58% liked to read during secondary education. On average, women were more positive about reading experiences in the past, than men. An independent sample t-test revealed a significant difference between male and female students for all items. These differences were visible for both primary and secondary school.

Table 14.
Reading experiences in the past, mean, standard deviation and independent sample t-test (N = 341-345).

	Average M*(SD)*	Men M*(SD)* n = 55	Women M*(SD)* n = 286-290	t	p
I was a real reader at primary school	2.85(1.06)	2.20(1.01)	2.97(1.02)	-5.136	.000*
I liked to read at primary school	2.94(1.04)	2.31(1.03)	3.07(.99)	-5.155	.000*
I was a real reader at secondary school	2.52(.99)	1.91(.80)	2.64(.98)	-5.193	.000*
I liked to read at secondary school	2.62(1.0)	1.95(.87)	2.75(.97)	-5.775	.000*

Note. Scale ranges from 1 (strongly disagree) to 4 (strongly agree). *df* = 330-343. *p* > .05.

4.2.3   Fantasy proneness and need for cognition

Most students agreed with the statements about fantasy proneness. Over 90% of the students agreed with the statement: "I forget everything around me, when I'm watching a beautiful movie". Similarly, 85% of the students often experienced a lump in their throat or goosebumps when listening to beautiful music. Only with the statement: "My fantasies are often lifelike", the majority of the students disagreed. Remarkable is the difference between men and women. Based on the mean scores and the independent sample t-tests described in Table 15, we can conclude that male students fantasized more often than women.

Less students confirmed with the statements to measure need for cognition. Almost 60% of the students disagreed with the statement "I often try to obtain information about a topic, even if this is not required for school". Almost 80% disagreed with the statement "I search information about a country or region, even if it is not my holiday destination." As Table 15 shows, the standard deviation for the statement "I'm very interested in history" is quite high. The respondents' opinions differ a lot. Striking is the difference in interest in history between men and women.

Overall, male students agreed significantly more with the statements about need for cognition than female students.

Table 15.
Fantasy proneness and Need for cognition, mean, standard deviation and independent sample t-test for gender (*N* = 343-345).

	Average M*(SD)*	Men M*(SD)* *n* = 54 -55	Women M*(SD)* *n* =287-290	*t*	*p*
		Fantasy proneness:			
I forget everything around me, when I'm watching a beautiful movie.	3.34(.69)	3.35(.70)	3.34(.69)	.017	.987
I always start fantasizing when it gets boring. This prevents me from getting bored.	2.53(.83)	2.85(.85)	2.47(.81)	3.237	.001*
When I hear good music, I get a lump in my throat and goosebumps	3.32 (.75)	3.33(.75)	3.21(.75)	1.062	.289
I am often daydreaming or fantasizing.	2.54 (.79)	2.75(.80)	2.50(.78)	2.098	.037*
When I listen to beautiful music, I forget everything around me.	3.08(.79)	3.16(.74)	3.06(.80)	.903	.367
My fantasies are often lifelike.	2.42(.81)	2.78(.76)	2.36(.80)	3.659	.000*
When I'm watching a good movie, I forget it is not "real".	2.75(.87)	2.56(.88)	2.78(.87)	-1.706	.089
		Need for cognition:			
I often try to obtain information about a topic, even if this is not required for school.	2.39(.74)	2.70(.82)	2.33(.71)	3.471	.001*
When I'm on vacation, I try to learn things about the region I'm staying in.	2.81(.73)	2.93(.77)	2.79(.72)	1.266	.206
I'm very interested in history.	2.63(1.06)	3.31(.79)	2.49(1.05)	.814	.000*
I search information about a country or region, even if it is not my holiday destination.	1.96(.84)	2.40(.92)	1.87(.80)	4.008	.000*

Note. Scale ranges from 1 (strongly disagree) to 4 (strongly agree). *df* =330-343. *p* > .05.

4.2.4 Perceived risk and criteria for selection

The responses on the questions to assess the perceived risk revealed that the majority of the students was often insecure after choosing a book Most students were often disappointed after choosing a book (94%).

Table 17.
Perceived risk, mean and standard deviation (*N* = 344-345).

	M(*SD*)
When I choose a book, I'm often insecure about my choice.	3.09(.60)
I often choose books that disappoint me afterwards.	3.19(.55)
Some stories I choose, turn out to be disappointing when I read them.	2.66(.61)

Note. Scale ranges from 1 (strongly disagree) to 4 (strongly agree).

Students often relied on the information of others when selecting a book. Most valued were advices from peers (86% of the students valued this as a bit important or very important). Almost as important as the advice from peers, were advice from adults and publicity around books.

Other criteria for selection measured were the appearance and thickness of the book and (pre) tasting and prior reading experiences. Table 19 shows that the appearance of the book was the most important criteria for selecting a book. The thickness of a book was not often valued as a criterion to select a book.

Table 18.
Advice of others as a criteria for book selection, mean and standard deviation (*N* = 339-346).

	M(*SD*)
Advice from peers (for example friends).	3.25(.73)
Advice from adults (for example parents, booksellers, teachers and mentors).	2.93(.72)
Publicity around books (for example interviews and reviews).	2.84(.84)

Note. Scale ranges from 1 (not at all important) to 4 (very important).

Table 19.
Other sources as a criteria for book selection, mean and standard deviation (*N* = 340-347).

	M(*SD*)
Appearance of the book (such as pictures or cover)	3.48(.60)
Thickness of the book	2.49 (.90)
(Pre) tasting and prior reading experiences	3.36(.75)

Note. Scale ranges from 1 (not at all important) to 4 (very important).

4.2.5 Reading climate

Parents

Most of the students had parents who liked to read (77%) (Table 16). When the students were younger, most parents read aloud to their children often (84%) and went to the library with them (regular or often 89%). Only 1% never went to the library with their parents. Nowadays, students and their parents engage less in book-related activities. Less than half of the students talked regularly or often about books with their parents. 27% of the parents never recommended books to their children and 32% of the students indicated that giving books as a present was never done by parents.

Friends

The majority of the students did not talk about books with their friends (23% never, 63% sometimes). The students thought their friends did not read on a regular basis (55% answered sometimes). Books were uncommon gifts: 65% of the students never receive books as a present from their friends.

Teacher training college

Especially Dutch teachers at the teacher training college talked about books (63% regularly or often). Other teachers at the teacher training college rarely recommended books (30% of the students indicate their teachers never recommend books) or talked about books (only 18% of the students answered regularly or often). Students were also asked about the reading activities of their mentors. Mentors are the teachers of the elementary school-classes at internships. They coach students during their internship. Although mentors did often read aloud in the classroom (60% regularly or often), it was uncommon for students to talk regularly about books with their mentors (39% answered never). Almost 50% of the students indicated that they never got recommendations about books from their mentors.

Table 16.
Reading climate, mean and standard deviation (*N* = 304-346).

	M *(SD)*
	Reading climate parents:
At least one of my parents talks with me about what they have read.	2.46(.99)
At least one of my parents gives me reading suggestions.	2.31(1.1)
At least one of my parents likes to read.	3.28(1.0)
At least one of my parents gives me books as gifts.	2.04 (.98)
At least one of my parents has read to me when I was a child.	3.79(.54)
At least one of my parents went to the library with me when I was a child.	3.53(.71)
	Reading climate friends:
My friends talk with me about what they have read.	1.94(.67)
My friends give me reading suggestions.	1.95(.77)
My friends read frequently.	2.31(.78)
My friends give me books as gifts.	1.50 (.79)
	Reading climate teachers teacher training college Dutch language:
My Dutch teacher talks with me about books.	2.81(.87)
My Dutch teacher recommends books to me.	2.78 (.89)
My Dutch teacher reads stories to me in class.	2.18 (.75)
	Reading climate teachers teacher training college:
My teacher talks with me about books.	1.97(.69)
My teachers recommend books to me.	1.99 (.82)
My teachers read books.	2.96(.82)
My teachers read stories to me in class.	1.68 (.57)
	Reading climate mentors teacher training college::
My mentor talks with me about books.	1.85(.83)
My mentor recommends books to me.	1.83(.90)
My mentor reads books for adults in his spare time.	2.81(1.0)
My mentor reads stories aloud in class.	2.80(1.0)
My mentor reads children's books in his spare time.	2.24(1.0)

Note. Scale ranges from 1 (never) to 4 (often).

4.3 Summary descriptive statistics

In the preceding two paragraphs, the current state concerning reading frequency, reading attitude and knowledge of children's literature at the Katholieke Pabo Zwolle was described. In summary, the following can be concluded based on the descriptive statistics:

- The reading frequency of children's literature was low.
- Very few students showed a evidence of a negative attitude towards reading.
- Student's knowledge of children's literature seems to concentrate on older authors and titles. New (award winning) authors and titles and titles of informative books were underrepresented.

These results are consistent with recent research about reading frequency, reading attitude and knowledge of children's literature for (pre-service) teachers.

In addition, the results for the factors were presented. Based on the outcomes, the following can be concluded for the students who participated in this study

- As expected, the reading frequency of adult literature was higher than for children's literature. Nevertheless most students could not be described as frequent readers: only 15% of the students read novels weekly or biweekly. Blogs and magazines were more frequently read.
- Students agreed more frequently with items measuring fantasy proneness than with the items measuring need for cognition.
- Students were often insecure about their choice after choosing a book.
- Students used different sources of information when selecting a book. Appearance of a book was the most used source of information.
- The majority of the student grew up in a positive reading climate: they were read to and visited the library with their parents.
- Students did not talk with friends about reading.
- Dutch teachers at the teacher training college gave attention to books and reading in their classes.
- Other teachers at the teacher training college gave less attention to books and reading. For example 30% of the students indicated that their teachers never recommended books.
- Mentors seldom talked about books with the student teachers at teaching practice.

In the next section, the correlations between reading frequency, attitude, knowledge and these personal and environmental factors will be described.

4.4 Correlations

Correlational analyses were used to examine the relationship between the constructs reading frequency of children's literature, reading attitude and knowledge of children's literature and the dependent variables: reading frequency of adult reading material, reading experience in the past, fantasy proneness, need for cognition, reading climate, perceived risk and criteria for selection and the socio-demographic background factors age, gender, prior education and year of study.

Correlational analyses between the three dependent variables revealed only weak correlations between reading frequency of children's literature, reading attitude and knowledge of children's literature (Table 20). Surprisingly, correlations between knowledge of children's literature and reading frequency of children's literature were not significant. The strongest correlation was found between the utilitarian aspect of reading and reading frequency of children's literature (r = .180, $p<.0.01$)

Table 20.
Correlations between different dependent variables.

	Reading frequency children's literature	Reading attitude	Knowledge of children's literature
Reading frequency children's l.	1	.143**	n.s.
Reading attitude - general	.143**	1	.129*
Reading attitude - hedonic	n.s.	(.904**)	.131*
Reading attitude - utilitarian	.180**	(.853**)	n.s.
Knowledge of CL	n.s.	.129*	1

Note. *p<.05 (2-tailed) **p<.01 (2-tailed) n.s. = not significant.

Correlational analyses between the dependent variables and the independent variables revealed additional significant relationships (Table 21).

There were significant positive relationships found between reading frequency of children's literature and nine constructs. Strongest correlations were found between reading frequency of children's literature and reading frequency of adult literature (r = .514), mentors (r = .272) need for cognition (r = .242) and reading experiences in the past (r = .222) (all ps two-tailed <.01).

Reading attitude was significantly correlated with 12 constructs. The strongest correlations were found between reading attitude and reading experiences in the past (r = .525), reading climate parents (r = .409), reading climate friends (r = .327) and using (pre) tasting and prior reading experiences as a criteria for selection of books *(r* = -.307) (all ps two tailed <.01).

Knowledge of children's literature was significantly related to year of study (r = .232, $p<0.01$), reading experiences in the past (r = .190, $p<0.01$), age (r = .176, $p<0.01$) and choosing books based on (pre) tasting and prior reading experiences (r = .169, $p<.0.01$).

Table 21.
Correlations between independent variables and frequency, attitude and knowledge.

	Reading frequency children's literature	Reading attitude	Knowledge of children's literature
Age	n.s.	n.s.	.167**
Gender	n.s.	.180**	n.s.
Prior education	n.s.	n.s.	n.s.
Year of study	n.s.	n.s.	.232**
Reading experience past	.222**	.525**	.190**
Reading frequency of adult literature	.514**	.243**	n.s.
Fantasy Proneness	n.s.	.268**	n.s.
Need for cognition	.242**	.251**	n.s.
Perceived risk	n.s.	.117*	n.s.
Criteria for selection - advice of others	n.s.	.117*	n.s.
Criteria for selection - appearance of the book	n.s.	n.s.	n.s.
Criteria for selection - thickness of the book	n.s.	-.273**	n.s.
Criteria for selection - (pre) tasting and prior reading experiences	.173**	.307**	.169**
Reading climate - parents	.186**	.409**	n.s.
Reading climate - friends	.191**	.327**.	n.s.
Reading climate - Dutch teachers	.132*	.172**	n.s.
Reading climate - teachers	.242*	n.s.	n.s.
Reading climate - mentors	.272**	n.s.	n.s.

Note. *p<.05 (2-tailed) **p<.01 (2-tailed) n.s. = not significant.

4.5 Socio-demographic background factors

Socio-demographic background factors were studied in more detail with the aim to discover significant differences between groups of students based on age, gender, prior education and year of study.

In the theoretical framework, a relationship was found between knowledge of children's literature and reading attitude and gender, age and year of study. For reading frequency of children's literature no relationships were found with socio-demographic background factors.

One-way ANOVAs and independent *t*-tests were conducted to measure if there were significant differences among groups for age, gender, prior education and year of study.

Reading frequency

For reading frequency, one-way analyses and independent *t*-tests yielded no significant differences between groups. There were no significant differences found between groups of age, gender, prior education or year of study.

Reading attitude

For reading attitude, the independent *t*-test revealed a difference for gender. Women scored higher on reading attitude (M = 4.0, SE = .087) than men (M = 3.8, SE = .028). This difference was significant (*t* (340) = -3.37, *p*=.005). There were no significant differences found for age, prior education or year of study.

Knowledge of children's literature

A one-way ANOVA revealed significant differences between years of study for knowledge of children's literature. Post hoc comparisons using the Bonferroni Multiple Comparison test revealed that first year students showed a significantly smaller knowledge of children's literature (M = 1.97, SD= .788) than the students from the other years (Year 2 *M = 2.54, SD = .991,* Year 3 *M = 2.52, SD = .964,* Year 4

M = 2.50, SD = .927) . Students from the other years did not differ significantly from each other. Significant differences between groups of age, gender or prior education were not found.

4.6   Regression analysis

The last stage of the analysis included regression analysis. Three separate hierarchical multiple regressions were performed, to compare the unique contribution of different groups of variables in explaining the variation of frequency, attitude and knowledge of children's literature. A parsimonious model was tested using only the significant predictors from the previous step and the new group of variables as an input for the next step. Groups of variables were entered in steps, resulting in various models. After the last step the R-squares were calculated for the full model (including only the significant predictors). In the following sections more details will be given about the outcomes for the three hierarchical multiple regression analyses. Findings from the regression analyses are summarized in Table 22 (reading frequency of children's literature), Table 23 (reading attitude) and Table 24 (knowledge of children's literature).

4.6.1   Regression analysis reading frequency of children's literature

The regression analysis with the dependent variable reading frequency of children's literature, resulted in three models and a final model

In model 1 the individual background characteristics were entered. The results showed that the factor past reading experiences had a significant relationship with reading frequency of children's literature and explained 5% of the variance. This factor remained significant when personal factors were entered, but lost its significance when environmental factors were included. Also the reading attitude lost its significance in this step. Reading climate created by mentors, was the only significant environmental factor. Therefore it was tested if the factors reading experience past and reading attitude regained their significance when non-significant environmental factors would be removed. This was not the case. Therefore the final model consisted of the remaining significant variables: reading frequency of adult literature and the reading climate created by mentors at the internship. This final model explained 34% of the variance in reading frequency of children's literature. These results suggest that students who read adult literature frequently also read more children's literature and that mentors at the internship can have a positive influence on the reading frequency of children's literature.

Table 22.

Results of the Hierarchical Multiple Regression Analysis for reading frequency of children's literature.

	Model 1 Individual background characteristics	Model 2 Parsimonious model 1 + student factors	Model 3 (Parsimonious model 2+ Environmental factors	Final model
	Coefficients *B (SE B)*			
1. Individual background factors				
Reading experience past	**.231(.056)****	**.213(.058)****	.214(.122)	--
2. Personal/ individual student factors				
Reading attitude		**-.211(.107)***	-.285(.227)	--
Reading frequency of adult literature		**.734(.079)****	**.726(.157)****	**.761(.127)****
Need for cognition		.119(.081)	--	--
Criteria for selection – (pre) tasting and prior experiences		.060(.064)	--	--
3. Environmental factors				
Reading climate – parents			.013(.169)	--
Reading climate – friends			.051(.181)	--
Reading climate – Dutch teachers (teacher training college)			.122(.149)	--
Reading climate – Teachers (teacher training college)			.115(.206)	--
Reading climate – Mentors (teacher training college)			**.280(.129)***	**.287(.102)****
% explained variance (R^2)	5%	30%	36%	34%
Adjusted R^2	5%	29%	30%	32%

Note. *p <.05, **p <.01, -- =not included in the final model because not significant in earlier steps.

4.6.2   Regression analysis reading attitude

The multiple regression analysis with reading attitude as the dependent variable resulted in three models and a final model. Individual background factors (gender and reading experience in the past) tested in model 1 could explain almost 30% of the variance in reading attitude. In this model, only reading experience in the past was significantly related to attitude. Reading experience in the past remained significant in model 2 and 3 and was therefore included in the final model. Surprisingly reading frequency of children's literature and reading frequency of adult literature could not be included in the final model, because these factors were not significant.

The final model explained 46% of the variance in the dependent variable reading attitude. From the individual background factors, only reading experience in the past was significant. Students who liked to read at primary and secondary school, still have a more positive reading attitude.

Four personal factors were included in the final model. Students with high fantasy proneness had a positive reading attitude. Also low perceived risk when choosing a book was related to a positive reading attitude. By contrast, students who chose books based on thickness had a more negative reading attitude. Other criteria for selection: (pre) tasting and prior experiences, were positively related to reading attitude. Students who used these selection strategies frequently were more likely to have a positive reading attitude. Environmental factors were the last factors added in this

regression analysis. All of these factors were included in the final model. Students with a positive reading climate had a higher reading attitude. Hereby Dutch teachers at the teacher training college, parents and friends played a significant role even when controlled for factors such as reading experience in the past and individual student factors such as fantasy proneness, perceived risk and several criteria for selection.

Table 23.
Results of the Hierarchical Multiple Regression Analysis for reading attitude.

	Model 1 Individual background characteristics	Model 2 Parsimonious model 1 + student factors	Model 3 (Parsimonious model 2+ Environmental factors	Final model
	Coefficients *B (SE B)*			
1. Individual background factors				
Gender	.030(.069)	--	--	--
Reading experience past	**.294(.028)****	**.240(.028)****	**.191(.029)****	**.190(.029)****
2. Personal/ individual student factors				
Reading frequency of children's literature		-.044(.028)	--	--
Knowledge of children's literature		.006(.025)	--	--
Reading frequency of adult literature		**.090(.044)***	.034(.041)	--
Fantasy proneness		**.213(.044)****	**.185(.046)****	**.211(.045)****
Need for cognition		**.092(.041)***	.078(.042)	--
Perceived risk		**.142(.052)****	**.132(.052)***	**.137(.052)****
Criteria for selection – advice of others		.074(.040)	--	--
Criteria for selection – thickness of book		**-.078(.026)****	**-.066(.027)***	**-.065(.027)***
Criteria for selection – (pre) tasting and prior experiences		**.095(.032)****	**.086(.033)****	**.102(.032)****
3. Environmental factors				
Reading climate parents			**.128(.041)****	**.136(.040)****
Reading climate friends			**.092(.042)***	**.098(.042)***
Dutch teachers - teacher training college			**.077(.034)***	**.087(.033)***
% explained variance (R^2)	28%	44%	47%	46%
Adjusted R^2	27%	42%	45%	44%

Note. *p <.05, **p <.01, -- =not included in the final model because not significant in earlier steps.

4.6.3 Regression analysis knowledge of children's literature

The multiple regression analysis with knowledge of children's literature as a dependent variable consisted of only two models and a final model. Because significant correlations between environmental factors and knowledge of children's literature could not be found, these factors were not tested in the regression model.

In the first step of the analysis, individual background variables were entered. These variables accounted for 12% of the variance. Significant background characteristics were year of study and past reading experiences. Model 2, where environmental background characteristics and individual student factors were added to the model, did not result in new significant variables. As a result only year of study and reading experience in the past were included in the final model. These factors accounted for 11% of the variance in knowledge of children's literature. This implies that students who liked to read at primary and secondary school had more knowledge of children's literature and that students gained more knowledge of children's literature during their study at the teacher training college.

Table 24.
Results of the Hierarchical Multiple Regression Analysis for knowledge of children's literature.

		Model 1 Individual background characteristics	Model 2 Parsimonious model 1 + student factors	Final model
		Coefficients *B (SE B)*		
1. Individual background factors				
Age		.033(.032)	--	--
Year of study	Y2	**.514(.129)****	**.519(.127)****	**.551(.124)****
	Y3	**.466(.148)****	**.520(.130)****	**.540(.129)****
	Y4	**.374(.176)***	**.453(.147)****	**.478(.145)****
Reading experience past		**.182(.053)****	**.144(.063)***	**.174(.053)****
2. Personal/ individual student factors				
Reading attitude			.039(.113)	--
Criteria for selection – (pre) tasting and prior experiences			.095(.069)	**--**
% explained variance (R^2)		12%	12%	11%
Adjusted R^2		10%	10%	10%

Note. **p <.05, **p <.01,* -- =not included in the final model because not significant in earlier steps.

5 Conclusion

The main goal of the current study was to determine to which extent pre-service teacher's characteristics were related to their knowledge of and interest in children's literature. This study was conducted at a teacher training college in the Netherlands. Survey data was analyzed to identify reading characteristics of students concerning children's literature and environmental and personal factors that can be associated with the reading frequency of children's literature, the reading attitude and knowledge of children's literature for pre-service teachers.

This chapter summarizes the findings of the study. The first paragraph (5.1) summarizes the empirical evidence for the main assumption underlying this research based on the outcomes of the literature review in chapter two. In the second section (5.2), the reading characteristics of the students at the Katholieke Pabo Zwolle will be described as an answer on sub question 1 (What is the current state of pre-service teachers' behavior, attitude and knowledge concerning children's literature?). A comparison is made between the outcomes of this research and results of other studies. In the final paragraph (5.3), the factors related to reading frequency, reading attitude and knowledge of children's literature will be discussed in order to answer sub question 2 and 3 (To which extent do personal/environmental factors correlate with the reading behavior, attitude and knowledge of pre-service teachers concerning children's literature?). The last section (5.5) summarizes some additional insights. In the following chapter limitations of this study and recommendations for further research will be given.

5.1 The importance of reading for (pre-service) teachers

The main assumption of this and many other studies is that primary school teachers are able to enhance the reading interest and ability of their students if they are knowledgeable and interested readers themselves. Therefore this research started with a literature review to examine the empirical evidence for this assumption.

To some extent, the assumption could be confirmed. Various studies have indicated a positive relationship between reading frequency, attitude and knowledge of children's literature and instructional activities that are known as best practice strategies (such as acting like a role model, anticipate intrinsic motivation, use of literature circles and discussions about books and focus on students reading time). For reading frequency and reading attitude there was more evidence for this relationship than for knowledge of children's literature. In this area the empirical evidence is still very scarce. The assumption that teachers' reading frequency, reading attitude and knowledge of children's literature are related to the attainment of pupils could not be confirmed based on the literature review. It can be assumed that best practice strategies lead to better student performances, however empirical evidence for this assumption was not found.

To some extent, the outcomes of this part of the theoretical framework strengthen the idea that teacher training colleges should stimulate pre-service teachers to read children's literature, create a positive reading attitude and expand their knowledge of children's literature.

5.2 Reading characteristics of pre-service teachers

The first purpose of this secondary analysis was to identify the current state of pre-service teachers' behavior, attitude and knowledge concerning children's literature at the teacher training college Katholieke Pabo Zwolle. The results indicate that the reading frequency of children's literature was low. It rarely happened that pre-service teachers read in their spare time. The majority of the students read children's literature less than once a month. By contrast their attitude towards reading in general was fairly positive. Only a few students had an outspoken negative attitude towards reading. Men

scored lower on reading attitude than women. The knowledge of children's literature was concentrated on titles and authors they knew from their own childhood. Although new award winning books and authors were used in the curriculum of the teacher training college, students did not often mention this category of books.

These findings complement and confirm those of earlier studies. Reading frequency at teacher training colleges was measured before in several international studies (Granado, 2014; Pearce, 2015; Rijckaert, 2014). All these studies reported low reading frequency of children's literature for pre-service teachers. This study indicates that the reading frequency of student teachers in the Netherlands does not significantly differ from student teacher in other countries. For reading attitude, the outcomes of the current study correspond with the outcomes of Nathanson, Pruslow and Levitt (2008) and Rijckaert (2014). Similar to the respondents in the current study, the students in their studies showed a neutral or positive attitude towards reading. Only one study found, measured pre-service teacher's knowledge of children's literature (Pearce, 2015). Because of different measurement methods it is difficult to compare outcomes of the study of Pearce (2015) and the current study. Nevertheless similar to the students at the Katholieke Pabo Zwolle, the in-service teachers in the studies of Carpenter (1997) and Cremin et al. (2008) relied mostly of children's literature they knew from their own childhood. The findings of this study suggest that this is also the case for pre-service teachers.

5.3   Related factors

In the second part of this study, personal and environmental factors related to reading frequency, reading attitude and knowledge of children's literature were identified in order to answer sub question two and three: "To which extent do personal characteristics and environmental factors correlate with the reading behavior, attitude and knowledge of pre-service teachers concerning children's literature?". In the first section the relationship between the three dependent variables will be described. Other factors were included in this study based on factors identified in the theoretical framework. Relevant factors will be discussed in separate sections for each dependent variable. In every section a distinction will be made between personal (individual background factors, and personal student factors) and environmental factors.

5.3.1   Relationship between dependent variables

The interrelationship between dependent variables was often smaller than expected based on literature. Correlational analyses revealed only weak correlations between reading frequency of children's literature, reading attitude and knowledge of children's literature. Correlations between knowledge of children's literature and reading frequency were not significant, contrary to expectations based on literature (Pearce, 2015; Stalpers, 2007). The regression analyses did not reveal significant relationships between dependent variables when accounted for the other personal and environmental factors.

5.3.2   Reading frequency

The first dependent variable measured in this study was reading frequency of children's literature. Several associations between measured factors and reading frequency of children's literature were found.

Personal factors – The regression analysis showed statically significant relationships between reading frequency of children's literature and reading frequency of adult literature. This implies that students frequently reading adult literature, also are more frequently readers of children's literature.

Environmental factors – Significant correlations between reading frequency of children's literature and other factors were in agreement with the conceptual model constructed in the theoretical framework. While mentors (coaches at primary-schools during internship) were not included as a

factor in previous research, this environmental factor was highly significant even when other factors such as individual student factors and environmental factors were controlled statistically in the regression analysis. Together with reading frequency of adult literature, the reading climate created by mentors could explain 32% of the variance in reading frequency. Other environmental factors identified in the theoretical framework such as reading activities with children, student-centered education and courses about children's literature were not measured in the survey.

5.3.3 Reading attitude

The second dependent variable in this study was reading attitude. This dependent variable was not geared towards children's literature. The majority of the factors identified in the theoretical framework as related to reading attitude, could also be found in this study. The significant variables in the regression analysis could explain 46% of the variance in reading attitude.

Personal factors – Regression analysis revealed significant relationships between reading attitude and five personal factors. These results are consistent with the findings in the theoretical framework. Only reading experience in the past was added to the conceptual framework. Students who liked reading in primary and secondary school were more likely to have a positive reading attitude in teacher training college. Also students with high fantasy proneness, low perceived risk and a preference for pre-tasting and prior reading experiences as a criteria for book selection had a more positive reading attitude. Students selecting books based on their thickness, were often less positive about reading. In contrast to earlier findings, no evidence of a relationship between reading attitude and the socio-demographic background variables age and previous educational level was detected. Older students or students with a vwo-background did not have more positive reading attitudes. Although it should be noted that studies indicating these factors were not geared on pre-service teachers. Identified in the theoretical framework but not included in this study was the construct self-efficacy in reading.

Environmental factors – The environmental factors, reading climates created by friends, parents, and Dutch teachers at the teacher training college were significantly related to the reading attitude of the pre-service teachers according to the regression analysis. When friends, parents and Dutch teachers gave attention to books on a regular basis, this was related to a positive reading attitude of the student. These results seem consistent with the findings of Stalpers (2007). Student-centered education, an environmental factor described in the theoretical framework, was not measured in this survey.

5.3.4 Knowledge of children's literature

The last dependent variable in this study is knowledge of children's literature. Only a few factors related to knowledge of children's literature, could be identified in the theoretical framework. In this study two personal background factors were found to be related to knowledge of children's literature.

Personal factors – The first personal factor related to knowledge of children's literature, was year of study. This implies that students gained significantly more knowledge of children's literature during their study at the teacher training college. The second factor was reading experience in the past. Reading experience in the past was a factor that was also found in the consulted literature. Students who liked to read during primary and secondary education, were more likely to have more knowledge of children's literature. These two factors could explain 11% of the variance in knowledge of children's literature.

Environmental factors – Two environmental factors associated with knowledge of children's were identified in the theoretical framework: literacy education and exposure to books. These factors were not measured in the survey. The environmental factors included in this study were not significantly related to knowledge of children's literature.

5.4   General conclusion

The present study confirms previous findings and contributes additional evidence that suggests that a positive reading frequency or reading attitude and knowledge of children's literature cannot be assumed to be qualities of pre-service teachers.

Factors related to reading frequency of children's literature, reading attitude and knowledge of children's literature were found. These factors were both personal factors and environmental factors. However regression analyses indicated that the personal factors played a more important role in this study in explaining the variance of the three dependent variables.
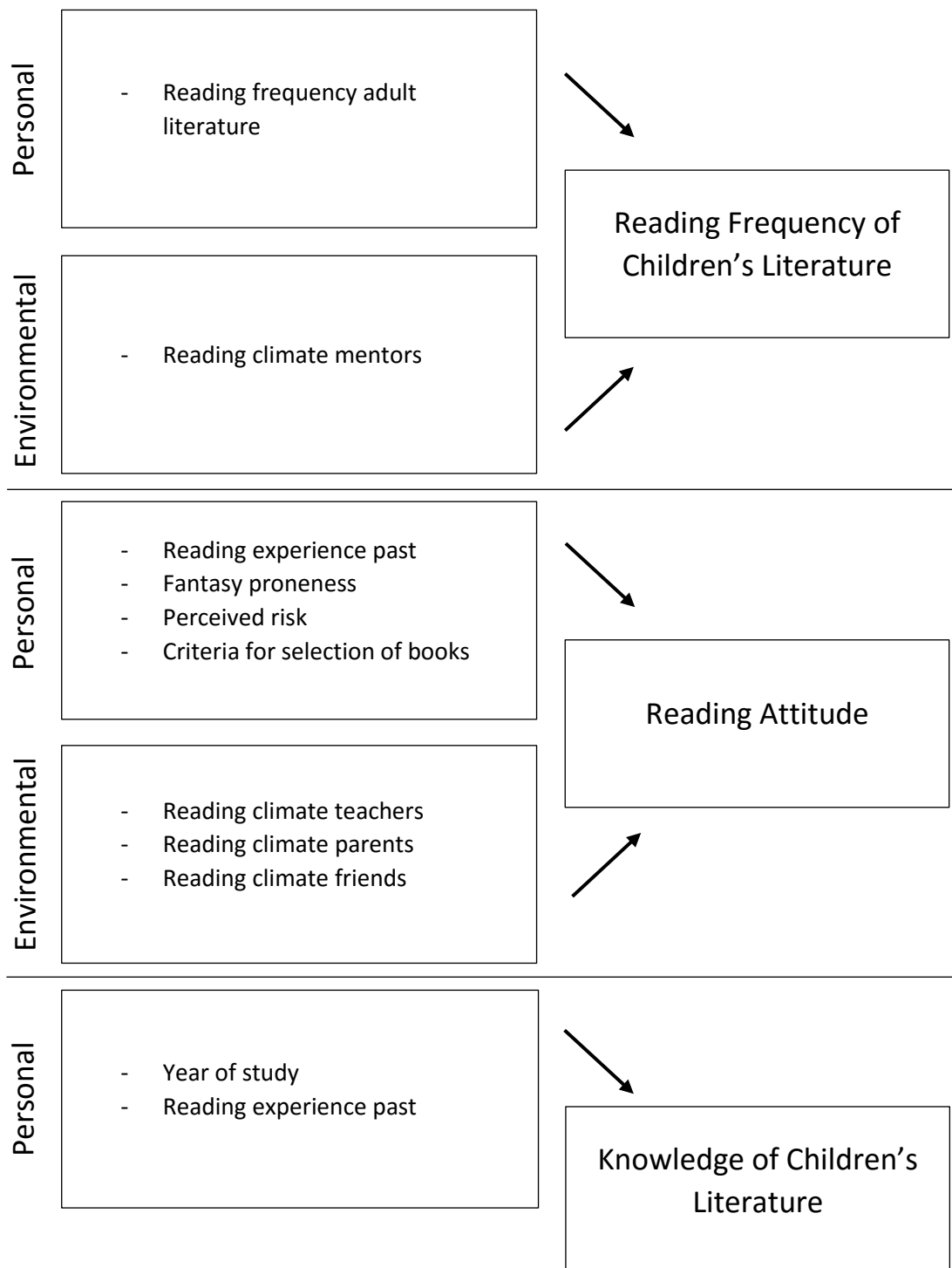
In figure 4, all factors found in this study have been summarized. This figure can be compared to overview of factors found in the theoretical framework (figure 1, 2 and 3). As can be seen in figure 4, knowledge of children's literature was only found to be related to personal factors in this study.

Remarkably the interrelationship between the dependent variables was often smaller than expected based on literature. Significant relationships between knowledge of children's literature and reading frequency of children's literature were for example not found.

Apart from the main findings described in the preceding sections, this study also revealed some interesting gender differences. The reading attitude of female students was more positive than the reading attitude of male students. The measurement of reading experiences in the past revealed that these differences were already present in primary school. These results are in agreement with findings of Meelissen et al. (2012) based on PIRLS data. Meelissen et al. (2012) demonstrated that female primary school students in the Netherlands have a more positive reading attitude than male primary school students. Gender differences were also visible in this study for the personality factors: fantasy proneness and need for cognition. Male students were more likely to fantasize and daydream. Furthermore, male students showed higher need for cognition. They were more often interested in history and frequently searched for new information.

Figure 4.
Overview of personal factors and environmental factors for reading frequency, attitude and knowledge of children's literature.

Personal

- Reading frequency adult literature

Environmental

- Reading climate mentors

Reading Frequency of Children's Literature

Personal

- Reading experience past
- Fantasy proneness
- Perceived risk
- Criteria for selection of books

Environmental

- Reading climate teachers
- Reading climate parents
- Reading climate friends

Reading Attitude

Personal

- Year of study
- Reading experience past

Knowledge of Children's Literature

6 Discussion

6.1 Limitations of the study and recommendations for future research

This study has identified pre-service teachers' characteristics related to their knowledge of and interest in children's literature. These findings complement those of earlier studies. The key strengths of this study are the theoretical foundation and the focus on children's literature. However several limitations should be taken into account when interpreting the results of this research. In this section these limitations will be discussed. Based on the experiences and outcomes of the current study, recommendations for future research will be given. This research took place within the framework of a longitudinal research project on the topic of reading at the Katholieke Pabo Zwolle. The aim of this project is the development of strategies to stimulate students to become engaged reading promoters. Future research could take place within the framework of the research project or in another context.

Improvement of the measurement method and survey

This study was based on earlier collected survey data. During this research, several points for improvement for the survey were detected. The most important points are summarized below. Improvement of the survey should result in a more accurate picture of both dependent and independent variables and the relationship between both.

- In this survey, attitude was measured without a focus on children's literature, while this focus could change the relationship between attitude and the personal and environmental factors.
- Knowledge of children's literature was measured using an open-ended question. This method let to a first impression about the knowledge of children's literature for pre-service teachers. However, a more reliable method would be to use a title recognition test with both false and real titles and authors of children's literature. Further work needs to be done to design a more reliable way to measure knowledge of children's literature in the Dutch context.
- Only the reading frequency of children's literature in students' spare time was measured. If compulsory reading will be measured besides spare time reading, a complete overview of pre-service teachers' reading frequency can be given. We expect that the correlation between reading frequency of children's literature and knowledge of children's literature can be found if compulsory reading is included. In the current study, this correlation could not be found in contrast to findings in other studies.
- Individual items in the survey need to be fine – tuned, because some items were open to more than one interpretation or contained double questions. Sometimes it was unknown why items were constructed in a certain way.
- Several factors were relevant according to the literature but were not included in the survey. In an improved version, these factors should be included. Special attention should be given to factors on school level, such as time spend on literature in the curriculum, instructional strategies and goals of education about children's literature.

In this study correlations between different factors were sometimes less strong than would be expected based on the theoretical framework. It is possible that stronger correlations can be found when an improved version of the survey is used. This is for example expected for the correlation between reading frequency, reading attitude and knowledge of children's literature. Correlations with socio-demographic background characteristics were often found to be less important, than would be assumed based on the theoretical framework. A possible explanation for this difference is the homogeneity of the student population.

This study is based on quantitative data. Focus groups or interviews with students, where students could react on questions and outcomes, could improve the research method and give suggestions for improvement of the survey. Unfortunately this was not possible in the time frame of a master thesis.

Research with improved instrument

Due to the time constraints of this research, data was collected at only one teacher training college in the Netherlands. Although Chorus (2007) indicates the same reading related problems at other teacher training colleges, we cannot assume that the conclusions of this research are transferable to other teacher training colleges. However, it would be worthwhile to use an improved version of the research instrument to duplicate this research at different teacher training colleges in the Netherlands, because instructional strategies and curriculum design can be different at the other teacher training colleges. When school characteristics are added to the research method, teacher training colleges and groups of students can be compared and the effect of strategies of teacher training colleges can be found.

Recommendations based on theoretical framework

Based on the theoretical framework there can be concluded that several issues need to be studied in more detail in the future. This results in three last recommendations for future research.

- It would be interesting to assess the effects of teachers' reading frequency, attitude and knowledge of children's literature on attainment of pupils. While the main assumption of this and most other studies is that primary school teachers are able to enhance the reading interest and ability of their students if they are knowledgeable and interested readers themselves (e.g. Applegate et al., 2014; Jongstra, Adolfsen & Pauw, 2014), most studies only show empirical evidence for the assumption that these characteristics influence instructional strategies. For the effect on attainment of pupils, evidence was not available.
- Most studies have only been carried out in one teacher training college. Because different instruments are used, it is difficult to compare the results of different studies. Future studies should measure different teacher training colleges with the same instrument.
- Literature about knowledge of children's literature at teacher training colleges was difficult to find. More information is needed about knowledge of children's literature for pre-service teachers and factors influencing knowledge of children's literature. In the current study we could explain only a small part of the variance based on the identified factors.

6.2 Practical implications and recommendations

The results of this study will support the intended curriculum redesign at the Katholieke Pabo Zwolle. The goal of this research project is to educate students to become reading teachers and effective reading promoters. The recommendations in this section are written for the Katholieke Pabo Zwolle, but can also be used by other educational institutes that struggle with reading related problems.

A benchmark

The absence of a benchmark makes it difficult to determine if current students of the Katholieke Pabo Zwolle read enough and have enough knowledge of children's literature. A conversation about such a benchmark should be started in the organization, preferably together with other teacher training institutes and organisations such as Stichting Lezen (Dutch Reading Foundation). The Katholieke Pabo Zwolle could start an organization-wide discussion about the results and the importance of reading for (pre-service) teachers. Students and mentors should be involved in this process. Are students familiar with the added value of reading and books for their future role as a teacher? Mentors and teachers have an important task in introducing the usefulness and importance of reading frequency, reading attitude and knowledge of children's literature in primary schools.

Pre-service teachers as engaged readers of children's literature: Is it fiction?

Promising factors

Although most factors found to be relevant in this study are not manipulable for a teacher training college, some conclusions of this research can be used to improve students' interest in and knowledge of children's literature. The reading climate created by mentors seemed to be related to reading frequency of children's literature. It can be discussed if the teacher training college can influence mentors. However this finding could be valuable for the teacher training college. We expected that the mentors mainly focus on the practical value, usefulness and pleasure books create for pupils in the classroom context. The teacher training college could focus their attention in classes on these aspects of book use rather than on the value of children's literature in general. The reading climate created by Dutch teachers at the teacher training college seemed to be related to the reading attitude. It is promising that this relationship was found. It would be interesting to know if there are specific activities performed by or characteristics of these teachers that are especially valuable for the development of a positive reading attitude compared to the activities performed by or characteristics of the other teachers at the teacher training college.

Children's literature in the curriculum

A next step for the Katholieke Pabo Zwolle would be to make a detailed inventory of reading related activities in the curriculum of the KPZ and in other teacher training colleges. In the curriculum of the KPZ several lessons are reserved to learn students about children's literature. Presumable children's literature will also be used in other courses and during other moments. It would be helpful to identify these activities. If the KPZ wants to adapt the curriculum to give more attention to reading it is important to map the current situation. In addition it would be interesting to measure the knowledge of and interest in children's literature of the teachers at the teacher training college. Are all teachers dedicated readers? Is there support to work on reading promotion in the whole organisation?

The teacher training college can improve their knowledge needed to successfully redesign their curriculum, with an inventory of strategies used at other teacher training colleges to improve the knowledge of and interest in children's literature. Knowledge exchange may help to identify or design best practice strategies.

Instructional strategies: student-centred and practical relevance

Based on literature, a large compulsory reading list is not recommended for teacher training colleges. A more student-centred approach will probably be more successful for improving reading frequency and reading attitude (Verboord, 2005). According to Verboord, the focus should be on personal development. He shows the importance of instructional strategies pointed to reading experiences and class discussions. For student teachers the practical relevance of children's literature will probably be just as important.

Using the survey

Another suggestion is to design a screening tool based on the survey. A teacher training college can screen students and give special attention to students with the lowest reading attitude, reading frequency, knowledge of children's literature and corresponding factors.

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Appendix 1: Items

Reading frequency children's literature (six point Likert Scale)

How often do you read these reading materials for children in your spare time?
- Novels for children
- Informative books for children
- Poems for children
- Comics for children
- Newspapers for children

Reading attitude hedonic (five point semantic differential)

- I think reading is: Unpleasant – pleasant
- I think reading is: Boring – exciting
- When I'm reading I seldom get absorbed in the text- when I'm reading I usually get absorbed in the text.
- Stories mean nothing to me – Stories often evoke feelings to me
- I do not fantasize what people in stories look like – I fantasize what people in stories look like
- The persons in a book do not touch me – When I'm reading, I sympathize with the persons in a book.

Reading attitude utilitarian (five point semantic differential)

- Useless – useful
- I learn little from reading – I learn a lot from reading
- I learn little about other people by reading – I learn a lot about other people by reading
- Meaningless- meaningful
- Through reading I learn little about the world – Through reading I learn a lot about the world
- I seldom think about what I have read – I think about what I have read
- Through reading I learn few new words – Through reading I learn a lot of new words

Knowledge of children's literature (open ended question)

- Write down as much names of authors and titles of children's books as you can think of. You have a time limit of 2 minutes. Write every name on a separate line.

Reading frequency adult literature (six point Likert Scale)

How often do you read these reading materials for adults in your spare time?
Category: Literature
- Novels
- Poems
- Comics for adults
- Biographies
- Travel guides
- Other informative books

Category: Magazines
- Magazines (general)
- News magazines
- Travel/nature/science journals
- Removed: TV guide
- Blogs or letters - personal

- Blogs or letters - interest

Category: Professional literature
- Journals
- National newsletters for teachers

Reading experience past (four point Likert Scale)
- I liked to read at primary school
- I was a real reader at primary school
- I liked to read at secondary school
- I was a real reader at secondary school

Personality- fantasy proneness (four point Likert Scale)
- I forget everything around me, when I'm watching a beautiful movie
- I always start fantasizing when it gets boring. This prevents me from getting bored
- When I hear good music, I get a lump in my throat and goosebumps
- I am often daydreaming or fantasizing.
- When I listen to beautiful music, I forget everything around me.
- My fantasies are often lifelike.
- When I'm watching a good movie, I forget it is not "real".

Personality – need for cognition (four point Likert Scale)
- I often try to obtain information about a topic, even if this is not required for school purposes.
- When I'm on vacation, I try to learn things about the region I'm staying in.
- I'm very interested in history
- I search information about a country or region, even if it is not my holiday destination
- Removed: I like tasks that require little thinking
- Removed: I like tasks in which you have to come up with new solutions for problems.

Reading climate - parents (four point Likert Scale)
- At least one of my parents talks with me about what they have read.
- At least one of my parents gives me reading suggestions.
- At least one of my parents likes to read.
- At least one of my parents gives me books as gifts.
- At least one of my parents has read to me when I was a child
- At least one of my parents went to the library with me when I was a child.
- Removed: At least one of my parents reads the newspaper

Reading climate - friends (four point Likert Scale)
- My friends talk with me about what they have read.
- My friends give me reading suggestions
- My friends read frequently
- My friends give me books as gifts.
- Removed: My friends read the newspaper
- Removed: My friends read children's literature

Reading climate Dutch teachers KPZ (four point Likert Scale)
- My Dutch teacher talks with me about books
- My Dutch teachers recommends books to me.
- My Dutch teachers reads stories to me in class.
- Removed: My Dutch teacher reads books

Pre-service teachers as engaged readers of children's literature: Is it fiction?

Reading climate teachers general KPZ(four point Likert Scale)

- My teachers talk with me about books
- My teachers recommend books to me.
- My teachers read books
- My teachers read stories to me in class

Reading climate mentors (four point Likert Scale)

- My mentor talks with me about books
- My mentors recommends books to me.
- My mentor reads books for adults in his spare time.
- My mentor reads stories aloud in class
- My mentor reads children's books in his spare time.

Perceived risk (four point Likert Scale)

- When I choose a book, I'm often insecure about my choice.
- I often choose books that disappoint me afterwards.
- Some stories I choose, turn out to be disappointing when I read them.
- Removed: I experience difficulties when choosing out of all available stories.
- Removed: If I need to choose a reading book, I generally know what to choose.
- Removed: When I am choosing a book, I think it is easy to assess if I will like a book.
- Removed: When I attended primary school, I loved to discover new books.

Criteria for selection of books – Advice of others (four point Likert Scale)

How important are these criteria for you when choosing reading material? Caution: This question relates to reading of longer texts (at least half a page), digital and on paper during your spare time (not for school).
The appearance of the book, such as the pictures or the cover.
- Advice from peers, for example friends
- Advice from adults, for example parents, booksellers, teachers and mentors
- Publicity around books, for example interviews and reviews

Criteria for selection of books – Appearance of the book (four point Likert Scale)

How important are these criteria for you when choosing reading material? Caution: This question relates to reading of longer texts (at least half a page), digital and on paper during your spare time (not for school).
- Appearance of the book (such as pictures or cover)

Criteria for selection of books– Thickness of the book (four point Likert Scale)

How important are these criteria for you when choosing reading material? Caution: This question relates to reading of longer texts (at least half a page), digital and on paper during your spare time (not for school).
- Thickness of the book

Criteria for selection of books – (pre)tasting and prior reading experiences (four point Likert Scale)

How important are these criteria for you when choosing reading material? Caution: This question relates to reading of longer texts (at least half a page), digital and on paper during your spare time (not for school).
- Pre tasting and own reading experiences

Socio-demographic background factors

- What is your age?
- What is your gender?
- What was your most recent and completed prior education? (mbo/ havo/ vwo/ other)
- What is your year of study?

Appendix 2: Gender differences reading attitude

Statements of reading attitude: mean, standard deviation and independent t-test by gender (N = 345-347).

Negative statement	Average M (SD)	Men M (SD)	Women M (SD)	Positive statement	t	p
			Hedonic			
Unpleasant	4.06(.96)	3.55(.99)	4.16(.92)	Pleasant	-4.44	.000
Boring	3.74(.93)	3.38(1.04)	3.81(.90)	Exciting	-3.25	.001
When I'm reading I seldom get absorbed in the text.	4.13(.90)	3.82(1.08)	4.19(.85)	When I'm reading I usually get absorbed in the text.	-2.39	.020
Stories mean nothing to me	4.11(.77)	3.82(.92)	4.16(.72)	Stories often evoke feelings to me	-2.65	.010
I do not fantasize what people in stories look like	4.39(.83)	4.02(1.15)	4.46(.73)	I fantasize what people in stories look like	-2.78	.007
The persons in a book do not touch me	4.34(.77)	3.89(1.04)	4.42(.67)	When I'm reading, I sympathize with the persons in a book	-3.66	.001
			Utilitarian			
Useless	4.22(.71)	4.16(76)	4.24(.70)	Useful	-1.15	.252
I learn little from reading	3.86(.76)	3.80(.86)	3.88(.74)	I learn a lot from reading	.060	.952
I learn little about other people by reading	3.64(.86)	3.43(.93)	3.68(.85)	I learn a lot about other people by reading	-1.98	.049
Meaningless	4.24(.70)	4.14(.67)	4.26(.70)	Meaningful	-1.15	.252
Through reading I learn little about the world	3.58(.84)	3.59(1.00)	3.58(.81)	Through reading I learn a lot about the world	.060	.952
I seldom think about what I have read	3.75(.89)	3.75(.92)	3.75(.89)	I think about what I have read	.033	.974
Through reading I learn few new words	3.68(.85)	3.77(.89)	3.67(.84)	Through reading I learn a lot of new words	.820	.413

Note. *1= negative statement - 5=positive statement. df = 344-345. p > .05.*