

Beginning teachers' reading attitude and motivation: A study into the evolution from teacher training to entrance in the teaching profession and into the impact of a teacher professionalization program

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*How good it is to be among
people who are reading.*

Rainer Marie Rilke



Illustratie (met goedkeuring) van Eleni Debo (www.elenidebo.com)

Voorwoord

Zullen we een **lees**bos beginnen?

Graaf een kuil
en plant je boom
voorzichtig
naast de mijne.
Kunnen ze elkaar
uit de wind houden
als het stormt
of in de zondagzon
samen zwijgen.
En als ze 's avonds
door de wimpers
van hun twijgen
naar elkaar kijken
beginnen ze al
op een bos te lijken.
(Jaap Robben)

Een **lees**bos, daar begint het ondertussen alvast mooi op te lijken. Ik prijs me gelukkig en ben dankbaar voor al die mensen dichtbij of iets verder weg met wie ik de voorbije jaren samen de ene boom naast de andere mocht planten.

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Sebastiaan   Zonder jou ... geen bos, alleen met jou ... dit boek.

Iris
juni 2020

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*Reading should not be presented to children as
a chore, a duty. It should be offered as a gift.*

Kate DiCamillo

1

General introduction

Chapter 1

General introduction

Abstract

This introduction presents a general overview of the research theme and the different chapters included in this dissertation. After a general introduction on the central concepts and an overview of the theoretical and empirical literature on today's (pre-service and beginning) teachers' reading attitude, motivation, self-efficacy regarding reading motivation promotion, continuing professional development and outcomes, the two research lines that serve as a leitmotiv throughout the different chapters are presented. Finally, the introduction concludes with an overview of the aims and the methodological approaches applied in each chapter, and a visualization of the dissertation structure.

Introduction

Reading is to be considered a core skill in education and society, as being a competent and motivated reader relates highly to academic and societal success (Logan et al., 2011; Schaffner et al., 2014; Schiefele et al., 2012; Sullivan & Brown, 2013). Throughout the years, the multidimensionality of this core skill has received attention in both educational practice and reading research (Afflerbach et al., 2013). More particularly, next to cognitive aspects of reading (e.g., strategies for decoding and comprehending texts) (e.g., Concannon-Gibney & Murphy, 2012; Okkinga et al., 2018) also affective aspects (e.g., reading attitude, motivation, self-efficacy) (e.g., De Naeghel et al., 2012; McGeown et al., 2015; Taboada Barber & Klauda, 2020; Toste et al., 2020; Warhurst et al., 2015) have increasingly come to the fore. This multidimensionality of reading is furthermore acknowledged in international comparative studies as the Progress in International Reading Literacy Study (PIRLS; Mullis et al., 2012; Mullis et al., 2017) and the Program for International Student Assessment (PISA; OECD, 2010, 2019). Recent results based on both PIRLS and PISA assessments are in line with insights from earlier studies (Chall & Jacobs, 2003; McKenna et al., 2012; McKenna, Kear, & Ellsworth, 1995; Smith et al., 2012; Wigfield, 2004) and point to a declining international trend in primary and secondary students' affective aspects of reading, and in the present dissertation's context of Flanders (Belgium) also regarding students' reading comprehension (e.g., Mullis et al., 2017). Given this alarming (inter)national trend and in line with the existing consensus about

the impact of teacher quality on students' achievement and motivation (European Commission, 2013; Hattie, 2009; Guerriero, 2017), teachers competent in teaching and promoting reading are more than ever needed. However, the dearth of research concerning teachers' own affective aspects of reading is surprising. Following Kunter et al. (2013) such competent teachers dispose of both the necessary knowledge, skills, as well as attitude and motivation or, as captured in Blömeke et al.'s (2015) framework, they dispose of both cognitions (e.g., knowledge) as well as affective-motivational attributes (e.g., attitude, motivation and self-efficacy) that underpin their teaching behavior.

To become and remain a competent teacher can be regarded as a continuing professional development process that consists of three interrelated phases: (1) pre-service teacher education or pre-service preparation, (2) the first years in the teaching profession, known as the induction phase, and (3) further continuing in-service professional development (e.g., Feiman-Nemser, 2001; Rossi et al., 2017). In this respect, professional development can be considered as an ongoing learning process, where teachers are continuously motivated to reflect on their professional practice and persist in professionalizing themselves in order to improve their competences and, hence, those of their students (Fauth et al., 2019; Kelchtermans, 2004; Kennedy, 2014; Kunter et al., 2013). Within the scope of this dissertation, we focus on the first two phases of this teacher development process and on the affective-motivational factors in being a competent teacher. These foci were opted for, as there appears to be a gap in the literature regarding (a) an explicit focus on pre-service and beginning teachers' affective aspects of reading and (b) the continuing professional development needed in this respect. These foci, however, appear to be of importance, as the scarce available literature indicates that there is a large group of pre-service teachers who starts of pre-service teacher education not liking to read (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008). This is especially a reason for concern, given the knowledge that teachers who frequently read for pleasure in their personal and professional life and who share how their reading experiences enrich their own lives are most likely to show a high self-efficacy regarding teaching reading and to use instructional practices promoting their students' reading (e.g., Burgess et al., 2011; Kozak & Martin-Chang, 2019; McKool & Gespass, 2009; Morrison et al., 1998). By doing so, these teachers also stress, next to reading fluency and comprehension (e.g., Afflerbach et al., 2013), the often neglected but crucial affective aspects related to reading (e.g., reading attitude, motivation, self-efficacy).

More specifically, showing motivating teaching behavior in the classroom seems to depend on at least the following elements: (a) teachers having the indispensable *knowledge*, i.e. they should know what reading motivation is (Conradi et al., 2014; Guthrie & Wigfield, 2000), what it consists of (De Naeghel et al., 2012; Schiefele et al., 2012), why it is vital to explicitly focus on in the classroom and how to promote most effectively (McKool & Gespass, 2009); (b)

teachers disposing of the necessary *skills*, i.e. they should have the skills to effectively foster students' motivation in the classroom (De Naeghel et al., 2014; Guthrie & Klauda, 2014; Neugebauer, 2016); and moreover, (c) teachers having a positive *attitude toward reading*, being *motivated readers* themselves and showing strong *self-efficacy beliefs* when it comes to promoting their students' reading motivation (e.g., Morrison et al., 1998). Taking these elements into account, teachers are likely to offer their students the necessary support for becoming proficient and motivated readers. Hereby, possibly altering the trend that students' affective aspects of reading decline throughout their educational careers. Therefore, gaining in-depth insight into (a) the current state of pre-service teachers' reading attitude and its development throughout pre-service teacher education and (b) providing an evidence-based continuing professional development program to foster (beginning) teachers' reading motivation and self-efficacy beliefs regarding reading motivation promotion and, in turn, aiming to foster promotive teaching practices and students' reading motivation as a result of these, forms the main rationale for the present dissertation.

In what follows, we provide an overview of the theoretical and empirical literature on affective aspects of reading and related promotive teaching practices, teachers' determining first years and the relevance of continuing professional development. Finally, we put forward two central research lines and present an outline of the different chapters in the current dissertation.

Affective aspects of reading

In recent decades, research has increasingly stressed that affective dimensions of reading (e.g., reading attitude, motivation, self-efficacy, interest, value, self-concept, expectancy) are crucial factors in successful reading (Baker & Wigfield, 1999; Becker et al., 2010; Cheema, 2018; Guthrie et al., 2012; Guthrie & Klauda, 2014; McKenna et al., 2012; Petscher, 2010; Schiefele et al., 2016; Wigfield et al., 2008, 2016). Hereby, findings seem to indicate that these affective aspects may be a prerequisite for actual reading practices, like for instance reading behavior (e.g., Bokhorst-Heng & Pereira, 2008; Conradi et al., 2013; Henk et al., 2012; Kozak & Martin-Chang, 2019; Petscher, 2010). When for example zooming in on *reading self-efficacy* or one's beliefs in reading ability (Bandura, 1997), existing theories acknowledge that reading self-efficacy beliefs are shown to be related to reading achievement (Valentine et al., 2004; Sundström, 2006) as well as to reading behavior (Anmarkrud & Bråten, 2009; Moje et al., 2008; Sainsbury & Schagen, 2004). These relations can be explained by the reciprocal model of causation (Mol & Bus, 2011; Stanovich, 1986), suggesting that students who perceive themselves as more able readers will read more frequently, will become better readers and will enjoy reading more, and hence, will be more motivated to continue reading for pleasure.

It should, however, also be noted that there is a lack of consistent conceptualization, as well as conceptual overlap in the literature of concepts related to the affective side of reading, such as for example reading attitude and reading motivation (Conradi et al., 2014; Neugebauer & Fujimoto, 2018; Schiefele et al., 2012). Reading attitude is primarily associated with the feelings one has towards reading as seen in the following definitions: “a system of feelings related to reading which causes the learner to approach or avoid a reading situation” (Alexander & Filler 1976, p. 1), or “a set of acquired feelings about reading that consistently predispose an individual to engage in or avoid reading” (Conradi et al., 2014, p. 154). Some theorists approach reading attitude from a tripartite perspective, emphasizing not only feelings, but also beliefs and behavioral intentions towards reading (Cheema, 2018; Mathewson, 1994). Building on this latter intentions component, some theorists noted that reading attitude is related to reading motivation (Conradi et al., 2014; Petscher, 2010; Schiefele et al., 2012). They, however, consider reading attitude not equal to reading motivation, but more as a factor affecting reading motivation, which is then defined as “the drive to read resulting from a comprehensive set of an individual’s beliefs about, attitudes toward, and goals for reading” (Conradi et al., 2014, p. 154).

Within *reading attitude research* (e.g., Conradi et al., 2013; Jang & Ryoo, 2018; Lewis & Teale, 1982; McKenna et al., 2012; Scholes, 2019) different theories and models have been adopted, presupposing somewhat different conceptualizations of attitude. More particularly, the abovementioned Tripartite Theory of Attitude (Mathewson, 1994) and the Theory of Reasoned Action and Planned Behavior (Ajzen, 2005; Ajzen & Fishbein, 2005) are often referred to. Contrary to the tripartite approach of attitude, where feelings, beliefs and behavioral intentions or action readiness towards reading are viewed as components of attitude (Mathewson, 1994), the theory of reasoned action and planned behavior (Ajzen & Fishbein, 2005) and the McKenna model (McKenna et al., 2012) influenced by this theory propose a somewhat differing view on reading attitude. According to the theory of planned behavior the major determinants of behavior follow from three types of beliefs: personal, normative, and control-related beliefs. These determinants are also referred to as: attitude, subjective norm, and perceived behavioral control (Ajzen, 1991). Attitude then represents a positive or negative evaluation of behavior and its outcomes (Ajzen, 2005).

In this dissertation, we focus on both affective and conative attitude components for increasing our understanding of both pre-service teachers’ reading attitude as well as their relationship with reading behavior and self-efficacy beliefs. The affective attitude component then reflects the prevailing feelings about reading, whereas the conative component -as a factor possibly affecting reading motivation- reflects the behavioral intention or action readiness to read (Manstead, 1996; Mathewson, 1994). Moreover, in this dissertation it might be of importance to additionally take into account two extra foci regarding reading attitude.

First, as previous studies already pointed to, it can be advised to distinguish between academic and recreational reading attitude (e.g., Conradi et al., 2013; McKenna et al., 2012). Hereby, considering possible differences between reading attitude toward assigned readings for school and recreational readings. Second, it appears recommendable to attend also the “social side (...) of reading” (Ivey, 2014, p. 165) and this for both students as well as (pre-service) teachers. Even though reading may be mainly viewed as an individual or personal activity; teaching, on the other hand, is by definition a social activity and teachers’ role particularly is a social one (McKool & Gespass, 2009). Importantly, it is among the evidence-based classroom practices that are considered critical for supporting reading enthusiasm that students are provided with opportunities to engage in social interactions about what they are reading (Antonio & Guthrie, 2008; Brozo & Flynt, 2008; Gambrell, 2015; Guthrie & Wigfield, 2000; Neugebauer & Gilmour, 2019; Wentzel & Wigfield, 2007). Furthermore, attending to this “social side of (...) reading” seems to make students more comfortable with others and with themselves (Ivey, 2014, p.165; Neugebauer & Fujimoto, 2018).

Comparable to reading attitude research, within *reading motivation research* (e.g., Baker & Wigfield, 1999; Gambrell et al., 1996; Schiefele & Löweke, 2017; Soemer & Schiefele, 2018; van Steensel et al., 2019; Wigfield & Guthrie, 1997) different motivation or related theories have been used, leading to different conceptualizations of motivation. More particularly, Self-Efficacy Theory (Bandura, 1977; Tschannen-Moran et al., 1998), Achievement Goal Theory (Ames, 1992; Ames & Archer, 1988), Expectancy-Value Theory (Wigfield & Eccles, 2000), and Self-Determination Theory (Ryan & Deci, 2000) are frequently cited. As specified by Self-Efficacy Theory, which is theoretically predicated on Bandura’s Social Cognitive Theory (1977, 1997), one’s expectations of perceived capability for learning or performing actions will influence a person’s choice of activities, expended effort, and persistence (Bandura, 1997). As to Achievement Goal Theory, studies mostly focus on two contrasting goals of achievement behavior: mastery goals, which are directed toward developing new skills, improving understanding, or achieving a sense of mastery; and performance goals, which concentrate on performing better than others and learning only to achieve a desirable goal (Ames, 1992; Ames & Archer, 1988; Meece et al., 1988). Expectancy-Value Theory denotes that individuals’ choice, persistence, and performance is connected with their beliefs about being successful in an activity and the value ascribed to the activity (Wigfield & Eccles, 2000; Wigfield et al., 2009). Self-Determination Theory differentiates between qualitatively different types of motivation by defining intrinsic and various extrinsic types of motivation and their respective roles in cognitive and social development (Deci & Ryan, 2000; Ryan & Deci, 2000). In the context of this dissertation we focus on the latter motivation theory, as a recent meta-analysis on the effects of reading motivation interventions in particular (van Steensel et al., 2016) revealed that the majority of studies referred to Self-Determination Theory (SDT; Ryan & Deci, 2000) as the

theoretical basis for their intervention. Moreover, SDT is currently referred to in hundreds of studies, “at every level of development, and across varied learning contents and cultural contexts” (Ryan & Deci, 2020, p. 3) as an interesting and most valuable and useful innovative motivation theory in education, also when specially aiming at stimulating students’ reading motivation (e.g., De Naeghel et al., 2012). More specifically, SDT redefined the classical distinction between intrinsic and extrinsic motivation by differentiating among types of extrinsic motivation (i.e., external, introjected, and identified motivation) and situated different types of motivation along a continuum of self-determination or relative autonomy (Ryan & Connell, 1989; Ryan & Deci, 2000). In this respect, SDT provides a clear structure for identifying different autonomous (i.e., intrinsic and identified) and controlled reasons (i.e., introjected and external) for acting. SDT thus distinguishes between autonomous motivation (i.e., engaging in activities with a sense of willingness) and controlled motivation (i.e., engaging in activities with a sense of pressure or coercion) and states that one’s autonomous motivation – as opposed to controlled motivation – should be fostered and nurtured. This can be realized by stimulating the inherent psychological need for autonomy (i.e., the experience of psychological freedom), providing structure in view of fostering the need for competence (i.e., the experience of feeling confident and effective), and nurturing the need for relatedness (i.e., the experience of feeling related to others).

Contrary to the amount of research on students’ reading self-efficacy, reading attitude, reading motivation and on teachers’ instructional practices to enhance that (e.g., De Naeghel et al., 2016), the research concerning pre-service and beginning teachers’ own reading self-efficacy, reading attitude and reading motivation remains surprisingly scarce. However, also a better understanding of (the development) of these affective attributes of pre-service and beginning teachers’ own reading and of how to strengthen these can be important in tackling the established declining trends in students. This appears specifically relevant, as studies on teachers’ motivation and self-efficacy in general (i.e., not domain-specific) repeatedly point to the close relationship with teaching behavior on the one hand and with students’ self-efficacy beliefs, achievement and motivation on the other hand (Jang et al., 2010; Roth et al., 2007; Roth & Weinstock, 2013; Zee & Koomen, 2016). These general studies furthermore explicitly point at the need to examine motivation and self-efficacy also towards specific domains such as reading. In light of the above, this dissertation will address this gap in the literature and specifically focus on reading attitude, reading motivation and reading self-efficacy and this from the very start of a teacher’s career.

Teachers' determining first years

Both teachers' pre-service teacher education and induction in the profession can be considered crucial phases in the career-long professional development process in becoming a high-quality teacher (European Commission, 2013; Guerriero, 2017; Ingersoll & Strong, 2011; Kupila & Karila, 2019; Merchie et al., 2016). During pre-service teacher education the foundation is laid to train pre-service teachers to become competent professionals (e.g., Cochran-Smith & Villegas, 2015). This process continues intensively during the first years in the profession (i.e., induction phase). Encouraged by educational policies worldwide, many teacher preparation programmes are developed on competence frameworks setting out the key competences required to grow into a high-quality teacher (Caena, 2014; European Commission, 2013). Such competent high-quality teachers dispose of the necessary knowledge, skills, attitudes and motivation to build their teaching practices on (Baier et al., 2018; Guerriero, 2017; Kunter et al., 2013). Some studies, however, refer to the latter affective-motivational factors, as having the most risk of being neglected (Furlong et al., 2000; Hargreaves et al., 2001). Therefore, this dissertation explicitly addresses these essential attributes in being a competent teacher. When zooming in on Flanders (Belgium), teacher education programmes are established on two sets of competence frameworks: the professional profiles and the basic competences. On the one hand the professional profiles focus on the profile of the ideal teacher, specifying the knowledge, skills, and attitude needed to become and stay one. These profiles moreover can serve as a guideline when developing professional development. The basic competences on the other hand, concentrate on the knowledge, skills and attitude that need to be obtained at the end of pre-service teacher education. Consequently, these can be considered as the minimum requirements for beginning teachers. Every teacher education program in Flanders has full autonomy to determine how to translate, implement, assess and achieve these competences.

Studies specifically focusing on beginning teachers' first years in the profession state that the transition from being pre-service to fully-fledged in-service teachers needs specific attention (Falk, 2014; Helms-Lorenz et al., 2015). More particularly, previous research pointed to beginning teachers' first intense years of practice and professional learning as challenging and crucial for both teacher retention and quality (Flores, 2001; Kupila & Karila, 2019). Attrition rates during these first years are quite high and have been a continuing concern for educational policy (Ingersoll & Strong, 2011). A various set of reasons for these drop-out rates have been raised, going from beginning teachers feeling isolated and not supported in the school context (Craig, 2017; Eteläpelto et al., 2015) to a lack of competence and motivation for the profession (Fernet et al., 2016; Skaalvik & Skaalvik, 2010). Responding to this context, professional development specifically targeting beginning teachers appears to be crucial (Appova &

Arbaugh, 2018; Hobson et al., 2009). As to teacher competence, previous professional development research focusing on for example beginning teachers' autonomous motivation and self-efficacy in general showed the importance of both these affective teacher attributes when aiming to enhance teaching behavior and students' motivation (Fernet et al., 2016; George et al., 2018; Guay et al., 2016; Meristo & Eisenschmidt, 2014). Although some studies posit that both motivation and self-efficacy are rather stable constructs, which do not change profoundly over time (Bandura, 1994; Ross, 1995), other studies point to their possible malleability and this more specifically during beginning teachers' first years of teaching (George et al., 2018).

When focusing on reading, the current literature remains limited as to the affective variables related to (pre-service and beginning) teachers' reading, only providing insight into pre-service teachers' reading attitude in the first half of teacher education and showing a large group pre-service teachers not liking to read (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008). Such insight might not be a surprise as earlier studies already pointed to a declining trend in students' affective aspects of reading throughout primary and secondary education (e.g., Chall & Jacobs, 2003; Smith et al., 2012; Wigfield, 2004). However, and as focused on in this dissertation, knowledge about the development of pre-service teachers' reading attitude in this respect throughout teacher education and when entering the profession and how their attitude relates to behavior (e.g., reading frequency), and self-efficacy beliefs is underexplored, while this kind of theoretical and empirical knowledge, could feed the (re)design of teacher education and continuing professional development programs from an evidence-based perspective in view of fostering teachers in developing into positive reading models for life.

Continuing professional development

From the very start of their induction phase, teachers need opportunities to engage in high-quality continuing professional development (CPD) programs. Over the last two decades, several studies on CPD have increased our understanding of the factors that contribute to effective teacher professional development and repeatedly point to its impact on several crucial factors in education, as for example the quality of teaching practices, teachers' retention in the profession, and students' academic achievement (Antoniou & Kyriakides, 2013; Borko et al., 2010; Darling-Hammond et al., 2017; Hill et al., 2013; Knight et al., 2014; Kutaka et al., 2017; Prenger et al., 2017; Rodriguez et al., 2020). Such powerful CPD comes in different formats (e.g., formal or informal; in group or individually-oriented) and can either be focused on more general aspects of teaching (e.g., overall instructional practices) or be domain-specific (e.g.,

teaching reading). In view of high-quality CPD, well-designed CPD programs are required, which are based on strong theoretical and empirical research and which can be implemented with fidelity (Avalos, 2011). Such CPD programs should be developed by grounding them in an overall theory of improvement, taking into account both a theory of change (i.e., the relations between the characteristics of teacher professional development and teachers' knowledge, skills, attitudes, motivation and practice) and a theory of instruction (i.e., the influence of changing teaching practices on students' learning and achievement) (Kennedy, 2016; Merchie et al., 2016; Van Veen et al., 2012).

Two frequently cited models for designing and evaluating professional development programs and mapping the possible effects are the five-stages-model of Guskey (2000, 2014) and the so-called path model of Desimone (2009). Both models show some degree of similarity as they both integrate a theory of change and instruction, acknowledge the necessity to formulate clear design principles when developing professional development programs, and refer to teaching and student learning and context as crucial elements in every professional development program. The framework of Desimone (2009, see Figure 1) appears particularly interesting as it explicitly highlights the interactive relationships between core features of professional development and increased teacher competence, change in instruction, and finally to improved student learning. This implies, for example, that a change in teachers' competence can lead to a change in teaching behavior or vice versa. Desimone's model (2009) appears to be leading in the literature as can be seen in the work of other researchers who applied or adapted her model (e.g., Boston, 2013; Guay et al., 2016; Kang et al., 2013; Labone & Long, 2016; Merchie et al., 2016; Power & Goodnough, 2018; Van Veen et al. 2012).

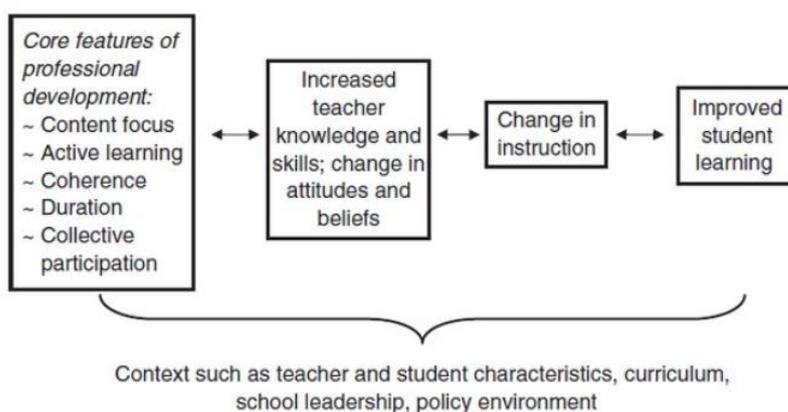


Figure 1. Conceptual framework of Desimone (2009) for studying the effects of professional development on teachers and students (p. 185)

In Desimone's framework (2009) five evidence-based core features for effective professional development (i.e., design principles) are distinguished. First, reference is made to the *content focus* of a program: what teachers learn through professional development in relation to subject matter content and how students learn this content. A second core feature relates to *active learning* in the professional development: teachers learn actively through continuing and active inquiry of practice by means of for example actively observing, reviewing, reflecting, or discussing. Third, *coherence* is considered an essential professional development feature: teacher's learning needs to be aligned with their knowledge, beliefs, goals and with current reforms and policies. *Duration* is the fourth fundamental principle: an intensive program with a minimum of 20 hours of contact time and spread out over time, making follow-up possible, is recommended. Finally, *collective participation* turns out to be a key design principle: bringing teachers together to actively collaborate with each other and build an interactive learning community. Furthermore, Desimone's model refers to context (e.g., school, teacher and student characteristics) as a crucial element in each professional development program.

Notwithstanding the overall merit of the framework, Kennedy (2016) addresses the lack of explicit integration of a motivation theory into Desimone's model to support teachers' continuous engagement in a CPD program. For example, the integration of SDT (Ryan & Deci, 2000) on motivation might be appropriate regarding professional development (Guay et al., 2016). Some previous studies have shown that supporting teachers' autonomous motivation can be a core feature when wanting them to engage fully in professional learning activities (e.g., Power & Goodnough, 2018). Although most models on professional development and the design principles mentioned in the models can be considered conceptual and therefore general in nature and consequently not exclusively linked to a specific educational domain (e.g., reading, mathematics), when operationalized in detail they are a strong scientific starting point for building a domain-specific professional development program, which can be implemented, evaluated, disseminated, and replicated (e.g., Santagata & Bray, 2015).

CPD programs for beginning teachers often employ individually-oriented as well as a broad amount of group-oriented CPD approaches. These respectively apply school-based one-on-one mentoring to tackle beginning teachers' individual needs and expectations (Bickmore & Bickmore, 2010; Bressman et al., 2018) or stress the advantage for beginning teachers to collaborate with a mixed group of colleagues from their school, regardless of their age or teaching (Fresko & Nasser-Abu Alhija, 2014; Valenčič Zuljan & Marentič Požarnik, 2014). Some studies, however, also point to the added value for beginning teachers to be part of a group of only novice teachers, collectively constituting a safe learning environment (Fox & Wilson, 2009; Tiplic et al., 2015). In view of the impact of both approaches conflicting results appear in the literature. When for example focusing on CPD programs with a group approach

some studies point to the difficulty of responding to the participants' individual needs as a possible explanation for a non-impact of the program (Clark et al., 2017). As the first years of teaching are determining for the following years in the profession in so many ways (Kupila & Karila, 2019; LoCasale-Crouch et al., 2016) and as the literature is scarce and undecided on which of both CPD approaches most effectively stimulates high-quality transition from pre- to in-service teaching, more research on the possible differential impact of an individual versus group-based approach will make a necessary contribution to the teacher professionalization research field.

Also in the case of teaching reading in general and particularly focusing on reading motivation promotion, professional development studies have pointed to their impact on teacher quality and students' motivation and attainment (De Naeghel et al., 2014, 2016; Didion et al., 2019; Guthrie & Klauda, 2014; Jang et al., 2015; van Steensel et al., 2016). One perhaps more widely known example, in this respect, are the studies examining the impact of Concept-Oriented Reading Instruction (CORI). CORI is an instructional program which aims to integrate reading strategy instruction, conceptual knowledge, and support for students' reading motivation (Guthrie et al., 2007). Various studies have supported the effectiveness of CORI, as students participating in CORI have showed a higher intrinsic reading motivation and reading engagement (Wigfield et al., 2008). When focusing on fostering students' autonomous reading motivation more in general (i.e., not only using informative texts limited to a particular genre or topic) two studies come to the fore (De Naeghel et al., 2014; De Naeghel, et al., 2016). Both these studies point to the positive impact that an autonomy-supportive and structuring teaching style and autonomy-supportive strategies can have on students' autonomous reading motivation. Strikingly, however, reading (intervention) research in general and also more specifically focusing on enhancing teacher behavior regarding reading promotion and following this students' achievement and motivation, often neglects (pre-service) teachers' own reading attitude and motivation and how self-efficacious they are regarding reading motivation promotion (i.e., teachers' beliefs in their skills and capabilities to generate student learning and success regarding reading promotion, often explicitly related to their instructional practices, classroom management and student engagement) (Bandura, 1997; Tschannan-Moran & Woolfolk Hoy, 2001; Zee & Koomen, 2016). However, as motivation research increasingly shows (e.g., Fernet et al., 2016; George et al., 2018; Guay et al., 2016; Meristo & Eisenschmidt, 2014), these affective-motivational attributes might relate to teachers' instructional practices and from there to their students' (affective) reading (attainment). In light of the rationale underlying the present dissertation and more particularly the aim to provide an evidence-based CPD program to foster (beginning) teachers' reading motivation and self-efficacy beliefs regarding reading promotion, insights from SDT can furthermore be integrated in both the program's content focus (i.e., providing knowledge on autonomous and controlled

motivation) as well as in the design principles. The latter is particularly important taking into account the idea of congruent teaching, stressing to teach what you preach and to be a good model of the kind of teaching you want to promote in CPD (Aelterman et al., 2013; De Naeghel et al., 2016; Swennen et al., 2008). In this respect, using an SDT approach in CPD aims at and implies that participating teachers themselves (1) are being motivated throughout the program by fostering their psychological needs for competence, relatedness, and autonomy and (2) increase their knowledge, skills, and self-efficacy beliefs regarding reading motivation promotion, given the specific content focus of the CPD program. Consequently, in the scope of this dissertation building on insights into the state of beginning primary school teachers' affective aspects of reading we aim to explore the impact of a CPD program explicitly focusing on beginning teachers' reading motivation and self-efficacy regarding reading motivation promotion.

Research lines in the present dissertation

Based on the theoretical and empirical research literature discussed above, two research lines are central in this dissertation:

- (1) A first research line addresses pre-service teachers' reading attitude. In view of providing a state of the art of pre-service teachers' reading attitude at the start of pre-service teacher education and furthermore of its development until graduation, this line focuses on measuring pre-service teachers' affective and conative reading attitude components and their relationship with reading behavior, perceived reading ability and reading promotive behavior. Within this research line, we aim at profiling pre-service teachers' affective and conative reading attitude components, by examining the occurrence of pre-service teachers' reading attitude profiles (i.e., the extent to which pre-service teachers could be grouped based on the relations between the affective and conative components of their reading attitude) at the start of teacher education and the stability and change of these profiles throughout teacher education. Furthermore, we focus on the relationship between these profiles and pre-service teachers' reading behavior, perceived reading ability and near graduation also their reading promotive behavior.
- (2) A second research line focuses on fostering beginning primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and supporting them in fostering their students' reading motivation by means of a

researcher-developed continuing professional development program. This program is based on insights acquired in the first research line and on the theoretical and empirical literature on the effectiveness of professional development and Self-Determination Theory (Ryan & Deci, 2000, 2020). This research line aims at studying the impact of a year-long continuing professional development program on beginning primary school teachers' reading motivation and self-efficacy regarding reading motivation promotion.

Design of the studies and overview of the dissertation

The studies included in this dissertation can be classified into four different categories of research. First, cross-sectional survey research is used to provide a “snapshot of how things are at a specific time” (Kelley et al., 2003, p. 261). The main aim of this type of research is examining a situation by describing and relating important characteristics associated with that situation (cf., research line 1) (Kelley et al., 2003). Second, longitudinal survey research is used. The main aim of this type of research is to examine the longitudinal development of pre-service teachers' reading attitude (cf., research line 1). The third category of research, also descriptive in nature, is the systematic and analytic description of a CPD program (Rijlaarsdam et al., 2018; Santagata & Bray, 2015). The main aim of this type of research is to provide in-depth insight into the design principles, instructional activities, and learning activities that constitute the CPD (cf., research line 2). Finally, experimental intervention research is used to study the impact of the developed CPD program. The main aim of this type of research is to identify evidence-based practices (cf., research line 2). Furthermore, both quantitative and qualitative research is applied in this dissertation.

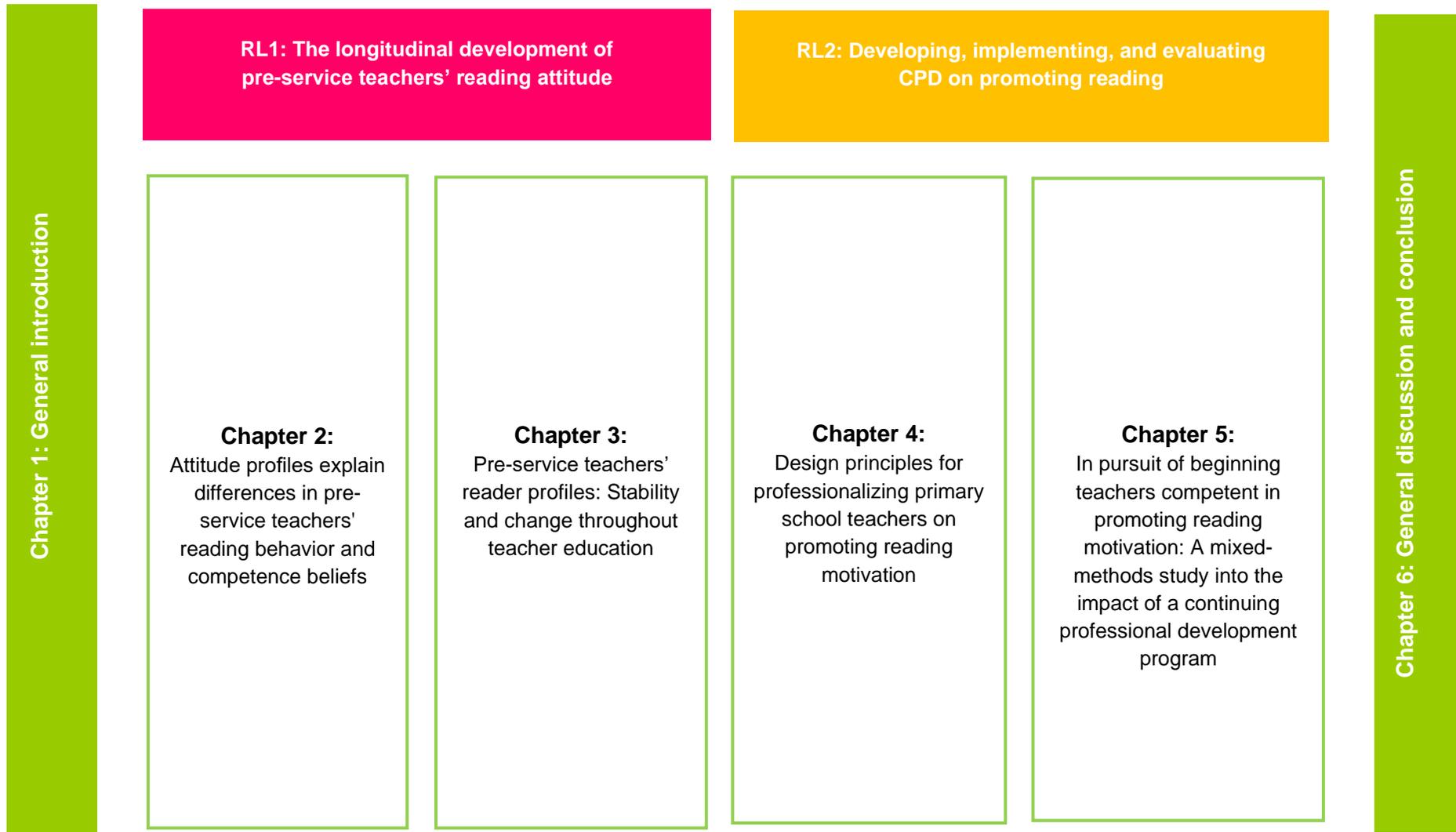


Figure 2. Overview of the studies and their relation to the general research lines (RL) and dissertation chapters.

This dissertation consists in total of six chapters. Besides an introductory (chapter 1) and a concluding chapter (chapter 6), four chapters documenting different studies are included (chapter 2 to 5). Each of these four chapters is based on a published, accepted or submitted article to an international peer-reviewed journal or to a journal listed in the Social Science Citation Index. Figure 2 visualizes the structure of the present dissertation, highlights the interrelatedness between the different chapters and positions the chapters within the two main research lines. Additionally, Table 1 presents a detailed overview of the chapters by outlining the research lines, research objectives, research designs, data collection, and data analysis techniques for the different studies.

The first research line 'The longitudinal development of pre-service teachers' reading attitude' is addressed in chapters 2 and 3. More particularly, chapter 2 explores the occurrence of different pre-service teachers' reading attitude profiles at the start of pre-service teacher education and the relationship between these profiles and (a) perceived reading ability and (b) reading behavior, whereas chapter 3 provides more in-depth information on the stability and change of pre-service teachers' reading attitude profile structure throughout teacher education and explores to what extent this profile structure explains differences in pre-service teachers' (a) reading behavior, (b) perceived reading ability and (c) reading promotive behavior. The insights from research line 1 provided input for the second research line: 'Developing, implementing and evaluating CPD on promoting reading'. Chapters 4 and 5 fit within this second research line and report on the development, implementation and evaluation of a continuing professional development program focusing on fostering primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and supporting them in fostering their students' reading motivation. The research lines in general and the different chapters in particular are strongly interrelated as findings obtained in one study, provide input for another study.

Chapter 1 is an introductory chapter elaborating on the central concepts and providing a concise overview of the theoretical and empirical literature on (pre-service and beginning) teachers' reading attitude, reading motivation, self-efficacy regarding reading motivation promotion and continuing professional development and outcomes. Furthermore, both research lines that serve as a leitmotiv throughout the different chapters are outlined. This chapter concludes with an overview of the design and the studies included in the dissertation.

Chapter 2, '*Attitude profiles explain differences in pre-service teachers' reading behavior and competence beliefs*', presents a state-of-the-art study of pre-service teachers' reading attitude at the start of a teacher education program. To this aim, 253 pre-service teachers completed a questionnaire. The existence of reading attitude profiles (i.e., the extent to which pre-service

teaches could be grouped based on the relations between the affective and conative components of pre-service teachers' reading attitude) was explored by means of Two Step Cluster Analysis. One-way analysis of covariance was conducted to furthermore investigate the relationship between pre-service teachers' reading attitude profiles on the one hand and perceived reading ability and reading behavior on the other hand. The manuscript of this chapter is published in *Learning and Individual Differences*.

Chapter 3, '*Pre-service teachers' reader profiles: Stability and change throughout teacher education*', examined the stability and change in 131 pre-service teachers' reading attitude profile from the start of teacher education until graduation. To this aim, a longitudinal survey design was set up. By means of cluster movement analysis and one-way analysis of covariance, stability and change in pre-service teachers' reading attitude profiles and the relationship of these profiles with (a) reading behavior, (b) perceived reading ability and (c) reading promotive behavior were studied. This chapter is submitted to *Journal of Research in Reading*.

Chapter 4, '*Design principles for professionalizing primary school teachers on promoting reading motivation*', provides in-depth insight into a continuing professional development program via an analytic and systematic description of the design principles of the program (e.g., Santagata & Bray, 2015). Following the procedure developed by Rijlaarsdam et al. (2018) also facilitator's instructional activities and participants' learning activities in the CPD program are reported. Additionally, fidelity of implementation of the design principles is taken into account (O'Donnell, 2008) when implementing the program in the intervention described in chapter 5. This chapter is published in the special issue 'Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation' in *L1-Educational Studies in Language and Literature*.

Chapter 5, '*In pursuit of beginning teachers competent in promoting reading motivation: A mixed-methods study into the impact of a continuing professional development program*', investigates the impact of a year-long CPD program on beginning teachers' reading motivation and self-efficacy regarding promoting reading motivation. A pretest-posttest-retention test design with two CPD conditions (i.e., group versus individually-oriented) and one control condition was applied. Beginning primary school teachers (n = 28) were randomly assigned to the three conditions. To study the impact of the developed CPD program on fostering reading motivation (cf., see chapter 4), a convergent parallel mixed-methods design was applied. As to the quantitative part, an online survey was used as a pre- and posttest measuring beginning teachers' reading motivation and self-efficacy regarding promoting reading motivation (i.e., by means of an adjusted version of the SRQ-Reading Motivation (De Naeghel et al., 2012) and

the Ohio State teacher efficacy scale (Tschannen-Moran & Woolfolk Hoy, 2001) respectively). Both halfway through the program and immediately after the last CPD session, CPD-group members participated in a focus group and CPD-individual members participated in in-depth interviews focusing again on the impact of the CPD-program on beginning teachers' reading motivation and self-efficacy regarding promoting reading motivation. Finally, all CPD-participants participated in a written interview with open-ended questions regarding their reading motivation and self-efficacy regarding promoting reading motivation as a follow-up (i.e., retention test), nine months after they completed the intervention program. This chapter has been revised and resubmitted to *Teaching and Teacher Education*.

Chapter 6 serves as a concluding chapter. This chapter summarizes the results of the previous chapters and provides a general conclusion and discussion related to the proposed research lines central in this dissertation. Further, it proposes limitations and future research aspirations. This chapter concludes with contributions and implications for research, practice, and policy.

Table 1. A detailed overview of the chapters by outlining the research lines (RL), research objectives, research designs and data collection, and data-analysis techniques.

RL	Chapter	Research objectives	Research design and data collection	Data-analysis techniques
	1	General introduction		
	2	To assess pre-service teachers' reading attitude; to explore the occurrence of different reading attitude profiles; to clarify the relationship between pre-service teachers' reading attitude profiles and (a) perceived reading ability and (b) reading behavior	Cross-sectional survey design (n = 253)	Descriptive analysis (SPSS) Correlation analyses (SPSS) Cluster analysis (SPSS) One-way analysis of covariance (SPSS)
1	3	To evaluate whether a similar profile structure in pre-service teachers' reading attitude can be distinguished near graduation as in the first semester of teacher education (see chapter 2) and to explore to what extent this profile structure explains differences in (a) perceived reading ability, (b) reading behavior and (c) reading promotive behavior.	Longitudinal survey design (n = 131)	Descriptive analysis (SPSS) Cluster analysis (SPSS) Cluster movement analysis (SPSS) One-way analysis of covariance (SPSS) Chi-square analysis (SPSS)
	4	To provide an analytic and systematic description of the operationalization of the design principles of a continuing professional development program fostering primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and supporting them in fostering their students' reading motivation.		Descriptive analysis (SPSS)
2	5	To study the impact of a one year-long continuing professional development program (see chapter 4) on beginning teachers' reading motivation and self-efficacy regarding promoting reading motivation.	Convergent parallel mixed-methods experimental design with repeated measures with pretest-posttest-retention test design and 2 experimental ($n_{\text{exp.1}} = 8$ and $n_{\text{exp.2}} = 10$) and 1 control condition (n = 10).	Descriptive analysis (SPSS) One-way analysis of covariance (SPSS) Thematic analysis (NVIVO)
	6	General discussion and conclusion		

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*Reading is to the mind what
exercise is to the body.*

Joseph Addison



2

Attitude profiles explain differences in pre-service teachers' reading behavior and competence beliefs

This chapter is based on:

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Chapter 2

Attitude profiles explain differences in pre-service teachers' reading behavior and competence beliefs

Abstract

Teachers' reading attitude is important for affecting their students' reading, yet the prevalence of aliteracy is high among teachers. The present study aims to examine whether there are individual differences in pre-service teachers' reading attitude ($n = 253$) at the time of enrollment in teacher education, and whether these differences explain differences in reading behavior and perceived reading competence. Using Cluster Analysis three attitude profiles were identified. Personally-oriented readers (26.9%) appeared to be the more solitary readers, whereas socially-oriented readers (33.6%) were most willing to interact with others about reading. Both profiles were comparable in reading frequency and self-competence beliefs. The profile low-affect readers (39.5%) seemed the most reluctant and aliterate readers. Overall, this study stresses the importance of acknowledging individual differences in reading attitude when designing teacher education courses that provide teachers with the tools and willingness to foster their fellow teachers' and students' reading enthusiasm.

Introduction

Next to teaching students how to decode and comprehend texts, it is critical that teachers motivate their students to enjoy and engage in independent reading, both inside and outside school (Gambrell, 2015). Teachers who frequently read for pleasure themselves and who share how their reading experiences enrich their own lives are most likely to use instructional practices that foster their students' love of reading (Commeyras et al., 2003; Cremin et al., 2009; Gambrell, 1996; Hiebert, 2009; Malloy et al., 2013; McKool & Gespass, 2009; Morrison et al., 1998; Ruddell & Unrau, 2013). As a result, engaged and enthusiastic teachers contribute to their students' school success as reading is one of the most important basic skills in education (Hattie, 2009, 2012; Krashen, 2004; Sullivan & Brown, 2013).

Ideally, all teachers become inspiring reading models before they graduate from teacher training. However, there is a high prevalence of aliteracy among teachers, i.e., the ability to read but a disinterest in personal reading (e.g., Nathanson et al., 2008). To decrease the likelihood that children and adolescents are confronted with aliterate teachers in their educational careers – and hence, increase the number of enthusiastically and proficiently reading children and adolescents –, it first seems necessary to gain more insight in individual differences among pre-service teachers who have just enrolled in a teacher education program. In this study, we will specifically focus on their reading attitude, reading behavior, and self-competence beliefs.

Research (e.g., Bokhorst-Heng & Pereira, 2008; Conradi et al., 2013; Daisey, 2009; Henk et al., 2012; McKenna et al., 1995) suggests that reading attitude may be a prerequisite for actual reading practices. Furthermore, existing theories mostly acknowledge that attitudes are affected by one's self-competence beliefs (for an overview and model, see De Brabander & Martens, 2014). In the domain of reading, self-competence beliefs –or the cognitive appraisal of actual reading abilities (for a review, see Sundström, 2006)– are shown to be related to actual achievement (Huang, 2011; Valentine et al., 2004) as well as to actual reading practices (Anmarkrud & Bråten, 2009; Moje et al., 2008; Sainsbury & Schagen, 2004). These relations can be explained by the reciprocal model of causation (Mol & Bus, 2011; Stanovich, 1986), suggesting that students who perceive themselves as better readers will read more frequently, will become better readers and will enjoy reading more, and hence, will be more motivated to continue reading for pleasure. Put differently, a positive reading attitude seems an important factor to study when aiming to understand individual differences in reading behavior and perceived reading competence.

Strikingly, hardly any research has yet addressed whether teachers already display a positive or negative reading attitude when they have just enrolled in teacher training (except,

e.g., Applegate & Applegate, 2004; Nathanson et al., 2008). Learning more about their reading attitude at an early stage of their teaching journeys is particularly relevant for developing teacher education courses that provide teachers with the tools and the willingness to become enthusiastic readers who are a role model for their (future) students (Applegate et al., 2014; Fletcher et al., 2012; Lundberg & Linnakyla, 1993). Moreover, gaining insight in individual differences may aid teacher educators in encouraging, modeling, and scaffolding the development of their students' reading attitude, behavior, and (perceived) competence so that these students, regardless of their subject and the grade level, will be able to deliver high-quality, motivating reading instruction as professional teachers (Ball et al., 2008).

In recent years, there has been a shift in research that primarily focuses on cognitive aspects of reading (e.g., abilities) to examining affective aspects, such as reading attitude and motivation. In doing so, the multidimensionality of reading is addressed more comprehensively (Afflerbach et al., 2013). It should be noted, however, that there is a lack of a consistent definition of reading attitude in the literature, which may be partly due to its conceptual overlap with reading motivation (Conradi et al., 2013; Schiefele et al., 2012). For example, motivation involves the tendency to take action, which is also reflected in conative attitudes, or the intention to take action. In this study, we focus on four components of reading attitude that seem particularly relevant for increasing our understanding of pre-service teachers' reading behavior and self-competence beliefs: affective, personal conative, recreational social-conative, and academic social-conative attitudes. Affective attitudes reflect the prevailing feelings about reading, whereas conative attitudes reflect the intention to read (Manstead, 1996; Mathewson, 1994).

Even though reading may be mainly viewed as an individual or personal activity; teaching, on the other hand, is by definition a social activity and teachers' role particularly is a social one (McKool & Gespass, 2009). Importantly, it is among the evidence-based classroom practices that are considered critical for supporting reading enthusiasm that students are provided with opportunities to engage in social interactions about what they are reading (Gambrell, 2015). Furthermore, attending to this "social side of (...) reading" seems to make students more comfortable with others and with themselves (Ivey, 2014, p.165; Salmivalli et al., 2005). In our study, we therefore focus on both personally-oriented (i.e., affective attitude, personal conative attitude) and socially-oriented reading attitudes (i.e., academic and recreational social-conative attitudes). To become role models for reading, it seems particularly relevant that pre-service teachers like to read (affective attitude), have clear personal reasons for doing so (personal conative attitude), and that they are willing to interact about their reading experiences (social conative attitude). We will specifically distinguish between academic and recreational social-conative attitudes, because our sample consists of college students, whose intention to talk about their assigned readings for school may differ from their intention to share about their

readings outside school (Conradi et al., 2013; McKenna et al., 2012). Existing research has hardly examined these four components simultaneously, whereas it seems very likely that their interplay may explain individual differences in pre-service teachers' reading behavior and perceived reading competence.

The first aim of our study is to examine whether it is possible to identify reader profiles based upon differences in pre-service teachers' affective and conative reading attitudes. Such reader profiles could be used as a data-driven approach for teacher education programs and could make it possible to gain a more accurate insight into the initial reading attitude of the potentially heterogeneous group of pre-service teachers. Our second aim is to examine whether these attitude profiles explain differences in pre-service teachers' reading behavior and self-competence beliefs. In line with Applegate and Applegate (2004), we expect to identify a group of pre-service teachers with relatively low reading attitude that will hardly read for pleasure and will not perceive themselves as competent readers. In addition, we expect to distinguish between pre-service teachers who are personally- versus socially-oriented readers. Research has not yet shown whether the intention to interact about reading will explain differences in reading behavior and self-competence beliefs.

In measuring reading attitude and behavior, we adopt a multiliterate view on reading: In addition to asking about the frequency with which they read books, we include other reading materials (newspapers, magazines, comics) and focus on both the print and the digital reading of these materials. Research indicates that the inclusion of print and digital reading are necessary to get a good insight into the reading of students living in the 21st century (Alexander, 2012; Leu et al., 2013; Schiefele et al., 2012). Overall, this study addresses the following research questions:

- (1) Can we profile differences in the reading attitude of pre-service teachers, by specifically focusing on affective and conative components?
- (2) To what extent do the profiles of pre-service teachers' reading attitude explain differences in (a) perceived reading competence and (b) reading behavior?

Method

Participants

A group of 253 pre-service teachers (63.1% women, 36.9% men) studying at a university college in a large city in Belgium was analyzed. On average, participants were 21.48 years old (SD= 3.45; Range: 19-42 years). Most pre-service teachers (90.92%) had Dutch as their first reading language. Some (23.7%) had an immigrant grandmother, of whom 15% came from Morocco (8.7%) and Turkey (6.3%). The highest educational level of most of their fathers was

secondary education (43.3%), whereas 19.2% received a Bachelor's degree and 17.9% had a Master's degree.

Participants were in their first year of a professional teacher education bachelor program (180 credits). To be admitted into this program, there is no entrance exam other than that students need to have a high school diploma. All students had such a diploma, while 7.7% also had already received a Bachelor or Master's degree in another field. Pre-service teachers choose one of three graduation tracks: to become a teacher in either kindergarten (2.5-to-6-year-old children), primary education (6-to-12-year-old children), or in the first grades of secondary education (12-to-14-year-old children). In our study, 27.4% (98.5% females) were in their first year of the kindergarten-track, 20.2% (74% females) in the primary-school track, and 52.4% (40.9% females) in the secondary-school track.

Measures

Reading attitude

For each item in the attitude scales, pre-service teachers indicated the extent to which they agreed with a statement on a four-point Likert scale. Answer possibilities ranged from 1 = I totally disagree, 2 = I disagree, 3 = I agree, to 4 = I totally agree. To cover all four attitude constructs, we grounded our items in existing theory (e.g., De Brabander & Martens, 2014; Sundström, 2006) and also included several existing items from PISA-2009 (OECD, 2010), Stokmans (1999), and from the survey that was validated by McKenna et al. (2012) and Conradi et al. (2013). To calculate a total subscale score, the item scores were averaged per subscale. Higher scores corresponded with a more positive attitude.

Principal Component Analysis with oblique rotation (direct oblimin) indicated evidence of construct validity. Outcomes revealed that a three-factor model seemed to offer the best solution (KMO = .88). The first factor explained 31.2% of the variance and included the two personally-oriented scales (affective and personal conative attitudes). All academic conative items consistently loaded on the second factor (12.8% explained variance), and all items of the recreational conative scale loaded on the third factor (5.1% explained variance). Because of the fact that the affective scale mainly comprised items of an existing, validated questionnaire (Lewis & Teale, 1980, 1982) and because of conceptual differences between affective and conative attitudes, we decided to analyze our data with four separate scales. This decision was also supported by the satisfactory-to-high reliability coefficients of each subscale.

Affective scale. Thirteen statements measured pre-service teachers' affective reading attitude. Eleven statements came from the affective scale of Lewis and Teale (1980, 1982). We added two statements to address the multiliterate view on reading: *I like to read the*

newspaper and *I like to read a book on my e-reader*. Because we used a modified instrument, the results should be interpreted with caution. The scale had a Cronbach's Alpha of $\alpha = .90$.

Personal conative scale. Six statements addressed the personal intentions to read, such as *I read when I want to feel at ease*. Cronbach's Alpha was $\alpha = .75$.

Recreational social conative scale. Six statements addressed the reading that pre-service teachers intended to do outside the academic context in relation with others. For example: *I read to be able to talk about it with my friends*. The scale had a Cronbach's Alpha of $\alpha = .73$.

Academic social conative scale. Pre-service teachers responded to six statements about the reading they intended to do for their education and in relation with others (e.g., *I would enjoy reading more if I could read the same materials as my fellow students and share my experiences*). Cronbach's Alpha was $\alpha = .76$.

Perceived reading competence

Self-competence beliefs in reading were evaluated by two questions. First, respondents rated their reading ability on a scale from 1 to 10, in which 1 reflected being a very poor reader and 10 being a very good reader. Second, respondents compared their own reading abilities with those of people their own age. Answer options ranged from 1 = a lot worse to 2 = a little bit worse, 3 = the same, 4 = a little bit better; and 5 = much better.

Reading behavior

Adopting a multivariate view of reading, we asked about the reading frequency of various genres in both digital and paper formats. Respondents reported their reading frequency on a five-point Likert scale (1 = never/almost never, 2 = a few times a year, 3 = a few times a month, 4 = multiple times per month, 5 = multiple times per week) for each of the following nine reading materials: books (print/digital, both fiction and non-fiction), newspapers (print/digital), magazines (print/digital), and comics and/or graphic novels. All items were averaged to create a mean reading-frequency score. The scale had a Cronbach's Alpha of $\alpha = .72$.

Second, as book ownership is shown to be an indicator of reading behavior (Mol & Bus, 2011), we further asked respondents to report the number of books they estimated to own themselves (both print and e-books). Answer options ranged from 1 = 0-10, 2 = 11-25, 3 = 26-100, 4 = 101-200, 5 = 201-500, and 6 = more than 500 books.

Demographics

The participants reported their sex (female/male), birth date, and the birth place of their mother's mother (i.e., as an indicator of participants' families immigrant status). They also

reported whether they already had completed another bachelor or master program (yes/no), their teacher-track (kindergarten, primary or secondary education), their fathers' highest level of education, and in which language they preferred to read.

Procedures

Prior to this study, the survey was piloted with a small group of pre-service teachers ($n = 4$) and reading professionals ($n = 8$), resulting in minor modifications in item wording and the removal of unclear items. The school board agreed with our study and allowed us to schedule an extra lesson per classroom to have all first-year pre-service teachers who were present at that time complete the survey on paper ($N = 312$) at the start of their first semester, so the survey was not as part of regular classroom practice. Students were allowed to refuse participation and to stop at any time during the test session, yet no one did.

The four researchers who introduced and supervised the survey administration were all teacher educators in the program. They only visited groups they did not teach themselves. They first ensured all students that their data would remain anonymous and explicitly asked them to complete each question. As it was not possible to check each student's survey before they left the classroom, there were some missing values. Because we aimed to identify profiles based on the four attitude components, we allowed a maximum of one item to be missing per attitude scale. This resulted in 253 complete datasets. The 59 excluded pre-service teachers did not differ from the group with complete data on our outcome measures: perceived reading competence ($t(309)_{\text{own abilities}} = 1.14, p = .157$; $t(309)_{\text{comparison rating}} = .72, p = .474$) and reading behavior ($t(309)_{\text{reading freq}} = 1.62, p = .107$; $t(309)_{\text{number of books}} = .35, p = .726$). The majority (83.8%) of the included pre-service teachers replied to all attitude questions. In addition, the fifteen pre-service teachers (5.9%) who did not provide all demographic information were only excluded in the analyses in which we controlled for demographics, resulting in a sample of 238 pre-service teachers in these analyses. The latter missing cases were equally distributed over the identified profiles (*range*: 4.4-6.0%).

Results

Zero-order Pearson correlation analyses (see Table 1) showed that both personal conative and affective attitudes were moderately related to their reading behavior and self-competence beliefs ($.30 \leq r\text{'s} \leq .48$). Pre-service teachers' social conative attitudes were only related to reading frequency ($r_{\text{academic}} = .14$; $r_{\text{recreational}} = .20$).

Reading attitude profiles

To answer our research questions, we controlled for age, gender, and whether students had earned another degree because these covariates were related to one or more of our variables of interest. We further controlled for fathers' highest level of education as an indicator of students' socio-economic status. Across the three tracks (i.e., kindergarten, primary, secondary school), we found no significant differences among pre-service teachers' attitude ($ps \geq .25$), reading behavior ($ps \geq .09$), and self-competence beliefs ($ps \geq .32$).

Table 1. Correlations between Pre-service Teachers' Attitude, Perceived Reading Competence, Reading Behavior, and Demographics.

	Affective	Pers-con	Ac. soc con	Recr. soc con	Own abilities	Comparison rating	Reading freq.	No. of books	Age
<i>Attitude</i>									
Affective	-								
Personal conative	.72**	-							
Academic social con.	.12	.15*	-						
Recreational social con.	.11	.26**	.52**	-					
<i>Perceived reading competence</i>									
Rating own abilities	.47**	.39**	-.02	.02	-				
Comparison rating	.36**	.30**	-.01	.05	.64**	-			
<i>Reading behavior</i>									
Frequency	.43**	.38**	.14*	.20**	.30**	.27**	-		
Number of books	.48**	.34**	-.07	-.04	.24**	.25**	.34**	-	
<i>Demographics</i>									
Age	.19**	.19**	-.04	.02	.04	.11	.04	.25**	-

* $p < .01$; ** $p < .001$

Reading attitude profiles

Table 2. Means (M) and Standard Deviations (SD) of all Variables of Interest for the Total Group and the Three Identified Clusters (C1 – C3).

	Total Group ¹		C1: Low-affect readers ²		C2: Socially-oriented readers ³		C3: Personally-oriented readers ⁴		Group differences ⁵
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Attitude</i>									
Affective	2.60	.59	2.06	.41	2.84	.34	3.09	.40	3 > 2 > 1
Personal conative	2.68	.52	2.20	.31	2.94	.35	3.04	.39	2, 3 > 1
Academic social con.	2.30	.55	2.20	.56	2.68	.37	1.97	.46	2 > 1 > 3
Recreational social con.	1.91	.48	1.79	.44	2.33	.34	1.58	.29	2 > 1 > 3
<i>Perceived reading competence</i>									
Rating own abilities	7.21	1.60	6.51	1.75	7.47	1.28	7.91	1.30	2, 3 > 1
Comparison rating	3.13	.78	2.85	.73	3.29	.74	3.32	.79	2, 3 > 1
<i>Reading behavior</i>									
Frequency	2.64	.70	2.36	.64	2.87	.70	2.77	.63	2, 3 > 1
Number of books	2.14	1.10	1.56	.87	2.28	.99	2.80	1.09	3 > 2 > 1

¹ $N_{total\ group} = 238$; ² $n_{cluster\ 1} = 94$; ³ $n_{cluster\ 2} = 79$; ⁴ $n_{cluster\ 3} = 65$; ⁵ Group differences were calculated with GLM-Univariate Ancova analyses with post-hoc Bonferroni corrections

Profiles of pre-service teachers' reading attitude

Natural groupings (or clusters) within our dataset were made by using the Two Step Cluster Analysis. The two step algorithm handles both continuous and categorical variables and provides the capability to automatically find the optimal number of clusters (Garson, 2014). The rationale for the clustering was to reveal the relations between the affective and conative components of pre-service teachers' reading attitude and to develop profiles based on our four subscales. We included 253 cases that passed the quality check (see Procedures). We standardized all scores before entering them into the Two Step Cluster Analysis.

Three clusters emerged (see Figure 1). We conducted four GLM-Univariate Ancova analyses with post-hoc Bonferroni corrections ($ps < .05$) to examine differences in each attitude component (see Table 2 for means and standard deviations). Results showed that most pre-service teachers ($n = 101$; 52 women) were in the first cluster: *low-affect readers*. This cluster was categorized by the lowest scores on affective and personal conative attitudes. The second cluster ($n = 84$; 56 women), *socially-oriented readers*, was categorized by the highest scores on both academic and recreational social-conative attitudes. Pre-service teachers in the third cluster, *personally-oriented readers* ($n = 68$; 51 women), had the highest scores on affective attitude, yet the lowest scores on both social conative attitudes. They were comparable to the socially-oriented readers on their personal-conative attitude. In addition, the social-conative attitude of the low-affect readers was significantly higher than those of the personally-oriented readers, but significantly lower than those of the socially-oriented readers.

In summary, our analyses showed that it is possible to differentiate between pre-service teachers based on the affective and conative components of their reading attitude. Next, we examined whether teachers in these three identified profiles would also differ on their perceived reading competence and reading behavior.

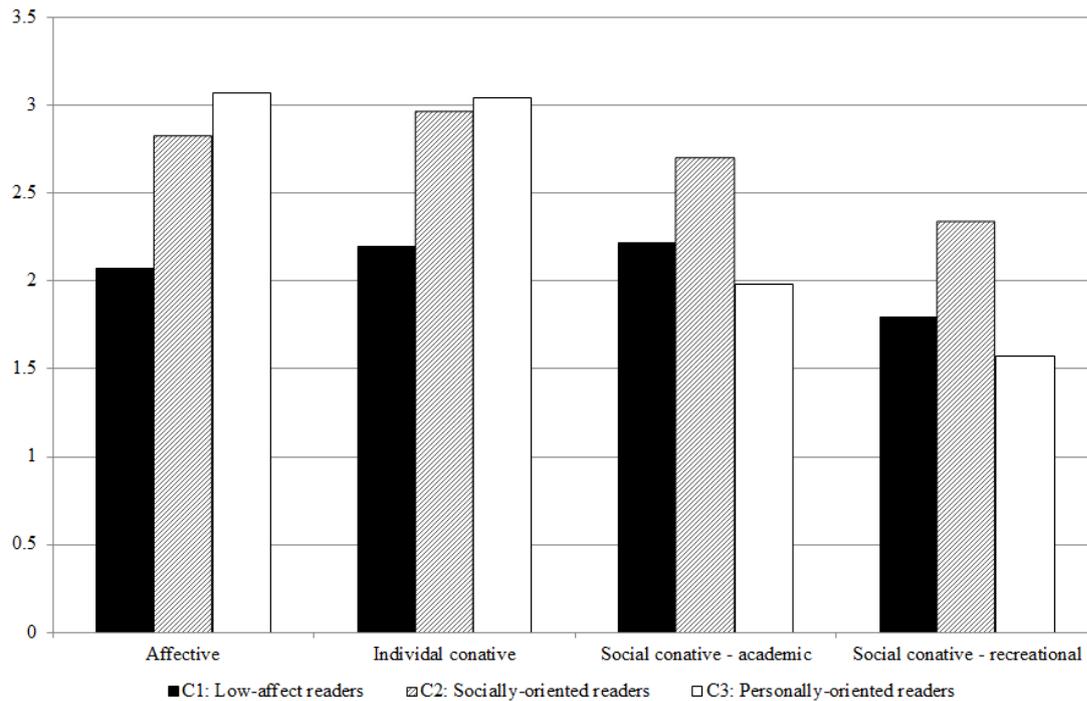


Figure 1. Mean Distribution of Pre-service Teachers' Affective and Conative Reading Attitudes across the Three Identified Clusters (C1-C3).

Profile differences in perceived reading competence

We conducted two GLM Univariate Ancova Analyses with either self-competence belief as the continuous, dependent variable, the three profiles as our independent variable, and age, gender, completed education, and fathers' highest level of education as covariates. In both models, the homogeneity of variances assumption was met ($ps_{Levene's\ test} \geq .12$).

The first model including pre-service teachers' rating of their own reading abilities explained 13% of the variance ($F(6, 231) = 7.08, p < .001, \eta^2 = .16$). No covariates were significant ($ps > .155$). Profile membership made a significant difference in perceived reading competence, $F(2, 231) = 17.90, p < .001, \eta^2 = .14$. Post-hoc Bonferroni tests showed that low-affect readers rated themselves as the relatively poorest readers ($M = 6.51, SD = 1.75, ps < .001$). The difference between the socially-oriented and personally-oriented readers only approached significance ($p = .097$), with personally-oriented readers rating themselves higher ($M = 7.91, SD = 1.60$) than socially-oriented readers ($M = 7.47, SD = 1.28$).

The second model, including pre-service teachers' rating of their reading abilities in comparison with their peers, explained 9% of the variance ($F(6, 231) = 4.71, p < .001, \eta^2 = .11$). No covariates were significant ($ps > .094$). A closer look at profile differences ($F(2, 231) = 10.43, p < .001, \eta^2 = .08$) revealed that low-affect readers again perceived themselves as the

poorest readers ($M = 2.85$, $SD = .73$), $ps \leq .001$. Socially-oriented readers ($M = 3.29$, $SD = .74$) and personally-oriented readers ($M = 3.32$, $SD = .79$) did not differ significantly ($p = 1.00$).

In summary, low-affect readers appeared to have the lowest perceived self-competence beliefs, whereas those readers in the socially-oriented and personally-oriented profiles seemed to hold comparable self-competence beliefs.

Profile differences in reading behavior

To examine differences in reading behavior among the three clusters, we looked into (a) the frequency with which pre-service teachers read a broad variety of paper and digital materials, and (b) the number of books they estimated to own themselves. In both models, the homogeneity of variances assumption was met ($p_{SLevene's\ test} \geq .27$).

First, the GLM Univariate Ancova with reading frequency as the dependent variable explained 11% of the variance ($F(6, 230) = 5.95$, $p < .001$, $\eta_p^2 = .13$). No covariates were significant ($ps > .091$). Profile membership differed significantly ($F(2, 230) = 16.32$, $p < .001$, $\eta_p^2 = .12$): Low-affect readers appeared to read significantly less frequently ($M = 2.36$, $SD = .64$) than socially-oriented readers ($M = 2.88$, $SD = .70$) and personally-oriented readers ($M = 2.77$, $SD = .63$), $ps < .001$. Socially- and personally-oriented readers were comparable ($p = 1.00$).

Second, the number of books differed among clusters as well ($F(2, 231) = 23.93$, $p < .001$, $\eta_p^2 = .17$). The overall model explained 25% of the variance, $F(6, 231) = 14.01$, $p < .001$, $\eta_p^2 = .27$; in which pre-service teachers' age was a significant covariate ($F(1, 231) = 10.04$, $p = .002$, $\eta_p^2 = .04$). Post-hoc tests revealed that all profiles differed significantly from each other. Personally-oriented readers estimated to own significantly more books ($M = 2.80$, $SD = 1.09$) than socially-oriented readers ($M = 2.28$, $SD = .99$; $p = .019$) and low-affect readers ($M = 1.56$, $SD = .87$; $p < .001$). Socially-oriented readers also owned significantly more books than low-affect readers ($p < .001$).

In summary, pre-service teachers that were categorized as personally-oriented readers owned most books of all clusters, yet their self-reported reading frequency was comparable to the cluster with socially-oriented readers. Low-affect readers read significantly less frequently and estimated to own the fewest books of all clusters.

Discussion

The reading attitude of teachers can play an important role in the school success of students (e.g. Hattie, 2012). However, existing research suggests that teachers often are competent

readers, but that they do not like to read and therefore can be called aliterate (e.g., Nathanson et al., 2008). As hardly any research has yet addressed whether teachers already display a positive or negative reading attitude when they have just enrolled in teacher training, this exploratory study was designed to examine differences in reading attitude of pre-service teachers in a multiliterate context at the time of enrollment in teacher education, and to study its relation with their perceived reading competence and reading behavior. This knowledge can be of importance for the designing of teacher education programs. In line with research that focused on children, adolescents and teachers (e.g., Bokhorst-Heng & Pereira, 2008; Henk et al., 2012; McKenna et al., 1995; Jhang, 2014; McKool & Gespass, 2009), we showed that it is possible to differentiate between the reading attitude of pre-service teachers, when looking more closely at the affective and conative components simultaneously (i.e., their personal, social-academic and social-recreational intentions to read). We identified three profiles: low-affect readers, socially-oriented readers and personally-oriented readers. Pre-service teachers in these three profiles differed in their perceived reading competence and reading behavior. Most notably and as hypothesized, low-affect readers scored lowest on perceived reading competence and reading behavior as compared to the other two profiles.

Profiles of pre-service teachers' reading attitude

In the context of their future role as teachers, where they need to be able to create opportunities to engage in social interactions about reading (Gambrell, 2015; Ivey, 2014), we aimed to closely examine pre-service teachers' willingness to interact with others about their reading. The profile that we identified as socially-oriented readers (33.6% of the full sample) had, next to high affective and personal conative reading attitudes, the strongest social conative reading attitude, in that they liked to share their reading experiences in both an academic and recreational setting. We may assume that these socially-oriented pre-service teachers, who also perceive themselves as competent readers and read frequently, may also like to interact with their future students about reading, which in turn could lead to students who are more engaged into reading (e.g. McKool & Gespass, 2009). Future research should indicate whether this indeed is the case.

In contrast, we identified a group of low-affect readers (39.5%) who could be assumed the most reluctant and aliterate readers of our sample of pre-service teachers. These students did not feel inclined to read and even expressed negative feelings toward reading, although they showed the willingness to interact with others. Taking in mind the Peter Effect or "the condition characterizing those teachers who are charged with conveying to students an enthusiasm for reading that they do not have" (Applegate & Applegate, 2004, p.556), we might question how this relatively large subgroup of pre-service teachers will be able to inspire their future students

to enjoy and engage in reading activities and how this can be attended to during teacher education.

Lastly, the profile with personally-oriented readers (26.9%) seemed to read particularly for personal reasons without having the intention to share their reading experiences. Interestingly, even the pre-service teachers in the low-affect profile perceived themselves as more social readers than these personally-oriented readers. In line with the reciprocal model of causation (Stanovich, 1986), this subgroup reads frequently and perceives themselves as competent readers, although they did not report reading significantly more than their socially-oriented peers. Future research should reveal whether these pre-service teachers' lack of intention to interact about reading at the start of their education necessarily indicates a lack of willingness to do so as professional teachers. It can be expected that these students will be responsive to learn about the importance of the social side of reading (Ivey, 2014; Merga, 2015) and hence, will be able to convey their love of reading to their future students.

Practical implications for teacher education

The art of being a teacher is not only to know what you are teaching as well as to know how to teach and inspire your students, regardless of subject area (Van Aalderen-Smeets & Van der Molen, 2015, Maulana et al., 2015). It is the how that we should keep in mind when aiming to foster a positive reading attitude throughout students' school careers. To decrease the likelihood that children and adolescents are confronted with illiterate teachers in their educational careers it seems necessary to increase the likelihood that low-affect readers will evolve during teacher training and become more positive about reading, read more and perceive themselves as better-skilled readers. Focusing on pre-service teachers is particularly relevant because young adults are most susceptible to attitude change (e.g., Visser & Krosnick, 1998; Maio & Haddock, 2015) and their attitudes toward reading are malleable (Cardarelli, 1992).

Our identification of the three profiles further stresses the importance of acknowledging individual differences in teacher education programs. For teacher educators this knowledge could be of great use while designing their courses. Students with different profiles may have different needs and may be responsive to different educational approaches. For example, socially-oriented readers might be able to inspire low-affect readers, who also seemed willing to interact about reading, by talking genuinely enthusiastic about their reading experiences and doing reading activities together (Mitchell, 2016; Merga, 2014; Monteiro, 2013). For low-affect readers it might also be useful to start from and work with topics that they are really interested in, such as reading materials that are related to their hobbies (e.g., Smit et al., 2014). Teacher educators may be of great importance in helping these students select, find, and read

appropriate reading materials (i.e., that match their interest and reading levels) (Merga, 2015). Further research is of course needed to investigate the value and effectiveness of these proposed activities.

Limitations and future directions

There are at least two points that can be considered as limitations of this study. First, although we distinguished among attitude profiles, caution is needed when using these or other profiles. Profiling techniques could be used as guiding for a data-driven approach to gain understanding into larger groups (e.g., three profiles are easier to work with than 312 individual profiles), yet their users have to bear in mind that it still concerns individuals who should not become stereotypes (Brooks, 2007). Second, our current findings only apply to pre-service teachers of one specific university college in Belgium. Future research may reveal whether the same reading attitude profiles of pre-service teachers are present in a larger group of university colleges.

Future assessment of reading attitude of pre-service teachers over the course of their study and after graduation would result in longitudinal data that in turn may enhance our understanding whether pre-service teachers' attitude will change over time (e.g., McCabe & Miller, 2003). Furthermore, it seems worthwhile to examine whether students assigned to a certain profile are more likely to graduate or not. Future experiments could also evaluate whether more customized programs, targeted at individual differences, may provide the heterogeneous group of pre-service teachers the necessary tools and willingness to become enthusiastic readers who could function as role models for their students.

Conclusion

In conclusion, our study highlighted that differences in reading behavior and perceived reading competence could be explained by profiles of pre-service teacher's reading attitude. Within the large group of frequent readers with high self-competence beliefs (60.5%), we distinguished between more socially-oriented versus personally-oriented readers when closely examining their reading attitude. In addition, the group of non-frequent readers with lower-competence beliefs (39.5%) did not appear to like reading, but nevertheless showed interest in interacting with others about reading. Following this line of research may open new perspectives for teacher educators to overcome the prevailing aliteracy among pre-service teachers.

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To learn to read is to light a fire.

Victor Hugo



3

Pre-service teachers' reader profiles: Stability and change throughout teacher education

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Chapter 3

Pre-service teachers' reader profiles: Stability and change throughout teacher education

Abstract

Considering (1) that reading proficiency is fundamental for educational success, (2) the reciprocal relationship between affective aspects of reading (e.g., reading attitude and motivation), and reading behavior and ability, (3) the alarming decline in students' reading attitude throughout primary and secondary education, and (4) the rather large group of pre-service teachers starting teacher education with a negative reading attitude, this study used a person-centered approach to examine the development of pre-service teachers' reading attitude throughout teacher education and how it relates to their perceived reading ability and reading behavior. In a sample of 131 pre-service teachers, cluster (movement) analysis was executed at the start of teacher education and near graduation to identify different reading attitude clusters and possible changes throughout teacher education. A distinction between purpose (recreational vs. academic) and context (personally vs. socially-oriented) was made when assessing affective and conative reading attitude components. Three reading attitude profiles (i.e., personally-oriented, socially-oriented, and low-attitude) were corroborated at both measurement occasions. Cluster movement analysis identified that the majority remained in the same profile over time (53-62%). However, when pre-service teachers did switch profile, they most likely evolved toward the personally- or socially-oriented profile. Convergent validity evidence was found in that pre-service teachers in the low-attitude profile (24%) were least likely to read and perceived themselves as least competent of all profiles. Furthermore, pre-service teachers in this profile appeared to be least willing to invest in reading promotion in their future school(s). It may be worrisome that about one fourth of the pre-service teachers enter the profession with a rather negative reading attitude. Encouragingly, the majority of pre-service teachers either kept or increased their positive reading attitude throughout teacher education.

Introduction

Proficiency in reading can be considered fundamental for both educational and societal success (Sullivan & Brown, 2013). The multidimensionality of this core skill has received attention in both educational practice and reading research (Afflerbach et al., 2013). It seems to become well-accepted that reading not only comprises cognitive aspects, such as strategies for decoding and comprehending texts (e.g., Concannon-Gibney & Murphy, 2012; Okkinga et al., 2018), but also affective aspects, such as reading attitude and motivation (e.g., Jang & Ryoo, 2018; McGeown et al., 2015; Toste et al., 2020). Studies pointed to the strong relationship between both aspects of reading, relating for example a positive reading attitude to higher reading abilities (e.g., Bokhorst-Heng & Pereira, 2008; Petscher, 2010).

It is worrisome that students' reading attitude decreases over the course of primary and secondary school (McKenna et al., 2012; Smith et al., 2012). Another point of concern is that the scant amount of studies focusing on pre-service teachers' affective aspects of reading revealed that a large group of pre-service teachers start teacher education with a rather negative reading attitude (e.g., Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008; Vansteelandt et al., 2017). Teachers who are competent in teaching and promoting reading are more than ever needed if we aim to positively impact primary and secondary school students' willingness to read, and hence, improve their reading ability (e.g., Blömeke et al., 2015; Kozak & Martin-Chang, 2019). It is not yet known, however, to what extent pre-service teachers' reading attitude remains stable or changes throughout teacher education and consequently, with which reading attitude they enter the profession as beginning teachers. More insight into this development could be a first step in the process of (re)designing teacher education programs and continuous professional development trajectories. In the present three-year longitudinal study, a person-centered approach is applied to examine the development in pre-service teachers' reading attitude from the first semester in teacher education to near graduation. The relation between their attitude profile, reading behavior, perceived reading ability, and willingness to invest in reading promotion in their future school(s) is also examined.

The multidimensionality of reading

Most research thus far seems to predominantly focus on cognitive reading aspects. In the last decades, however, a reasonable uplift can be noticed in studies that focus on affective aspects and the relation between cognitive and affective aspects of reading (e.g., Petscher, 2010; Retelsdorf et al., 2011; Taboada Barber & Klauda, 2020; Toste et al., 2020). A growing body of studies, mostly on primary and secondary education students, point to the reciprocal

relationship between both reading aspects (e.g., Mol & Bus, 2011), often mediated by reading behavior (Becker et al., 2010; Schiefele et al., 2012; Stutz et al., 2016). More specifically, the reciprocal model of causation (Stanovich, 1986) also integrates both aspects, in that students who perceive themselves as better readers are expected to read more frequently, to become better readers and to like reading more, and hence, to be more motivated to continue reading for pleasure. Consequently, the decline in students' affective aspects of reading (Chall & Jacobs, 2003; Smith et al., 2012) can be considered as alarming for their chances at educational and societal success.

Reading attitude, which is an important affective reading aspect (e.g., Jang & Ryoo, 2018; Scholes, 2019), is primarily associated with the feelings one has towards reading (Conradi et al., 2014). Some theorists, however, approach reading attitude from a tripartite perspective, emphasizing not only feelings, but also beliefs and behavioral intentions toward reading (Cheema, 2018; Mathewson, 1994). Building on this latter component, some theorists noted that reading attitude is related to reading motivation (Conradi et al., 2014; Petscher, 2010; Schiefele et al., 2012). They, however, consider reading attitude not equal to reading motivation, but more as a factor affecting reading motivation (Conradi et al., 2014). The present study, influenced by the tripartite perspective (Mathewson, 1994), specifically focuses on affective and conative components of reading attitude. The affective component then reflects the prevailing feelings about reading, whereas the conative component reflects the behavioral intention or action readiness to read (Manstead, 1996; Mathewson, 1994).

It is recommended to further differentiate reading attitude by purpose and context. As to purpose, it is common to distinguish between academic and recreational reading attitude (Conradi et al., 2013; Jang & Ryoo, 2018; McKenna et al., 2012). As to context, it is worthwhile to differentiate between individually- and socially-oriented reading (e.g., Ng & Graham, 2018). Even though reading may be mainly viewed as an individual or personal activity; teaching, on the other hand, is by definition a social activity and teachers' role particularly is a social one (Jhang, 2014; Neugebauer & Fujimoto, 2018). Importantly, providing opportunities to engage in social interactions about what students are reading is one of the evidence-based classroom practices that are considered critical for supporting students' reading enthusiasm (Brozo & Flynt, 2008; Gambrell, 2015; Ivey, 2014; Neugebauer & Gilmour, 2019). Given the close link with the behavioral intention component the present study aims to give insight in both purpose and context of pre-service teachers' conative reading attitude.

The development of reading attitude in pre-service teachers

Focusing on pre-service teachers' development in reading attitude is particularly relevant, because young adults appear to be most susceptible to attitude change (e.g., Visser &

Krosnick, 1998; Maio & Haddock, 2015) and their attitude toward reading still seems to be malleable (Cardarelli, 1992). Research focusing on teachers' affective aspects of reading in relation to their reading behavior and (perceived) reading ability is scarce, however. From investigations thus far, about 50% of pre-service teachers could be categorized as unenthusiastic readers (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008) or almost 40% seem to have a relatively negative reading attitude, hardly read for pleasure, and perceive themselves as less competent readers than pre-service teachers with a more positive reading attitude (Vansteelandt et al., 2017). These prior studies only assessed pre-service teachers' reading experiences at one point in time, in the first half of teacher education. The current study adds to this prior research by applying a two-wave longitudinal design to examine pre-service teachers' attitude profiles at the first and final year in teacher education. Furthermore, the majority of these prior studies applied a variable-centered approach, which examines associations between different variables. The present study uses a person-oriented approach, examining individual differences in these associations (Bergman et al., 2003; Laursen & Hoff, 2006). Such an approach makes it also possible to examine whether pre-service teachers switch profiles over time.

Research Questions

The study is carried out in a context where pre-service teachers are trained to become competent teachers (i.e., disposing of the necessary knowledge, skills and attitude), also when specifically focusing on reading. Pre-service teachers reported on their reading attitude, reading behavior and perceived reading ability at the start of teacher education and near graduation, and once about their willingness to invest in reading promotion in their future school(s). The following three research questions are addressed:

1. Can a similar profile structure in pre-service teachers' reading attitude be distinguished near graduation as in the first semester of teacher education?
2. To what extent do changes in the profile structure occur throughout teacher education?
3. To what extent does the profile structure explain differences in (a) perceived reading ability, (b) reading behavior, and (c) reading promotive behavior?

Method

Research setting

The study took place in a three-year professional bachelor program for teacher education (180 credits) in a university college in a large city in Flanders (Belgium). In this program, pre-service teachers graduate in one of the following three tracks: as a (1) kindergarten teacher (2.5-to-6-year-old children), (2) primary school teacher (6-to-12-year-old children), or (3) teacher in the first grades of secondary school (12-to-14-year-old children). Reading received attention in all three tracks, since one of the transversal aims in all teacher education programs in Flanders is to educate pre-service teachers with the necessary knowledge, skills, and attitude for becoming effective language and reading teachers (Flemish Ministry of Education and Training, 2008).

Participants

The mean age of the 131 participants (90 females) in the longitudinal study was 21.6 years (*Median* = 20.6, *SD* = 3.5, *Range* = 19 - 39 years) in year 1. In year 3, their mean age was 23.7 years (*Median* = 22.6, *SD* = 3.5, *Range* = 21 - 41 years). The majority of these pre-service teachers were native speakers of Dutch (86.5%). Almost half of all participants attended the secondary-school track of the teacher education program (49.6%; *n* = 65, 53.8% females), 26.7% (*n* = 35, 94.3% females) attended the kindergarten track, and 23.7% (*n* = 31, 71.0% females) attended the primary-school track.

Data collection procedure

The longitudinal study comprised two waves of data collection: the first wave took place in November 2012 (i.e., year 1 of teacher education) and the second wave in June 2015 (i.e., year 3 of teacher education). Before participating in either wave, pre-service teachers were informed that their participation was entirely voluntary and they were assured that the provided information would be treated confidentially.

A total of 146 pre-service teachers were eligible to take part in the second wave of data collection. To be included in this wave, pre-service teachers had to be third-year students who started their teacher education in the academic year 2012-2013 and were in their final year in the academic year 2014-2015. This group received an email invitation with information about the study's purpose and a website link to the survey in case they were willing to participate. A total of 131 pre-service teachers completed the survey online. Consequently, the response

rate of pre-service teachers who met the inclusion criteria of the second wave was good (89.7%) (see Table 1). When recruiting participants for the second wave of the data collection, we had to exclude seven pre-service teachers from the original year-1 sample (2.2%) for not yet meeting the program requirements to attend courses in year 3. Furthermore, 50.9% of the participants in the first wave were precluded from participation, because they had quit the teacher education program. This relatively high attrition rate is common in teacher education in Flanders, where one in every two pre-service teachers starting teacher education quits during the course of it.

Table 1. Flow Diagram of Participating Pre-service Teachers from the First (Yr1) to Second (Yr3) Data Collection Wave

Yr1-clusters	Low-Attitude	Socially-Oriented	Personally-Oriented	No cluster
Sample size	$n = 100$	$n = 85$	$n = 68$	$n = 59$
Meeting incl. criteria Yr3	$n = 41$	$n = 43$	$n = 37$	$n = 25$
Attrition rate	59%	50%	46%	59%
Non-response Yr3	7% ($n = 3$)	14% ($n = 6$)	8% ($n = 3$)	12% ($n = 3$)
Size Yr1-clusters in Yr3	$n = 38$	$n = 37$	$n = 34$	$n = 22$
Movement to Yr3-clusters				
Low-attitude	$n = 20$ (53%)	$n = 6$ (16%)	$n = 2$ (6%)	$n = 3$ (14%)
Socially-oriented	$n = 7$ (18%)	$n = 20$ (54%)	$n = 11$ (32%)	$n = 10$ (46%)
Personally-oriented	$n = 8$ (21%)	$n = 11$ (30%)	$n = 21$ (62%)	$n = 9$ (41%)
No cluster	$n = 3$ (8%)	$n = 0$ (0%)	$n = 0$ (0%)	$n = 0$ (0%)

Measures

Clustering measures

In year 3, the survey items were identical to the original survey. Four scales were used to assess pre-service teachers' reading attitude: (1) thirteen items measured pre-service teachers' *affective reading attitude*, such as "I enjoy reading" (Cronbach's $\alpha_{year\ 1} = .90$, $\alpha_{year\ 3} = .88$); (2) the *personal-conative attitude* scale consisted of six items addressing personal intentions to read, as for example "I read when I want to feel at ease" ($\alpha_{year\ 1} = .75$, $\alpha_{year\ 3} = .87$); (3) the *academic social-conative attitude* scale consisted of six items concerning pre-service teachers' intentions to read for their education and in relation with others, such as "I would enjoy reading more if I could read the same materials as my fellow students and share my experiences" ($\alpha_{year\ 1} = .76$, $\alpha_{year\ 3} = .80$); and (4) the *recreational social-conative attitude* scale included five items addressing pre-service teachers intentions to read outside the academic context and in relation with others, as for example "I read to be able to talk about it with my friends" ($\alpha_{year\ 1} = .73$, $\alpha_{year\ 3} = .73$). More details on the development of these scales can be found in Vansteelandt et al. (2017).

Criterion measures

Perceived reading ability. Two single items were used in both data collection waves to measure pre-service teachers' self-competence beliefs in reading: (1) they rated their own reading ability on a scale from 1 to 10 (1 = very poor reader, 10 = very proficient reader); and (2) they compared their own reading ability with that of people their own age on a five-point Likert scale (ranging from 1 = a lot worse, to 5 = much better). Almost all (97%) individual ability ratings were between 6 and 10 ($M = 7.98$, $SD = 1.32$, $Median = 8.00$, $Range: 2-10$). This range of scores implies that all pre-service teachers rated themselves as capable readers, as a minimum rating of 6 is needed to pass a course in the current educational system. Because of this large number of participants rating themselves relatively high, the normal distribution on the comparison rating, and the medium-sized correlation between both ratings ($r = .69$), only pre-service teachers' comparison ratings were included in the analysis.

Reading behavior. To measure pre-service teachers' reading frequency, a multiliterate view on reading was adopted, as research indicates that the inclusion of print and digital reading are necessary to get a good insight into the reading of 21st-century students (e.g., Leu et al., 2013). Consequently, the reading of various text genres in digital and printed formats were questioned, more specifically: books (print/digital, for both fiction and non-fiction), newspapers (print/digital), magazines (print/digital), and comics and/or graphic novels (print).

For each material, pre-service teachers reported their reading frequency on a five-point rating scale (1 = never/almost never, 2 = a few times a year, 3 = a few times a month, 4 = multiple times per month, 5 = multiple times per week). The scale had a Cronbach's Alpha of $\alpha = .69$.

Reading promotive behavior. One question was used to measure pre-service teachers' willingness to promote reading when working as a beginning teacher: "In my future school(s) I want to actively promote reading." (1 = yes, 2 = no).

Data analytic procedures

Complete data for the cluster profile analyses were available for 253 pre-service teachers in year 1 (160 females; $M_{age} = 21.5$, $SD = 3.5$, $Range = 19 - 42$ years) and 128 pre-service teachers in year 3 (89 females; $M_{age} = 23.8$, $SD = 3.6$, $Range = 21 - 41$ years). Of these, 22 pre-service teachers had missing data in year 1 (see "no cluster"-column in Table 1) but sufficient data in year 3 to be assigned to a cluster, and three pre-service teachers had missing data in year 3 but sufficient data in year 1. Pre-service teachers who only participated in year 1 ($n = 181$) did not differ significantly from the group participating in both years 1 and 3 ($n = 131$) as to age ($t(310) = .03$, $p = .980$), gender ($\chi^2(1, 312) = 3.71$, $p = .054$), and educational track (i.e., studying to become kindergarten, primary-school or secondary-school teachers; $\chi^2(2, 311) = .76$, $p = .684$). Furthermore, no significant differences were found in year-1 scores for those who were in the longitudinal sample versus the year-1 sample only, as to the four reading attitude measures (affective: $t(303) = -1.83$, $p = .068$; personal-conative: $t(307) = -1.84$, $p = .067$; social-conative academic: $t(301) = -.16$, $p = .871$; social-conative recreational: $t(259) = .01$, $p = .991$), reading behavior (reading frequency: $t(309) = .07$, $p = .948$ and perceived reading ability (own rating: $t(309) = -.37$, $p = .711$; comparison rating: $t(309) = -1.30$, $p = .194$).

Two-step cluster analysis on the four attitude scales administered during the first data collection wave resulted in three clusters (Vansteelandt et al., 2017). In the current study, the same cluster analysis technique was applied on the reading attitude of the year-3 sample. Subsequently, we conducted a One-Way ANOVA with post-hoc Bonferroni correction to examine differences in reading attitude measures among clusters and to determine whether year-3 clusters can be labeled identically as year-1 clusters.

Next, we tracked pre-service teachers' movement from year 1 to year 3 in terms of individual cluster membership (see also Bråten & Olaussen, 2005). Next to calculating percentages for each possible cluster movement, we conducted GLM Repeated Measures Analyses (Contrast = Repeated) to examine whether pre-service teachers' attitude changed between their first and third year of teacher education, within and between clusters. In line with Bråten and Olaussen

(2005), we conducted GLM Univariate ANCOVA analyses to validate the differences among clusters. In the ANCOVA and RM-analyses, we included gender and age as covariates. That is, female pre-service teachers had a significantly higher personal-conative attitude ($t(126) = 2.024, p = .045$) and tended to have a higher affective attitude ($t(126) = 1.97, p = .051$) than males. Older participants had higher affective attitudes ($r = .20, p = .041$).

Results

Cluster analysis in year 3

The two-step cluster analysis showed that a three-cluster solution seemed most appropriate. Discriminant function analysis revealed that cluster membership was correctly predicted for at least 87.8% of the cases ($M = 92.3\%$, Range: 87.7-95.8%). One-way ANOVAs (see Table 2) revealed that pre-service teachers in one of the clusters ($n = 48$; 26 females) reported significantly higher scores on both social-conative attitudes ($ps < .001$) as compared to both other clusters. Since this is comparable to the profile of the Socially-Oriented cluster in year 1, the same label was adopted for this year-3 cluster.

Pre-service teachers in a second cluster ($n = 49$; 31 females) scored significantly lower than their peers in the Socially-Oriented cluster on both social-conative attitudes, whereas they did not differ in affective attitude and personal-conative attitude from the Socially-Oriented cluster ($ps = 1.000$). Even though pre-service teachers in the Personally-Oriented cluster in year 1 reported the highest affective attitude, the current pattern still seems to fit the profile of the personally-oriented reader.

Finally, the third and smallest cluster ($n = 31$; 16 females) had low scores on all four attitude measures. More specifically, pre-service teachers in this cluster reported significantly lower affective and personal-conative attitudes ($ps < .001$) than both other clusters and scored significantly lower than the Socially-Oriented cluster on both social-conative attitudes ($ps < .001$). In year 1, this group had the lowest scores on affective and personal-conative attitudes, but had significantly higher scores on social-conative attitudes than the Personally-Oriented cluster. In year 3, this difference in social-conative attitudes was no longer present (i.e., both clusters appeared to be similar on social-conative attitudes, and scored significantly lower than the Socially-Oriented cluster).

Table 2. Means (SD) of Clustering and Criterion Measures in Year 1 ($n = 253$) and Year 3 ($n = 128$) per Cluster.

	Year 1				Year 3			
	Low- Attitude	Socially- Oriented	Personally - Oriented	Group differences ¹	Low- Attitude	Socially- Oriented	Personally - Oriented	Group differences ¹
Reading attitude								
Affective	2.07 (.41)	2.83 (.34)	3.07 (.40)	PO > SO > LA	2.28 (.25)	3.03 (.36)	3.01 (.32)	SO, PO > LA
Personal-conative	2.19 (.33)	2.96 (.36)	3.04 (.39)	PO, SO > LA	2.11 (.41)	3.24 (.40)	3.18 (.42)	SO, PO > LA
Social-conative–ac.	2.21 (.57)	2.68 (.38)	1.98 (.45)	SO > LA > PO	1.94 (.73)	2.94 (.40)	1.99 (.46)	SO > PO, LA
Social-conative–recr.	1.77 (.43)	2.29 (.40)	1.58 (.32)	SO > LA > PO	1.50 (.44)	2.15 (.42)	1.60 (.33)	SO > PO, LA
Reading behavior								
Reading frequency	2.36 (.64)	2.88 (.70)	2.77 (.63)	SO, PO > LA	2.80 (.67)	3.32 (.64)	3.19 (.65)	SO, PO > LA
Perceived reading ability								
Comparison rating	2.85 (.73)	3.28 (.75)	3.32 (.79)	PO, SO > LA	2.83 (.76)	3.52 (.80)	3.26 (.82)	SO > LA, PO=SO, PO=LA

Note. ¹ Group differences were calculated with GLM Univariate analyses and post-hoc Bonferroni corrections.

In previous studies examining cluster movements as in the current study, Ward's minimum-variance hierarchical clustering was used to identify clusters (Bråten & Olaussen, 2005; Ferguson & Bråten, 2013). Applying this clustering technique to our data in both years resulted in similar findings and cluster labels as the two-step cluster analysis and comparable differences in attitude among clusters.

Stability and change in cluster membership

Because the three clusters were comparable in both data collection waves, we were able to divide pre-service teachers in two categories: pre-service teachers who (1) were in the same cluster during teacher education, and (2) switched clusters over time. The largest stability rates were found in the Personally-Oriented cluster. In both other clusters, about half of the profile members remained in the same cluster (see Table 1). Only a small percentage switched to the Low-Attitude cluster.

To examine differences in reading attitude between pre-service teachers who were stable versus switching cluster members (see Table 3 for means and SDs), we conducted a GLM 2x8 Repeated Measures ANCOVA with time (enrollment vs. near graduation) as the within-subject factor and cluster-movement group (e.g., stable LA, LA-SO, SO-PO) as the between-subjects factor. We selected only the pre-service teachers who were assigned to a cluster at both measurement points and excluded the very small subgroup ($n = 2$) who switched from the Personally-Oriented to the Low-Attitude cluster.

When checking the assumptions of the Repeated Measures analysis, Box's test of equality of covariance matrices was not significant (Box's $M = 226.08$, $F(144, 6084.5) = 1.46$, $p = .099$). Levene's tests were significant for affective attitude in year 3 ($F(7,96) = 2.86$, $p = .009$) and social-conative academic attitude in year 3 ($F(7,96) = 3.16$, $p = .005$), implying that the findings for both these measures should be interpreted with caution. The within-subject multivariate test showed a significant interaction effect between time and cluster movement ($F(28,329.53)_{\text{Wilks' Lambda}} = 5.72$, $p < .001$, $\eta^2_{\text{partial}} = .30$), with contrasts being significant for each attitude measure ($ps < .001$; Range $\eta^2_{\text{partial}} = .33, .40$). Univariate tests with Greenhouse-Geisser correction showed significant effects (all $ps < .001$) for each attitude measure ($F(7,94)_{\text{affective}} = 6.72$, $\eta^2_{\text{partial}} = .33$; $F(7,94)_{\text{perscon}} = 7.86$, $\eta^2_{\text{partial}} = .37$; $F(7,94)_{\text{con-soc ac}} = 6.65$, $\eta^2_{\text{partial}} = .33$; $F(7,94)_{\text{con-soc recr}} = 8.98$, $\eta^2_{\text{partial}} = .40$).

Table 3. Means and Standard Deviations of Pre-service Teachers' Reading Attitudes per Cluster-Movement Group from Enrollment (Year 1) to near Graduation (Year 3).

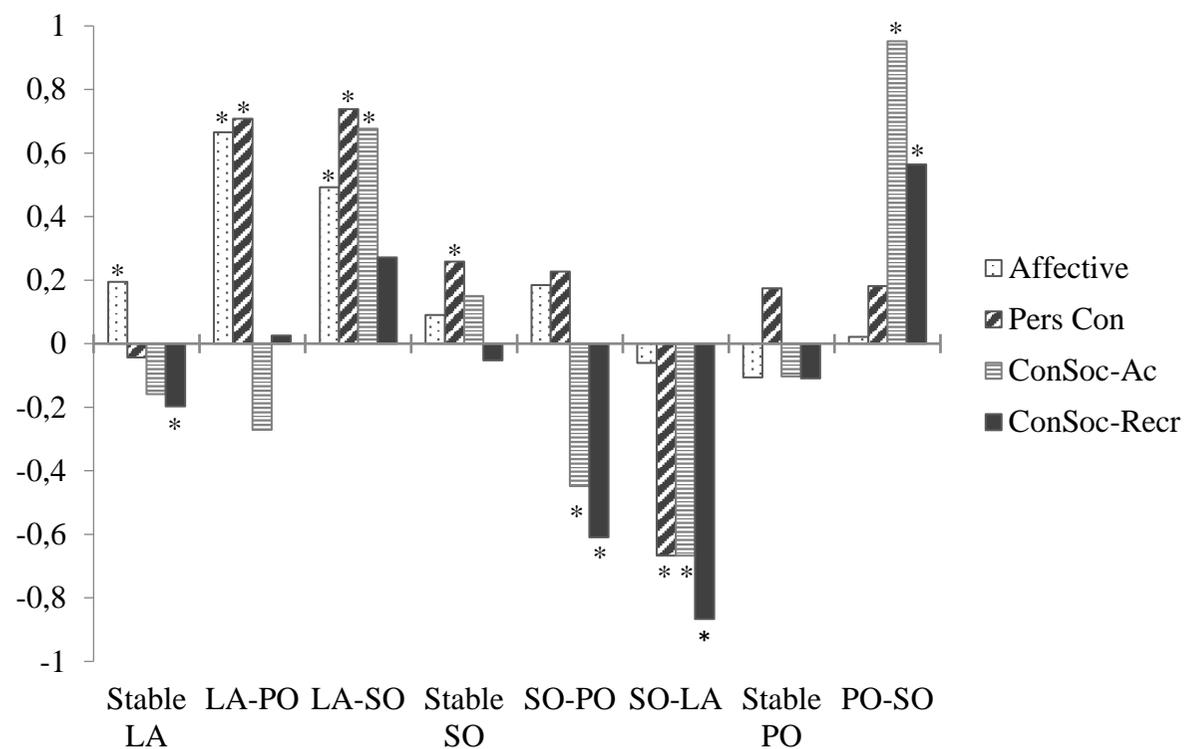
Year-1 Cluster	Year-3 Cluster	<i>n</i>	Affective		Personal-conative		Socially-Conative – Academic		Socially-Conative – Recreational	
			<i>M (SD)</i> Year 1	<i>M (SD)</i> Year 3	<i>M (SD)</i> Year 1	<i>M (SD)</i> Year 3	<i>M (SD)</i> Year 1	<i>M (SD)</i> Year 3	<i>M (SD)</i> Year 1	<i>M (SD)</i> Year 3
LA	LA	20	2.04 (.39)	2.23 (.19)	2.18 (.35)	2.13 (.41)	2.15 (.56)	1.99 (.78)	1.72 (.39)	1.52 (.45)
	PO	8	2.20 (.28)	2.87 (.22)	2.38 (.21)	3.08 (.56)	2.40 (.48)	2.13 (.53)	1.73 (.32)	1.75 (.28)
	SO	7	2.27 (.29)	2.76 (.11)	2.14 (.22)	2.88 (.28)	2.13 (.59)	2.81 (.22)	1.93 (.51)	2.20 (.45)
SO	SO	20	2.92 (.35)	3.02 (.33)	3.02 (.37)	3.28 (.34)	2.77 (.38)	2.92 (.36)	2.26 (.29)	2.21 (.47)
	PO	11	2.84 (.28)	2.98 (.29)	2.96 (.33)	3.15 (.43)	2.53 (.35)	2.11 (.40)	2.32 (.31)	1.80 (.22)
	LA	6	2.51 (.22)	2.45 (.28)	2.88 (.20)	2.22 (.46)	2.67 (.37)	2.00 (.67)	2.43 (.46)	1.57 (.34)
PO	PO	21	3.18 (.30)	3.07 (.33)	3.04 (.41)	3.21 (.35)	2.01 (.32)	1.90 (.54)	1.62 (.29)	1.51 (.34)
	SO	11	3.06 (.38)	3.08 (.41)	3.09 (.43)	3.27 (.43)	1.97 (.53)	2.92 (.51)	1.64 (.25)	2.20 (.30)
	LA	2								

Note. LA = Low-Attitude, PO = Personally-Oriented and SO = Socially-Oriented

First, we contrasted cluster-movement groups on each attitude measure within year 1 and within year 3. Results revealed that no attitude differences were already present at enrollment between student teachers who were stable versus switched profiles. Next, post-hoc comparisons in year 3 were executed to better understand which attitude differences may be related to stable or switching cluster memberships. Overall, the findings were in line with the general findings on cluster differences. Those who remained or became LA-members in year 3 scored significantly lower than those who remained or became SO-members on all attitude measures in year 3; whereas LA- and PO-members were comparable in social-conative attitudes, and SO and PO were comparable in affective and personal-conative attitudes.

Second, we contrasted attitude scores of year 1 with year 3 for each cluster-movement group (see Figure 1 for difference scores). Overall, the attitude changes of pre-service teachers who switched clusters seemed to reflect the profile characteristics of their new cluster. Low-Attitude pre-service teachers at enrollment scored lowest on affective and personal-conative attitudes, yet showed gains in both these attitudes when switching to the Socially-Oriented or Personally-Oriented cluster. Further, changes in the expected direction were found in one or both social-conative attitudes for pre-service teachers switching to the Socially-Oriented cluster and Personally-Oriented cluster. Finally, Socially-Oriented cluster members who switched to the Low-Attitude cluster (i.e., SO-LA) showed a decrease in almost all attitude measures. Pre-service teachers who remained in the same cluster also showed some significant attitude changes: the personal-conative attitude of Stable SO increased, as did Stable LA's affective attitude, whereas Stable LA's social-conative recreational attitude significantly decreased. Stable PO did not show any significant changes ($.050 \leq ps \leq .611$).

Figure 1. Reading Attitude Change per Cluster-Movement Group from Enrollment to near Graduation.



Note. Bars with * represent a significant increase or decrease. Cluster-movement groups: *Stable LA/SO/PO* = Low-Attitude/Socially-Oriented/Personally-Oriented in Yr1 and Yr3; *LA-PO/LA-SO* = Switched from Low-Attitude (Yr1) to Personally-Oriented/Socially-Oriented (Yr3); *SO-PO/SO-LA* = Switched from Socially-Oriented (Yr1) to Personally-Oriented/Low-Attitude (Yr3); ; *PO-SO* = Switched from Personally-Oriented (Yr1) to Socially-Oriented (Yr3).

Convergent validity evidence

To gather convergent validity evidence, it was examined whether the pre-service teachers in the three clusters in year 3 differed on the criterion measures reading frequency, willingness to promote reading and perceived reading ability (i.e., comparison rating) that were administered near graduation. We therefore conducted GLM Univariate ANCOVA analyses ($F(4,123)_{\text{reading frequency}} = 3.84, p = .006, R^2_{\text{adj}} = .08$; $F(4,123)_{\text{perceived reading ability}} = 3.19, p = .016, R^2_{\text{adj}} = .06$). Significant main effects for cluster membership appeared to be present for reading frequency ($F(2,123) = 5.83, p = .004, \eta^2_{\text{partial}} = .09$) and perceived reading ability ($F(2,123) = 6.36, p = .002, \eta^2_{\text{partial}} = .09$). Post-hoc analyses with Bonferroni corrections on the significant variables revealed that the Low-Attitude cluster reported to read significantly less frequently than both the Socially-Oriented ($p = .003$) and the Personally-Oriented cluster ($p = .032$), whereas no differences were found between the Socially-Oriented and Personally-Oriented clusters ($p = 1.00$). In addition, the Low-Attitude cluster was significantly more negative about their reading skills than the Socially-Oriented cluster, $p = .002$. The latter two clusters did not differ significantly, however, from the Personally-Oriented cluster, $ps \geq .087$ (see Table 2 for all means and standard deviations).

A chi-square analysis revealed significant differences among profiles regarding their willingness to invest in reading promotion in their future school(s) ($\chi^2 = 18.27, p < .001$). Overall, 33% of pre-service teachers indicated that they were not willing to promote reading in their future school(s). Of the Low-Attitude Cluster, 61% showed no intention of reading promotive behavior (SR = 2.8), whereas this was only the case for 15% of the Socially-Oriented Cluster (SR = -2.1). There were no significant differences in the Personally-Oriented Cluster, of which 68% showed intention of reading promotive behavior.

Discussion

Building on previous research on the affective aspects of reading and their essential role in one's reading process (McGeown et al., 2015), the present study's main objective was to examine the stability and change in pre-service teachers' reading attitude throughout teacher education. The results point to five prominent insights. First, three reading attitude profiles could be distinguished (i.e., personally-oriented, socially-oriented, and low-attitude) and were corroborated at both measurement occasions. Three-quarters of the sample graduates displayed positive feelings about reading, and rather high personal and/or social intentions to read. Second, pre-service teachers' reading attitude remained quite stable throughout teacher education. Of those who did not switch profiles, the majority belonged to the profiles with a

positive reading attitude. Third, in line with prior studies who underline the possible susceptibility to attitude change (e.g., Cardarelli, 1992; Maio & Haddock, 2015; Visser & Krosnick, 1998), a reasonable amount of pre-service teachers did change profiles throughout teacher education. Fortunately, they seemed most likely to become members of one of the profiles with a rather positive reading attitude. Importantly, no attitude differences were detected at enrollment between pre-service teachers who switched profiles from those who remained in the same profile over the course of the study. Therefore, it can be hypothesized that switching profile memberships can be – at least partially – attributed to teacher education instead of to pre-existing reading attitude differences at enrollment. Fourth, although the low-attitude profile shifted from being the largest group at the start of the study to the smallest one near graduation, it can be considered a reason for concern that still almost one-fourth of the pre-service teachers in this sample graduated with a low reading attitude. This also is highlighted by the fifth insight that these pre-service teachers also appeared to read less frequently than both other profiles and perceived themselves as relatively poorer readers than pre-service teachers in the socially-oriented profile. Additionally, and maybe even more concerningly graduates with a low reading attitude showed to be least willing to promote reading in their future school(s).

As educational research on motivation and self-efficacy pointed to the significance of affective components for teachers' behavior in the classroom (e.g., reading promotive behavior) and their students' outcomes (e.g., Fernet et al., 2016; George et al., 2018; Guay et al., 2016), it could be questioned how pre-service teachers belonging to the low-attitude profile will actually perform in their future classrooms when it comes to promoting their students' reading. Will they be competent to further stimulate motivated readers on the one hand and students who do not like to read on the other hand? Although previous studies pointed to the so-called Peter Effect (e.g., Applegate & Applegate, 2004), stating that one cannot give what one does not possess, it still remains understudied whether this is really the case. Future studies should focus more on the relationship between (pre-service) teachers' own affective aspects of reading and their actual reading promotive behavior in the classroom, and whether and how this relates to students' outcomes. Examining differences between pre-service teachers in the socially- versus personally-oriented profile seems particularly interesting in this respect. As, in the current survey, pre-service teachers did not report on their willingness to interact with their students after graduation, we do not yet know whether personally-oriented profile members do not like to interact about reading in general, or especially not with fellow students and lecturers (i.e., the focus of the current academic social-conative attitude scale) and with family and friends (i.e., the focus of the recreational social-conative attitude scale). Future research should therefore include a scale on pre-service teachers' willingness to interact with their students about reading to find out whether differences in social-conative

attitudes will also be reflected in the interaction with their students in the actual classroom (for examples, see The Classroom Assessment Scoring System™, Pianta & Hamre, 2009 and The Protocol for Language Arts Teaching Observation, Grossman et al., 2013).

Becoming and remaining a competent teacher can be regarded as a (career-long) professional development process that consists of three interrelated phases: (1) pre-service teacher education, (2) the first years in the teaching profession, known as the induction phase, and (3) further continuing in-service professional development (e.g., Feiman-Nemser, 2001; Rossi et al., 2017). The present study's main focus is on the first phase, but also might give some valuable insights regarding the second phase, when beginning teachers set off as fully-fledged teachers having to promote reading. For the first phase, current results may point to the added value of a more data-driven approach in the (re)design of courses and curricula in teacher education (e.g., Van den Hurk et al., 2016). More specifically, knowing what the state of incoming pre-service teachers' affective aspects of reading is and how this might possibly change throughout teacher education, might be of great value for both the instructional practices in a specific course and the (re)design of larger units within a program. Pre-service teachers with different profiles may have different needs and may be responsive to different educational approaches (e.g., Endedijk et al., 2014; van der Lans et al., 2017). As the present study only examined one certified teacher education institute, it can be considered advisable to widen the scope and get more insights from other teacher education programs worldwide.

For the induction phase, current findings seem to highlight the need for continuous professional development, emphasizing that teacher education should not stop at graduation, but is a process that needs to be addressed continuously (e.g., Maskit, 2011; Opfer & Pedder, 2011). Building on this study's results where almost one-fourth of the pre-service teachers state to be low in reading attitude, not to read frequently, perceive themselves as less able readers and seem less willing to promote reading in their future school(s), it could be recommended to keep track on these teachers. For example, by checking whether they actually act on these results in their classroom and by providing them customized professional development (e.g., Desimone, 2009, Vansteelandt et al., 2019). It further seems worthwhile to not only focus on this group of unenthusiastic readers, but also on teachers belonging to both other profiles, as the first years in the profession appear to be crucial in view of teacher competence for every teacher (e.g., Aspfors & Fransson, 2015).

Using a person-centered longitudinal approach, this study was able to get a better understanding of the different subgroups with similar characteristics in a potentially heterogeneous group (e.g., Ferguson & Bråten, 2013; Rosenzweig & Wigfield, 2017). Contrary to a solely variable-centered approach, a person-centered perspective has added value in view of adjusting teacher education (e.g., courses, curriculum) to the possible existing individual differences within the group of pre-service teachers (Hickendorff et al., 2018). However, as our

approach was still merely based on quantitative data, it could be recommended for future research to apply a mixed-methods design (Creswell & Clark, 2010). By combining both quantitative survey results and qualitative results based on focus groups and/or in-depth interviews it might be possible to comprehend more thoroughly why pre-service teachers' attitude changes and how this may affect their willingness to invest in reading promotion in their classroom practices. In this respect, it might also be beneficial to develop more fine-grained instruments, possibly grasping more comprehensively the latent differences in context (i.e., individually vs. socially-oriented) and purpose (i.e., recreational vs. academic).

Further research could also address pre-service teachers' competence regarding promoting reading more as a whole (i.e., knowledge, skills and attitude). This will be a relevant addition given that both affective-motivational factors (e.g., attitude) as well as cognitions (e.g., knowledge) underpin teaching behavior (Blömeke et al., 2015). More precisely, it can be examined whether (a) pre-service teachers have the indispensable *knowledge*, i.e., do they know what the possible affective aspects of reading are (Goldfeld et al., 2020), what they consist of (De Naeghel et al., 2012) and how to promote them most effectively (McKool & Gespass, 2009); (b) pre-service teachers dispose of the necessary *skills*, i.e., to effectively foster students' affective aspects of reading in the classroom (Neugebauer, 2016); and (c) pre-service teachers have a positive *attitude* toward reading, are *motivated readers* themselves and show strong *self-efficacy beliefs* when promoting their students' reading motivation (e.g., Morrison et al., 1998). When considering the aforementioned features, pre-service teachers could presumably grow to be teachers who are capable to promote reading with their students. Hereby, potentially altering the trend that students' affective aspects of reading decline throughout their educational careers.

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*You can find magic wherever you look.
Sit back and relax, all you need is a book.*

Dr. Seuss



4

Design principles for professionalizing primary school teachers on promoting reading motivation

This chapter is based on:

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Chapter 4

Design principles for professionalizing primary school teachers on promoting reading motivation

Abstract

Studies show that teachers' continuing professional development (CPD) is essential for educational quality, and moreover, when it comes to reading, key for students' success in education and participation in our 21st-century society. Most of the research investigating professional development programs on improving teachers' self-efficacy for teaching reading and in particular on fostering students' reading motivation, however, fails to include clear and detailed descriptions of the design principles underlying the programs. Therefore, the present study provides a comprehensive description and operationalization of the design principles of a CPD program for primary school teachers focusing on promoting students' reading motivation combining Desimone's (2009) framework for effective professional development with Self-Determination Theory (Ryan & Deci, 2000). Consequently, the CPD program's core features as distinguished by Desimone (i.e., content focus, coherence, active learning, collective participation and duration) and the need for autonomy, competence and relatedness as put central in SDT are analytically described and elaborated on. In view of reporting on the implementation check of the CPD, we further provide insight into whether these operationalized design principles were also perceived as such by the teachers participating in a first iteration of the CPD intervention.

Introduction

Research points to a decline in students' willingness to read for pleasure throughout primary and secondary education (Hornstra et al., 2013; McKenna et al., 2012; Sainsbury & Schagen, 2004). In international comparisons, this sometimes even leads to alarming results, as is the case in Flanders (the Dutch-speaking part of Belgium) and the Netherlands, where students score below par when it comes to liking to read (Mullis et al., 2012; Mullis et al., 2017; OECD, 2010). These findings are cause for concern as research repeatedly points at the close relationship between affective aspects of reading (e.g., reading motivation, attitude), reading behavior and performance, and school success (De Naeghel et al., 2012; Sullivan & Brown, 2013). Put differently, reading motivation is an important factor to promote when aiming at enhancing students to become and remain competent readers and successful students (Wigfield et al., 2016).

Teachers play an important role in fostering their students' motivation to keep engaging in reading activities such as reading different fictional and literary texts (Afflerbach et al., 2013; Applegate et al., 2014). Unfortunately, the number of (pre-service) teachers who are low in reading motivation themselves is relatively high (Nathanson et al., 2008). This is especially worrisome, given the knowledge that teachers who are frequent readers themselves and who share how their reading experiences have an impact on their own lives, are most likely to show a high self-efficacy regarding teaching reading and to use recommended instructional literacy practices promoting their students' willingness to read (McKool & Gespass, 2009; Morrison et al., 1998). By doing so, these teachers stress explicitly the crucial affective aspects related to reading and can have an actual positive impact on their students' reading motivation (Afflerbach et al., 2013; De Naeghel et al., 2014; De Naeghel et al., 2016; Guthrie & Klauda, 2014). More specifically, showing motivating teaching behavior in the classroom seems to depend on at least the following three elements: (1) teachers having the indispensable *knowledge*, i.e. they should know what reading motivation is (Conradi et al., 2013; Guthrie & Wigfield, 2000), what it consists of (De Naeghel et al., 2012; Schiefele et al., 2012), why it is vital to explicitly focus on in the classroom and how to promote it best (McKool & Gespass, 2009); (2) teachers disposing of the necessary *skills*, i.e. they should have the skills to effectively foster students' motivation in the classroom (De Naeghel et al., 2014; Guthrie & Klauda, 2014); and moreover, (3) teachers having a positive *attitude* toward reading and being *motivated* readers themselves (both personally and professionally) and showing strong self-efficacy beliefs when it comes to promoting their students' reading motivation (e.g., Morrison et al., 1998). Taking these three elements into account, teachers are likely to offer

their students the necessary high-quality reading education that can be expected to alter the trend that students' reading motivation will decline throughout their educational careers.

Research showed that the continuing professional development (CPD) of teachers is a requirement to ensure high quality education (Coe et al., 2014; McArdle & Coutts, 2010; OECD, 2014; Postholm, 2012; Wei et al., 2009). This is also the case when it comes to reading motivation promotion (De Naeghel et al., 2014, 2016; Guthrie & Klauda, 2014; Jang et al., 2015). Kelchtermans (2004) defines CPD as “a learning process resulting from meaningful interaction with the context (both in time and space) and eventually leading to changes in teachers' professional practice (actions) and in their thinking about that practice” (p. 220). In addition, CPD can be considered as an ongoing process, where teachers are motivated to persist in professionalizing themselves in order to continually improve their competences (i.e., knowledge, skills and attitudes) and, hence, those of their students (Kennedy, 2014). In this respect, well-designed CPD programs that are based on strong theoretical and empirical research that can be implemented with fidelity are required (Avalos, 2011; Borko, 2004; Kennedy, 2016; Opfer & Pedder, 2011; Timperley et al., 2007). However, such programs are not common practice yet. The aim of this study is to show how a CPD can be developed by grounding the program in an overall theory of improvement, taking into account both a theory of change (i.e., the relations between the characteristics of teacher professional development and teachers' knowledge, skills, attitudes, and practice) and a theory of instruction (i.e., the influence of changing teaching practices on students' learning and achievement) (Kennedy, 2016; Merchie et al., 2016; Van Veen et al., 2012).

Two frequently cited models for evaluating a professional development program and mapping the possible effects are the five-stages-model of Guskey (2000, 2014) and the so-called path model of Desimone (2009). Both models show some degree of similarity as they both integrate a theory of change and instruction, acknowledge the necessity to formulate clear design principles when developing a professional development program, and refer to teaching and student learning and context as crucial elements in every professional development program. The framework of Desimone (2009) appears particularly interesting as it explicitly highlights the interactive relationships between core features of professional development and increased teacher competence, change in instruction, and finally to improved student learning. This means, for example, that a change in teachers' competence can lead to a change in teaching behavior or reciprocally. Desimone's model (2009) appears to be leading in the literature as can be seen in the work of other researchers who applied or adapted her model (Boston, 2013; Kang et al., 2013; Labone & Long, 2016; Merchie et al., 2016; Van Veen et al. 2012).

In Desimone's framework (2009) five evidence-based core features for effective professional development (i.e., design principles) are distinguished. First, reference is made to the *content focus* of a program: what teachers learn through professional development in relation to subject matter content and how students learn this content. A second core feature relates to *active learning* in the professional development: teachers learn actively through continuing and active inquiry of practice by means of for example actively observing, reviewing, reflecting, or discussing. Third, *coherence* is considered an essential professional development feature: teacher's learning needs to be aligned with their knowledge, beliefs, goals and with current reforms and policies. *Duration* is the fourth fundamental principle: an intensive program with a minimum of 20 hours of contact time and spread out over time, making follow-up possible, is recommended. Finally, *collective participation* turns out to be a key design principle: bringing teachers together to actively collaborate with each other. Although most models on professional development and the design principles mentioned in the models can be considered conceptual and therefore general in nature and consequently not exclusively linked to a specific educational domain (e.g., reading, mathematics), when operationalized in detail they are a strong scientific starting point for building a domain-specific professional development program, which can be implemented, evaluated, disseminated and replicated (e.g., Santagata & Bray, 2015).

As the present study explicitly focuses on stimulating reading motivation, the need to also integrate insights from a motivation theory when designing a CPD program becomes apparent. Different motivation theories can be considered, for example the Expectancy-Value Theory (Wigfield & Eccles, 2000), the Social Cognitive Theory (Bandura, 1986), and the Self-Determination Theory (Ryan & Deci, 2000). In educational settings, increasing attention is being paid to the Self-Determination Theory (SDT) as the theoretical frame of reference (Lazowski & Hulleman, 2016). A recent meta-analysis on the effects of reading motivation interventions in particular (van Steensel et al., 2016) revealed that the majority of studies referred to SDT (Ryan & Deci, 2000) as the theoretical basis for their intervention. Moreover, SDT is currently referred to as an interesting and most valuable innovative motivation theory, also when specially aiming at stimulating students' reading motivation (e.g., De Naeghel et al., 2012, 2016).

SDT distinguishes between autonomous motivation (i.e., engaging in activities with a sense of willingness) and controlled motivation (i.e., engaging in activities with a sense of pressure or coercion) and states that one's autonomous motivation – as opposed to controlled motivation – should be fostered and nurtured. This can be realized by stimulating the inherent psychological need for autonomy (the experience of psychological freedom), providing structure in view of fostering the need for competence (the experience of feeling confident and effective), and

nurturing the need for relatedness (the experience of feeling related to others). In a CPD program, insights from SDT can be integrated in both the program's content focus (i.e., providing knowledge on autonomous and controlled motivation) as well as in the design principles. The latter is particularly important taking into account the idea of congruent teaching, stressing to teach what you preach and to be a good model of the kind of teaching you want to promote in CPD (Aelterman et al., 2013; De Naeghel et al., 2016; Swennen et al., 2008). In this respect, using an SDT approach in CPD aims at and implies that participating teachers themselves (1) are being motivated throughout the program by fostering their psychological needs for competence, relatedness, and autonomy and (2) increase their knowledge, skills, and self-efficacy beliefs regarding reading motivation promotion, given the specific content focus of the CPD program.

Combining both the design principles distinguished in Desimone's (2009) framework for effective professional development with insights from SDT can be considered a strong starting point when developing a CPD program's underlying design principles. However, the question arises as to how these principles are actually operationalized (translated into practice) and implemented during a CPD program (Santagata & Bray, 2015). This lack of detailed descriptions and operationalizations of the design principles underlying many CPD programs is often denoted in the literature, although they can be considered critical for the implementation, dissemination, and replication of programs (Santagata & Bray, 2015; King, 2014). Therefore, at least the rationale behind each design principle as well as the facilitators' instructional and participants' learning activities should be elaborated on clearly in order to show how the CPD program is grounded in Desimone's framework and SDT. Furthermore, to gain insight into CPD programs' implementation fidelity, it is recommended to check how the program and more specifically its underlying design principles were implemented and whether they are perceived by the participants as intended by the designers (Smith et al., 2007; Swanson et al., 2013). As recommended in the review study by O'Donnell (2008), the added value of such an implementation check lays also in the fact that researchers are encouraged to actively reflect beforehand on the design principles that underlie a specific CPD program, how they should be defined, operationalized, implemented and evaluated and then adjusted when necessary. More specifically, given the present study's focus, the implementation of the integration of both Desimone's design principles (2009) and design principles grounded in SDT should best be followed-up and verified by the people taking part in the CPD program. The implementation check is preferably executed using a multi-actor approach, combining participants' evaluation with additional ratings of for example external observers or CPD facilitators (Dumas et al., 2001).

Present study

The present study is part of a larger study on the design, implementation and evaluation of a year-long CPD program for newly qualified primary school teachers. Six professionalization sessions were planned throughout the school year and participants met for at least 24 hours with the same facilitator. In the present study, we exclusively focus on analytically presenting the description and operationalization of the CPD program's underlying design principles.

The CPD program was developed in 2016 after the publication of the results of The Teaching and Learning International Survey (TALIS; OECD, 2014). These TALIS results revealed that Flemish primary school teachers do attend professional development initiatives, but only with a low intensity (i.e., on average three days per year) and they mostly participate in short-term programs (e.g., half-day conferences or workshops). This may also be due to the fact that hardly any long-term CPD initiatives were available at that time. Research, however, has repeatedly shown that these short-term initiatives are less effective than longer programs and programs that are more unfolded over time (e.g., courses with a follow-up during a semester) (e.g., Yoon et al., 2007). Next to taking into account the TALIS results, the CPD responded to the call in the literature for also addressing more the affective side of reading (e.g., reading motivation) for both students and teachers than is currently done (i.e., predominant focus on the cognitive aspects of reading) in order to improve students' chances on academic and societal success (e.g., Hattie, 2009; Sullivan & Brown, 2013).

When creating the content of the CPD program, a multiliterate view on reading was adopted. Next to focusing on books of fiction and non-fiction, also other reading materials, such as newspapers, magazines, and comics were focused on. Reading of these different materials in both print and digital formats were considered. After all, research indicates that the explicit inclusion of print and digital reading are necessary to relate to the reading of teachers and students living in the 21st century (Alexander, 2012; Leu et al., 2013; Schiefele et al., 2012). As studies also showed the importance of teachers' and students' reading of literary texts in education and beyond (e.g., Klauda & Guthrie, 2015; Merga, 2015), specific attention was paid to the inclusion of a variety of fictional and literary texts (e.g., picture books, short stories, poetry, novels).

To move the field of teachers' continuing professional development regarding reading instruction and reading motivation promotion in particular forward, the present study aims to describe – analytically and in detail – the operationalization of the design principles of a CPD program supporting primary school teachers in fostering their students' reading motivation. Moreover, in view of reporting on the implementation check of the CPD program's design

principles, the present study also aims to examine whether the participants of the CPD program, an external observer, and the facilitator experienced the underlying design principles grounded in Desimone's framework and SDT as intended by the program designers.

Method

Procedure

A stepwise procedure was used to design the CPD program, in order to select, analyze, operationalize, and check the implementation of the design principles. This was done by a team of practitioners (i.e., five teacher educators, four members of official institutions in view of supporting schools and three members from organizations specialized in fostering reading in education) and five researchers who all had expertise in the field of reading (motivation) and/or CPD. More specifically, in all steps of the design process that are explained in more detail below, (a) the first author initiated the process by making proposals and asking for detailed feedback from the other team members; (b) adjustments were made based on the feedback and further analysis of the literature; and (c) this process was repeated until consensus on the design, its operationalization and implementation was reached in the team. In the first step of the program design, the relevant literature was consulted and analyzed, including reviews and meta-analyses (e.g., Avalos, 2011; Kennedy, 2016) and single theoretical and empirical studies (e.g., De Naeghel et al., 2016; Schiefele et al., 2012). More specifically, it was analyzed (1) which theories and frames of reference regarding professional development in general and on (reading) motivation in particular are often referred to and can be considered leading in the literature to ground the CPD program in; and (2) which design principles are referred to as indispensable and should be taken into account and selected when operationalizing and implementing the CPD program. In the second step and in accordance with Rijlaarsdam et al. (2018), the CPD facilitator's instructional and participants' learning activities were designed. Both were aligned with the selected design principles and developed simultaneously, as both are inherently connected. In a third step, in accordance with De Smedt, Graham, and Van Keer (2018) a brief questionnaire was developed to assess the implementation quality of the design principles underlying the developed CPD program (see section on *Instruments* for more details).

Participants

Eight primary school teachers (7 female, 1 male) participated in the year-long CPD program with six 4-hour face-to-face sessions extended over the school year. On average, participants were 23.6 years old ($SD= 2.82$). All participants were native Dutch speakers and had Dutch as their first reading language. They were all newly qualified primary school teachers in their first (62.5%) or second year (37.5%) after graduating from a three-year professional bachelor program for teacher education. They all subscribed to the program after receiving a flyer and some additional information on the program (see Appendix A). Since one of the aims of all teacher education programs in Flanders is to educate pre-service teachers with the necessary knowledge, skills, and attitudes for becoming effective language and reading teachers (Flemish Ministry of Education and Training, 2008), attention is being paid to reading (education) in all teacher education programs, yet not beyond graduation. The participants were all working in a multilingual primary school in Antwerp (Belgium) and taught in classes ranging from Grades 2 to 6, with most of them teaching Grade 4 (37.5%) and only 1 participant teaching Grade 6, while the others were equally distributed over the other grades. The first author of this article acted as the CPD facilitator and has 10 years of teaching experience in the field of teacher education (i.e., working as a teacher educator specifically working on topics related to reading in primary school) and in research in the field of reading and CPD. Additionally, in view of integrating a multi-actor approach in the implementation check, a researcher in the field of reading motivation, who also has teaching experience, acted as an external observer by observing the first four sessions.

Instruments

A brief questionnaire of seven statements was used to examine whether the design principles underlying the CPD program were perceived as intended by the researchers (i.e., grounded in Desimone's framework and in SDT). The participating teachers as well as the facilitator and external observer, independently and individually completed the questionnaire at the end of each CPD session. The questionnaire contained one statement per design principle, measuring the perceived extent to which that design principle was implemented during a particular session. The answer options ranged between 1 = not true at all, to 5 = completely true (see Table 1). It should be noted that the design principle *duration* was not measured, because this design principle was interpreted to be more related to the design of the CPD program as a whole (i.e., referring to the total number of CPD sessions) and not to every specific session. Furthermore, the external observer did not rate the design principle *coherence*, as she could not relate enough to the specific goals the participants had regarding their daily teaching practice.

Table 1. Implementation check questionnaire

Design principles of the CPD program	Statements related to the design principles of the CPD program
Content focus	During this session attention was paid to fostering my students' reading motivation linked to my daily practice.
Active learning	This session was an active learning session where I worked, learned and reflected actively about fostering my students' reading motivation.
Coherence	What was discussed during this session fitted well with my beliefs and the goals I have to achieve as teacher.
Collective participation	During this session we worked and learned together.
Autonomy support	During this session enough attention was paid to sharing suggestions fitting my interests, for example a suggestion to make teaching materials together.
Competence support	During this session enough attention was paid to giving and receiving positive feedback.
Relatedness support	During this session attention was paid to the relatedness between participants.

Results

Design principles of the CPD program

Table 2 presents the underlying design principles of the CPD intervention based on the literature study, and the related instructional and learning activities.

Design principle 1 *Content focus*. The first design principle refers specifically to the content of the CPD. In the current CPD, the content focused on providing participants with information on and skills to increase students' reading motivation (e.g., Desimone, 2009; Garet et al., 2001; Merchie et al., 2016). Great attention was paid to presenting and discussing a variety of motivating reading resources and materials that teachers could use in their classroom (e.g., different fictional and/or literary texts). Further, participants were taught insights from SDT (Ryan & Deci, 2000) to provide them with information on different types of reading motivation, strategies to stimulate students' autonomous reading motivation in particular, and knowledge on approaches and resources to turn a classroom into a visibly motivating reading environment in close collaboration with students.

In Table 3, information can be found on the sessions' specific content focus per session and furthermore the implementation of the specific content focus per session is elaborated on in more detail to raise the accountability of the developed and implemented CPD program. Within the overall focus on reading motivation throughout the CPD program, each of the six sessions had an additional specific focus, namely strategies to promote reading motivation, teaching reading in a multilingual setting, differentiated instruction, assessment of reading motivation, focusing on reading in all subjects (i.e., not only during language class) and a more structural approach on reading motivation at class and school level by integrating it in a reading/language policy at school. Taking into account a growth in complexity and challenge throughout the CPD program, the additional foci are arranged in such a way that the program starts off with the most accessible focus. Therefore, strategies to promote reading motivation at class level were discussed first, since the focus on the development of a reading policy with the integration of reading motivation at school level can be considered to be more challenging.

Table 2. Design principles, facilitator's instructional activities, and participants' learning activities in a continuous professional development program (CPD) for participating primary school teachers aimed at fostering students' reading motivation

Design principles of the CPD program	Examples of facilitator's instructional activities in the CPD program	Examples of participants' learning activities in the CPD program
<p>1. Content focus Providing participants with information on and skills to increase students' reading motivation.</p>	<p>-offers participants a variety of reading materials to foster their students' reading motivation (e.g., different fictional and/or literary texts as for example picture books, poetry or novels; digital/on paper). -points participants to different ways to find and select motivating reading materials to foster their students' reading motivation (e.g., using online catalogues suitable for their students to find a variety of text genres as for example fiction/literary texts). -points participants to various strategies to enhance autonomous reading motivation (e.g., being able to respond to their students' reading interests). -alerts participants to different ways to create a visible motivating reading environment in collaboration with their students (e.g., teacher's and students' book suggestions are put in the spotlight in the classroom).</p>	<p>-get acquainted with a variety of reading materials presented by the facilitator and also introduce new materials themselves of which their students are motivated about. -get acquainted with and use different ways to find and select motivating reading materials for their students. -get acquainted with and use various strategies to enhance the autonomous reading motivation of their students. -get acquainted with and use different ways to create a visible motivating reading environment in collaboration with their students and also introduce stimulating reading environment practices they themselves and their students are motivated about.</p>
<p>2. Active learning Participants' continuous inquiry of practice, co-creation of and reflection on professional and academic knowledge to increase students' reading motivation.</p>	<p>-stimulates participants observing/sharing their teaching practices in view of fostering students' reading motivation. -stimulates and guides interactive feedback and discussion on participants' observed/shared teaching practices in view of fostering students' reading motivation. -stimulates designing lessons, making materials, etc. together with other participants and the facilitator. -stimulates participants reviewing and reflecting on their own and other participants' work together with other participants and the facilitator in view of fostering their students' reading motivation.</p>	<p>-observe/share their own teaching practices (e.g., observing/sharing short video clips where teachers focus on enhancing their students' reading motivation and this for example by getting them acquainted with reading materials (e.g., literary texts) they can choose from, are related to their interests, etc.). -give feedback and join discussions on participants' observed/shared teaching practices in respect of enhancing students' reading motivation. -design lessons, make materials, etc. together with other participants and the facilitator. -review and reflect on their own and other participants' teaching practices in respect of enhancing their students' reading motivation together with other participants and the facilitator.</p>
<p>3. Coherence Alignment of the CPD program with</p>	<p>-relates closely to the participants' daily teaching practices (e.g., focusing on the actual reading motivation of their</p>	<p>-in view of fostering their students' reading motivation they assess their students' reading motivation, monitor it</p>

Design principles for CPD on reading motivation

<p>participants' goals, beliefs and with current educational reforms and policies to increase students' reading motivation.</p>	<p>students, being able to assess and monitor this). -stimulates participants to focus on the beliefs and goals they want to achieve regarding their students' reading motivation; knowing how closely reading motivation, reading behavior and reading competence are related to each other. -stimulates participants to relate their teaching practices to school policy and reforms regarding students' reading motivation (e.g., the need for schools to focus on reading in a well-defined language policy plan).</p>	<p>continuously, and relate their teaching practices to this knowledge. -participants express the beliefs and goals they have and they want to achieve in view of fostering their students' reading motivation; participants discuss the close relationship between reading motivation, reading behavior, and reading competence with each other. -participants are able to relate their beliefs and goals regarding their students' reading motivation to school policy and current educational reforms.</p>
<p>4. Duration Participants taking part in extended and intensive CPD program when aiming at fostering students' reading motivation, i.e. of sufficient duration with activities that are spread out in time and include at least 20 hours of contact time.</p>	<p>-organizes 6 face-to-face sessions (4 hours/session) throughout the school year, with a specific educational focus for each session, namely (1) motivating instructional practices, (2) multilingual context, (3) differentiated instruction, (4) linguistically responsive teaching, (5) assessing reading motivation; and (6) reading policy as a corner stone in a school's language policy. -stimulates online continuous professional development for the participants between the face-to-face sessions (e.g., through an online tool decided on by the participants). -stimulates participants to meet in educational contexts/locations that relate strongly to the content focus (e.g., their classroom, library, reading organizations). -stimulates participants to prepare well for every face-to-face session (e.g., when focusing on fostering students' reading motivation participants prepare questions, teaching practices (with photo/video-material) or teaching materials they want to show/share with other participants and/or the facilitator).</p>	<p>-participate actively in close co-operation with the other participants and in view of fostering their students' reading motivation in 6 face-to-face sessions (4 hours/session) throughout the school year, with a specific educational focus for each session, namely (1) motivating instructional practices, (2) multilingual context, (3) differentiated instruction, (4) linguistically responsive teaching, (5) assessing reading motivation; and (6) reading policy as a cornerstone in a school's language policy. -participate actively in the online continuous professional development between the face to-face sessions (e.g., by sharing motivating reading materials, helping each other with motivating teaching materials regarding reading motivation, pointing to motivating reading practices regarding national reading campaigns). -propose motivating educational contexts/locations that relate strongly to the content focus and participate actively in these contexts (e.g., by sharing visible motivating reading environments, showing in practice how students share their reading materials). -prepare well and in advance for every face to face session.</p>
<p>5. Collective participation Participants collaborating about each other's teaching practices to increase students' reading motivation.</p>	<p>-stimulates participants to share and elaborate on teaching practices fostering their students' reading motivation (e.g., how they choose motivating reading materials for their students, how they use differentiated instruction to foster all their students' reading motivation, how they address the multilingual setting they are working in). -stimulates participants' interaction (e.g., discussion,</p>	<p>-share and elaborate on their teaching practices fostering their students' reading motivation. They for example share how they choose motivating reading materials for their students or elaborate on how they use differentiated instruction to foster all their students' reading motivation. -interact (e.g., discussion,, feedback) about their own and others' teaching practices in view of fostering their students' reading motivation. They for example talk about how they</p>

	<p>feedback) about their own and others' teaching practices in view of fostering their students' reading motivation (e.g., how they turn their classrooms into visible motivating reading environments, which literary texts work in which context, how they focus on reading motivation when teaching, for example, mathematics or biology).</p> <p>-stimulates participants' cooperation and co-creation in view of fostering their students' reading motivation (e.g., designing lessons and materials linked to motivating instructional practices as for example regarding book talks).</p>	<p>turn their classrooms into visible motivating reading environments or discuss about which literary texts work best in which context and how they focus on reading motivation when teaching for example mathematics or biology.</p> <p>-cooperate and co-create in view of fostering their students' reading motivation (e.g., designing lessons and materials linked to motivating instructional practices as for example regarding book talks).</p>
<p>6. Autonomy support Participants' need for autonomy (i.e., the experience of a sense of volition or psychological freedom).</p>	<p>-provides choices (e.g., offering participants/students a variety of literary texts that they can choose from).</p> <p>-aligns with participants' interests (e.g., offering participants/students a variety of literary texts that fit their interest).</p> <p>-considers highly the participants' perspectives and behaviors (e.g., relates highly to the participants' teaching practices in view of fostering their students' reading motivation).</p>	<p>-make choices in view of fostering their students' reading motivation (e.g., they choose from a variety of literary texts that suit their teaching practice and context best).</p> <p>-make clear in their preparation before the session and also during the actual session what they are interested in when it comes to enhancing their students' reading motivation, hereby the program fits the participants' interests (e.g., which instructional strategies in promoting their students' reading motivation align best with their interests regarding their students' reading motivation).</p> <p>-share their perspective and behavior in view of fostering their students' reading motivation (e.g., relate highly to the their daily teaching practice and their students' actual reading motivation).</p>
<p>7. Competence support Participants' need for competence (i.e., the experience of being confident and effective in action).</p>	<p>-stimulates communicating about participants' expectations of the CPD (e.g., expectations on where to find motivating reading materials for their students, which instructional teaching activities have which impact in view of reading motivation).</p> <p>-provides participants with optimal challenges (e.g., to be able to integrate differentiated instruction regarding reading motivation, to teach linguistically responsive in a multilingual setting by for example making the reading environment in the classroom visible multilingual).</p> <p>-offers help and support (e.g., before and during the face-to-face sessions explicitly asks the participants if they need help and support when it comes to fostering their students' reading motivation).</p>	<p>-communicate their expectations of the CPD regarding enhancing their students' reading motivation (e.g., expectations on the accessibility of motivating reading materials for their students).</p> <p>-take up optimal challenges (e.g., integrate differentiated instruction regarding reading motivation in their daily teaching practice, teach linguistically responsive in a multilingual setting by for example providing literary texts in different languages and making them visible in the reading environment).</p> <p>-ask help and support (e.g., before and during the face-to-face sessions explicitly share if they need help and support when it comes to fostering their students' reading motivation).</p>

	-provides positive feedback (e.g., explicitly relates to all participants teaching practice when it comes to fostering their students reading motivation and positively stimulates them when for example putting a co-created lesson in practice).	-are responsive to positive feedback (e.g., regarding a co-created lesson well put in practice).
8. Relatedness support Participants' need for relatedness (i.e., the experience of feeling connected to and accepted by others).	-stimulates involvement (e.g., by inviting participants to express themselves in various ways). -creates a safe motivating learning environment, for example by bearing in mind that participants like to feel connected to and accepted by others.	-are actively involved and engage and express themselves in various ways, in oral and/or written forms (e.g., during the face-to-face sessions, using the online tool, sometimes more one-to-one, often collaborating closely). -feel part of a safe motivating learning environment (e.g., feel connected to and accepted by others and share this orally and on paper or using the digital tool).

Table 3. Implementation per session of the CPD program on reading motivation

Content focus per session	Goal per session	Examples of input from participants sent to the facilitator before the session	Examples of actions taken by participants (P) and facilitator (F) during the session	Examples of plans for transfer shared by participants during the session	Examples of plans put into practice shared by participants during the following session(s)
Session 1 Reading motivation + Strategies to promote reading	Goal: <i>Participants know what reading motivation is, which types of reading motivation can be distinguished (i.e., autonomous/controlled) and which strategies promote students' autonomous reading.</i>	-How can I motivate my students' to like reading (more)? -Are there any strategies that I can use to stimulate my students' reading motivation? -How can I use my classroom better in promoting my students' reading motivation?	-F asks P how they would define reading motivation? And which types of reading motivation they think exists? -F asks P how they motivate their students' reading? -P share strategies they use in their teaching practice. F shares additional strategies. -P share how they use their classroom in view of promoting their	-P will try to focus more on students' autonomous reading motivation by responding more to their need for autonomy, competence, and relatedness. -P will try some new strategies to promote their students' reading motivation. -P will try to put in practice some suggestions regarding	-P share examples of how they focused on their students' autonomous reading motivation (by providing choice, by helping their students' to choose reading materials they are interested in). -P share some new pictures of their classrooms showing which adjustments were made (making reading material more

			students' reading (P were asked beforehand to send pictures of their classroom to the F that can be shared on a screen during the session); P give each other suggestions on how to optimize their classroom and resources and F shares suggestions when not mentioned by the P	the reading environment in the classroom.	visible, providing a space where students can give suggestions for new reading materials) -P share their attempts to use new strategies regarding their students' reading motivation (book circuit, book date)
Session 2 Reading motivation + Multilingual setting	Goal: <i>Participants know how to promote their students' reading motivation in a multilingual setting.</i>	-I have students who have another mother tongue than the language used in the classroom; how can I use students' mother tongue to enhance their reading motivation? -Where can I find reading materials and resources in various languages? -How can I promote reading in the school language, while not neglecting the multilingual setting?	-F asks P whether and how they integrate the multilingual setting their school is situated in in their teaching and daily practice. -P share whether and how they make the multilingual context visible in their classroom (regarding multilingual reading materials) -F asks P where they look for multilingual reading materials to promote their students' reading?	-P will try to be aware more of the multilingual setting they are working in and how this might influence their students' reading motivation. -P will try out some new reading materials, proven to be motivating in multilingual settings. -P will try to make reading in other languages more visible in their classroom. -P will invite parents to come and read aloud during multilingual reading sessions.	-P share how the new reading materials they got to know worked in their classroom (multilingual reading materials). -P share how the multilingual reading aloud sessions worked for their students and how it impacts their students' reading motivation. -P share how they made the multilingual setting more visible in their classroom (showing various reading materials in different languages next to the school language)
Session 3 Reading motivation	Goal: <i>Participants know how to use differentiated</i>	-I have some students who really like reading and some who don't;	-F asks P whether and how they try to promote each of their students'	-P will try to differentiate more when it comes to their	-P share how they differentiated during their classes (

Design principles for CPD on reading motivation

<p>+ Differentiated instruction</p>	<p><i>instruction to promote their students' reading motivation.</i></p>	<p>how can I keep on stimulating reading in all students? -Where and how can I find reading materials for every student in my classroom (great variety of interest, level of reading comprehension). -How can I use my classroom and available books better, so that my students can choose reading materials at their own (pace), read how and where they wish when time is made available?</p>	<p>reading motivation. -P share how they try to differentiate when it comes to their students' reading motivation; F provides additional suggestions. -P share where and how they try to find reading materials that are motivating for every student; F provides additional suggestions. -P share how they try to relate to their students' preferences how they read during reading sessions (i.e., silent reading, reading aloud sessions).</p>	<p>students' reading motivation. -P will try to select and collect a varied collection of reading materials, so that their students can choose according to their interests, competence level, and so on.</p>	<p>providing choices, providing a varied collection of reading materials).</p>
<p>Session 4 Reading motivation + Assessment</p>	<p>Goal: <i>Participants know how their students' reading motivation could be assessed and followed up.</i></p>	<p>-How can I keep track of my students' reading motivation? -What are tools I can use to assess my students' reading motivation? -Is there a test for reading motivation available?</p>	<p>-F asks P whether and how they follow up their students' reading motivation. -P share whether and how they try to assess their students reading motivation; F provides additional suggestions.</p>	<p>-P will try to assess their students' reading motivation.</p>	<p>-P share how they tried to assess their students' reading motivation (using a babble box, using a questionnaire)</p>
<p>Session 5 Reading motivation + Reading in all subjects</p>	<p>Goal: <i>Participants know how to focus more and better on reading in all subjects (e.g., mathematics, social studies and science), hereby promoting their students' reading</i></p>	<p>-During language classes I focus a lot on reading motivation, but I forget to do so when teaching other subjects; how can I also focus on the latter? -Are there motivating</p>	<p>-F asks whether and how they focus on their students' reading motivation when not teaching a Dutch language class. -P share whether and how they focus on their students' reading</p>	<p>-P will try to focus more on their students' reading motivation in other classes than the Dutch language class. -P will try to select, collect and show motivating reading</p>	<p>-F share how they tried to focus on their students' reading motivation in other classes than the Dutch language class (by starting a mathematics class by reading aloud a piece of literary text</p>

	<i>motivation more broadly.</i>	reading materials I can use during mathematics? -Are there any strategies to promote reading during other classes than the usual language classes?	motivation when teaching for example mathematics. -P share motivating reading materials to be used also in other classes than Dutch classes. -P share strategies to promote reading also in other classes than Dutch language classes.	materials regarding other subjects. -P will try new strategies to promote reading in other subjects.	focusing on mathematics, by making various reading materials regarding other subjects visible in the classroom)
Session 6 Reading motivation + School policy regarding reading in view of a structural approach	Goal: <i>Participants know what a structural approach to promote their students' reading motivation could look like (at class and school level in a reading/language policy).</i>	-How can I focus best on reading motivation throughout the school year? -I certainly focus on reading motivation in the context of nationwide reading campaigns, but how can I also explicitly and more purposefully focus on it during the rest of the school year? -My school has developed a language policy plan; is there also a way to integrate the focus on reading motivation in this?	-F asks whether and how they have a structural approach at class and school level regarding reading motivation. -P share whether and how there is a reading policy available at school level and how they transfer it to the class level. -P share how they structurally and purposefully approach reading motivation in their classroom, next to the available nationwide reading campaigns; F provides additional suggestions.	-P will ask -when not already available- their colleagues and school principal whether and when the school team could start making a plan to focus on reading (motivation) in a structural way at both school and class level. -P will try to make a plan to focus on their students' reading motivation in a more structural and purposeful way and this throughout the whole school year and not only when nationwide campaigns take place.	Not applicable since session 6 was the last session

Design principle 2 *Active learning*. The second design principle focuses on participants' continuing inquiry of practice, co-creation of and reflection on professional and academic knowledge and skills to increase students' reading motivation (e.g., Desimone, 2009; McArdle & Coutts, 2010; Merchie et al., 2016; Postholm, 2012). In active learning sessions participants' classroom practices to foster students' reading motivation were shared, observed, and discussed. Moreover, lessons and materials to promote students' reading motivation were designed and developed in collaboration between the participants and the facilitator. In addition, continuing reflection on real classroom practice was included from the second CPD session onwards, by reflecting on teachers' actual classroom experiences with the implementation of what was developed in the previous CPD session and by discussing their students' reactions to it (i.e., possibly leading to adjusted versions of earlier developed material and/or lessons).

Design principle 3 *Coherence*. The third design principle focuses on the alignment of the CPD program with participants' goals, beliefs and with current educational reforms and policies to increase students' reading motivation (e.g., Desimone, 2009; Merchie et al., 2016; Penuel et al., 2007). This design principle was operationalized by paying great attention to getting acquainted with and discussing participating teachers' daily teaching practice. As in Flanders no official attainment targets are present when it comes to students' reading motivation, the facilitator focused on aligning the content and approach of the sessions with teachers' beliefs and the personal goals teachers wanted to achieve regarding their students' reading motivation. In respect to the latter, Table 3 contains examples of participating teachers' input and what was elaborated on during the sessions.

Design principle 4 *Duration*. The fourth design principle ensures that participants took part in an extended and intensive CPD program, of sufficient duration with activities that are spread out in time and include at least 20 hours of contact time (e.g., Desimone, 2009; Merchie et al., 2016; Yoon et al., 2007) in order to raise the possible impact of the program. Therefore, a year-long program was developed, where both the facilitator and participating teachers met six times in person throughout the school year during sessions of approximately four hours each. Participating teachers were asked to prepare well in advance for each session. They were asked to prepare questions and examples of teaching practices (with photos or video-material), and to bring along relevant teaching materials to show and share with the other participating teachers and the facilitator. In between the six face-to-face sessions, online follow-ups were also part of the program. To enable these follow-ups, an online communication tool was chosen by the participants during the first session and was actively used throughout the CPD program as a platform to share teaching practices, discussing these, giving feedback, or asking questions regarding daily teaching practice in view of continually stimulating students' reading motivation. The planned number of six sessions was deliberately

opted for (i.e., apart from the holiday periods the sessions took place approximately every 6 to 8 weeks) taking into account the evidence-based guideline from the literature that at least 20 hours of contact time throughout a longer period is required (e.g., Desimone, 2009; Merchie et al., 2016; Yoon et al., 2007) and considering the fact that the participating teachers needed time to put in practice what was learned in the (previous) session(s) and to prepare the following session(s).

Design principle 5 *Collective participation*. The fifth design principle focuses on the participants collaborating on each other's teaching practices to increase students' reading motivation (e.g., Desimone, 2009; Hochberg & Desimone, 2010; Merchie et al., 2016). Based on this design principle, the facilitator and participating teachers shared and elaborated on content-focused teaching practices, interacted about participants' teaching practices (e.g., through discussions and providing feedback) and collaborated and co-created actively, for example by designing lessons, selecting motivating reading materials and developing step-by-step plans to integrate them in their classroom practice in collaboration with their students.

Design principle 6 *Autonomy support*. The sixth design principle focuses on the participants' need for autonomy (i.e., the experience of a sense of volition or psychological freedom) (e.g., Ryan & Deci, 2000; De Naeghel et al, 2016). Based on this design principle the facilitator provided the participating teachers with choices to fit their interests and considering thoroughly the participants' perspective. On the other hand, the facilitator stimulated the teachers to examine and put into practice how they themselves could focus more on students' autonomy support in their daily reading practice by applying the same motivating teacher behavior. Importantly and in line with providing autonomy to the participants, only the first face-to-face session had a fixed date and location. The date and location of all other sessions were decided upon by the participating teachers together, opening the possibility for meeting at different motivating locations (e.g., classrooms, libraries) and bearing in mind all participants' agenda's. As to the location of the sessions, the first session took place at the campus of a university college. As requested by the participating teachers, the next sessions took place alternately at their own schools (i.e., in the classrooms), except for one session that took place in an organization with a variety of materials and resources available regarding the multilingual setting the participating teachers were working in.

Design principle 7 *Competence support*. The seventh design principle focused on the participants' need for competence (i.e., the experience of being confident and effective in action) (e.g., Ryan & Deci, 2000; De Naeghel et al, 2016). The facilitator focused on stimulating the participating teachers to communicate their expectations regarding the CPD, providing them optimal challenges, offering them help and support, and providing them with constructive feedback. On the other hand, the facilitator stimulated the teachers to examine

and put in practice how they could focus on providing structure to students in their daily reading practice by applying the same motivating teacher behavior.

Design principle 8 *Relatedness support*. The eighth design principle focused on the participants' need for relatedness (i.e., the experience of feeling connected to and accepted by others) (e.g., Ryan & Deci, 2000; De Naeghel et al, 2016). On the one hand, the facilitator created a safe and motivating learning environment for the teachers, where the participating teachers' were welcomed to be strongly involved and work in collaboration. On the other hand, the facilitator stimulated the participants to examine and put into practice how they could focus on providing relatedness support to their students in their daily reading practice by applying the same motivating teacher behavior.

Implementation check of the design principles

At the end of a CPD session, the implementation check questionnaire was completed by the participants, the facilitator, and an external observer. Based on the scores per session, it can be stated that both the participating teachers and the external observer perceived the CPD program's underlying design principles as intended by the researchers (see Table 4). Overall, the participants' mean scores were high in all sessions and the standard deviations were small, indicating that they perceived the underlying design principles in a similar way and in line with the perception of the external observer. Across four sessions, she mainly rated the statements as "true" (29%) or "completely true" (67%). The facilitator's ratings were either "sometimes true/sometimes not true" (21%) or "true" (79%).

Table 4. Quality of implementation of the CPD program's underlying design principles

	<i>M and SD</i>																	
	Session 1			Session 2			Session 3			Session 4			Session 5			Session 6		
	P _a	E _b	F _c	P _a	E _b	F _c	P _a	E _b	F _c	P _a	E _b	F _c	P _a	E _b	F _c	P _a	E _b	F _c
Content focus	<i>M</i> = 4.13 <i>SD</i> = 0.35	5.0	4.0	<i>M</i> = 4.17 <i>SD</i> = 0.75	4.0	3.0	<i>M</i> = 4.17 <i>SD</i> = 0.41	5.0	4.0	<i>M</i> = 4.40 <i>SD</i> = 0.55	5.0	4.0	<i>M</i> = 4.50 <i>SD</i> = 0.55	4.0 ^b	4.0	<i>M</i> = 4.40 <i>SD</i> = 0.55		4.0
Active learning	<i>M</i> = 3.88 <i>SD</i> = 0.64	4.0	3.0	<i>M</i> = 4.17 <i>SD</i> = 0.75	4.0	3.0	<i>M</i> = 4.17 <i>SD</i> = 0.41	4.0	3.0	<i>M</i> = 4.60 <i>SD</i> = 0.55	3.0	3.0	<i>M</i> = 4.83 <i>SD</i> = 0.41	3.0		<i>M</i> = 4.60 <i>SD</i> = 0.89		3.0
Coherence	<i>M</i> = 4.00 <i>SD</i> = 0.76		4.0	<i>M</i> = 4.17 <i>SD</i> = 0.75		4.0	<i>M</i> = 4.33 <i>SD</i> = 0.82		4.0	<i>M</i> = 4.40 <i>SD</i> = 0.55		4.0	<i>M</i> = 4.33 <i>SD</i> = 0.52	4.0		<i>M</i> = 4.40 <i>SD</i> = 0.55		4.0
Collective participation	<i>M</i> = 4.75 <i>SD</i> = 0.46	5.0	4.0	<i>M</i> = 4.33 <i>SD</i> = 0.52	5.0	3.0	<i>M</i> = 4.63 <i>SD</i> = 0.82	5.0	4.0	<i>M</i> = 4.80 <i>SD</i> = 0.45	4.0	3.0	<i>M</i> = 4.83 <i>SD</i> = 0.41	4.0		<i>M</i> = 4.60 <i>SD</i> = 0.55		4.0
Autonomy support	<i>M</i> = 4.88 <i>SD</i> = 0.35	4.0	4.0	<i>M</i> = 4.83 <i>SD</i> = 0.41	5.0	4.0	<i>M</i> = 4.67 <i>SD</i> = 0.52	4.0	4.0	<i>M</i> = 5.00 <i>SD</i> = 0.00	5.0	4.0	<i>M</i> = 4.67 <i>SD</i> = 0.52	4.0		<i>M</i> = 4.40 <i>SD</i> = 0.55		4.0
Competence support	<i>M</i> = 4.63 <i>SD</i> = 0.52	5.0	4.0	<i>M</i> = 4.33 <i>SD</i> = 0.52	5.0	4.0	<i>M</i> = 4.83 <i>SD</i> = 0.41	5.0	4.0	<i>M</i> = 4.80 <i>SD</i> = 0.45	5.0	4.0	<i>M</i> = 4.67 <i>SD</i> = 0.52	4.0		<i>M</i> = 4.80 <i>SD</i> = 0.45		4.0
Relatedness support	<i>M</i> = 4.38 <i>SD</i> = 0.12	5.0	4.0	<i>M</i> = 4.33 <i>SD</i> = 1.03	5.0	4.0	<i>M</i> = 5.00 <i>SD</i> = 0.00	5.0	4.0	<i>M</i> = 5.00 <i>SD</i> = 0.00	5.0	4.0	<i>M</i> = 4.83 <i>SD</i> = 0.41	4.0		<i>M</i> = 4.60 <i>SD</i> = 0.55		4.0

Note. P_a refers to the participants (N=8). E_b refers to the external observer (N=1) and F_c refers to the facilitator (N=1); Scale ranging from 1 to 5; 1=not true at all, 2= not true, 3=sometimes true/sometimes not true, 4= true and 5=completely true

Discussion

The literature denotes the lack of clear and detailed descriptions of design principles underlying CPD programs. Therefore, the present study described the design principles, their operationalization and implementation in a CPD program supporting primary school teachers in fostering their students' reading motivation. In addition, an implementation check was executed for the first iteration of this intervention, to examine whether the CPD participants perceived the design principles as intended. Below, the added value and limitations of this approach are discussed and suggestions for future research are formulated.

Based on the literature study both Desimone's (2009) framework for effective professional development integrating a theory of change and instruction and SDT as an important motivational theory appeared to be essential in developing a well-grounded CPD program. Consequently, their key design principles were selected and analyzed. However, it is not sufficient to only list design principles underlying a program (e.g., Rijlaarsdam et al., 2018). As has been done in the present study, these principles also need to be operationalized in close relation to the program's overall focus, by for example mentioning the rationale behind each of the selected design principles and developing facilitator's instructional and participants' learning activities simultaneously and in alignment with the principles. This kind of reporting approach can enhance future implementation or the dissemination and evaluation of the CPD, as these operationalized design principles could be used as guidelines supporting researchers or educational practitioners in gaining more insight into these principles and possibly implement them in professional development trajectories.

In line with the emerging literature on treatment fidelity of educational interventions (e.g., O'Donnell, 2008) and in view of developing further iterations of the CPD, an implementation check of the current program's underlying design principles was executed to provide insight into how the design principles were perceived by the CPD participants. In the present study a multi-actor approach was used, hence next to the teacher participants also an external observer and the facilitator rated the underlying design principles. It was noted that all involved parties positively experienced the inclusion of the design principles in the CPD program as intended by the researchers. The facilitator's scores were somewhat more critical compared to the other raters, but this could be attributed to her specific and possibly more critical role in the CPD program, where she needed to continually (i.e., from one session to the other) monitor the rigorous attendance to the design principles and ways to best put them into practice. However, the facilitator's scores were only related to one person, which compared to the group mean scores should also be interpreted with caution. The finding that the external observer positively perceived the inclusion of the design principles in the CPD program can

be considered beneficial in view of the implementation check, because of the independent role she had.

Although a short questionnaire with a single item per scale was opted for to raise the practicability and the probability that all participants could fill it out easily at the end of every session, as a next step, it might be worthwhile to (1) further improve the questionnaire by using multiple items per scale and examine their reliability and (2) also integrate qualitative measures to check the implementation quality of the CPD program's underlying design principles (e.g., using a group discussion, individual interviews or observation). Such a mixed-method approach, combining both quantitative and qualitative results might provide deeper insights into how participants experience each of these design principles (e.g., Creswell, & Clark, 2010; Desimone, 2009; Thurlings & den Brok, 2017).

In future papers attention could also be paid to the social validity of the CPD. More particularly, studying teachers' perception of the goals, procedures and outcomes of the CPD will provide insight in their satisfaction, acceptability, and applicability of the practices developed in and reflected upon in the CPD (e.g., for reviews, see Gresham & Lopez, 1996; Schwartz & Bear, 1991). This might also help disentangling whether teachers will continue using the reading motivational approaches after completion of the CPD. Moreover, also the effectiveness of the program could be reported on in further papers. In this respect, both the impact on teachers (e.g., on their knowledge, self-efficacy beliefs, reading promotive behavior in the class) and the subsequent impact on their students' reading outcomes and reading motivation should be addressed. Regarding the latter, it will be worthwhile to consider a follow-up to the CPD presented in the present paper, for example using an additional one-on-one approach aiming at further coaching on the job (e.g., Kretlow & Bartholomew, 2010) or adjusting the frequency of contact, in view of encouraging sustained implementation of the new teaching practices.

To conclude, it can be stated that it is important for researchers to identify the design principles underlying their CPD programs. However, it is not only important to just identify these principles, but also to operationalize each principle into specific activities to be of use for future implementations, replications, and evaluations (e.g., King, 2014). That is, it is critical to share how principles can be put into practice by the facilitator of a program, in combination with the learning activities of the participants. In addition, it is advisable to bear in mind the overall value of executing an implementation check, as this might shed more light on how and whether the program's design principles are being experienced as such by the participants.

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Appendices

Appendix A. *Additional information for the participants on the CPD program.*

First of all: You are doing a great job! As a newly qualified teacher you need to be praised, because every day you are there for your students, wanting them to learn a lot!

Why then still this CPD-program?

We want to keep on being there for you! Especially as a newly qualified teacher you have a lot on your mind. Therefore it is really important for you to keep on professionalizing together with others, by developing and evaluating new reading materials and instructional strategies for promoting reading, sharing suggestions on how to continue fostering your students' reading motivation, ...

Why the specific focus on reading motivation?

Research has repeatedly shown that reading is key for participating in our education and society. We are constantly reading, going from reading text messages to the reading of books, manuals, ... Students are doing it constantly at school, not only during language courses. Research has also revealed a close relationship between students' reading motivation, reading behavior and reading performance on the one hand and the important role teachers have in this on the other hand.

Why an additional focus each session?

Each session focuses on reading motivation, but has an additional focus as well, respectively strategies to promote reading motivation, reading motivation and the multilingual setting, differentiated instruction, assessment of reading motivation, reading motivation in all subjects, and school policy regarding reading motivation in view of a structural approach. We opt for these extra foci because they align well with your daily teaching practice and they will make you reflect broadly and purposively on your own daily practice regarding your students' reading motivation.

What is expected of you?

Timing

- We meet each other six times throughout the school year.
- The date of the first session is fixed (see planning); the other sessions will be scheduled during the sessions.

Location

- The first time we meet at the campus of the university college. A badge will be ready for you.
- The location of the next sessions will be decided on during the sessions.

Focus sessions

- You bring your daily teaching practice to the sessions (linked to reading motivation and the additional focus of each session). More specifically, you share the questions you have, good practices you want to share, ideas on lessons you want to work on jointly, materials you want to share, video or photo material you made during your lessons, and so on.
- Together we address all the input given and work actively and collaboratively on it. From the second session onwards we provide time to share and discuss experiences based on what was learnt in the previous session.
- We mainly work hands-on, which leads to practical materials, lessons and feedback that you can work with in your daily teaching practice. It is our goal that you do not leave a session empty handed.
- During the first session we decide on which tool we will use to collect and share all the materials made.
- We make each session also as pleasant as possible; having something to eat and drink is part of that.

Assignments before each session

- At least three days before the session you send your input to your facilitator, who will use this to prepare the session, in order to be able to work as efficiently and purposefully as possible.

Contact in between each session

- During the first session we decide on which online tool we will use to keep in touch in between the sessions.
- Using this online tool we will also be able to share questions, materials, and so on.

Feedback on each session

- At the end of each session you will be asked to give feedback; therefore you will be asked to fill out a short questionnaire.

*Reading gives us some place to go
when we have to stay where we are.*

Mason Cooley



5

In pursuit of beginning teachers competent in promoting reading motivation: A mixed-methods study into the impact of a continuing professional development program

This chapter is based on:

Vansteelandt, I., Mol, S.E., Vanderlinde, R., Lerkkanen, M.K., & Van Keer, H. (2020). In pursuit of beginning teachers competent in promoting reading motivation: A mixed-methods study into the impact of a continuing professional development program. Revised and resubmitted to *Teaching and Teacher Education*.

Chapter 5

In pursuit of beginning teachers competent in promoting reading motivation: A mixed-methods study into the impact of a continuing professional development program

Abstract

As teachers' reading motivation and self-efficacy for promoting reading motivation can be considered vital for their reading-oriented promotive teaching practices and students' reading motivation, this study evaluated the impact of a year-long CPD program for beginning primary school teachers. A convergent parallel mixed-methods design with repeated measures was established, including a comparison and two CPD conditions (group vs. individually-oriented). Based on the quantitative results only no clear impact of and differences between the conditions could be observed. The qualitative analysis, however, showed growth in teachers' reading motivation and self-efficacy at a different pace and level of intensity for both CPD conditions.

Introduction

From the very start of their career, teachers need to have opportunities to engage in high-quality continuing professional development (CPD). Studies repeatedly point to its impact on several crucial factors in education, as for example the quality of teaching practices, teachers' retention in the profession, and students' academic achievement (Antoniou & Kyriakides, 2013; Borko et al., 2010; Prenger et al., 2017). Such powerful CPD comes in different formats (e.g., formal or informal; in group or individually-oriented) and can either be focused on more general aspects of teaching (e.g., overall instructional practices) or be domain-specific (e.g., teaching reading). The focus of this study is on group or individually-oriented CPD aiming to foster beginning primary school teachers' reading motivation and self-efficacy regarding reading motivation promotion.

Reading is to be considered a core skill in education and society, as being a competent and motivated reader relates highly to academic and societal success (Sullivan & Brown, 2013). Throughout the years, the multidimensionality of this core skill has received attention in both educational practice and reading research (Afflerbach et al., 2013). More particularly, next to the cognitive aspects of reading (e.g., strategies for decoding and comprehending texts) (e.g., Concannon-Gibney & Murphy, 2012; Okkinga et al., 2018) also affective aspects (e.g., reading motivation and self-efficacy regarding promoting reading) (e.g., De Naeghel et al., 2014) have increasingly come to the fore. Contrary to the amount of research on students' reading motivation and on teachers' instructional practices to enhance that (De Naeghel et al., 2016), the lack of research concerning teachers' reading motivation and self-efficacy regarding reading motivation promotion is surprising. Consequently, the present study will examine the impact of a year-long professional development program on teachers' reading motivation and self-efficacy beliefs regarding reading motivation promotion using a mixed-methods approach. Hereby aiming to foster promotive teaching practices and students' reading motivation as a result of these.

Continuing professional development

Studies show that teachers' CPD is a requirement to ensure high-quality education (Coe et al., 2014; Darling-Hammond et al., 2017; OECD, 2013). CPD can be considered as an ongoing learning process, where teachers are continuously motivated to reflect on their professional practice and persist in professionalizing themselves in order to improve their competences and, hence, those of their students (Fauth et al., 2019; Kelchtermans, 2004; Kennedy, 2014; Kunter et al., 2013). In view of high-quality CPD, well-designed CPD programs are required,

which are based on strong theoretical and empirical research and which can be implemented with fidelity (Avalos, 2011). The widely used and referred to conceptual framework of Desimone (2009) integrates both a theory of change and instruction (Merchie et al., 2016; Boston, 2013; Kang et al., 2013; Labone & Long, 2016; Van Veen et al., 2012). This framework seems particularly interesting as it explicitly highlights the reciprocal relationship between five evidence-based core features of professional development (i.e., content focus, active learning, coherence, duration and collective participation) and increased teacher competence, change in instruction, and finally improved student learning. Desimone's model moreover refers to context (e.g., school, teacher and student characteristics) as a crucial element in each professional development program.

Notwithstanding the overall merit of the framework, however, Kennedy (2016) addresses the lack of explicit integration of a motivation theory into Desimone's model to support teachers' continuous engagement in a CPD program. For example, the integration of Self-Determination Theory (SDT) (Ryan & Deci, 2000) on motivation might be appropriate regarding professional development (Guay et al., 2016). Some previous studies have shown that supporting teachers' autonomous motivation can be a core feature when wanting them to engage fully in professional learning activities (e.g., Power & Goodnough, 2018). Moreover, a recent meta-analysis on the effects of reading motivation interventions in particular (van Steensel et al., 2016) revealed that the majority of studies referred to SDT (Ryan & Deci, 2000) as the theoretical basis for their intervention. More specifically, SDT distinguishes between autonomous motivation (i.e., engaging in activities with a sense of willingness) and controlled motivation (i.e., engaging in activities with a sense of pressure or coercion) and states that one's autonomous motivation – as opposed to controlled motivation – should be fostered and nurtured. Considering the above and the present study's focus on reading motivation and its promotion, the developed CPD program integrated insights from SDT (Ryan & Deci, 2000) into the design of the core features of the CPD program (see Figure 1).

CPD promoting reading motivation

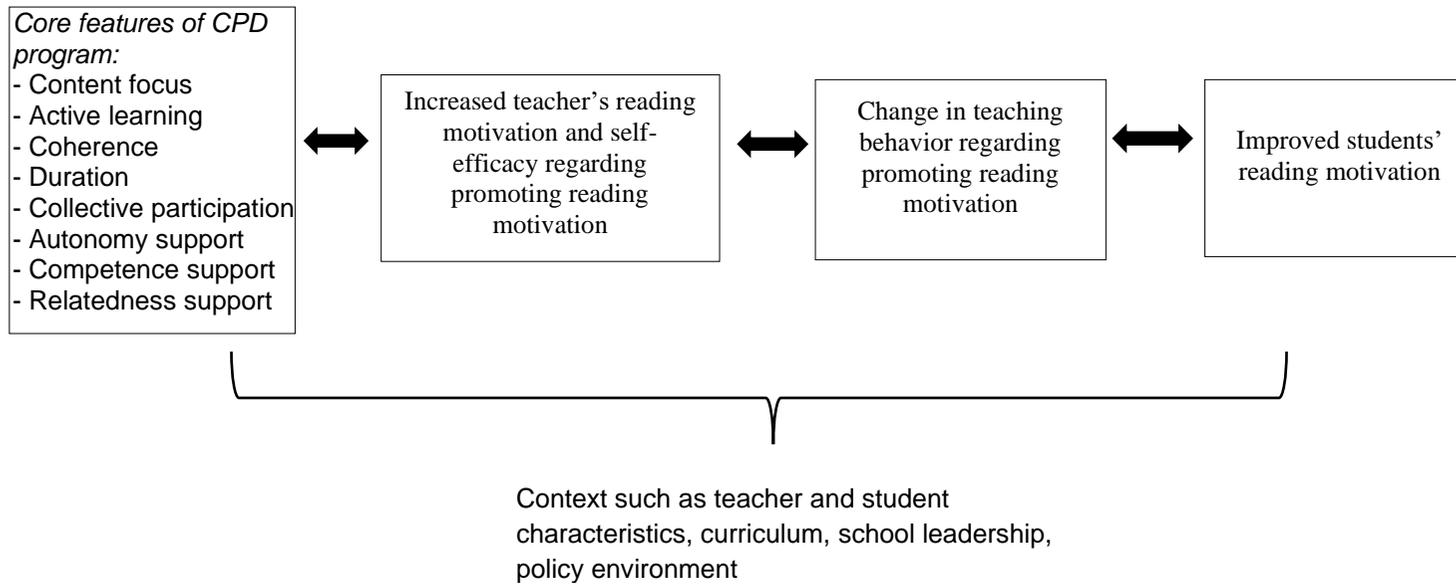


Figure 1. Framework for studying the effects of a continuous professional development (CPD) program on reading motivation promotion based on Desimone (2009) and Self-Determination Theory (Ryan & Deci, 2000).

Focus on beginning teachers

Studies focusing on beginning teachers' (BTs') CPD state that the transition from being pre-service to fully-fledged in-service teachers needs specific attention (Falk, 2014). More particularly, previous research pointed to BTs' first intense years of practice and professional learning (i.e., often referred to as induction phase) as challenging and crucial for both teacher retention and quality (Flores, 2001; Kupila & Karila, 2019). Attrition rates during the first years are quite high and have been a continuing concern for educational policy (Ingersoll & Strong, 2011). A various set of reasons for these drop-out rates have been raised, going from beginning teachers feeling isolated and not supported in the school context (Craig, 2017; Eteläpelto et al., 2015) to a lack of competence and motivation for the profession (Fernet et al., 2016; Skaalvik & Skaalvik, 2010). Responding to this context, CPD specifically targeting at BTs appears to be crucial (Appova & Arbaugh, 2018; Hobson et al., 2009). As to teacher quality, previous CPD research focusing on BTs' autonomous motivation and self-efficacy in general showed the importance of both these affective teacher attributes when aiming to enhance teaching behavior and students' motivation (Fernet et al., 2016; George et al., 2018; Guay et al., 2016; Meristo & Eisenschmidt, 2014). Autonomous motivation then more specifically refers to the experience of a sense of volition and psychological freedom when engaging in an activity and to being the initiator of one's own behavior (Ryan & Deci, 2000). Self-efficacy concerns teachers' belief in their skills and capabilities to generate student learning and success, often explicitly related to their instructional practices, classroom management and student engagement (Bandura, 1994; Tschannan-Moran & Woolfolk Hoy, 2001). Although some studies posit that both motivation and self-efficacy are rather stable constructs, which do not change profoundly over time (Bandura, 1994; Ross, 1995), other studies point to their possible malleability and this more specifically during BTs' first years of teaching (George et al., 2018).

CPD programs for BTs often employ individually-oriented as well as a broad amount of group-oriented CPD approaches. These respectively apply school-based one-on-one mentoring to tackle BTs' individual needs and expectations (Bickmore & Bickmore, 2010; Bressman et al., 2018) or stress the advantage for BTs to collaborate with a mixed group of colleagues from their school, regardless of their age or teaching (Fresko & Nasser-Abu Alhija, 2014; Valenčič Zuljan & Marentič Požarnik, 2014). Some studies, however, also point to the added value for BTs to be part of a group of only novice teachers, collectively constituting a safe learning environment (Fox & Wilson, 2009; Tiplic et al., 2015). In view of the impact of both approaches, conflicting results appear in the literature. As to CPD programs with a group approach, some studies point to the difficulty of responding to the participants' individual needs as a possible explanation for a non-impact of the program (Clark et al., 2017). As the first

years of teaching are determining for the following years in the profession in so many ways (Kupila & Karila, 2019; LoCasale-Crouch et al., 2016) and as there is no consensus on which CPD approach works best for BTs, the present study specifically focuses on BTs in their first years of teaching examining the possible differential impact of a CPD program that has the same content, but is delivered either in group or individually.

Teachers competent in promoting reading motivation

Learning to read and the development in the direction of reading to learn can be considered vital learning activities undertaken by students during their years at school (Torppa et al., 2019; Chall, 1983; Petscher, 2010). In this respect, a large amount of research can indeed be found examining these issues, thereby mainly focusing on cognitive aspects of reading, such as phonemic awareness, phonics, fluency, or comprehension (Aro & Björn, 2015; Viljaranta et al., 2017; Reis et al., 2008; Wanzek et al., 2013). This is a justified focus given that these are crucial for students to become skillful and strategic readers (Rogiers et al., 2020; van Bergen et al., 2020). In the last decades, however, the relevance of also taking into account affective aspects of reading, such as reading attitude, reading motivation, and reading self-efficacy, has increasingly been emphasized both in research as in practice (e.g., De Naeghel et al., 2012; Guthrie et al., 2007; McGeown et al., 2015; McKenna et al., 2012; Park, 2011; Petscher, 2010; Retelsdorf et al., 2011; Toste et al., 2020). It is increasingly stated that both cognitive and affective aspects should be aimed at in education as pieces of a puzzle coming together (Taboada Barber & Klauda, 2020; Toste et al., 2020). This insight joins a growing body of studies, mostly related to primary and secondary education students, pointing to the reciprocal relationship between both aspects of reading (e.g., Mol & Bus, 2011), whether or not mediated by reading behavior (i.e., often operationalized as reading amount or reading frequency) (Becker et al., 2010; Petscher, 2010; Schiefele et al., 2012; Stutz et al., 2016). Additionally, this insight fits in with studies pointing to a steadily decline in students' reading motivation throughout primary and secondary education (McKenna et al., 2012; Smith et al., 2012), which can be considered reason for concern given the aforementioned reciprocal relationships.

The growing attention for the affective reading aspects in reading research has not only led to a growing amount of studies focusing on students in this area, but also on teachers as a target group. The latter studies mostly concentrate on enabling teachers to foster these affective aspects in their students via teachers' instructional practices (De Naeghel et al., 2014, 2016; Guthrie & Klauda, 2014; Neugebauer & Gilmour, 2019; Wigfield et al., 2008). This field for example consists of studies examining the impact of Concept-Oriented Reading Instruction (CORI), an instructional program which aims to integrate reading strategy instruction, conceptual knowledge, and support for students' reading motivation (Guthrie,

McRae, & Klauda, 2007). The studies of De Naeghel et al. (2014, 2016) on the other hand focus more on fostering teachers' autonomy-supportive and structuring teaching style during reading instruction and on the impact thereof on students' autonomous reading motivation. Notwithstanding the crucial value of this specific focus on teachers' promotive reading practices, the dearth of research addressing teachers' own affective reading aspects in professional development programs after graduation, however, can be considered quite surprising. In line with the multidimensionality of reading (Afflerbach et al., 2013), research showed that a competent teacher should not only dispose of the adequate knowledge and skills, but also of the necessary attitude and motivation, also referred to as the affective-motivational dispositions underlying a teacher's behavior (Blömeke et al., 2015). The increasing body of studies focusing on teachers' motivation and self-efficacy in general pointed to the importance of these variables, because of their close relationship with teachers' instructional practices and students' achievement and motivation (Jang et al., 2010; Roth et al., 2007; Roth & Weinstock, 2013; Zee & Koomen, 2016). In addition, studies moreover explicitly point to the need to raise our domain-specific knowledge in this respect. Following Guay et al. (2010), motivation types proposed by SDT are specific to school subjects and Yu et al. (2015) provided further support for an argument already made by Bandura (1997) stating that self-efficacy as a motivational construct varies by domain and should be studied at the domain-specific level.

Aim of the present study

Overall and in light of the need to gain a more thorough understanding of the impact of well-designed CPD for BTs specifically related to the affective side of BTs' reading and reading motivation promotion, the present study's main aim is to examine the impact of a one year-long CPD program on BTs' reading motivation and self-efficacy regarding promoting reading motivation. More particularly, the differential impact of group and individually-oriented CPD (Clark et al., 2017; Horn et al., 2017) is explored by means of a mixed-methods approach.

Method

Research design

Mixed-methods designs provide a more complete understanding of the research topic as (1) this type of design facilitates data triangulation and complementarity (Greene et al., 1989) across multiple sources of data leading to more comprehensive and coherent insights and (2) such a design appears to be most useful when aiming to examine the impact of professional

development on beginning teachers' affective aspects, as earlier studies showed its added value in view of demonstrating the complex and mediated nature of the relationship between a professional development program and changes in teachers' affective aspects, such as self-efficacy beliefs and motivation, changes in teaching behavior, and improved student learning and motivation (Desimone, 2009; Kintz et al., 2015). Therefore, this study applied a convergent parallel mixed-methods design with repeated measures (Creswell & Clark, 2010; Johnson et al., 2007; Teddlie & Tashakkori, 2009). More specifically, (1) a separate quantitative and qualitative data collection was executed, (2) followed by a separate and independent quantitative and qualitative analysis, (3) the merging of both lines of data, and (4) finally an in-depth interpretation of both lines in view of the study's overall aim. Of a group of teachers who responded to an open call and volunteered to participate to the year-long CPD program (N = 30), 20 teachers were randomly selected to participate in the CPD conditions (i.e., respectively 10 in the CPD group and 10 in the CPD individual) and 10 were assigned to the comparison condition. At the start of the CPD program two BTs dropped out of the group condition because of personal reasons. As to the quantitative part, an online survey was used as a pre- and posttest (see Figure 2 for an overview of the data collection). The survey was filled out at home: (1) the pretest shortly before the CPD program started (i.e., September) and (2) the posttest after the program ended (i.e., June). For the qualitative part of the study, there were three measurement moments for both the group and individually-oriented condition. Both halfway through the program and immediately after the last CPD session, CPD-group members participated in a focus group and CPD-individual members participated in in-depth interviews. Finally, all CPD participants participated in a written interview with open-ended questions as a follow-up, nine months after they completed the intervention program. The comparison condition only participated in the quantitative data collection as this group of BTs did not participate in the CPD program and hence no qualitative data regarding its impact could be gathered.

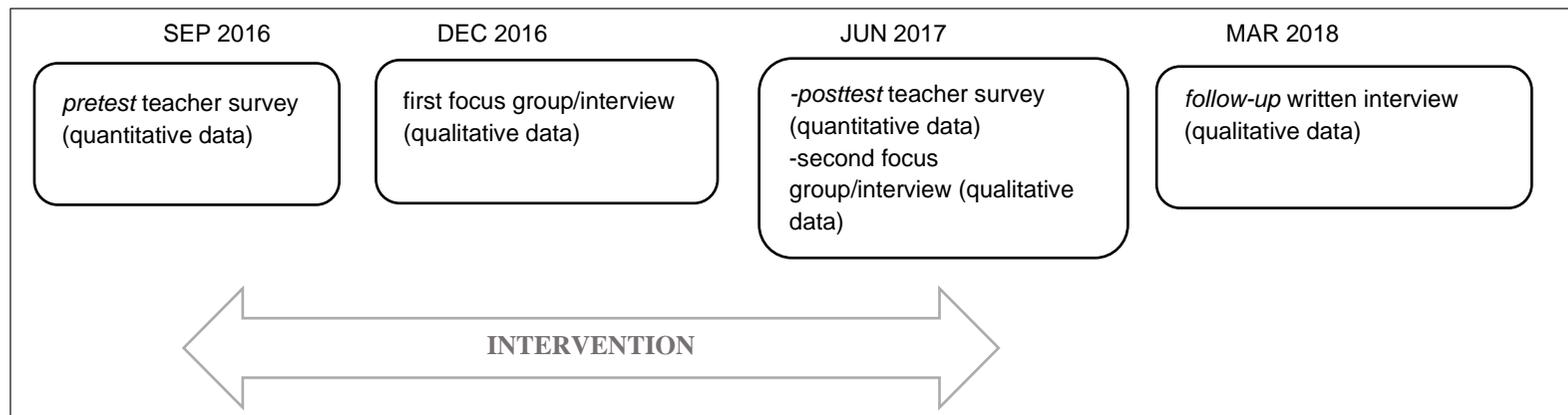


Figure 2. Overview of the mixed-method intervention study

Participants

Participants (N = 28) were all BTs who were in their first or second year after graduating from a three-year professional teacher education bachelor program for primary education (180 credits). Table 1 presents an overview of the participants' background characteristics, such as gender, age, and teaching experience and relates this information to participants belonging to both CPD conditions (i.e., CPD group and CPD individual) and the comparison condition. All participating BTs held a temporary appointment of definite duration (i.e., not more than one school year) when entering the CPD program.

Table 1. Gender, age and teaching experience of the participants

	CPD group (<i>n</i> =8)	CPD individual (<i>n</i> =10)	Comparison group (<i>n</i> =10)
Gender, <i>n</i> (%)			
Female	7 (87.5%)	8 (80%)	8 (80%)
Male	1 (12.5%)	2 (20%)	2 (20%)
Average teacher age (<i>SD</i>)	23.6 (2.8)	25.1 (4.2)	27.7 (9.3)
Teaching experience, <i>n</i> (%)			
First year in teaching profession	5 (62.5%)	6 (60%)	6 (60%)
Second year in teaching profession	3 (37.5%)	4 (40%)	4 (40%)

Note. *SD* for age in the comparison group is high, because of the presence of one older participant (age = 52). In the city where this study took place also people, indifferent of their age, having another profession are encouraged to become teachers.

Continuing professional development intervention

The development of the CPD intervention was based on combining Desimone's (2009) framework for effective professional development with Self-Determination Theory (SDT) (Ryan & Deci, 2000). Consequently, the CPD included the core features distinguished by Desimone (2009) (i.e., content focus, coherence, active learning, collective participation and duration) and the need for autonomy, competence and relatedness as put central as basic psychological needs in SDT (see Figure 1). The latter is particularly important taking into account the idea of congruent teaching, stressing to teach what you preach and to be a good model of the kind of teaching you want to promote in CPD (Aelterman et al., 2013; De Naeghel et al., 2016; Swennen, Lunenberg, & Korthagen, 2008). In this respect, using an SDT approach in CPD aims at and implies that participating teachers themselves (1) are being motivated throughout the program by nurturing their psychological needs for competence, relatedness, and autonomy and (2) increase their knowledge, skills, and self-efficacy beliefs regarding reading motivation promotion, given the specific content focus of the CPD program. The core features were all analytically described and operationalized before implementation with examples of facilitator's instructional activities and examples of participants' learning activities in the CPD program (see Appendix A).

Appendix B provides insight in the implementation per session of the CPD program. More specifically, the following information is mentioned: content focus per session, goal per session, examples of input from participants sent to the facilitator before the session, examples of actions taken by participants and facilitator during the session, examples of plans for transfer shared by participants during the session, and examples of plans put into practice shared by participants during the following session(s). For more information on the CPD design and implementation check of the CPD program's see Vansteelandt et al. (2019). The CPD was implemented by the same facilitator in both CPD conditions.

Measures

Teacher survey

In view of the quantitative data collection an online teacher survey was administered before and shortly after the intervention via an email with a website link. Prior to administration, the survey was piloted with four reading professionals and four qualified teachers who provided feedback, which resulted in minor modifications in item wording and the removal of unclear items. BTs' reading motivation was measured by means of an adjusted version of the SRQ-Reading Motivation consisting of two subscales, namely autonomous and controlled reading motivation (De Naeghel et al., 2012). Each of the items was administered twice, namely with

regard to reading for professional (e.g., reading of children's literature to use and promote in the classroom) and personal (e.g., reading without clear link to their profession, for example adult novels) reasons. BTs' self-efficacy regarding promoting reading was measured using the Ohio State teacher efficacy scale (Tschannen-Moran & Woolfolk Hoy, 2001). This scale consists of three subscales (i.e., self-efficacy for instructional strategies, for classroom management, and for student engagement). Without altering the original wording of the items, the scale was adjusted somewhat since the phrase "regarding promoting reading" was added. Table 2 gives an overview of the measures with example items, numbers of items per scale, Likert scale and Cronbach's α at pretest and posttest.

Table 2. Overview of the quantitative measures used with example statement/question, numbers of items per scale, Likert scale and Cronbach's α at pretest and posttest

	Example statement/question	Items	Likert scale	α pretest	α posttest	
Reading motivation						
Autonomous	"I read, because I find reading very useful."	12	4-point			
<i>Personal</i>				<i>1: I disagree a lot</i>	.91	.92
<i>Professional</i>				<i>4: I agree a lot</i>	.94	.93
Controlled	"I read, because others expect this from me."	8				
<i>Personal</i>					.85	.90
<i>Professional</i>					.89	.89
Self-efficacy regarding promoting reading motivation	"How well can you motivate students who show low interest in reading?"	12	5-point			
<i>For instructional strategies</i>				<i>1: Not at all</i>	.74	.75
<i>For classroom management</i>				<i>5: Very good</i>	.83	.81
<i>For student engagement</i>					.77	.73

Qualitative data collection

In addition to the survey, three qualitative data sources were used: Both at pretest and posttest focus groups (video- and audio-recorded) and in-depth interviews (audio-recorded) were organized in respectively the CPD group condition and individual condition. Nine months after the intervention also a retention follow-up was administered using open-ended questions. The latter was done, as studies emphasize the need to also evaluate the impact of an intervention over a longer period of time, (i.e., at least the following school year).

A semi-structured interview protocol was developed to safeguard a standardized approach in both conditions and at each measurement occasion. The quality of the content and structure were ensured by the authors, who provided feedback on the content and the structure of the qualitative questions. The questions in the focus group, in-depth interviews, and the follow-up also were parallel with the questions of the quantitative data collection (i.e., related to BTs' reading motivation and self-efficacy regarding teaching reading) to be able to blend both lines of data accurately and to interpret the data thoroughly in view of the study's overall aim. The following questions for example were asked: "How has the CPD program influenced your reading motivation?", "Is there a difference in reading motivation in your professional (e.g., reading of children's literature to use and promote in the classroom) and your personal reading (e.g., reading without clear link to their profession, for example adult novels)", "How has the CPD program influenced your teacher efficacy regarding promoting reading motivation?" and "Could you elaborate on what you have implemented in your classroom based on insights from the CPD program"? The focus groups lasted on average 37.5 minutes (min. 30 and max. 45 minutes) and the in-depth interviews' average is 24 minutes (min. 20 and max. 30 minutes).

Data analysis

The process of data analysis included three steps: (1) quantitative data analysis (teacher survey), (2) qualitative data analysis (focus groups, in-depth interviews, open-ended questions from written interview), and (3) mixed-methods analysis to examine how the qualitative data supported, contradicted, broadened or deepened the quantitative data (Creswell, 2003).

Quantitative data analysis

Descriptive statistics were calculated for all variables and ANCOVA was performed to analyze the impact of the intervention and to study the possible differential impact of both CPD conditions. The main purpose of using ANCOVA was to adjust the posttest means for differences among conditions at pretest.

Qualitative data analysis

All focus group and interview data were first transcribed verbatim. These data together with the retention follow-up written interview with open-ended questions were analyzed qualitatively aided by Nvivo 12 and this following the generic steps suggested by Creswell (2003). Thematic analysis of the data was conducted using a three-step procedure: (a) generating a code, (b) reviewing and revising the code in the context of the nature of the raw information, and (c) determining the reliability of the coders and therefore the code (Boyatzis, 1998). This kind of analysis was opted for to check whether the qualitative data fit the theory-driven categories regarding reading motivation and self-efficacy regarding promoting reading motivation which were also used in the teacher survey (quantitative data). Moreover, given the richness and depth of the qualitative data, after the first phase of thematic data analysis using the abovementioned deductive approach, in a second phase the data were further analyzed inductively, generating new themes. In both data analysis phases researcher triangulation was applied within the research team to discuss the interpretations, and the findings were re-examined when consensus was not reached (Cohen et al., 2007; Patton, 1990). Ambiguities were acknowledged, identified, and discussed among the research team members.

Mixed-methods analysis

Given that teachers' own reading motivation and their self-efficacy for reading motivation promotion were explicitly focused on in the quantitative teacher survey and in the theory-driven coding of the qualitative data, the qualitative findings regarding both aspects were linked to the quantitative results to support, contextualize, and enhance these results and to provide in-depth information about the impact of the intervention (Cresswell & Clark, 2010).

Results

Results based on the quantitative data analysis

To quantitatively compare the three research conditions, analyses of covariance was employed on the following outcome variables: BTs' autonomous and controlled reading motivation in the professional and personal context and self-efficacy regarding promoting reading motivation. Table 3 shows the descriptive statistics for these outcome variables and the pretest scores. Pretest data for the respective outcome variables were used as covariates. After adjusting for the pre-intervention scores, the results showed no significant differences

between the conditions for autonomous reading motivation in the personal ($F(2,24) = 2.31, p = .12$) and professional context ($F(2,24) = .96, p = .39$), for controlled reading motivation in the personal ($F(2,24) = 1.81, p = .18$) and professional context ($F(2,24) = 2.45, p = .10$), nor for self-efficacy for instructional strategies ($F(2,24) = .32, p = .72$) and self-efficacy for classroom student engagement ($F(2,24) = .21, p = .80$). Only for self-efficacy for classroom management a significant difference was found between the individual and the comparison condition ($p = .01$). More specifically, the comparison condition reported significantly higher scores than the individual condition.

Table 3. Descriptive statistics for quantitative outcome variables

	Group CPD M (SD)		Individual CPD M (SD)		Comparison group M (SD)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Reading Motivation						
Autonomous – Personal	3.05 (.53)	3.19 (.57)	3.13 (.45)	3.03 (.55)	3.13 (.48)	3.39 (.48)
Autonomous – Professional	3.09 (.39)	3.34 (.34)	3.26 (.46)	3.27 (.49)	3.22 (.34)	3.49 (.46)
Controlled – Personal	1.31 (.25)	1.28 (.34)	1.66 (.54)	1.71 (.43)	1.76 (.41)	1.81 (.51)
Controlled – Professional	1.67 (.44)	1.77 (.53)	1.91 (.65)	2.44 (.49)	2.53 (.74)	2.53 (.77)
Self-efficacy regarding promoting reading motivation						
For instructional practices	3.38 (.69)	3.44 (.53)	3.50 (.52)	3.43 (.54)	3.68 (.57)	3.43 (.33)
For classroom management	4.03 (.50)	3.88 (.61)	3.93 (.67)	3.30 (.52)	3.73 (.75)	3.93 (.62)
For student engagement	3.38 (.37)	3.50 (.70)	3.50 (.50)	3.35 (.45)	3.08 (.71)	3.28 (.67)

Results based on the qualitative deductive analysis

In the following, findings regarding changes in BTs reading motivation and self-efficacy regarding promoting reading motivation are reported. They are based on the first phase of qualitative analysis where a theory-driven deductive approach was applied.

Reading motivation

Notwithstanding the non-evolution reported by BTs already liking reading before the CPD, posttest statements from BTs from both CPD groups (i.e., respectively 6 in the group and 8 in the individual condition) do refer to changes in autonomous reading motivation.

“I do [like reading more]. It is mainly noticed by the children in the classroom, as there are more books in the classroom and I read even more aloud to them.” (Liv, GC)¹

Moreover, this was still evident nine months after the CPD, as the majority of the participants in both CPD conditions explicitly referred to a higher autonomous reading motivation at the retention test.

“Yes [I like reading more], I now even look forward more to the moments where I can read together with my students. It started as a way to set a good example in being a motivator for the children, but this actually turned into intrinsic motivation.” (Marie, GC)

“I now am more motivated to read more myself, both in my free time and when it comes to my profession.” (Kim, IC)

As can be deduced from participants' statements above, reading for professional (e.g., reading of children's literature to use and promote in the classroom) and/or personal (e.g., reading without clear link to their profession, for example adult novels) reasons are clearly distinguishable. For some participants, the evolution in autonomous reading motivation appears to be predominantly related to the professional context, corresponding to the primary focus of the CPD. More specifically, respectively 3 and 2 BTs in the individual and group condition explicitly reported both at posttest as in the follow-up written interview that they

¹ BTs' statements are presented using pseudonyms and abbreviations regarding their affiliation to both CPD conditions, namely IC which refers to the individual and GC to the group condition.

became more motivated for reading for professional reasons even though they do not really like to read for personal reasons in the recreational context.

“Professionally, I got more motivated to do more reading activities with the children. The children themselves are also more motivated.” (Finn, IC)

“I do not like reading more personally. However, professionally, I am now more aware of the relevance, for example when searching for books for my students.” (Louise, GC)

In addition, 6 BTs (i.e., 2 IC and 4 GC) explicitly stated that through the CPD, they also became more autonomously motivated to read in their free time, thereby occasionally pointing to differences in preference regarding genre.

“I started looking differently at books and I now love beautiful picture books a lot. Leading to me buying and reading a lot more books than I used to. (...) Through the fact that I started to read aloud more in class and enjoying it, I personally got more interested in books as well.” (Arthur, IC)

The majority of BTs in both CPD conditions showed an increasing awareness of the essential role of one’s own reading motivation in being a reading role model. This finding emerged both at the end of the intervention and even stronger at the follow-up nine months later.

“I try to read a lot of children’s literature as well. In that way, I can motivate the children to read books. In this respect, many children already started to like reading more, because they see how I like to read.” (Isa, GC)

When comparing BTs’ reports on their reading motivation, no striking differences appeared between the individual and group condition. Participants in both conditions and at the different measurement occasions reported similar reading motivations (i.e., merely relating to their autonomous and not to their controlled reading motivation). When focusing on their professional role as a teacher, BTs in both conditions indicated that they knew they needed to be role models and often made a clear distinction between reading adult and children’s literature. Regarding the latter most of them already were motivated to read or got even more stimulated to do so.

Self-efficacy regarding promoting reading motivation

As to the evolution in BTs’ self-efficacy regarding promoting reading motivation, the majority of the participants witnessed and reported a growth directly after the CPD and at retention, both regarding their self-efficacy for instructional strategies as for student engagement.

“I feel that I now can better motivate my students with books. I now for example know better which book might work for which student.” (Lisa, IC)

“I quickly noticed that there were many things I had to deal with during the first year [of teaching]. I did not always know well where and how to start. This CPD gave me the feeling of ‘one thing less to think about’.” (Liv, GC)

As to BTs’ self-efficacy regarding classroom management during promoting reading and during reading promotive activities, the findings based on the qualitative data corroborate the positive relation of the CPD as determined in the survey results.

“[When I read aloud], they are all listening. And with this class that is not so easy, because it is hard for them to do so. But when reading a book [aloud] it works well. [...] Books can do a lot, that I have noticed.” (Arthur, IC)

In line with the results focusing on reading motivation, no noteworthy differences appeared between the individual and group condition when focusing on self-efficacy for promoting reading motivation. In both conditions it became apparent that BTs often directly reported changes in their teaching behavior, rather than changes in their self-efficacy regarding promoting reading motivation.

Results based on the qualitative inductive analysis

By means of an inductive approach, the second phase of the qualitative data analysis went beyond the findings on increased BTs’ reading motivation and self-efficacy regarding promoting reading motivation. Although it was not an explicit aim of the present study, changes in teaching behavior in view of reading promotion and improved students’ reading motivation came to the fore in BTs’ reports. Moreover, references were also made to the hampering or fostering role of BTs’ school context and on their explicitly stated need and call for CPD.

Teaching behavior

BTs from both conditions reported changes in their teaching behavior, immediately and nine months after the CPD and this on different levels. More specifically, they reported on changes in their teaching behavior related to students, classroom and school level. The following statements first focus on changes in their behavior linked to students and classroom level. For example teachers’ reading aloud sessions in the classroom augmented as 9 BTs (i.e., 4 IC and 5 GC) explicitly stated:

"In my class I often read aloud short stories and the students really like this. Possibly I also stimulate their reading motivation in this way." (Karen, IC)

The majority of the BTs also focused more on collecting, presenting, and sharing motivating children's literature with their students:

"I also bring a lot more reading materials to my classroom than before the CPD program, because I now know better how to make use of them." (Louise, IC)

"I make sure to establish a motivating reading environment with for example an attractive book corner, where I put books and texts in the spotlight by putting them on an easel, by hanging excerpts of books on the class door (and changing it regularly). I also hung up poems in the toilets and the children really loved it." (Anna, GC)

In line with the growth in self-efficacy, the majority of BTs in both conditions reported to be more aware of how to install and integrate motivating (and challenging) instructional reading practices into their daily work.

"I became aware of the need to not only focus implicitly on reading motivation, but also explicitly." (Karen, IC)

"We for example made a newspaper with the students, used book bingos, had regularly speed dates with books, invited authors in the classroom, wrote stories, invited library staff to our school for extra information. The students really loved to work on reading and with books in this way." (Finn, IC)

Some BTs also referred to starting to work more closely together with other partners in view of fostering their students' reading motivation. They focused for example on relating more with parents and library staff to build a motivating reading environment or invited authors to come and speak about their books.

"From next school year onwards the 'library bus' will visit our school regularly; I organized this." (Liv, GC)

"We invited an author to our school. Some students really liked this and immediately ordered some of his books." (Sara, IC)

"Once a month we now organize a reading café together with parents and students with something to eat and drink." (Arthur, IC)

A few BTs' in both conditions even aimed at promoting reading at school level as well. They for example reported joining working groups organizing motivating reading activities at school

level or setting out a reading school policy to jointly target reading (motivation) at different levels in a structured, strategic, and purposeful manner.

“Because of the CPD program I feel more secure and therefore I am now part of a taskforce on language/reading policy. At school level we are working now to update our reading policy. Through the research papers and information I got via the CPD’s facilitator my colleagues again saw the importance of focusing on reading and now it is more explicitly present in our curriculum. Every class now reads every day for at least fifteen minutes. We also do some reading activities at each staff meeting.” (Finn, IC)

BTs participating in the group condition became more critical regarding strictly following what textbooks and manuals prescribe and they collaboratively created and further developed more challenging and differentiated reading activities (i.e., not included in the applied textbooks at school) than participants in the individual condition.

“As a novice teacher I was grateful to be able to come together several times during the school year and to work demand-driven and in a practical way on reading education. (...) During the sessions we responded well to each other as a group. More specifically, we for example developed a reading circuit. Something that you would normally not be able to work out that easily on your own. Also the sharing of practical tips and tricks made everything more easy to bring into practice in the classroom. We were always inspired by new books and instructional strategies as well. The nice atmosphere and positive feedback made me go home with more energy.” (Liv, GC)

“Because of the CPD I look more critical to the textbook used and compare it with what is expected in the standards. I notice a lot of repetition and lessons that are not linked to the objectives. (...)” (Linn, GC)

Statements from the BTs participating in the individual condition point to a somewhat slower growth and mostly in respect to preparing more time consuming reading activities. However, based on their statements at the end of the intervention and at the follow-up nine months later, a similar growth regarding teaching reading could be determined as well.

“It is really different now: Since I got so much information and ideas to work on reading in a motivating way during each session, I now still try things and intend to do so in the future.” (Finn, IC)

Students' reading motivation

As to students' reading motivation, the majority of the participants in both conditions reported on the CPD impact via their change in instructional practices on their students.

"They really got motivated to read and I definitely notice changes in students' reading behavior." (Finn, IC)

"I already put some ideas into practice. [...]. I already introduced the reading circuit in my classroom and my children love it! At the start of the school year, some of the children did not really like to read. However, I noticed that through the reading circuit (with drama reading exercises, reading in pairs, ... focusing on different reading strategies) they became more enthusiastic about reading." (Anna, GC)

School context

In line with the crucial factors influencing a CPD program's impact as distinguished by Desimone (2009), the majority of the BTs in both conditions also reported on the significance of context as for example school leadership, curriculum and policy environment. As to school characteristics, both hampering and fostering aspects were referred to in both conditions halfway and directly after the CPD program.

"My colleagues closest to me were interested, but the others were not. Also the principal did not show any interest, although he knew I was part of this year-long program." (Lisa, IC)

"I tell a lot about the CPD, but also my colleagues inquire about it. I really like it, that my team reacts to my CPD program in this way." (Liv, GC)

BTs in need of CPD

In both conditions the majority of the BTs on the retention test also explicitly mentioned the need for more CPD after the program ended, because they miss the focus on content, feedback and support.

"I miss the CPD. This year [i.e., next school year after the CPD program] I find it hard to find time and space to focus on reading, which I truly regret. I notice that I now more often do the same things. Together it is more motivating to work things out than on your own. Moreover, receiving feedback on whether or not you are doing well is always stimulating." (Lisa, IC)

“I really loved to meet regularly with the other novice teachers and learn from each other.” (Ellen, GC)

“What I do miss, is the feedback on my teaching practice regarding reading promotion. Now I have to look for new ideas and approaches all by myself. During the sessions, however, I received help in this respect. I gained a lot of energy from the feedback talks and I was always triggered to try out something new in the classroom. At present I have the feeling to be left alone and my energy to start with something new is not always there.” (Sara, IC)

When focusing on differences between both conditions regarding the CPD program’s appraisal, the need for more in-depth feedback related to their actual teaching behavior in the classroom became apparent. This was dominantly and explicitly put forward by two BTs in the individual condition at posttest.

“I was thinking that it would be nice that you would come to my class and observe what I am doing. [...]. You could also come and see how I put the things that we have discussed during the CPD sessions into practice. It is not that I absolutely missed this, but it would be nice, because you then work on it in practice and see how it works.” (Arthur, IC)

Discussion

The present study underlines the added value of focusing on beginning teachers’ reading motivation and their self-efficacy for promoting reading motivation via a year-long CPD program. The focus was on teachers in their first years of teaching, as the literature repeatedly showed how determining these years of practice can be in view of preventing teacher attrition and in optimizing (further evolution in) teacher quality (Flores, 2001). In line with the sequence in the framework of Desimone (see Figure 1, 2009) not only the reading motivation and self-efficacy for promoting reading motivation changed for the majority of the BTs. Changes in teaching practices regarding reading motivation promotion and in students’ reading motivation were reported as well. In addition, also stimulating or hampering context characteristics explicitly came to the fore.

In line with earlier studies (e.g., Vangrieken & Kyndt, 2019), the present study’s mixed-methods design has shown to be an added value. By conjointly collecting quantitative and qualitative data, a more comprehensive insight in the impact of the CPD was gained. Solely based on the quantitative results it should have been concluded that the CPD program had no clear impact. In line with earlier research on quantitative data showing no clear impact (von

Suchodoletz et al., 2018), it can be hypothesized that BTs' in both CPD conditions became more aware of the growth path still ahead of them and consequently became more critical than the BTs in the comparison group. Furthermore, given the focus on affective outcomes, it can also be argued that more fine-grained quantitative instruments are needed than the ones used in the present study. In this respect, it might be worthwhile to explore more in-depth existing instruments and to opt for the development of new ones in view of really grasping beginning teachers' behavior regarding promoting reading in the classroom. In addition, it can be considered beneficial to examine beginning teachers' own affective reading aspects in relation to their autonomy-supportive and structuring teaching style and autonomy-supportive strategies (De Naeghel et al., 2014, 2016). In this respect, the recent studies by Aelterman et al. (2019) and Vermote et al. (2020), examining both motivating and demotivating teaching styles by using a circumplex approach or teaching wheel providing an overview of eight different (de)motivating approaches can be inspiring. Nonetheless, considering the small sample size and power of the present study, these instruments might still be too insufficient to really grasp and understand possible significant changes in time and differences between conditions as well. However, the more in-depth qualitative results in the present study tell another story, nonetheless revealing an impact of the CPD, even still lasting nine months after the program ended. In this respect, the findings underline the results of previous studies focusing on BTs malleability of these affective outcomes (George et al., 2018).

Based on the insights from the qualitative analysis, Desimone's framework (2009) leading to possible impact on the students became visible. Although often presented as a linear process, in line with earlier studies that criticized this framing, the present study stresses the interactive and reciprocal relationships in the model (e.g., Opfer et al., 2011). More specifically, it became clear that for both CPD conditions the program's operationalized core features influenced participating BTs' autonomous reading motivation and self-efficacy regarding promoting reading motivation. Moreover, changes in teaching practices and changes in students' reading motivation were reported as well. In this respect, the explicit integration of insights from motivation theory as proposed by Kennedy (2016) and as has been operationalized in the present study by explicitly integrating insights from the Self-Determination Theory into the core features of the CPD design, can be considered an added value. Given the fact that the present findings are based on BTs' self-report in focus groups and interviews, further research including also measures of BTs' actual behavior in the classroom and on students' reading motivation by means of respectively classroom observations and directly questioning students could enhance these insights even more (Holzberger et al., 2013). In this respect, it might be interesting, for example, to integrate The Classroom Assessment Scoring System™ (CLASS™) into the CPD program to assess and follow up actual teacher behavior and classroom quality (Pianta & Hamre, 2009).

Notwithstanding the fact that stimulated recall interviews are also self-reported in nature, following Harlin (2014) it might also be interesting to use stimulated recall interviews to examine whether and how teachers reflect on their teaching behavior regarding reading promotion and on their functioning as a reading role model in particular. Combining self-report measures with interviews and observer ratings could furthermore tackle the issue of social desirability (Schellings & Van Hout-Wolters, 2011) and be useful considering the need to enhance data triangulation.

When further zooming in on possible differences between both CPD conditions, it must first be stated that all participants - irrespective of the condition they were assigned to - were positive about the CPD program. It appears that given their context (i.e., the absence of a formal induction program), BTs were in need of all the professional development and support they could get, underlining and corroborating the demand for high-quality CPD embedded in a strongly stimulating context as put central in the research literature (Darling-Hammond et al., 2017; Louws et al., 2017). In line with previous research as described in the introduction, it can be concluded that BTs in the present study benefitted from both the one-on-one and the group CPD approach (Clark et al., 2017; Kennedy, 2011). Additionally, however, based on the present finding it can also be posited that being part of a group of teachers who are all in the same position (i.e., facing similar needs and challenges at the start of their career) stimulates growth at a somewhat faster pace and increases more critical reflections (e.g., Fox & Wilson, 2009). As a group they for example dared to face larger challenges during the program (i.e., implementing and experimenting with differentiated reading motivation practices) and were more critical regarding provided reading materials and manuals than participants belonging to the individual condition. In future studies and as abovementioned, however, the observed differences should best be corroborated with data linked to their actual teaching practices. Noteworthy in both conditions is that the majority of the participants at retention made clear how much they missed the CPD program by explicitly reporting their need for further focus on content, feedback, and support. Given the specific focus on BTs and given the absence of a formal induction program this result could be expected (Appova & Arbaugh, 2018; Louws et al., 2017). Based on the qualitative results of the present study it must be concluded that BTs are in need of further and continuous development. It remains unclear, however, how this is best delivered. Further research in this respect is therefore necessary and can be inspired by the idea of “scaffolding” in CPD programs (Elbers et al., 2013). In this respect, an intense program as in the present study could be followed by less intense support.

Next to the limitations mentioned above, it can be interesting for further research to consider teacher quality as a whole and to address the multidimensionality of reading (more affective and cognitive aspects of reading) in the CPD program (Didion et al., 2020). This could raise the understanding of the impact of a CPD program even more by providing insight in how for

example teachers' reading motivation interacts with their knowledge on (fostering) reading motivation or in how teachers' reading comprehension instruction relate to their self-efficacy beliefs on this. It then could be recommended to examine such relationships longitudinally and preferably from the very beginning of a teacher's career (von Suchodoletz et al., 2018).

Conclusion

Responding to the need to focus on teachers' affective aspects of reading as for example reading motivation and self-efficacy regarding promoting reading motivation, the present study showed that offering a year-long CPD program on reading motivation promotion to BTs could be an effective way to stimulate and improve their teacher quality regarding the affective side of reading from the very start of their teaching career. Moreover, the added value of applying a mixed-methods approach to get a more comprehensive insight into the CPD program's impact became apparent. The present study furthermore posits the need to implement well-designed CPD programs based on well described, operationalized, and implemented core features, closely aligned with the program's overall aims. Such programs raise the likelihood of leading to a positive impact and this not only on the participating teachers, but on their students as well, which can be considered the core goal in education.

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Appendices

Appendix A. Design principles, facilitator’s instructional activities, and participants’ learning activities in the CPD on promoting reading motivation for beginning teachers

Design principles of the CPD program	Examples of facilitator’s instructional activities in the CPD program	Examples of participants’ learning activities in the CPD program
<p>1. Content focus Providing participants with information on and skills to increase students’ reading motivation.</p>	<ul style="list-style-type: none"> -offers participants a variety of reading materials to foster their students’ reading motivation (e.g., different fictional and/or literary texts as for example picture books, poetry or novels; digital/on paper). -points participants to different ways to find and select motivating reading materials to foster their students’ reading motivation (e.g., using online catalogues suitable for their students to find a variety of text genres as for example fiction/literary texts). -points participants to various strategies to enhance autonomous reading motivation (e.g., being able to respond to their students’ reading interests). -alerts participants to different ways to create a visible motivating reading environment in collaboration with their students (e.g., teacher’s and students’ book suggestions are put in the spotlight in the classroom). 	<ul style="list-style-type: none"> -get acquainted with a variety of reading materials presented by the facilitator and also introduce new materials themselves of which their students are motivated about. -get acquainted with and use different ways to find and select motivating reading materials for their students. -get acquainted with and use various strategies to enhance the autonomous reading motivation of their students. -get acquainted with and use different ways to create a visible motivating reading environment in collaboration with their students and also introduce stimulating reading environment practices they themselves and their students are motivated about.
<p>2. Active learning Participants’ continuous inquiry of practice, co-creation of and reflection on professional and academic knowledge to increase students’ reading motivation.</p>	<ul style="list-style-type: none"> -stimulates participants observing/sharing their teaching practices in view of fostering students’ reading motivation. -stimulates and guides interactive feedback and discussion on participants’ observed/shared teaching practices in view of fostering students’ reading motivation. -stimulates designing lessons, making materials, etc. together with other participants and the facilitator. -stimulates participants reviewing and reflecting on their own and other participants’ work together with other participants and the facilitator in view of fostering their students’ reading motivation. 	<ul style="list-style-type: none"> -observe/share their own teaching practices (e.g., observing/sharing short video clips where teachers focus on enhancing their students’ reading motivation and this for example by getting them acquainted with reading materials (e.g., literary texts) they can choose from, are related to their interests, etc.). -give feedback and join discussions on participants’ observed/shared teaching practices in respect of enhancing students’ reading motivation. -design lessons, make materials, etc. together with other participants and the facilitator. -review and reflect on their own and other participants’ teaching practices in respect of enhancing their students’ reading motivation together with other participants and the facilitator.

<p>3. Coherence Alignment of the CPD program with participants' goals, beliefs and with current educational reforms and policies to increase students' reading motivation.</p>	<p>-relates closely to the participants' daily teaching practices (e.g., focusing on the actual reading motivation of their students, being able to assess and monitor this). -stimulates participants to focus on the beliefs and goals they want to achieve regarding their students' reading motivation; knowing how closely reading motivation, reading behavior and reading competence are related to each other. -stimulates participants to relate their teaching practices to school policy and reforms regarding students' reading motivation (e.g., the need for schools to focus on reading in a well-defined language policy plan).</p>	<p>-in view of fostering their students' reading motivation they assess their students' reading motivation, monitor it continuously, and relate their teaching practices to this knowledge. -participants express the beliefs and goals they have and they want to achieve in view of fostering their students' reading motivation; participants discuss the close relationship between reading motivation, reading behavior, and reading competence with each other. -participants are able to relate their beliefs and goals regarding their students' reading motivation to school policy and current educational reforms.</p>
<p>4. Duration Participants taking part in extended and intensive CPD program when aiming at fostering students' reading motivation, i.e. of sufficient duration with activities that are spread out in time and include at least 20 hours of contact time.</p>	<p>-organizes 6 face-to-face sessions (4 hours/session) throughout the school year, with a specific educational focus for each session, namely (1) motivating instructional practices, (2) multilingual context, (3) differentiated instruction, (4) linguistically responsive teaching, (5) assessing reading motivation; and (6) reading policy as a corner stone in a school's language policy. -stimulates online continuous professional development for the participants between the face-to-face sessions (e.g., through an online tool decided on by the participants). -stimulates participants to meet in educational contexts/locations that relate strongly to the content focus (e.g., their classroom, library, reading organizations). -stimulates participants to prepare well for every face-to-face session (e.g., when focusing on fostering students' reading motivation participants prepare questions, teaching practices (with photo/video-material) or teaching materials they want to show/share with other participants and/or the facilitator).</p>	<p>-participate actively in close co-operation with the other participants and in view of fostering their students' reading motivation in 6 face-to-face sessions (4 hours/session) throughout the school year, with a specific educational focus for each session, namely (1) motivating instructional practices, (2) multilingual context, (3) differentiated instruction, (4) linguistically responsive teaching, (5) assessing reading motivation; and (6) reading policy as a cornerstone in a school's language policy. -participate actively in the online continuous professional development between the face-to-face sessions (e.g., by sharing motivating reading materials, helping each other with motivating teaching materials regarding reading motivation, pointing to motivating reading practices regarding national reading campaigns). -propose motivating educational contexts/locations that relate strongly to the content focus and participate actively in these contexts (e.g., by sharing visible motivating reading environments, showing in practice how students share their reading materials). -prepare well and in advance for every face to face session.</p>
<p>5. Collective participation Participants collaborating about each other's teaching practices to increase students' reading motivation.</p>	<p>-stimulates participants to share and elaborate on teaching practices fostering their students' reading motivation (e.g., how they choose motivating reading materials for their students, how they use differentiated instruction to foster all their students' reading motivation, how they address the multilingual setting they are working</p>	<p>-share and elaborate on their teaching practices fostering their students' reading motivation. They for example share how they choose motivating reading materials for their students or elaborate on how they use differentiated instruction to foster all their students' reading motivation. -interact (e.g., discussion,, feedback) about their own and</p>

	<p>in).</p> <ul style="list-style-type: none"> -stimulates participants' interaction (e.g., discussion, feedback) about their own and others' teaching practices in view of fostering their students' reading motivation (e.g., how they turn their classrooms into visible motivating reading environments, which literary texts work in which context, how they focus on reading motivation when teaching, for example, mathematics or biology). -stimulates participants' cooperation and co-creation in view of fostering their students' reading motivation (e.g., designing lessons and materials linked to motivating instructional practices as for example regarding book talks). 	<p>others' teaching practices in view of fostering their students' reading motivation. They for example talk about how they turn their classrooms into visible motivating reading environments or discuss about which literary texts work best in which context and how they focus on reading motivation when teaching for example mathematics or biology.</p> <ul style="list-style-type: none"> -cooperate and co-create in view of fostering their students' reading motivation (e.g., designing lessons and materials linked to motivating instructional practices as for example regarding book talks).
<p>6. Autonomy support Participants' need for autonomy (i.e., the experience of a sense of volition or psychological freedom).</p>	<ul style="list-style-type: none"> -provides choices (e.g., offering participants/students a variety of literary texts that they can choose from). -aligns with participants' interests (e.g., offering participants/students a variety of literary texts that fit their interest). -considers highly the participants' perspectives and behaviors (e.g., relates highly to the participants' teaching practices in view of fostering their students' reading motivation). 	<ul style="list-style-type: none"> -make choices in view of fostering their students' reading motivation (e.g., they choose from a variety of literary texts that suit their teaching practice and context best). -make clear in their preparation before the session and also during the actual session what they are interested in when it comes to enhancing their students' reading motivation, hereby the program fits the participants' interests (e.g., which instructional strategies in promoting their students' reading motivation align best with their interests regarding their students' reading motivation). -share their perspective and behavior in view of fostering their students' reading motivation (e.g., relate highly to the their daily teaching practice and their students' actual reading motivation).
<p>7. Competence support Participants' need for competence (i.e., the experience of being confident and effective in action).</p>	<ul style="list-style-type: none"> -stimulates communicating about participants' expectations of the CPD (e.g., expectations on where to find motivating reading materials for their students, which instructional teaching activities have which impact in view of reading motivation). -provides participants with optimal challenges (e.g., to be able to integrate differentiated instruction regarding reading motivation, to teach linguistically responsive in a multilingual setting by for example making the reading environment in the classroom visible multilingual). -offers help and support (e.g., before and during the face-to-face sessions explicitly asks the participants if they 	<ul style="list-style-type: none"> -communicate their expectations of the CPD regarding enhancing their students' reading motivation (e.g., expectations on the accessibility of motivating reading materials for their students). -take up optimal challenges (e.g., integrate differentiated instruction regarding reading motivation in their daily teaching practice, teach linguistically responsive in a multilingual setting by for example providing literary texts in different languages and making them visible in the reading environment). -ask help and support (e.g., before and during the face-to-face sessions explicitly share if they need help and support

	<p>need help and support when it comes to fostering their students' reading motivation).</p> <p>-provides positive feedback (e.g., explicitly relates to all participants teaching practice when it comes to fostering their students reading motivation and positively stimulates them when for example putting a co-created lesson in practice).</p>	<p>when it comes to fostering their students' reading motivation).</p> <p>-are responsive to positive feedback (e.g., regarding a co-created lesson well put in practice).</p>
<p>8. Relatedness support</p> <p>Participants' need for relatedness (i.e., the experience of feeling connected to and accepted by others).</p>	<p>-stimulates involvement (e.g., by inviting participants to express themselves in various ways).</p> <p>-creates a safe motivating learning environment, for example by bearing in mind that participants like to feel connected to and accepted by others.</p>	<p>-are actively involved and engage and express themselves in various ways, in oral and/or written forms (e.g., during the face-to-face sessions, using the online tool, sometimes more one-to-one, often collaborating closely).</p> <p>-feel part of a safe motivating learning environment (e.g., feel connected to and accepted by others and share this orally and on paper or using the digital tool).</p>

Appendix B. Implementation per session of the CPD program on reading motivation promotion

Content focus per session	Goal per session	Examples of input from participants sent to the facilitator <i>before the session</i>	Examples of actions taken by participants (P) and facilitator (F) <i>during the session</i>	Examples of plans for transfer shared by participants <i>during the session</i>	Examples of plans put into practice shared by participants <i>during the following session(s)</i>
<p>Session 1</p> <p>Reading motivation</p> <p>+ Strategies to promote reading</p>	<p>Goal: <i>Participants know what reading motivation is, which types of reading motivation can be distinguished (i.e., autonomous/controlled) and which strategies promote students' autonomous reading.</i></p>	<p>-How can I motivate my students' to like reading (more)?</p> <p>-Are there any strategies that I can use to stimulate my students' reading motivation?</p> <p>-How can I use my classroom better in promoting my students' reading motivation?</p>	<p>-F asks P how they would define reading motivation? And which types of reading motivation they think exists?</p> <p>-F asks P how they motivate their students' reading?</p> <p>-P share strategies they use in their teaching practice. F shares additional strategies.</p>	<p>-P will try to focus more on students' autonomous reading motivation by responding more to their need for autonomy, competence, and relatedness.</p> <p>-P will try some new strategies to promote their students' reading motivation.</p>	<p>-P share examples of how they focused on their students' autonomous reading motivation (by providing choice, by helping their students' to choose reading materials they are interested in).</p> <p>-P share some new pictures of their classrooms showing</p>

			<p>-P share how they use their classroom in view of promoting their students' reading (P were asked beforehand to send pictures of their classroom to the F that can be shared on a screen during the session); P give each other suggestions on how to optimize their classroom and resources and F shares suggestions when not mentioned by the P</p>	<p>-P will try to put in practice some suggestions regarding the reading environment in the classroom.</p>	<p>which adjustments were made (making reading material more visible, providing a space where students can give suggestions for new reading materials) -P share their attempts to use new strategies regarding their students' reading motivation (book circuit, book date)</p>
<p>Session 2 Reading motivation + Multilingual setting</p>	<p>Goal: <i>Participants know how to promote their students' reading motivation in a multilingual setting.</i></p>	<p>-I have students who have another mother tongue than the language used in the classroom; how can I use students' mother tongue to enhance their reading motivation? -Where can I find reading materials and resources in various languages? -How can I promote reading in the school language, while not neglecting the multilingual setting?</p>	<p>-F asks P whether and how they integrate the multilingual setting their school is situated in in their teaching and daily practice. -P share whether and how they make the multilingual context visible in their classroom (regarding multilingual reading materials) -F asks P where they look for multilingual reading materials to promote their students' reading?</p>	<p>-P will try to be aware more of the multilingual setting they are working in and how this might influence their students' reading motivation. -P will try out some new reading materials, proven to be motivating in multilingual settings. -P will try to make reading in other languages more visible in their classroom. -P will invite parents to come and read aloud during multilingual reading sessions.</p>	<p>-P share how the new reading materials they got to know worked in their classroom (multilingual reading materials). -P share how the multilingual reading aloud sessions worked for their students and how it impacts their students' reading motivation. -P share how they made the multilingual setting more visible in their classroom (showing various reading materials in different languages next to the school language)</p>

Session 3 Reading motivation + Differentiated instruction	Goal: <i>Participants know how to use differentiated instruction to promote their students' reading motivation.</i>	-I have some students who really like reading and some who don't; how can I keep on stimulating reading in all students? -Where and how can I find reading materials for every student in my classroom (great variety of interest, level of reading comprehension). -How can I use my classroom and available books better, so that my students can choose reading materials at their own (pace), read how and where they wish when time is made available?	-F asks P whether and how they try to promote each of their students' reading motivation. -P share how they try to differentiate when it comes to their students' reading motivation; F provides additional suggestions. -P share where and how they try to find reading materials that are motivating for every student; F provides additional suggestions. -P share how they try to relate to their students' preferences how they read during reading sessions (i.e., silent reading, reading aloud sessions).	-P will try to differentiate more when it comes to their students' reading motivation. -P will try to select and collect a varied collection of reading materials, so that their students can choose according to their interests, competence level, and so on.	-P share how they differentiated during their classes (providing choices, providing a varied collection of reading materials).
Session 4 Reading motivation + Assessment	Goal: <i>Participants know how their students' reading motivation could be assessed and followed up.</i>	-How can I keep track of my students' reading motivation? -What are tools I can use to assess my students' reading motivation? -Is there a test for reading motivation available?	-F asks P whether and how they follow up their students' reading motivation. -P share whether and how they try to assess their students reading motivation; F provides additional suggestions.	-P will try to assess their students' reading motivation.	-P share how they tried to assess their students' reading motivation (using a babble box, using a questionnaire)
Session 5 Reading motivation + Reading in all subjects	Goal: <i>Participants know how to focus more and better on reading in all subjects (e.g., mathematics, social studies and</i>	-During language classes I focus a lot on reading motivation, but I forget to do so when teaching other subjects; how can I	-F asks whether and how they focus on their students' reading motivation when not teaching a Dutch language class.	-P will try to focus more on their students' reading motivation in other classes than the Dutch language class. -P will try to select,	-F share how they tried to focus on their students' reading motivation in other classes than the Dutch language class (by

	<i>science), hereby promoting their students' reading motivation more broadly.</i>	<p>also focus on the latter?</p> <p>-Are there motivating reading materials I can use during mathematics?</p> <p>-Are there any strategies to promote reading during other classes than the usual language classes?</p>	<p>-P share whether and how they focus on their students' reading motivation when teaching for example mathematics.</p> <p>-P share motivating reading materials to be used also in other classes than Dutch classes.</p> <p>-P share strategies to promote reading also in other classes than Dutch language classes.</p>	<p>collect and show motivating reading materials regarding other subjects.</p> <p>-P will try new strategies to promote reading in other subjects.</p>	<p>starting a mathematics class by reading aloud a piece of literary text focusing on mathematics, by making various reading materials regarding other subjects visible in the classroom)</p>
<p>Session 6 Reading motivation + School policy regarding reading in view of a structural approach</p>	<p>Goal: <i>Participants know what a structural approach to promote their students' reading motivation could look like (at class and school level in a reading/language policy).</i></p>	<p>-How can I focus best on reading motivation throughout the school year?</p> <p>-I certainly focus on reading motivation in the context of nationwide reading campaigns, but how can I also explicitly and more purposefully focus on it during the rest of the school year?</p> <p>-My school has developed a language policy plan; is there also a way to integrate the focus on reading motivation in this?</p>	<p>-F asks whether and how they have a structural approach at class and school level regarding reading motivation.</p> <p>-P share whether and how there is a reading policy available at school level and how they transfer it to the class level.</p> <p>-P share how they structurally and purposefully approach reading motivation in their classroom, next to the available nationwide reading campaigns; F provides additional suggestions.</p>	<p>-P will ask -when not already available- their colleagues and school principal whether and when the school team could start making a plan to focus on reading (motivation) in a structural way at both school and class level.</p> <p>-P will try to make a plan to focus on their students' reading motivation in a more structural and purposeful way and this throughout the whole school year and not only when nationwide campaigns take place.</p>	<p>Not applicable since session 6 was the last session</p>

Any book that helps a child to form a habit of reading, to make reading one of his deep and continuing needs, is good for him.

Maya Angelou

6

General conclusion and discussion

Chapter 6

General discussion and conclusion

Abstract

The present dissertation builds upon two main research lines, namely (1) providing a state of the art of pre-service teachers' reading attitude at the start of pre-service teacher education and furthermore of its development until graduation, and (2) fostering beginning primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and supporting them in fostering their students' reading motivation by means of a researcher-developed continuing professional development program. This concluding chapter provides a comprehensive discussion of the main results presented in chapters 2 to 5. Furthermore, we aim to take a helicopter perspective by discussing the limitations, suggestions for future research, and implications of the present dissertation, and position these within current and emerging issues and developments in the fields of reading and continuing professional development research specifically focusing on affective aspects of reading. By doing so, we attempt to go beyond the limitations and suggestions for future research already mentioned in the previous chapters and consider the entire dissertation more from a meta-perspective. More particularly, we present five major considerations that reflect issues valuable for future agendas of educational reading research, policy and practice.

Introduction

In the introductory chapter of this dissertation, we reported on the key role of reading in education and society (Logan et al., 2011; Schaffner et al., 2014; Sullivan & Brown, 2013; Toste et al., 2020). In view of addressing the multidimensionality of this key skill we moreover stressed the growing consensus in research on the need to address, next to cognitive aspects (e.g., strategies for decoding and comprehending texts) (e.g., Concannon-Gibney & Murphy, 2012; Okkinga et al., 2018), also affective aspects of reading (e.g., reading attitude, motivation, self-efficacy) (e.g., De Naeghel et al., 2012; McGeown et al., 2015a) more thoroughly. This is even more found imperative taken into account the worrying international decline in students' reading motivation as they go through elementary and secondary school (Chall & Jacobs, 2003; McKenna et al., 1995, 2012; Smith et al., 2012) and given the reciprocal relation between cognitive and affective aspects of reading, as for example pointed to by the reciprocal model of causation (e.g., Kozak & Martin-Chang, 2019; Mol & Bus, 2011; Petscher, 2010; Stanovich, 1986).

In this respect, we focused also on the role teachers have in fostering their students' reading. More specifically, we zoomed in on the existing consensus about the impact of teacher competence on students' achievement and motivation (European Commission, 2013; Hattie, 2009; Guerriero, 2017), showing that competent teachers should dispose of both cognitions (e.g., knowledge) as well as positive affective-motivational attributes (e.g., attitudes, motivation and self-efficacy) underpinning their teaching behavior (e.g., Blömeke et al., 2015). Both pre-service teacher education and the first years in the profession (i.e., the induction phase) are shown to be crucial phases in the continuing process of becoming such competent teachers (e.g., Feiman-Nemser, 2001; Rossi et al., 2017). However, when taking a closer look at the status of affective-motivational factors of pre-service teachers' reading, the scarcely available literature shows reason for concern because a large group of pre-service teachers - following the trend of primary and secondary education - enters teacher education by stating that they do not like to read (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008).

Insights concerning the development of pre-service teachers' affective aspects of reading throughout teacher education seem to be lacking altogether. Additionally, when taking a closer look at the available continuing professional development (CPD) programs specifically aiming at fostering beginning teachers' reading and reading promotion behavior, it appears that little is known about which approach works best for this specific target group (e.g., group versus individually-oriented professionalization). Furthermore, more insight is needed into the evidence-based design principles underlying such programs and how these principles can be

operationalized and implemented. In light of the above, (a) gaining in-depth insight into the current state of pre-service teachers' reading attitude and its development throughout pre-service teacher education and (b) providing an evidence-based CPD program to foster beginning teachers' reading motivation and self-efficacy beliefs regarding reading motivation promotion and, in turn, aiming to foster promotive teaching practices and students' reading motivation as a result of these, was put forward as the main rationale for the present dissertation.

The theoretical frameworks underlying the current dissertation provided schemas for understanding (the development of) pre-service and beginning teachers' affective aspects of reading and their relationships with reading behavior and perceived reading ability and served to guide the design of the empirical studies outlined throughout the different chapters in this dissertation. More particularly, we focused on insights from both reading attitude and reading motivation studies. Influenced by the Tripartite Theory of Attitude (Manstead, 1996; Mathewson, 1994), we studied both affective and conative reading attitudes. Additionally, we further differentiated reading attitude by both purpose as well as context. As to the purpose and following leading studies in the field of reading attitude (e.g., Conradi et al., 2013; McKenna et al., 2012), we distinguished between academic and recreational reading attitude. As to the context, we differentiated between individually and socially-oriented reading attitude (e.g., Ng & Graham, 2018). More specifically, this focuses on whether or not someone wants to communicate and engage with others about their reading, i.e. attend also the "social side (...) of reading" (Ivey, 2014, p. 165). Even though reading may be mainly viewed as an individual or personal activity; teaching, on the other hand, is by definition a social activity and teachers' role particularly is a social one (Jhang, 2014; McKool & Gespass, 2009; Neugebauer & Fujimoto, 2018). Importantly, providing opportunities to engage in social interactions about what students are reading is one of the evidence-based classroom practices that are considered critical for supporting reading enthusiasm (Antonio & Guthrie, 2008; Brozo & Flynt, 2008; Gambrell, 2015; Guthrie & Wigfield, 2000; Neugebauer & Gilmour, 2019; Taboada Barber & Klauda, 2020; Wentzel & Wigfield, 2007). Furthermore, attending to this "social side of (...) reading" seems to make students more comfortable with others and with themselves (Ivey, 2014, p.165; Neugebauer & Fujimoto, 2018).

As to reading motivation, we conceptualized the motivational variables based on Self-Determination Theory (SDT) (Ryan & Deci, 2000, 2020). Since the beginning of the 21st century SDT has grown into a leading motivation theory with for example studies aiming at stimulating teachers' motivation in general (e.g., Taylor et al., 2014) and students' reading motivation in particular (e.g., De Naeghel et al., 2012). As recently pointed at by Ryan and Deci (2020), "SDT in education (...) supplies a systematic, practical, critical, and open framework for studying and promoting what really matters to students, teachers and administrators (...).

It has predictive and practical value not only in enhancing motivation and performance, but also in fostering wellness and thriving. Its strength lies in its being an empirically based approach that also relates directly to the phenomenology of learners and teachers, thereby attempting to meld rigor with relevance into a theoretically unified set of principles and prescriptions” (Ryan & Deci, 2020, p. 8). More specifically, SDT distinguishes autonomous (i.e., reading because of intrinsic pleasure or because of the identified value of reading) from controlled reading motivation (i.e., reading because of external or internal pressure) (Ryan & Deci, 2000). Following SDT, we included this adoption of qualitatively different types of reading motivation in the current dissertation and build on the insight that (a) more autonomous ways of motivation nurture and enhance students’ engagement and learning and (b) one’s autonomous motivation can be fostered by stimulating the inherent psychological need for autonomy (i.e., the experience of psychological freedom), providing structure in view of fostering the need for competence (i.e., the experience of feeling confident and effective), and nurturing the need for relatedness (i.e., the experience of feeling related to others).

Additionally, we integrated insights from Self-Efficacy Theory (Bandura, 1997) to address beginning teachers’ self-efficacy regarding promoting reading. Self-efficacy then concerns beginning teachers’ beliefs in their skills and capabilities to promote their students’ reading, often explicitly related to their instructional practices, classroom management, and student engagement (Bandura, 1997; Tschannan-Moran & Woolfolk Hoy, 2001).

Next to building on theoretical frameworks related to affective aspects of reading and in view of the design and implementation of a continuous professional development program, we further build on several studies on CPD that have increased our understanding of the factors that contribute to high-quality and effective teacher professional development and repeatedly pointed to its impact on several crucial factors in education (e.g., the quality of teaching practices, teachers’ retention in the profession, and students’ academic achievement) (Antoniou & Kyriakides, 2013; Borko et al., 2010; Darling-Hammond et al., 2017; Hill et al., 2013; Knight et al., 2014; Kutaka et al., 2017; Prenger et al., 2017; Rodriguez et al., 2020). More specifically, the conceptual framework of Desimone (2009) for studying the effects of professional development on teachers and students came to the fore as a guiding and currently leading model for designing and evaluating professional development programs and mapping possible effects.

Given that little information is available on the current state of the art and development of pre-service and beginning teachers’ affective aspects of reading and based on the theoretical and empirical reading and CPD research literature briefly outlined above, and discussed in detail in chapter 1, two important research lines were put forward in this dissertation.

- (1) A first research line focused on pre-service teachers' reading attitude. In view of providing a state of the art of pre-service teachers' reading attitude at the start of pre-service teacher education and furthermore of its development until graduation, this line focused on measuring pre-service teachers' affective and conative reading attitude components and their relationship with reading behavior, perceived reading ability and reading promotion behavior. Within this research line, we aimed at profiling pre-service teachers' affective and conative reading attitude components (i.e., the extent to which pre-service teachers could be grouped based on the relations between the affective and conative components of their reading attitude) at the start of teacher education and the stability and change of these profiles throughout teacher education. Furthermore, we addressed the relationship between these profiles and pre-service teachers' reading behavior, perceived reading ability, and near graduation also their willingness to promote reading in class.

- (2) A second research line focused on fostering beginning primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and supporting them in fostering their students' reading motivation by means of a researcher-developed CPD. This program was based on insights required in the first research line and on the theoretical and empirical literature on the effectiveness of professional development and SDT. This research line aimed at studying the impact of the year-long CPD program on beginning primary school teachers' reading motivation and self-efficacy regarding reading motivation promotion.

Without going into the details of each previous chapter, in the subsequent sections the main findings of the empirical studies will be discussed in relation to the research lines and previous research. Furthermore, the studies' limitations and suggestions for future research will be shortly addressed and discussed. In the major considerations following the overview we will address these limitations and suggestions for future research more in-depth and concentrate on implications for policy and practice. Appendix A further presents a general overview of the obtained main results, study limitations, suggestions for future research, and implications.

Overview and discussion of the main results

Throughout the different chapters of this dissertation, both the main results within and between each research line can be considered interconnected. More particularly, within the

first research line the study in chapter 3 is a follow-up of the study described in chapter 2. Within the second research line, the study in chapter 4 formed the foundation for the intervention reported in chapter 5. Furthermore, as chapter 3 reported on the status of pre-service teachers near graduation, the described main results served as guiding for the design and implementation of the professional development program presented in chapter 4 and 5, which was specifically targeted at beginning teachers. In the following, we provide a more detailed overview and discussion of the main results in relation to each specific research line.

Research line 1: The development of pre-service teachers' reading attitude

The survey study on pre-service teachers' reading attitude at time of enrollment in pre-service teacher education, reported in *chapter 2*, led to the following two main conclusions. First, we distinguished three pre-service teachers' reading attitude profiles at the start of pre-service teacher education (i.e., personally-oriented, socially-oriented, and low-affect readers). The latter profile alas being the largest one and hereby conforming earlier results pointing to a rather large amount of pre-service teachers entering teacher education low in affective aspects of reading (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008; Skaar et al., 2018). Second, pre-service teachers in these three profiles differed in their perceived reading ability and reading behavior. This result is in line with findings based on studies focusing on primary and secondary students (e.g., Bokhorst-Heng & Pereira, 2008; Conradi et al., 2013; Henk et al., 2012; Kozak & Martin-Chang, 2019; Petscher, 2010; Toste et al., 2020), where this relationship was found as well.

When addressing the profiles more in detail, the results showed that the profile of the *socially-oriented pre-service teachers* had, next to high affective and personal conative reading attitudes, the strongest social conative reading attitude, in that they liked to share their reading experiences in both an academic and recreational setting. We specifically addressed this social aspect, given the fact that teaching is by definition a social activity where teachers need to interact and engage, preferably also when it comes to promoting their students' reading (McKool & Gespass, 2009). In line with the reciprocal model of causation (Mol & Bus, 2011; Stanovich, 1986), they also perceived themselves as competent readers and read frequently.

Personally-oriented pre-service teachers seemed to read particularly for personal reasons without having the intention to share their reading experiences with others (i.e., mainly peers and teacher educators). Pre-service teachers in the low-affect profile perceived themselves even as more social readers than these personally-oriented readers. In line with the socially-oriented pre-service teachers, pre-service teachers in the personally-oriented profile, however,

read frequently and perceived themselves as competent readers, although they did not report reading significantly more than their socially-oriented peers.

The profile of *the low-affect pre-service teachers* scored lowest on affective and personal conative attitudes. The social-conative attitude of the low-affect readers was significantly higher than those of the personally-oriented readers, but significantly lower than those of the socially-oriented readers. Pre-service teachers belonging to this profile perceived themselves as the poorest readers and appeared to read significantly less frequently than pre-service teachers in both other profiles. Following the research-informed reading profiles put forward by Guthrie and Coddington (2009) (i.e., avid, ambivalent, apathetic, and averse readers), these low-affect pre-service teachers could be considered as averse readers, because of their lower levels of affirming reading attitudes, also related to their perceived reading ability. However, it should be noticed that the profiles referred to by Guthrie and Coddington (2009) are mainly based on insights related to primary and secondary students. It could be expected and hypothesized that the pre-service teachers in this study dispose of the necessary basic reading skills, as they needed to be graduated from secondary education before being able to enter pre-service teacher education. This hypothesis, however, might need further in-depth examination as the results of a non-binding entrance test before entering pre-service teacher education regarding reading comprehension appear to contradict this hypothesis (Vlhora, 2017, 2018). Furthermore, a recently published study examining teacher candidates' levels of print exposure not only pointed to many teacher candidates evidencing low levels of print exposure, but also showed that low SAT achievement and limited print exposure were significantly related to each other (Spear-Swerling et al., 2020). The latter study's authors noted that these findings are unsettling, "given the importance of teachers' ability to serve as good models of literacy for their students (Snow et al., 2005), and the fact that teachers' own reading experience may influence their planning for instruction" (Spear-Swerling et al., 2020, p. 20).

Following the first survey study, a follow-up was reported on in *chapter 3*, examining the longitudinal development of pre-service teachers' reading attitude throughout pre-service teacher education. Hereby, aiming to examine possible profile changes from time of enrollment until near graduation and the relationship with pre-service teachers' reading behavior and perceived reading ability. Additionally, it was examined, whether pre-service teachers' reading attitude profiles could be related to whether or not they stated to be willing to promote reading in their future school(s).

This longitudinal study led to the following five main findings. First and in line with the results of the first study, again three reading attitude profiles could be distinguished (i.e., personally-oriented, socially-oriented, and low-attitude) and were corroborated at both measurement occasions. This finding on the one hand can be considered hopeful, in that three-

quarters of the sample graduates showing that they do like to read. On the other hand, however, it still can be considered worrisome that one-quarter might enter the teaching profession unenthusiastic about reading. Second, the majority of the pre-service teachers stayed in the same profile over time, which however could be considered encouraging as the largest amount of pre-service teachers belong to both profiles with the more positive reading attitude. In line with studies focusing on students' reading attitude, it could be questioned whether we might be witnessing the continuing of a relative plateauing of attitude (Kear et al., 2000; McKenna et al., 2012; Petscher, 2010). Third, somehow contrary to the just mentioned idea of plateauing, but in line with prior studies underlining the possible susceptibility to attitude change of the target group under study and its malleability (e.g., Cardarelli, 1992; Maio & Haddock, 2015; Visser & Krosnick, 1998), pre-service teachers who did switch profile, were most likely to evolve toward the personally or socially-oriented reading attitude profile with a more positive reading attitude. An evolution that only can be welcomed and might point to some impact of pre-service teacher education given that no attitude differences were detected at enrollment between pre-service teachers who switched profiles from those who remained in the same profile over the course of the study. Therefore, it could be hypothesized that switching profile memberships can be - at least partially - attributed to the teacher education instead of to pre-existing reading attitude differences at the start. Fourth, in line with the reciprocal model of causation (Mol & Bus, 2011; Stanovich, 1986) and the findings of the first study reported on in chapter 2, it was shown that pre-service teachers belonging to both the personally or socially-oriented reading attitude profile moreover showed to read more frequently and perceived themselves as more competent readers than pre-service teachers belonging to the low-attitude profile. Fifth, a promising result could be that the low-attitude profile shifted from being the largest group to the smallest one near graduation. However, the mere existence of such profile at the end of teacher education can be considered a reason for concern, as pre-service teachers in this low-attitude profile were least likely to read and perceived themselves as less competent readers compared to both other profiles. Furthermore, they seemed most likely to drop out over the course of teacher education and possibly even more worrisome showed to be least willing to promote reading in their future school(s). The latter underlines insights from studies pointing to the relationship between affective-motivational factors and teaching behavior (e.g., Burgess et al., 2011; Fernet et al., 2016; George et al., 2018; Guay et al., 2016; Kozak & Martin-Chang, 2019; McKool & Gespass, 2009; Meristo & Eisenschmidt, 2014; Morrison et al., 1998).

In *interpreting both studies' findings*, however, the following considerations must be taken into account. First, pre-service teachers only belonging to one teacher education institute were examined, which has led to the rather small sample size and therefore smaller power and generalizability of the findings. However, the small sample size of the follow-up study was also

related to the rather large drop-out between the first and second data collection wave. This relatively high attrition rate is common in pre-service teacher education in Flanders, where one in every two pre-service teachers starting a teacher education program quits during the course of the program. Following the extensive review on teacher preparation research by Cochran-Smith et al. (2015) in which the authors alerted that although “small-scale, mostly single-site studies contribute important insights to the field by theorizing complex aspects of teacher preparation practice (...), the field also needs large-scale research studies, studies that use national and other data bases, genuinely longitudinal studies, studies that use established instruments, and multi-site studies” (Cochran-Smith et al., 2015, p. 117), it is to be recommended to widen the scope and also get more insights from other teacher education programs in Flanders and even worldwide regarding their pre-service teachers’ reading profiles and possible changes throughout the program. In this respect, the differences in context should be rigorously taken into account.

Second, it must be acknowledged that only self-report quantitative data were used to gauge pre-service teachers’ reading attitude, reading behavior, and perceived reading ability. Although self-report measures can easily be administered, completed, and scored, the tendency to overestimate or to provide socially desirable answers can be considered a major drawback of self-report instruments (Schellings & Van Hout-Wolters, 2011). Future studies could aim for a more mixed-methods approach (Creswell & Clark, 2010) and combine questionnaire data on affective aspects of reading with additional data through focus groups, in-depth interviews, observations of teaching practices (e.g., regarding reading promotion behavior) to obtain more comprehensive insights into pre-service teachers’ reading and their reading promotion behavior. To fully capture pre-service teachers’ reading attitude development from different methodological perspectives, data triangulation is recommended.

Third, future studies might also develop more fine-grained instruments, possibly grasping the latent differences in purpose (i.e., recreational versus academic) and context (i.e., individually versus socially-oriented) more comprehensively. Additionally, further research could address pre-service teachers’ competence regarding promoting reading more as a whole (e.g., knowledge, skills, and attitudes), hereby, addressing both affective-motivational factors (e.g., attitudes) as well as cognitions (e.g., knowledge) underpinning teaching behavior (Blömeke et al., 2015).

Fourth, caution is also needed when using profiling techniques as has been applied in the reported studies. These can be used as guiding for the implementation of a more data-driven approach in pre-service teacher education with different subgroups with similar characteristics in a potentially heterogeneous group (e.g., Ferguson & Bråten, 2013; Rosenzweig & Wigfield, 2017). However the users should bear in mind the possible pitfall of reducing individuals to particular stereotypes (Brooks, 2007). Notwithstanding this remark, integrating a data-driven

approach in teacher education from time of enrollment onwards, can be considered an added value as well, leading to data that may enhance our understanding of whether pre-service teachers' attitudes change over time or whether pre-service teachers assigned to a certain profile are more likely to graduate or not. More research, however, is needed to examine whether more customized, flexible tailored programs, targeted at individual differences (e.g., Ball et al., 2008; Endedijk et al., 2014; van der Lans et al., 2017) provide the heterogeneous group of pre-service teachers with the necessary tools and willingness to become enthusiastic readers.

Fifth, for school principals the results could point to the necessity to implement excellent continuous professional development programs for (beginning) teachers focusing on both the promotion of these teachers' own (affective) reading and the promotion of reading in their classroom in their school policy and practice. Furthermore, the relevance of a longitudinal approach for policy makers and for school leaders comes to the fore. More specifically, it can be of interest to follow up affective aspects of teachers' reading more closely when they enter the profession as fully-fledged teachers and to study how these relate to their teaching behavior and student outcomes. The latter foci have to some extent already been addressed by some studies (e.g., McKool & Gespass, 2009), however mostly small-scale and not taking teachers' affective aspects of reading thoroughly into account.

Research line 2: Designing, implementing, and evaluating CPD on promoting reading

Research line 2 was reported on in chapters 4 and 5. More particularly, *chapter 4* provides in-depth insight into a CPD program of which the impact was reported in chapter 5. The main results of chapter 4 reported a comprehensive description and operationalization of the design principles of a CPD program for primary school teachers focusing on promoting reading motivation combining Desimone's (2009) framework for effective professional development with Self-Determination Theory (Ryan & Deci, 2000, 2020). More particularly, the CPD program's core features as distinguished by Desimone (2009) (i.e., content focus, coherence, active learning, collective participation, and duration) and the need for autonomy, competence, and relatedness as put central in SDT (Ryan & Deci, 2000, 2020) are analytically described and elaborated on. By reporting these design principles and in accordance with Rijlaarsdam et al. (2018) describing facilitator's instructional activities and participants' learning activities, we contributed to theory building, opportunities for replication, dissemination, and implementation of evidence-based CPD practices regarding promotive reading education. Furthermore, in line with the emerging literature on treatment fidelity of educational interventions (e.g., O'Donnell, 2008) and in view of developing further iterations of the CPD,

the implementation check of the CPD program's underlying design principles using a multi-actor approach showed that the design principles were perceived as intended by the researchers who developed and implemented the design and this more specifically by both the participating teachers, an external observer, and the facilitator.

However, in view of feasibility, this implementation check was executed by means of a short questionnaire with only a single item per scale. Further research could (1) further elaborate the questionnaire by using multiple items per scale and examine the scales reliability and (2) also integrate qualitative measures (e.g., using a group discussion, individual interviews, or observation). Such a mixed-method approach, combining both quantitative and qualitative results might provide deeper insight into how participants experience each of these design principles (Creswell & Clark, 2010). In addition, future studies could address the social validity of the CPD more. More particularly, studying more thoroughly teachers' perception of the goals, procedures, and outcomes of the CPD will provide insight into their satisfaction, acceptability, and applicability of the practices developed in and reflected upon in the CPD (e.g., for reviews, see Gresham & Lopez, 1996; Schwartz & Bear, 1991). In this respect, the need for thorough follow-up of the impact of CPD programs becomes apparent. This for example by integrating the idea of "scaffolding" (Elbers et al., 2013) more into CPD programs, where an intense program is followed by less intense support. More specifically this could be applied using an additional one-on-one approach aiming at further coaching on the job or adjusting the frequency of contact, in view of encouraging sustained implementation of the new teaching practices.

Chapter 5 specifically reports on the impact of the CPD program on beginning primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and puts the following main results forward. First, based on the quantitative data analysis no significant differences between the conditions (i.e., group, individual and control condition) could be detected for both autonomous and controlled reading motivation (De Naeghel et al., 2012) in the recreational and professional context, nor for self-efficacy for instructional strategies and self-efficacy for classroom student engagement (Tschannan-Moran & Woolfolk Hoy, 2001). Only for self-efficacy for classroom management the control condition reported significantly higher scores than the individual condition.

It must be noted that in the context of this study, contrary to the studies within the first research line, we distinguished between beginning teachers' recreational and professional context, as the concept of the academic context pre-service teachers were situated in seemed no longer appropriate. In line with earlier research on quantitative data showing no clear impact (von Suchodoletz et al., 2018), it can be hypothesized that beginning teachers' in both CPD conditions became more aware of the growth path still ahead of them and consequently became more critical than the beginning teachers in the control group. However, it is also

possible that in line with the reported findings within this dissertation's first research line we are witnessing a relative plateauing of affective aspects of reading (Kear et al., 2000; McKenna et al., 2012; Petscher, 2010). Furthermore, given the focus on affective outcomes it can be argued that more fine-grained quantitative instruments are needed than the ones used in the present study (e.g., instruments grasping more in-depth differences between personal and professional reading). Nonetheless, considering the small sample size and power of the present study, these instruments might still be too insufficient to really grasp possible significant changes in time and differences between conditions as well.

Second, building on the qualitative deductive and inductive analysis, however, several hopeful signs of a possible impact unfolded. More particularly, the qualitative deductive analysis showed that beginning teachers from both CPD conditions did refer to changes in autonomous reading motivation and that they clearly distinguish between reading for personal and professional reasons. The majority of beginning teachers in both CPD conditions moreover reported an increasing awareness of the essential role of one's own reading motivation in being a reading role model (Gambrell, 2015; Nardi et al., 2005). Concerning self-efficacy regarding promoting reading motivation the majority of the participants in both conditions witnessed and reported a growth directly after the CPD and at retention, and this both regarding their self-efficacy for instructional strategies as for student engagement. As to beginning teachers' self-efficacy regarding classroom management when teaching reading and doing reading activities, the findings based on the qualitative data corroborate the positive impact of the CPD as shown in the survey results.

Confirming the quantitative results, no noteworthy differences were found between both conditions regarding reading motivation and self-efficacy regarding reading motivation promotion. It appears that given their context (i.e., the absence of a formal induction program), beginning teachers were in need for all the professional development and support they could get, underlining and corroborating the demand for high-quality CPD embedded in a strongly stimulating context as put central in the research literature (Darling-Hammond et al., 2017; Louws et al., 2017). In line with previous research it can be concluded that beginning teachers in the present study benefitted from both the one-on-one and the group CPD approach (Clark et al., 2017; Kennedy, 2011).

Following the inductive analysis of the data, however, both conditions did differ somehow, showing that beginning teachers participating in the individual condition point to a somewhat slower growth than beginning teachers participating in the group condition and this mostly in respect to preparing more time-consuming reading activities. It is possible that being part of a group of teachers who are all in the same position (i.e., facing similar needs and challenges at the start of their career) stimulates growth at a somewhat faster pace and increases more critical reflections (e.g., Fox & Wilson, 2009). Future studies, however, should examine

whether the observed differences can be corroborated by data concerning their actual teaching practices. In line with the reciprocal relationships between the core features of professional development on the one hand and increased teacher competence, change in instruction, and improved student learning on the other hand as suggested in Desimone's conceptual framework (2009), the qualitative inductive data analysis further showed that beginning teachers also reported on changes in their teaching behavior related to students, class, and school level. The majority of the participants in both conditions more specifically reported on the CPD impact via their change in instructional practices on their students and on the hampering or stimulating impact of the context, such as school leadership, curriculum and policy environment. Within the framework of Desimone (2009) the latter context-related items are also explicitly put forward as crucial in the effectiveness of a professional development program.

Notwithstanding the fact that the use of a mixed-methods approach has proven to be an added value in the dissertation in view of gaining more in-depth insights into the impact of the CPD program, it can be considered a limitation that only self-report data were used. Further research therefore should also include measures regarding beginning teachers' actual behavior in the classroom and students' reading motivation by means of respectively classroom observations and directly questioning students. Additionally, although stimulated recall interviews are also self-reported in nature, following Harlin (2014) this can be used to examine whether and how teachers reflect on their teaching behavior regarding reading promotion and on their functioning as a reading role model in particular. Combining self-report measures with interviews and observer ratings could furthermore tackle the issue of social desirability (Schellings & Van Hout-Wolters, 2011) and be useful considering the need to enhance data triangulation. Further, the findings only apply to a small group of beginning teachers, which limits the generalizability of the results. Future studies could replicate the CPD program on a larger scale and examine its impact and could consider teacher competence more in total and address the multidimensionality of reading and its instruction (i.e., focusing on both affective and cognitive aspects of reading) in the CPD program.

Considerations for educational research, policy and practice

The present dissertation is unique in the sense that it brings together various strands in the research literature. More specifically, we drew upon literature related to reading, pre-service teacher education, induction period and professional development research. With this

dissertation we provide insights advancing our understanding of the status of pre-service and beginning teachers' affective aspects of reading and the CPD regarding the latter, aiming to move these research fields forward. It must, however, be noted that this dissertation is not free of limitations regarding the research setting, study variables, and applied methodologies and, therefore, the present dissertation's overall limitations should be acknowledged. Chapters 2 to 5 already described and discussed study limitations, suggestions for future research, and implications per study. The latter was also briefly done in relation to the abovementioned overview of the main results (see appendix A for a more general overview). In the subsequent sections, however, we aim to take a helicopter perspective on these issues and position more in-depth limitations, guidelines for further research, and implications of the present dissertation within current and emerging topics and developments in the field of reading and CPD. More specifically, we present *five major considerations* that were critical during the trajectory of the present dissertation and that reflect valuable issues for future agendas of educational research, policy, and practice. Although the aforementioned research fields are continually evolving, the considerations that we now identify by analyzing and reflecting upon our work, in our opinion remain relevant and critical.

Consideration 1: The status of affective aspects of reading in educational research

In this consideration we will first discuss the overall status of affective aspects of reading in educational research and then further zoom in on research focusing on teachers and pre-service teacher education and CPD in this respect.

Learning to read and the development in the direction of reading to learn can be considered vital learning activities undertaken by students during their years at school (Chall, 1983; Petscher, 2010; Torppa et al., 2019; Wharton-McDonald & Erickson, 2017). In this respect, a large amount of research can indeed be found examining these issues, thereby mainly focusing on cognitive aspects of reading, such as phonemic awareness, phonics, fluency, or comprehension (Aro & Björn, 2015; Reis et al., 2008; Viljaranta et al., 2017; Wanzek et al., 2013). This is a justified focus given that these are crucial for students to become skillful and strategic readers (Rogiers et al., 2020; van Bergen et al., 2020).

In the last decades, however, the necessity to also take into account affective aspects of reading, such as reading attitude, reading motivation, and reading self-efficacy, has increasingly been emphasized and this both in research as well as in practice (e.g., De Naeghel et al., 2012; Guthrie et al., 2007; McGeown et al., 2015b; McKenna et al., 2012; Park, 2011; Petscher, 2010; Retelsdorf et al., 2011; van Steensel et al., 2016). As argued by Toste

et al. (2020) “(...) motivation is not tangential to, but a critical component of reading development. Models of reading development that do not account for motivation, or psychosocial aspects of learning, are missing critical aspects of student learning and achievement. That said, there is the need to continue to investigate factors that moderate the relations between motivation and reading within a longitudinal framework” (Toste et al., p. 33). The present dissertation’s focus can therefore be situated within this context. It is now increasingly stated that both cognitive and affective aspects should be aimed at in education as pieces of a puzzle coming together (Taboada Barber & Klauda, 2020; Toste et al., 2020). This insight joins a growing body of studies, mostly related to primary and secondary education students, pointing to the reciprocal relationship between both aspects of reading (e.g., Mol & Bus, 2011), whether or not mediated by reading behavior (i.e., often operationalized as reading amount or reading frequency) (Becker et al., 2010; Schiefele et al., 2012; Stutz et al., 2016). However, considering the latter some nuance might also be needed, as a recently published study showed a decrease in the relation between reading amount and reading comprehension with age (Locher & Pfof, 2019). Additionally, this insight fits in with studies pointing to a steadily decline in students’ reading attitude and reading motivation throughout primary and secondary education (McKenna et al., 2012; McKenna et al., 1995; Smith et al., 2012), which can be considered reason for concern given the aforementioned reciprocal relationships.

Focus on teachers

The growing attention for the affective aspects of reading in reading research has not only led to a growing amount of research focusing on students in this area, but also on teachers as target group. The latter studies mostly concentrate on enabling teachers to foster these aspects in their students via teachers’ instructional practices (De Naeghel et al., 2014, 2016; Guthrie & Klauda, 2014; Neugebauer & Gilmour, 2019; Wigfield et al., 2008). More particularly, it for example consist of studies examining the impact of Concept-Oriented Reading Instruction (CORI), an instructional program which aims to integrate reading strategy instruction, conceptual knowledge, and support for students’ reading motivation (Guthrie et al., 2007). The studies of De Naeghel et al. (2014, 2016) on the other hand focus more on fostering teachers’ autonomy-supportive and structuring teaching style during reading instruction and on the impact thereof on students’ autonomous reading motivation.

Notwithstanding the crucial value of this specific focus on teachers’ promotive reading practices, the dearth of research addressing teachers’ own affective aspects of reading in pre-service teacher education and professional development programs after graduation, however, can be considered quite surprising. This is all the more true given that when it comes to students, studies do examine at a larger scale their reading attitude and reading motivation,

changes in these aspects over time, and their relationship with cognitive reading aspects and reading behavior (Mullis et al., 2012; Mullis et al., 2017; OECD, 2010a, 2019; Schiefele et al., 2016; Soemer & Schiefele, 2018). Consequently, it can be concluded that the assumption is made that pre-service and in-service teachers either already inherently dispose of positive affective aspects of reading or that these do not seem to be as essential to focus on when it comes to promoting reading in the classroom.

In line with the multidimensionality of reading (Afflerbach et al., 2013), however, research showed that a competent teacher should not only dispose of the adequate knowledge and skills, but also of the necessary attitude and motivation, also referred to as the affective-motivational dispositions underlying a teacher's behavior (Blömeke et al. 2015). The increasing body of studies focusing on teachers' motivation and self-efficacy in general pointed to the importance of these variables, because of their close relationship with teachers' instructional practices and students' achievement and motivation (Jang et al., 2010; Roth et al., 2007; Roth & Weinstock, 2013; Zee & Koomen, 2016). In addition, studies moreover explicitly point to the need to raise our domain-specific knowledge in this respect. Following Guay et al. (2010) motivation types proposed by SDT are specific to school subjects and Yu et al. (2015) provided further support for an argument already made by Bandura (1997) stating that self-efficacy as a motivational construct varies by domain and should be studied at the domain-specific level.

In light of the above, the present dissertation took up this call in view of contributing to the growing knowledge in this respect. It can be considered crucial, however, to deepen our knowledge about pre- and in-service teachers' affective-motivational factors in the area of reading even further. This more in particular regarding how they relate to their knowledge in this respect (Goldfeld et al., 2020), their self-efficacy beliefs (e.g., Zee et al., 2016), their actual teaching practices when it comes to promoting reading (Kozak & Martin-Chang, 2019), and their students' reading achievement and affective aspects of reading. Such deeper knowledge should in our opinion then best be gathered and build on from the very beginning of a teacher's career, as has been done within the scope of this dissertation.

Focus on pre-service teacher education and CPD

Pre-service teacher education can be considered the first crucial phase in the career-long professional development process in becoming a competent teacher (e.g., Feiman-Nemser, 2001; Rossi et al., 2017). Therefore, we deliberately aimed at getting a better insight into (the development of) pre-service teachers' reading attitude from time of enrollment until graduation in this dissertation's first research line. This is especially relevant given the existing discrepancy between on the one hand the large amount of assumptions and statements made by for example policy makers and teacher educators regarding pre-service teachers' affective

aspects of reading; for example that a growing amount of them does not like reading (neither recreationally nor professionally) and that given the so-called Peter effect (see Applegate & Applegate, 2004) a lot of them therefore cannot be considered reading role models for their students; and the scantily available literature in this respect on the other hand.

On the one hand, the present dissertation's findings confirmed the scarcely available literature regarding pre-service teachers' reading enjoyment at the start of pre-service teacher education showing a large group of pre-service teachers not liking to read (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008). On the other hand, it added to the prior knowledge base insights regarding the development of pre-service teachers' reading attitude throughout pre-service teacher education (i.e., stability and change in reading attitude profiles) and how this relates to teachers' reading behavior and perceived reading ability. In line with studies focusing on students in this respect (Jang & Ryoo, 2018; Jhang, 2014; Petscher, 2010), also pre-service teachers' reading attitude profiles appeared to be related with their reading behavior and perceived reading ability. Possibly the most worrisome finding is the presence of a still quite large group of pre-service teachers with a low-attitude profile at the end of teacher education which moreover could be related to their reading frequency and perceived reading ability and willingness to promote reading in class. This kind of more in-depth understanding of pre-service teachers' reader profiles near graduation, can be considered crucial when pursuing to develop and implement CPD programs specifically aiming at fostering beginning teachers' affective aspects of reading and self-efficacy regarding promoting reading. The latter has been done in the context of this dissertation's second research line and appeared to be beneficial in the crucial induction phase the beginning teachers were in. Overall, it can be concluded that the focus on pre- and in-service teachers' affective aspects of reading are legitimate to address and in future research need to be examined further (e.g., McKool & Gespass, 2009; Senler, 2016; von Suchodoletz et al., 2018).

Consideration 2: A tangle of conceptual issues

In this second consideration we discuss the conceptual jungle in relation to affective aspects of reading, zoom in on research addressing this tangle and argue the need for conceptual clarity in education.

The growing acknowledgement of the need to address both cognitive as well as affective aspects of reading in education can also be noticed in definitions put forward in well-known international assessment programs, such as for example the Progress in International Reading Literacy Study (PIRLS) and the Programme for International Student Assessment (PISA). Currently, the PIRLS definition of reading literacy is as follows: "Reading literacy is the ability to understand and use those written language forms required by society and/or valued by the

individual. Readers can construct meaning from texts in a variety of forms. They read to learn, to participate in communities of readers in school and everyday life, and for enjoyment” (Mullis et al., 2017, p. 12). This idea of reading enjoyment is also reflected in the PISA definition where for example reading comprehension is defined as “understanding, using, reflecting on and engaging in written texts, so that a person can achieve his goals, develop his knowledge and capacities and participate in society” (OECD, 2010b, p. 23). The aspect of engaging in written texts then stands for “motivational attributes and behavioural characteristics of students’ reading” (OECD, 2010a, p. 70). As aforementioned, the growing recognition to also address more comprehensively affective aspects of reading both in research as well as in educational policy and practice can only be considered a positive evolution. Hereby, the multidimensionality of this core skill is getting the rigorous attention it deserves (Afflerbach et al., 2013).

A conceptual jungle

Notwithstanding the abovementioned positive evolution, when zooming in on the concepts used in studies to examine affective aspects of reading, the image of a conceptual jungle arises, showing a considerable amount of ill-defined and/or inconsistent concepts and questionable instruments (Conradi et al., 2013; Hattie et al., 2020; Muenks et al., 2017; Murphy & Alexander, 2000; Neugebauer & Fujimoto, 2018; Petscher, 2010; Schiefele et al., 2012). In the context of the PIRLS and PISA definitions for example, different concepts are used to refer to the affective aspect of reading (i.e., reading engagement, enjoyment, and motivation). As already mentioned in the introduction regarding reading attitude and motivation these concepts relate to a varied amount of theories (e.g., the Tripartite Theory of Attitude, Mathewson, 1994; the Theory of Planned Behavior, Ajzen & Fishbein, 2005; Achievement Goal Theory, Ames, 1992; Ames & Archer, 1988; Expectancy-Value Theory, Wigfield & Eccles, 2000; and Self-Determination Theory, Ryan & Deci, 2000) and are not always clearly defined or are used interchangeably. The latter also occurs when it comes to the concept of reading self-efficacy, which is frequently used interchangeably with concepts such as reading confidence, reading competency beliefs, or reading self-concept. This wealth of concepts in the literature has resulted in a substantial amount of studies focusing on for example the multidimensional character of affective aspects of reading or on antecedents of such aspects (Murphy & Alexander, 2000) on the one hand. On the other hand, however, it also has introduced conceptual redundancies or overlap (Grossnickle, 2016; Muenks et al., 2017).

Addressing the conceptual jungle

Throughout the years, an uplift can be seen in studies aiming at systematically addressing this conceptual jungle leading to meta-analyses (Petscher, 2010) and research syntheses (Murphy & Alexander, 2000; Schiefele et al., 2012) which provide comprehensive lists of the diverse concepts and their corresponding instruments. As put forward in his meta-analysis of the relationship between student attitudes towards reading and achievement in reading, Petscher (2010) explicitly stated that “although research has examined the role of attitudes in predicting reading behaviours, inconsistent replication, poor predictive models and the difficulty of separating attitudes from aspects of motivation and self-beliefs have left many researchers to (...) shift away from affective components of reading, and more specifically focused on cognitive factors” (Petscher, 2010, p. 335). Further, Neugebauer and Fujimoto (2018) examined three commonly used reading motivation assessments in schools by exploring distinct and overlapping dimensions of reading motivation. Results from the latter study also point to theoretical and conceptual overlap. Following such statements and findings, explicit calls have been made by for example Schiefele et al. (2012) for definitional clarity. Recently, Conradi et al. (2014) published a conceptual review in relation to the concept of reading motivation in which the authors attempted to develop consensus regarding definitions of reading motivation-related constructs, such as beliefs, attitude, expectancy, interest, goal, self-concept, self-efficacy, value, and obviously also reading motivation. Future research could further develop on such attempts for more clarification in order to bring this line of inquiry further.

In line with conceptual issues regarding affective aspects of reading, similar issues emerge when focusing on other reading aspects linked to for example reading behavior or more cognitive reading aspects. More particularly, concepts as reading proficiency, reading achievement, reading ability can be found used interchangeably. When then looking into the instruments used to measure these concepts, it appears that for example merely students' reading comprehension is being measured (e.g., Hebbecker et al., 2019). In some cases concepts are used that bring together reading behavior and an affective reading component, as is the case for example with “print exposure”. This concept is often operationalized as one's amount of independent reading for pleasure (e.g., Sparks et al., 2014; Stanovich & West, 1989) and is used in a growing amount of studies (Boerma et al., 2017; Kozak & Martin-Chang, 2019; Mol & Bus, 2011; Spear-Swerling et al., 2020; van Bergen et al., 2018; van Bergen et al., 2020). In light of the above, it can be concluded that this wealth of concepts and related measures are a sign of the richness of this research field. However, it is advisable to at least use well-defined concepts and appropriate instruments that correspond to both the multidimensional character of the concept of reading as well as that of its aspects.

In the context of the present dissertation the abovementioned issues have also come to the fore, making the unravelling of conceptual knots regarding affective aspects of reading a remaining constant throughout the whole writing process of the dissertation. In the context of the first research line (i.e., chapter 2 and 3), we started from the scanty available studies on (pre-service) teachers' affective aspects of reading and decided - influenced by the tripartite theory of attitude (Mathewson, 1994) - to focus on pre-service teachers' reading attitude. However, throughout both studies and moreover when designing the CPD program for beginning teachers - also aiming at fostering beginning teachers' students' reading - it became increasingly apparent that a shift in the direction of the concept of reading motivation could move the next studies forward. The latter more particularly, because of the conceptual clarity of the SDT concepts (Ryan & Deci, 2000).

Furthermore, based on findings regarding for example the strength of implementing an autonomy-supportive and structuring teaching style and autonomy-supportive strategies (De Naeghel et al., 2014, 2016), the concept of reading motivation appeared to be more readily able to put in practice in the context of a CPD program taking into account both teachers' and students' basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2000, 2020). Our shift from focusing on reading attitude in the first research line to reading motivation in the second research line can also be observed in other studies which were published throughout the last decades (McKenna et al., 1995, 2012). Although it appears that the focus on reading motivation shows to be appropriate when aiming at a more straightforward implementation in school practice, many questions still remain unanswered as to for example instruments teachers can use to map and monitor their students' reading motivation or to install and follow up a fostering reading environment at classroom and school level. In consideration 3 (i.e., focusing on methodological issues) and 4 (i.e., focusing on CPD) we will address this more in-depth.

Conceptual clarity in education

In line with the need for more conceptual clarity concerning the affective aspects of reading, it must be noticed that a similar phenomenon appears to be present when zooming in on concepts and definitions regarding teacher quality, teacher capacity, or teacher competence. Without going into detail in these concepts, it came to the fore when working on the different studies in the dissertation that both in research and educational policy and practice the abovementioned concepts are often used interchangeable, are reported on without giving appropriate definitions, or are reported on in a singular way without acknowledging their multidimensional character. The latter, however, is of great importance. As abovementioned, a competent teacher should not only dispose of the necessary knowledge and skills, but also

of the necessary affective-motivational factors to build their teaching practices on (Baier et al., 2018; Blömeke et al., 2015; Guerriero, 2017; Kunter et al., 2013). The latter, however, unfortunately are most at risk of being neglected (Furlong et al., 2000; Hargreaves et al., 2001). In this respect, defining teacher competence correctly and accurately should take into account the multidimensional character.

Consideration 3: Methodological issues

In the context of the present dissertation's previously described main results, also reference was made to the studies' limitations and suggestions for future research regarding methodological issues. In the following we will address some of these issues more in detail, as in our opinion they seem vital for future studies and for educational policy and practice as well. More specifically, in this consideration we consecutively discuss the following issues: power and generalizability, person-centered approach, longitudinal design, fine-grained instruments, mixed-methods design, fidelity of implementation and the CPD facilitator's role.

Power and generalizability

First, the study samples in both research lines can be considered small, hereby possibly reducing the findings' power and generalizability. Notwithstanding this small sample size and the therefore possibly rather explorative nature of the results, it still can be regarded as an added value to be able to track this group of pre-service and beginning teachers over a longer period of time. However, it is recommended for future research to aim at raising the power and generalizability of the studies by working with larger samples and/or several cohorts and possibly in different contexts. More particularly, in the context of Flanders it seems relevant to examine a larger group of pre-service teachers studying at various pre-service teacher education institutes with similar or slightly different curricula (i.e., in Flanders pre-service teacher education programs need to attain the same basic competences) or situated in similar or different contexts (e.g., situated in a multilingual metropolitan context or a more suburban or rural context). Such an approach has been applied by Watt and Richardson (2008) and Watt et al. (2014) in relation to pre-service and beginning teachers' motivation. Furthermore, it would also be interesting - in line with for example PISA (OECD, 2010, 2019) or The Teaching and Learning International Survey (TALIS, OECD, 2014) - to examine both research lines' foci at a more international level and in a comparative way. In order to accurately interpret the findings of such comparative studies, however, background information should be gathered regarding pre-service teachers education's programs and contexts they are situated in. To illustrate, it

might be difficult to really grasp differences and similarities between pre-service teachers attending a program in for example Flanders (Belgium) and Finland or Singapore, as the latter countries select their pre-service teachers strongly before being able to even enroll in teacher education and pre-service teachers in these countries also need to attend a master program, contrary to the bachelor program in Flanders (Belgium). Hence, more in-depth research is needed regarding for example the way pre-service teacher education programs are designed (Carrinus et al., 2019) and in what way teacher educators focus on congruent teaching (Ruys et al., 2013; Swennen et al., 2008).

Person-centered approach

Second, the longitudinal study described in chapter 3 used a person-centered approach using cluster analysis. The latter was opted for, because contrary to a variable-oriented approach, which focuses on the universal associations between variables, we wanted to examine not only whether there were subgroups showing different reading attitude profiles, but also whether these different profiles can be related to differences in reading behavior and perceived reading ability. A person-centered approach thus focuses on identifying groups of individuals who show different combinations, profiles, or patterns of values on different variables (Bergman et al., 2003). Given the steadily advances in the field of both longitudinal and profile analysis it will be interesting for future studies to explore this research focus with more advanced techniques, such as latent profile analysis, which offers some important advantages over the apparently more exploratory character of cluster analysis (Marsh et al., 2009; Pastor et al., 2007). Compared to cluster analysis, latent profile analysis is a model-based technique that gives a variety of fit indices that enable informed decision making on the number of classes. Such models can be specified with more flexibility (e.g., the ability to free variances across profiles) and enable the inclusion of covariates and outcomes in the latent modeling (see Marsh et al., 2009; Pastor et al., 2007, for more detailed comparison of latent profile and cluster analysis).

Longitudinal design

Third, and related to both previous considerations, it can be considered worthwhile to examine the longitudinal development of pre- and in-service teachers' affective aspects of reading and their relationship with cognitive aspects and reading behavior at a larger scale, preferably with multiple points of data collection (Hubers, 2020) and combined with insights into their teaching behavior and students' outcomes (i.e., both in relation to cognitive and affective aspects of reading as well as reading behavior). In line with longitudinal studies

tracking students from childhood onwards (First Steps Study, Lerkkanen et al., 2006-2016; Jyväskylä Longitudinal Study of Dyslexia, Lyytinen et al., 2015 or reading related findings from the 1970 British Cohort Study, Sullivan & Brown, 2013), it could be worthwhile to follow up pre-service teachers from time of enrollment in pre-service teacher education until their first five years in the profession as both phases showed to be crucial in their career-long professional development process in becoming a competent teacher (Cheng et al., 2015; European Commission, 2013; Guerriero, 2017; Ingersoll & Strong, 2011; Malmberg et al., 2010; Merchie et al., 2016; Risko et al., 2008). This kind of longitudinal approach has for example been used in the context of the FIT-Choice Project: Factors Influencing Teaching Choice (Watt & Richardson, 2012). Building on such longitudinal findings, pre-service teacher education programs can develop their programs more accurately, teacher educators in close cooperation with schools (i.e., principals and teachers) could follow up pre-service teachers more thoroughly during internships, the transition into the profession during the induction period could be organized more smoothly via more customized CPD programs, and the ongoing professional development after the induction period could be done more structurally.

Fine-grained instruments

Fourth and closely related with the aforementioned need for conceptual clarity (e.g., Conradi et al., 2014), the development and use of reliable fine-grained instruments should be addressed rigorously. This is all the more relevant when aiming at successful teaching. Therefore, as mentioned by Givvin et al. (2001) teachers should integrate the capacity to identify, monitor, and foster students' levels of motivation in order to augment student achievement. However, many questions still remain unanswered as to for example the instruments teachers can use to map and monitor their students' self-efficacy beliefs and reading motivation or to install and follow up a fostering reading environment at classroom and school level. Moreover, this should preferably also be combined with insights into their students' cognitive aspects of reading and their reading behavior. Regarding reading motivation teachers could use existing instruments as for example the Motivation for Reading Questionnaire (MRQ, Wigfield & Guthrie, 1997) or the in this dissertation's fourth study applied Self-Regulation Questionnaire–Reading Motivation (SRQ, De Naeghel et al., 2012). However, teachers should also be able to analyze the results, interpret them accurately, and then build their practice based on the findings (Neugebauer, 2016). In this respect, close collaborations between for example researchers, teacher educators, pedagogical counselling services, school principals, and teachers within professional learning communities (Horn et al., 2017; Vangrieken et al., 2017), communities of practice (Bannister, 2015; Philippou et al., 2015), or teacher design teams (Binkhorst et al., 2015) might be a way to go. In this respect, expertise

from both educational research and practice are brought together in view of further developing evidence-based practices and enhancing teacher quality and student outcomes. In doing so, also integrating the idea of “the traditional image of teachers as technicians [that] yielded to the image of knowledgeable and reflective professionals who work in the context of communities of professional educators and make reasoned decisions in the service of their students” (Cochran-Smith et al., 2015, p. 10).

Furthermore, it could be worthwhile to explore more in-depth existing instruments and the development of new ones needed to really grasp (pre-service) teachers’ behavior in the classroom regarding promoting reading. More specifically, it can be considered beneficial to examine pre-service and beginning teachers’ own affective aspects of reading in relation to their autonomy-supportive and structuring teaching style and autonomy-supportive strategies (Cheon et al., 2020; De Naeghel et al., 2014, 2016). In this respect, recent studies by Aelterman et al. (2018) and Vermote et al. (2020) examined both motivating and demotivating teaching styles by using a circumplex approach or teaching wheel providing an overview of eight different (de)motivating approaches, which can be situated within a layered perspective towards teachers’ motivating style. Additionally, in case of aiming to capture promotive teaching behavior it might also be relevant to build on studies focusing on teachers’ interactions with their students in the classroom as for example The Classroom Assessment Scoring System™ (CLASS™, Pianta & Hamre, 2009), which is an observation instrument that assesses the quality of teacher-child interactions or The Protocol for Language Arts Teaching Observation (PLATO), which is a classroom observation tool to capture and study teachers’ classroom practices. Further, as to teacher behavior, it could be a promising way to further explore students’ perceptions of the quality of teachers’ instructional behavior as has been done in previous studies (e.g., Condie & Pommerantz, 2020; Maulana et al., 2016; Thoonen et al., 2011).

With respect to capturing and monitoring the extent to which a classroom can be considered a motivating reading environment, instruments such as the Early Language and Literacy Classroom Observation Tool (ELLCO, Smith et al., 2008), Child/Home Environmental Language and Literacy Observation instrument (CHELLO, Neuman et al., 2008), or Classroom Literacy Environmental Profile (CLEP, Wolfersberger et al., 2004) could be guiding. In line with these instruments, addressing the literacy and physical learning environment in early childhood (e.g., the presence and richness of a book area), it could be interesting to develop an instrument focusing on primary education and for example also on pre-service teacher education. Further elaborating on the insights of the present dissertation it could be moreover of interest to further develop instruments that grasp the difference beginning teachers make between their motivation to read personally and professionally more thoroughly (Reichenberg & Andreassen, 2018). It showed to be of value to examine the latter from time of enrollment in

pre-service teacher education onwards, as the on prior studies (Jang & Ryoo, 2018; McKenna et al., 2012) based distinction between academic and recreational reading (see chapter 2 and 3) might not be sufficient to really grasp the context (pre-service) teachers are operating in. Along with the abovementioned suggestions for the development of new instruments, it is to be recommended to depart in this respect from a well-grounded theory and well-defined concepts (cf. the second consideration).

Mixed-methods design

Fifth, although many studies using a person-centered and longitudinal approach predominantly collect quantitative data, we consider it worthwhile to combine both quantitative and qualitative approaches using a mixed-methods design and this most certainly when doing intervention research (Cresswel & Clark, 2010). In case of intervention research, Lazowski and Hulleman (2016) noted that “from a theoretical perspective, intervention studies help move the field forward by providing insight about the causal relationships between motivation constructs and educational outcomes, or between educational settings and motivation outcomes (Shadish et al., 2002; Tunnell, 1977). From a practical perspective, intervention studies facilitate our understanding about which interventions are most effective in improving educational outcomes in a way that observational research cannot” (Lazowski & Hulleman, 2016, p. 603). As has been shown in the present dissertation’s fourth study (chapter 5), qualitative data can provide a more in-depth insight (Ryan & Deci, 2020). Such a mixed-methods approach seems even more beneficial when specifically focusing on affective-motivational factors. In line with earlier studies pointing either at the possible malleability (e.g., Cardarelli, 1992; Maio & Haddock, 2015; Visser & Krosnick, 1998) or stability (McKenna et al., 2012, Ross, 1995) of affective-motivational variables, it could be more difficult to really grasp changes or stability exclusively using surveys for example (Watt & Richardson, 2015). Integrating also focus groups or in-depth interviews, as has been done in the design of the intervention reported in the fourth study (chapter 5), provides more opportunities to detect and understand development and/or underlying reasons for stability and change. Concerning both quantitative and qualitative data collections and the mixing of both, it, however, should be recommended not only to rely on self-report measures, as was done in the present dissertation.

Fidelity of implementation

Sixth, in the context of both studies carried out within the second research line, the need to integrate the idea of treatment fidelity came to the fore. The latter refers to the congruence between the design of an instructional program and the actual implementation of that program

in efficacy or effectiveness studies (O'Donnell, 2008). In the present dissertation's third study (chapter 4) in which (a) the core features reported in Desimone's (2009) conceptual framework for studying the effects of professional development on teachers and students and (b) the need for autonomy, competence, and relatedness as put forward by SDT (Ryan & Deci, 2000, 2020) were operationalized, we attempted to measure the fidelity of implementation of these design principles. Although this was done using only a single item per scale to raise the practicability and the probability that all participants could fill it out easily at the end of every session, it could be opportune for future research to further develop this line of enquiry. As pointed to by Santagata and Bray (2015) and King (2014) there is still room for improvement when reporting on the design of an intervention, noticing that it is yet not common practice to (1) describe in-depth the operationalization and implementation of a program's design principles, hereby hindering possible replication and clear dissemination (Didion et al., 2019) and (2) evaluate whether the participants and preferably also the facilitator(s) and at least one external observer evaluate and experience these principles as intended by the developers of the program. The systematic approach presented in chapter 4 can be used as an example for today's researchers aiming to describe continuing professional interventions in particular. In case of replications of the CPD program reported in the second research line - preferably also more explicitly addressing the implementation in the classroom and students' achievement and motivation – it is advisable to integrate the idea of treatment fidelity even more in the intervention. This more specifically using for example the five dimensions of fidelity of implementation identified by Dane and Schneider (1998) which should be taken into account when specifying and developing fidelity measures: (a) adherence (i.e., to what extent are critical intervention components implemented as intended), (b) quality (i.e., measure of instructional quality), (c) exposure or dosage (i.e., amount of instruction provided), (d) participant responsiveness (i.e., extent to which participants responded to the intended intervention), and (e) program differentiation (i.e., measure to assess differences between the intervention and comparison condition) (Capin et al., 2018; O'Donnell, 2008).

CPD facilitator's role

Seventh, it is recommended to also thoroughly consider the role of the facilitator(s) in an intervention. More particularly, in the context of the intervention study reported in chapter 5, the role of the facilitator should be reflected on given the participatory data collection method (Neuman, 2013). In striving for transparency and countering the issue of bias, the researcher who acted as facilitator throughout the intervention framed the researcher's position for the participating beginning teachers as a 'participant-researcher' instead of a 'participant-practitioner' (e.g., Walsh, 2014). This can be considered an important distinction to make as it

was necessary to make clear that the intervention was steered from a research background rather than a merely practitioner background. In striving for such a 'participant-researcher position', the researcher tried to start from input the beginning teachers brought to the sessions and to make them masters of their professional development process throughout all the CPD sessions. However, it must be acknowledged, that upholding such a position often proved to be challenging. For example, the researcher often felt inclined to and was asked by the beginning teachers to fully engage as a practitioner in the sessions. This was especially the case given the experience of the 'participant-researcher' in relation to the CPD program's topics. Following these insights, it is recommended for future studies implementing the CPD program to take into account not only the role of the facilitators (e.g., participant-researcher or participant-practitioner), but also their expertise regarding the CPD program's topic.

Consideration 4: The continuing need for professional development

In this consideration we zoom in on the continuing need for professional development by addressing and discussing this issue in relation to pre-service teacher education, the induction phase of beginning teachers and the need for CPD with impact.

As pointed to in this dissertation's introduction, the process of becoming and remaining a competent teacher can be considered a CPD process that starts off when entering pre-service teacher education (e.g., Feiman-Nemser, 2001; Rossi et al., 2017). This is specifically important when it comes to developing into a teacher competent in promoting reading, which is a focus that receives increasing attention in both research and educational policy and practice (e.g., De Naeghel et al., 2016; Guthrie et al., 2007). However, as already referred to above and in the introduction, contrary to the available research concerning students, surprisingly little is known about pre-service and in-service teachers own affective aspects of reading and how these relate to their reading behavior, (perceived) reading ability, teaching practices, and student outcomes. However, following Senler (2016) who focuses on the affective aspect of attitude, there is a relationship between teachers' attitude towards teaching a subject and the way they teach, in that teachers' attitude is not only related to their own motivation and enthusiasm, but also to their students' attitude and achievements. In this respect, this dissertation's findings are illuminating for future studies and educational policy and practice specifically regarding the first two crucial phases in teachers' continuing development process.

Pre-service teacher education

Notwithstanding the explorative power of the findings within the first research line, it still appears necessary to further examine pre-service teachers' affective aspects of reading and the relation with cognitive reading aspects and reading behavior and this - as has been done in the context of study 2 and mentioned in consideration 3 - preferably using a longitudinal approach with different measurement occasions. Risko et al. (2008) already pointed to the need to follow up pre-service teachers from student teaching to independent teaching and this preferably using multiple longitudinal studies. In the follow-up study within the first research line (see chapter 3) two measurement occasions were used. Future studies, however, could preferably opt for more measurement occasions (e.g., at least once every academic year when in pre-service teacher education and at least once a year in the induction period) to monitor and understand possible changes more thoroughly. The latter, as mentioned in consideration 3, if possible using a mixed-method approach and with a larger sample than used in the studies in this dissertation.

In line with what is to be recommended in view of fostering students' reading, it will be important to implement this more data-driven approach (e.g., follow up pre-service teachers affective aspects of reading longitudinally, performing intervention research to examine how to adjust most effectively to pre-service teachers' individual differences regarding these affective aspects, ...) more structurally into *pre-service teacher education policy and practice*. Such an approach then could lead to courses and a coherent curriculum in which more solid and structural attention is being paid to pre-service teachers' affective aspects of reading, to possible changes herein (i.e., ideally in combination with the prior described related aspects), and to existing individual differences between pre-service teachers (e.g., Canrinus et al., 2019; Tomlinson et al., 2003, 2014). When combining a longitudinal approach with intervention research, it will further be interesting to examine the impact of the hereunder listed foci on pre-service teachers' affective aspects of reading and promotive reading behavior: (a) a clear and broadly supported and implemented vision and policy regarding reading and its implementation in pre-service teacher education (e.g., Oude et al., 2020), (b) teacher educators' congruent teaching behavior regarding reading promotion (e.g., Aelterman et al., 2013; De Naeghel et al., 2016; Swennen et al., 2008), (c) pre-service teachers' content knowledge and pedagogical content knowledge regarding affective aspects of reading (e.g., Shanahan, 2005; Shulman, 1986, 1987), and (d) the issue of alignment with practice, examining different formats of internships at various schools with different contexts (e.g., Baeten & Simons, 2014; Helgevold, 2015; Malmberg & Hagger, 2009; Mena et al., 2017). When addressing these elements, prior studies could be guiding when developing, implementing and evaluating the impact of the intervention.

Following Kozak and Martin-Chang (2019) who showed that knowledge about print exposure and personal reading experience, especially of children's and young adult literature, were both associated with planning for instruction, it could additionally be interesting to not only measure pre-service teachers' affective aspects of reading and print exposure, but also their *content and pedagogical content knowledge regarding affective aspects of reading and their planning for instruction*. For example pre-service teachers in the study of Kozak and Martin-Chang (2019) were asked to plan instruction for a week for a specific grade. When focusing on congruent teaching in pre-service teacher education, the studies of Lunenberg et al. (2007) and Swennen et al. (2008) can in this respect be enlightening. They examined modelling by teacher educators as a means of changing the views and practices of pre-service teachers and furthermore report on the factors influencing the occurrence or non-occurrence of congruent teaching. Also in the case of teacher educators, however, it shows that CPD is needed, as the study by Swennen et al. (2008) indicated that teacher educators not only should have theoretical knowledge and skills at their disposal, but also need to be capable to concretize such theories for pre-service teachers, in connection to their own and their pre-service teachers' actual teaching practice during for example internships. Therefore, the authors advise teacher educators to learn from the expertise of colleagues and to continue reflecting on their own teaching.

Additionally, this kind of data-driven approach could lead to the question whether it is required or not to integrate assessment and monitoring also as part of a thorough screening before entering pre-service teacher education (Baier et al., 2018). Although the relevance and applicability of a monitoring approach at the beginning of teacher education might still be open for discussion, obtaining insight into pre-service teachers' affective aspects of reading and promotive teaching behavior at the end of teacher education appears to be less questionable. Indeed such insights – and as has been done within the context of this dissertation's second research line - are valuable in view of developing and implementing professional developments programs specifically targeted at fostering and consolidating beginning teachers' affective aspects of reading and their reading promotive behavior throughout the next vital phase in their CPD process.

Induction phase

When zooming in on beginning teachers' affective aspects of reading and their reading promotion behavior, again the dearth of available literature unfolds, especially when focusing on the professional development needed to enhance both. Therefore, the findings resulting from the second research line can be considered a starting point for further research. More particularly, the further in-depth operationalization of the developed CPD programs' underlying

design principles deserves further attention. Regarding the design principle *duration* for example, it could be an added value to further explore the integration of scaffolding into the design (Elbers et al., 2013; Roehrig et al., 2012). Consequently, and as suggested by some beginning teachers participating in the CPD program reported in study 4 (chapter 5), a more intense group-oriented program could be followed by an even more customized “differentiated” - possibly less intense - individually-oriented program (Clark et al., 2017; Desimone & Garet, 2015; van den Bergh et al., 2015).

In line with Nardi et al. (2005), it might further be interesting to integrate a *Spectrum of Pedagogical Awareness* into the CPD program’s *content focus* and this more specifically regarding beginning teachers’ content and pedagogical content knowledge in relation to affective aspects of reading and the promotion hereof in the classroom practice. Integrating this idea of a continuum with four levels of awareness (i.e., naïve and dismissive, intuitive and questioning, reflective and analytic, and confident and articulate) might be helpful to stimulate beginning teachers’ reflection on these topics and their acting on those. Some beginning teachers might realize that they are still too intuitive and questioning when it comes to some aspects of promoting reading in the classroom, whereas others already consider themselves confident and articulate. These kind of differences in beginning teachers’ profiles unfolded throughout the CPD program reported on in study 4. However, these differences could have been acted on more deliberately and more explicitly throughout the sessions. The latter for example by integrating a reflection tool based on the Spectrum of Pedagogical Awareness (Nardi et al., 2005) that could be used by both the participants as well as the facilitator.

Furthermore, insights from the longitudinal study of Bakkenes et al. (2010) can be taken into account when aiming to further develop both the design principle of content focus as well as the other CPD program’s design principles. The Bakkenes et al. (2010) study more particularly aimed at increasing our understanding of *how teachers learn* and described both *learning activities* (i.e., experimenting, considering own practice, getting ideas from others, experiencing friction, struggling not to revert to old ways, and avoiding learning) as well as *learning outcomes* (i.e., changes in knowledge and beliefs, emotions, practices, and intentions for practice) teachers referred to in their learning process. Although this study was carried out with so-called experienced teachers, the reported activities and outcomes in our opinion also could apply to beginning teachers. In line with the Bakkenes et al. (2010) study, the abovementioned SPA (Nardi et al., 2005) can be integrated in a tool for reflection to start every CPD session with.

Additionally, and hereby addressing a call made in other studies pointing to the limited research on the *development of in-service teacher self-efficacy beliefs* across multiple school years (e.g., von Suchodoletz et al., 2018), it can be recommended to continue monitoring beginning teachers affective aspects of reading and reading promotive behavior, preferably in

combination with their students' reading outcomes and motivation throughout these first crucial years in being a teacher. The latter is relevant as the findings in study 2 (chapter 3) made clear that still a rather large group of beginning teachers enters the profession not liking to read and not wanting to promote this key skill in their future teaching practices. When monitoring closely, it might be possible to develop more adequate and customized CPD programs, possibly also integrating insights of studies focusing more on CPD using online and video-based approaches (e.g., Fishman et al., 2013; Major & Watson, 2018; Marsh & Mitchell, 2014; Powell & Bodur, 2019; Roth et al., 2017).

CPD with impact

In the following, we consider possible challenges in the use of the overall CPD framework (see Figure 1 in the introduction) on which the CPD program in the second research line (chapter 4 and 5) was designed. Notwithstanding the fact that Desimone's (2009) conceptual framework combined with SDT principles (Ryan & Deci, 2000; 2020) appeared to be of great value, there still appears to be room for improvement when aiming to further explore and examine the impact and more particular the *reciprocal relationships of the key components of CPD programs* embedded in this framework. This challenge has also been pointed at by researchers focusing on student learning and student achievement. Future studies therefore could try to *monitor every step in the CPD process* put forward in the framework of Desimone (2009) more in-depth. More specifically, using the CPD program designed in study 3, it would be interesting to not only explicitly examine the impact on and possibly reciprocal relationships between beginning teachers' own motivation and self-efficacy regarding promotion, but also their knowledge in this respect, their actual promotive teaching behavior, and their students' reading motivation (Darling-Hammond, 2017; Kikas et al., 2018; Markussen-Brown et al., 2017; Perera & John, 2020; Piasta et al., 2020). Although not explicitly aimed at, from the beginning teachers' statements in study 4 it can be concluded, that the CPD program's underlying design principles already put such a process of impact in motion.

Additionally, and as also put forward in Desimone's (2009) conceptual framework, the role of the *context* (e.g., student characteristics, curriculum, school leadership and policy), as a mediator between the CPD and its impact, cannot be neglected and should be examined closely in relation to the other components. The findings in study 4 corroborate prior studies examining beginning teachers' attrition and wellbeing (Craig, 2017; Eteläpelto et al., 2015; Flores, 2001; Ingersoll & Strong, 2011) and confirm that contextual influences can play a bigger role than the design or delivery of the professional development itself (McChesney & Aldridge, 2019). In line with Gaikhorst et al. (2014), who examined how beginning teachers' perceive their school's support structure and culture, it became apparent that at schools where

beginning teachers judged the support positively, the support activities were performed more consistently and conscientiously than at the other schools. Therefore, future studies cannot neglect this vital element. Even more, they should aim at further examining stimulating or hampering context attributes. Furthermore, the focus on context should not only be put on research agendas, but should also be taken into account rigorously at policy and practice level as put forward in the following and last consideration.

When aiming to *up-scale interventions* on the basis of the developed CPD program, a key challenge of sustainability comes to the fore next to focusing on depth and spread of the CPD (Coburn, 2003; Hargreaves & Fink, 2000; Hatch, 2000). A sustainable and deep change requires a shift in teachers' beliefs (i.e., underlying assumptions on learning and instruction), norms of social interaction (i.e., student and teacher interactions), and pedagogical principles (i.e., the way teachers engage and encourage students in learning). In the case of the intervention reported on in the second research line (chapters 4 and 5), further research replicating the findings is required to foster dissemination and scaling-up.

Furthermore, in the light of creating deep and long lasting change in beginning teachers' affective aspects of reading and reading promotion behavior, and in view of enabling teachers and schools to experience ownership for the intervention, further CPD for beginning teachers is of vital importance (Coburn, 2003; Desimone, 2009). This can be realized with aforementioned further refinements in the operationalization of the CPD program's underlying design principles and by integrating new developed instruments and tools. Further, next to the CPD sessions, it is recommended to actively support the beginning teachers and schools in assuming ownership of the innovation (e.g., establishing strategies and approaches to continue, consolidate, and transfer instructional strategies to promote reading into everyday classroom practice). Additionally and as already mentioned oftentimes, we argue that if interventions are considered set for scale-up, the process should be closely monitored. In this regard, Coburn (2003) underlined the necessity to determine and validate measures of the dimensions of scale (i.e., sustainability, depth, spread, and shift of ownership) to thoroughly comprehend long-term characteristics and success (or failure) of scaling up. Because this will presumably lead to a costly and recourse-demanding effort, we urge that research funding should provide recourses to endow both the development, implementation, and evaluation of innovations as well as enable the use of sustainable innovations in everyday practice. In this respect the interplay between research, policy, and practice comes to the fore.

Consideration 5: From fragmentation to alignment

In this fifth and last consideration we discuss the necessity for further alignment between research, policy and practice and more specifically within and between the levels of policy, pre-service teacher education and pedagogical advisory services and school and classroom.

During the course of writing this dissertation, the interplay between research, policy, and practice came to the fore. It became apparent that reading and reading promotion are in the limelight at different levels. When zooming in on Flanders, next to the research level, also at the levels of policy, pre-service teacher education and pedagogical advisory services, and school and classroom a considerable amount of mostly research-informed small-scale projects and short-term initiatives unfolded. To a large extent these initiatives were set up to enhance students' reading comprehension and/or motivation. Notwithstanding the potential power of such projects and initiatives, also the lack of alignment between them and between the different levels (i.e., macro, meso and micro) came into sight. In the following we consider some aspects of this fragmentation at the different levels more in detail.

At policy level

When further focusing on the policy level in Flanders, the attainment goals students need to achieve in primary education lack explicit reference to affective aspects of reading. The same becomes visible in the basic competences teachers need to achieve before graduating from teacher education. Recently, however, the focus on reading, including explicit attention for the affective aspects of reading, came under the spotlight at policy level in both Flanders (Belgium) and some other countries (e.g., the Netherlands) due to the worrying decline in students' reading enjoyment and - in the case of Flanders - also reading comprehension as reported in the recent PIRLS (Mullis et al., 2017) and PISA (OECD, 2019) studies. Causes for the decline were sought, leading among other things to the conclusion that a decline was visible as well in the time teachers spent on reading (i.e., instruction and promotion) in their daily practices. Following these results and observations, the government in Flanders funded (1) a review study regarding fostering approaches for reading comprehension, which also addressed reading motivation (Merchie et al., 2019), (2) small-scale pilot studies concerning the development and implementation of reading policy and reading environments in primary schools (Iedereen Leest, 2019), and (3) a small-scale qualitative study regarding the status of pre-service teachers' reading motivation (as perceived by their teacher educators) and actions needed to enhance this (T'Sas, 2019). The latter study's findings were in line with the main results of this dissertation's first research line. However, cross-sectional and longitudinal data should provide more in-depth insight into the status of pre-service teachers' affective aspects

of reading. Moreover, the studies exposed the need for further intervention research and well-designed, implemented, and monitored CPD.

At the level of pre-service teacher education and pedagogical advisory services

As to the level of pre-service teacher education, references were already made in previous considerations to the need for more insights regarding congruent teaching and a more coherent curriculum and to the alignment between what happens in pre-service teacher education and internships school (e.g., curricula, teaching practices, materials used, ...). A high level of congruence and close collaboration is especially to be recommended in view of implementing strategies for reading promotion given Moats' (2014) statement that "courses provided in teacher training programs are often insufficient in content and design to enable students to learn the subject matter and apply it to the teaching of reading. Even when courses are well designed and focused on teaching substantive understandings of reading psychology and individual differences, the few hours allotted to the study of language, language-based learning, and instruction may not be enough to enable prospective teachers to achieve high levels of mastery" (Moats, 2014, p. 83). The same was also pointed to in the recent study of Ciampa and Gallagher (2018) in relation to teaching literacy: "if we are to produce teachers with high teacher self-efficacy who can influence student literacy achievement in meaningful ways, a close examination of the micro-systems (classroom-level factors) and training they receive to teach literacy is necessary" (Ciampa & Gallagher, 2018, p. 478).

Additionally, coherence and close collaboration should also be present between pre-service teacher education and the pedagogical advisory services and this preferably already throughout pre-service teacher education, as well as after graduation. In Flanders, pedagogical advisory services take over after pre-service teacher education as they are now the largest providers of professional development programs in schools. However, based on this dissertation's findings and more specifically when zooming in on the transition from pre-service teacher education to the induction period, it appears an added value for pre-service teacher education to also take up a role in the CPD of beginning teachers and in-service teachers. Additionally, when specifically aiming at fostering reading motivation and reading behavior also other partners come to the fore, such as for example libraries or organizations who explicitly promote reading, such as Iedereen Leest and Canon Cultuurcel.

At school and classroom level

When specifically zooming in on the school and classroom level, again plenty of initiatives to promote reading are present (e.g., initiatives regarding read aloud sessions, school libraries, ...), nevertheless again often rather fragmented and not embedded in a clear reading policy plan. However, such a policy plan based on a clear and supported vision on reading, taking into account the interplay between cognitive and affective aspects of reading and reading behavior and endorsing the vital role teachers have in this respect, could lead to a more structural and strategic approach to raise both teacher and student quality. Hereby, also paving the way for sustainable educational change (Hubers, 2020). More specifically, based on a clear school vision regarding reading, a plan of action can be made and put into practice with both short and long-term goals at school, class/teacher, and student level, on which well-defined and operationalized actions can be taken and monitored. In short, with respect to reading a school should take into account both cognitive and affective aspects and know, show, and tell why a specific focus is of importance for their school and how they address it, when, and for whom (Costa & Araújo, 2018). Most preferably a reading policy plan is integrated in the language and overall policy plan of the school. In that way reading is not only addressed in close relationship with the other key language domains (i.e., writing, listening and speaking), but also with other subjects as for example mathematics or science (e.g., Condie & Pommerantz, 2020; Guthrie et al., 2007; Neugebauer & Gilmour, 2019). Furthermore, students' voices should not be neglected in such a reading and overall language policy plan and the daily school practices based on it, because "the more we hear student voices, the more we, as teachers and researchers, can provide instruction that best meets their needs, is motivating, and leads to gains in literacy achievement. We must never forget that at the heart of students' literacy opportunities is the students, and we would do well to understand more of their experience from listening to their voices" (Condie & Pommerantz, 2020, p. 10).

It can be concluded that there is still room for improvement to counter the apparent fragmentation within and between the educational levels discussed above. Alignment is needed both within and between levels – preferably in close collaboration with the research community - to generate coherence and clarity, which might be stimulating in view of raising teacher competence. In doing so, also other paths than the ones discussed in this dissertation could be explored, as for example in relation to the role e-learning, gaming, or virtual reality (e.g., Liu et al., 2011; McKernan et al., 2015; Rigby, 2014; Rigby & Ryan, 2011) might potentially play when it comes to the affective aspects of reading or what is needed in reading education to fully address the richness of the multilingual society we are living in. Notwithstanding the fact that this path was not taken, we argue that this dissertation's findings,

the provided suggestions, and discussed limitations already give a lot of food for thought for the research community, policy makers, and educational practitioners.

Final conclusion

According to the main rationale of the present dissertation, we aimed at (a) gaining in-depth insight into the current state of pre-service teachers' reading attitude and its development throughout pre-service teacher education and (b) providing an evidence-based CPD program to foster beginning teachers' reading motivation and self-efficacy beliefs regarding reading motivation promotion and, in turn, aiming to foster promotive teaching practices and students' reading motivation as a result of these. Two research lines were derived from this main rationale. Both research lines were interconnected and intended as an initial step in gaining a deeper understanding of the development of pre-service and beginning teachers' own affective reading attitude, reading motivation, their self-efficacy beliefs regarding reading motivation promotion, and the CPD needed to enhance these. Based on the obtained results, we conclude that there is room for improvement concerning the current attention these foci receive in educational research, policy, and practice and this both internationally as in Flanders in particular. Therefore, we emphasize the need to invest in teachers' reading promotion behavior (i.e., both pre-service, beginning, as well as in-service teachers) as well as in creating appealing and motivating reading experiences to support students in becoming capable and motivated readers. By reflecting on five considerations derived from the dissertation's limitations, implications, and suggestions for future research, we aimed to position this dissertation within current and emerging issues, obstacles, and developments in the fields of reading and CPD and to provide valuable contributions potentially directing future agendas in the fields under study. In this respect, we highlight the urgency to explicitly invest in pre-service and beginning teachers' affective aspects of reading so that they can become and remain competent and motivated role models who continually promote and nurture their students' affective aspects of reading.

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Appendix A. Main results, limitations and suggestions for future research, and implications of the studies linked to the research lines (RL) and dissertation chapters (CH).

RL	CH	Main results	Limitations and suggestions for future research	Implications
1	2	<ul style="list-style-type: none"> • Three pre-service teachers' reading attitude profiles were distinguished at the time of enrollment in teacher education (i.e., personally-oriented, socially-oriented and low-affect readers). • Pre-service teachers in these three profiles differed in their perceived reading ability and reading behavior. • Socially-oriented pre-service teachers had, next to high affective and personal conative reading attitudes, the strongest social conative reading attitude, in that they liked to share their reading experiences in both an academic and recreational setting. They also perceived themselves as competent readers and read frequently. • Personally-oriented pre-service teachers seemed to read particularly for personal reasons without having the intention to share their reading experiences. Pre-service teachers in the low-affect profile perceived themselves as more social readers than these personally-oriented readers. Pre-service teachers belonging to this profile read frequently and perceive themselves as competent readers, although they did not report reading significantly more than their socially-oriented peers. • Low-affect pre-service teachers scored lowest on affective and personal conative attitudes. The social-conative attitude of the low-affect readers was significantly higher than those of the personally-oriented readers, but significantly lower than those 	<ul style="list-style-type: none"> • Caution is needed when using profiling techniques. They can be used as guiding for a data-driven approach to gain understanding into larger groups, yet their users have to bear in mind that it still concerns individuals who should not become stereotypes. • Only self-report data were used to gauge pre-service teachers' reading attitude, reading behavior and perceived reading ability. Including more profound qualitative research methods (e.g., focus groups and/or in-depth interviews) is recommended to gain more comprehensive insight into pre-service teachers' reading attitudes. • The findings only apply to pre-service teachers of one specific university college. Future research may reveal whether the same pre-service teachers' reading attitude profiles are present in a larger group of teacher education institutes. • Future assessment of reading attitudes of pre-service teachers over the course of their study and after graduation would result in longitudinal data that may enhance our understanding whether pre-service teachers' attitudes will change over time. • Future studies could examine whether pre-service teachers assigned to a certain profile are more likely to graduate or not. • Future interventions could also evaluate whether more customized programs, targeted at individual differences, may provide the heterogeneous group of pre-service teachers 	<ul style="list-style-type: none"> • The presence of a group of non-frequent readers with lower-competence beliefs who did not appear to like reading should be taken into account in teacher education. • The importance of acknowledging individual differences in reading attitude when designing teacher education courses. • The added value to explore relationships between different aspects of reading, as for example reading attitude and reading behavior and perceived reading ability. • The need for a more data-driven approach in teacher education and this from time of enrollment onwards.

of the socially-oriented readers. Pre-service teachers belonging to this profile perceived themselves as the poorest readers and appeared to read significantly less frequently than pre-service teachers belonging to both other profiles.

the necessary tools and willingness to become enthusiastic readers.

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| 3 | <ul style="list-style-type: none"> • Three reading attitude profiles (i.e., personally-oriented, socially-oriented, and low-attitude) were corroborated at two measurement occasions (i.e., at enrollment in teacher education and near graduation). • The majority of the pre-service teachers stayed in the same profile over time. • Pre-service teachers who switched profile, were most likely to evolve toward the personally- or socially-oriented reading attitude profile with stronger reading attitudes. • Pre-service teachers belonging to the personally- or socially oriented showed to read more frequently and perceived themselves as more competent readers than pre-service teachers belonging to the low-attitude profile. • The low-attitude profile shifted from being the largest group to the smallest one near graduation. • Pre-service teachers in the low-attitude profile were least likely to read and perceived themselves as less competent readers compared to both other profiles. • Pre-service teachers in the low-attitude profile seemed most likely to drop out of teacher education. • Pre-service teachers belonging to the low-attitude profile showed to be least willing to | <ul style="list-style-type: none"> • Only one certified teacher education institute was examined. It can be considered advisable to widen the scope and get more insights from other teacher education programs worldwide. • Only self-report data were used to examine pre-service teachers' reading attitude, reading behavior and perceived reading ability. Future researchers should aim for a more mixed-methods approach and combine self-report data with additional data, such as focus groups, in-depth interviews, teaching practices (e.g., regarding reading promotive behavior) or reading skills scores (e.g., reading comprehension) to gain more comprehensive insight into pre-service teachers' reading and their reading promotive behavior. To fully capture pre-service teachers' reading attitude development, data triangulation is recommended. • Future studies might develop more fine-grained instruments, possibly grasping more comprehensively the latent differences in context (i.e., individually versus socially-oriented) and purpose (i.e., recreational versus academic). • Further research could address pre-service teachers' competence regarding promoting reading maybe more as a whole (e.g., knowledge, skills and attitudes). Hereby, addressing both affective-motivational factors | <ul style="list-style-type: none"> • Given the rather large group of pre-service teachers entering and graduating from teacher education low in reading attitude, the urgency to address reading attitude more adequately in teacher education comes to the fore. • Notwithstanding positive signs of development during teacher education, there is still room for improvement to attend more closely to pre-service teachers' individual differences regarding reading attitude. • The importance of using a longitudinal approach to expose development throughout teacher education and preferably also during the first crucial years in the profession unfolds. • The urgency to improve our understanding of how (pre-service) teachers' affective reading impacts their teaching behavior and following the latter their students' affective reading and achievement. |
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General discussion and conclusion

		promote reading promotive in their future school(s).	(e.g., attitudes) as well as cognitions (e.g., knowledge) underpinning teaching behavior.	
2	4	<ul style="list-style-type: none"> A comprehensive description and operationalization was given of the design principles of a CPD program for primary school teachers focusing on promoting students' reading motivation combining Desimone's (2009) framework for effective professional development with Self-Determination Theory (Ryan & Deci, 2000). The CPD program's core features as distinguished by Desimone (i.e., content focus, coherence, active learning, collective participation and duration) and the need for autonomy, competence and relatedness as put central in SDT are analytically described and elaborated on. In view of an implementation check both the participating teachers and the external observer perceived the CPD program's underlying design principles as intended by the researchers. 	<ul style="list-style-type: none"> The implementation check of the CPD program's underlying design principles was done with a short questionnaire with only a single item per scale. Regarding the implementation check of the CPD program's underlying design principles, further research could (1) further improve the questionnaire by using multiple items per scale and examine their reliability and (2) also integrate qualitative measures (e.g., using a group discussion, individual interviews or observation). Such a mixed-method approach, combining both quantitative and qualitative results might provide deeper insights into how participants experience each of these design principles. Future papers could pay more attention to the social validity of the CPD. More particularly, studying teachers' perception of the goals, procedures and outcomes of the CPD will provide insight in their satisfaction, acceptability, and applicability of the practices developed in and reflected upon in the CPD. 	<ul style="list-style-type: none"> By reporting design principles, facilitator's instructional activities and participants' learning activities, we contributed to theory building, replication, dissemination, and implementation of evidence-based CPD practices regarding promotive reading education. The need for thorough follow-up of the impact of CPD programs, also regarding affective aspects of reading. For example by using an additional one-on-one approach aiming at further coaching on the job or adjusting the frequency of contact, in view of encouraging sustained implementation of the new teaching practices.
	5	<ul style="list-style-type: none"> Based on the quantitative data analysis there were no significant differences between the conditions for both autonomous and controlled reading motivation in the recreational and professional context, nor for self-efficacy for instructional strategies and self-efficacy for classroom student engagement. Only for self-efficacy for classroom management the control group condition reported 	<ul style="list-style-type: none"> The findings only apply to a small group of beginning teachers, which limits the generalizability of the results. Future studies could replicate the CPD program on a larger scale and examine its impact. Future studies could develop more fine-grained quantitative instruments (e.g., instruments grasping more in-depth differences between personal and professional reading) 	<ul style="list-style-type: none"> The importance to specifically address teachers' reading motivation and self-efficacy for promoting reading. The need and added value to particularly focus on teachers' first years of teaching by means of a CPD program specifically developed to target both the specific domain of reading motivation and self-efficacy regarding promoting reading

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- significantly higher scores than the individual condition.
- Based on the qualitative deductive data analysis beginning teachers from both CPD conditions did refer to changes in autonomous reading motivation.
 - Based on the qualitative deductive data analysis it was shown that beginning teachers clearly distinguish between reading for personal and professional reasons.
 - Based on the qualitative deductive data analysis the majority of beginning teachers in both CPD conditions reported an increasing awareness of the essential role of one's own reading motivation in being a reading role model.
 - Based on the qualitative deductive data analysis participants in both conditions and at the different measurement occasions reported similar reading motivations (i.e., merely relating to their autonomous and not to their controlled reading motivation).
 - Based on the qualitative deductive data analysis it was observed that the majority of the participants in both conditions witnessed and reported a growth directly after the CPD and at retention, both regarding their self-efficacy for instructional strategies as for student engagement.
 - As to beginning teachers' self-efficacy regarding classroom management during teaching reading and during reading activities, the findings based on the qualitative data corroborate the positive relation of the CPD as determined in the survey results.
- Only self-report data were used to examine the differential impact of a one year-long CPD program on beginning teachers' reading motivation and self-efficacy regarding promoting reading motivation (i.e., group versus individually-oriented CPD). Further research could also include measures of beginning teachers' actual behavior in the classroom and on students' reading motivation by means of respectively classroom observations and directly questioning students. Although stimulated recall interviews are also self-report in nature, they can be used to examine whether and how teachers reflect on their teaching behavior regarding reading promotion and on their functioning as a reading role model in particular. Combining self-report measures with interviews and observer ratings could furthermore tackle the issue of social desirability.
 - As the participating beginning teachers reported to be in need of further and continuous development, future studies could examine more the idea of "scaffolding" in CPD programs, where an intense program is followed by less intense support.
 - Further research could consider teacher quality more as a whole and address the multidimensionality of reading and its instruction (focusing on both affective and cognitive aspects of reading) in the CPD program. This could raise the understanding of the impact of a CPD program even more by providing insight in how for example teacher's reading motivation interacts with their knowledge on (fostering) reading motivation or in how teachers' reading comprehension instruction relate to their self-
- motivation and the specific target group of beginning teachers.
 - The benefit and relevance to use a mixed-methods approach. By conjointly collecting and analyzing quantitative and qualitative data a more comprehensive insight in the impact of the CPD can be gained.
 - CPD is a process that needs to address the interactive and reciprocal relationships that exists between the program's underlying design principles, the participants' competence, their change in teaching behavior and students' outcomes.
 - The explicit integration of insights from the Self-Determination Theory into the core features of the CPD design, can be considered an added value.
 - In view of raising teacher quality, a call for policymakers and school leaders can be made to be aware of the need for and necessity of well-designed CPD, especially for beginning teachers and also when focusing on affective aspects of in reading education.
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- Based on the qualitative deductive data analysis no noteworthy differences appeared between the individual and group condition when focusing on self-efficacy for promoting reading. In both conditions beginning teachers often directly reported changes in their teaching behavior, rather than changes in their self-efficacy regarding promoting reading.
 - Based on the qualitative inductive data analysis it was observed that beginning teachers reported on changes in their teaching behavior related to students, classroom and school level.
 - Based on the qualitative inductive data analysis beginning teachers participating in the individual condition point to a somewhat slower growth and mostly in respect to preparing more time consuming reading activities.
 - Based on the qualitative inductive data analysis the majority of the participants in both conditions reported on the CPD impact via their change in instructional practices on their students.
 - Based on the qualitative inductive data analysis the majority of the beginning teachers in both conditions reported on the significance of context as for example school leadership, curriculum and policy environment.
 - Based on the qualitative inductive data analysis in both conditions the majority of the beginning teachers on the retention test also explicitly mentioned the need for more CPD after the program ended, explicitly reporting their need for further focus on content, feedback, and support.
- efficacy beliefs hereof. It then could be advisable to examine such relationships longitudinally and preferably from the very beginning of a teacher's career.
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*A book you finish reading is not
the same book it was before.*

David Mitchell

Appendices

I English summary

English summary

Beginning teachers' reading attitude and motivation: A study into the evolution from teacher training to entrance in the teaching profession and into the impact of a teacher professionalization program

Introduction

Reading is to be considered a core skill in education and society, as being a competent and motivated reader relates highly to academic and societal success (Schaffner et al., 2014; Sullivan & Brown, 2013). In view of addressing the multidimensionality of reading there is a growing consensus in research on the need to address, next to cognitive aspects (e.g., strategies for decoding and comprehending texts) (e.g., Okkinga et al., 2018), also affective aspects of reading (e.g., reading attitude, motivation, self-efficacy) (e.g., De Naeghel et al., 2012; McGeown et al., 2015) more thoroughly. This is even more found imperative taken into account the worrying international decline in students' reading motivation as they go through elementary and secondary school (Smith et al., 2012) and given the reciprocal relation between cognitive and affective aspects of reading, as for example pointed to by the reciprocal model of causation (Mol & Bus, 2011; Stanovich, 1986).

To become and remain a competent teacher can be regarded as a continuing professional development process that consists of three interrelated phases: (1) pre-service teacher education or pre-service preparation, (2) the first years in the teaching profession, known as the induction phase, and (3) further continuing in-service professional development (e.g., Feiman-Nemser, 2001; Rossi et al., 2017). In this respect, professional development can be considered as an ongoing learning process, where teachers are continuously motivated to reflect on their professional practice and persist in professionalizing themselves in order to improve their competences and, hence, these of their students (Fauth et al., 2019; Kelchtermans, 2004; Kennedy, 2014).

More specifically, there is consensus about the impact of teacher competence on students' achievement and motivation (Guerriero, 2017), showing that competent teachers should dispose of both cognitions (e.g., knowledge) as well as affective-motivational factors (e.g., attitudes, motivation and self-efficacy) underpinning their teaching behavior (e.g., Blömeke et

al., 2015). Both pre-service teacher education and the first years in the profession (i.e., the induction phase) are shown to be crucial phases in the continuing process of becoming such competent teacher (Feiman-Nemser, 2001). However, when taking a closer look at the status of affective-motivational factors of pre-service teachers' reading, the scarcely available literature shows reason for concern because a large group of pre-service teachers - following the trend of primary and secondary education - enters teacher education by stating that they do not like to read (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008).

Insights concerning the development of pre-service teachers' affective aspects of reading throughout teacher education seem to be lacking altogether. Additionally, when taking a closer look at the available continuing professional development (CPD) programs specifically aiming at fostering beginning teachers' affective aspects of reading and reading promotive behavior, it appears that little is known about which approach works best for this specific target group (e.g., group vs. individually-oriented professionalization). Furthermore, more insight is needed into the evidence-based design principles underlying such programs and how these principles can be operationalized and implemented. In light of the above, gaining in-depth insight into (a) the current state of pre-service teachers' reading attitude and its development throughout pre-service teacher education and (b) providing an evidence-based CPD program to foster beginning teachers' reading motivation and self-efficacy beliefs regarding reading motivation promotion and, in turn, aiming to foster promotive teaching practices and students' reading motivation as a result of these, was put forward as the main rationale for the present dissertation.

Research lines

Based on the theoretical and empirical research literature discussed above, two research lines are central in this dissertation:

- (1) A first research line addresses pre-service teachers' reading attitude. In view of providing a state of the art of pre-service teachers' reading attitude at the start of pre-service teacher education and furthermore of its development until graduation, this line focuses on measuring pre-service teachers' affective and conative components of reading attitude and their relationship with reading behavior, perceived reading ability and reading promotive behavior. Within this research line, we aim at profiling pre-service teachers' affective and conative components of reading attitude, by examining the occurrence of pre-service teachers' reading attitude profiles (i.e., the extent to which pre-service teachers could be grouped based on the relations between the affective and

conative components of their reading attitude) at the start of teacher education and the stability and change of these profiles throughout teacher education. Furthermore, we focus on the relationship between these profiles and pre-service teachers' reading behavior, perceived reading ability and near graduation also their reading promotive behavior.

- (2) A second research line focuses on fostering beginning primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation and supporting them in fostering their students' reading motivation by means of a researcher-developed continuing professional development program. This program is based on insights acquired in the first research line and on the theoretical and empirical literature on the effectiveness of professional development and Self-Determination Theory (Ryan & Deci, 2000, 2020). This research line aims at studying the impact of a year-long continuing professional development program on beginning primary school teachers' reading motivation and self-efficacy regarding reading motivation promotion.

Figure 1 visualizes the structure of the present dissertation, highlights the interrelatedness between the different chapters and positions the chapters within the research lines (RL)

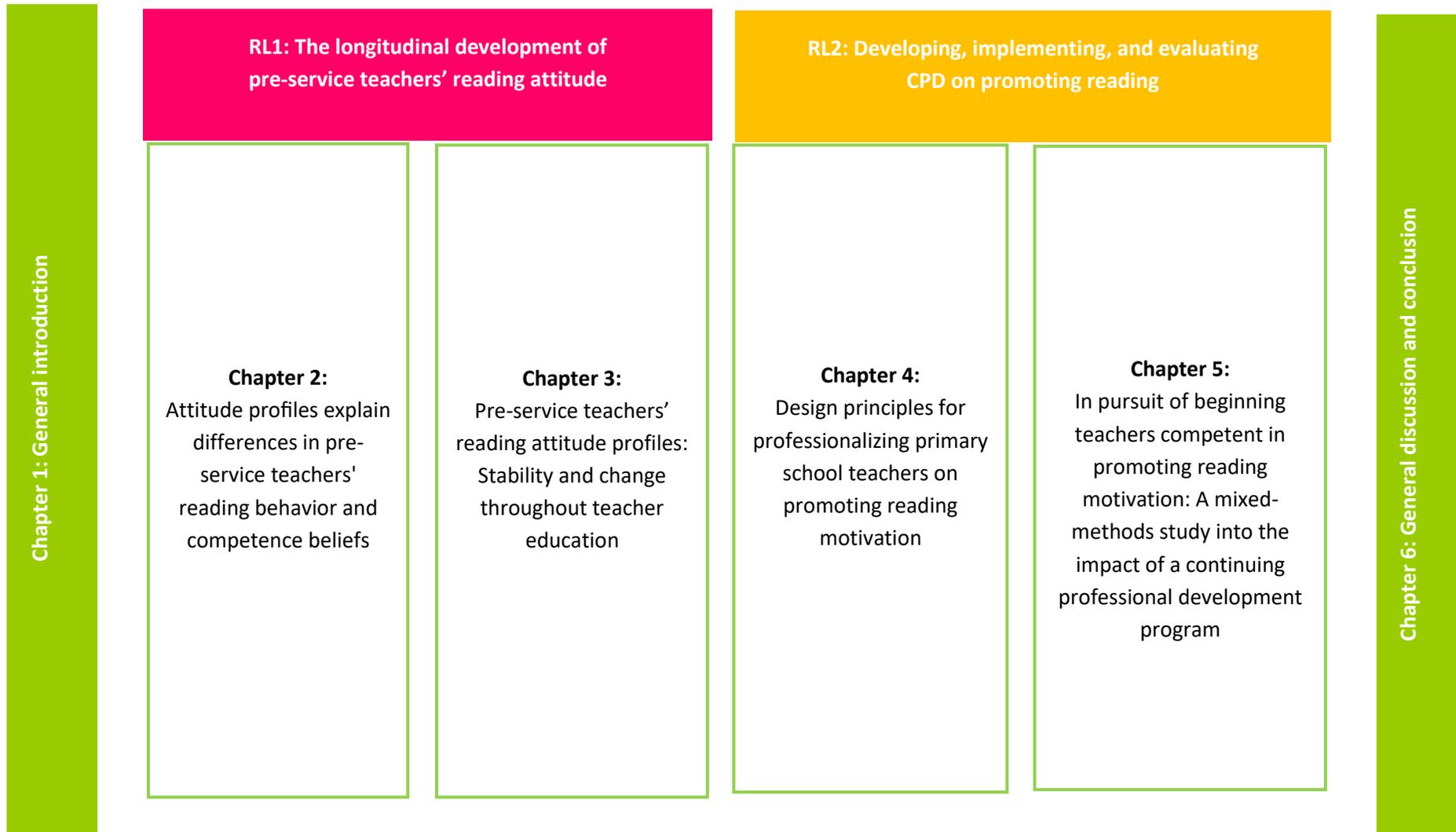


Figure 1. Overview of the studies and their relation to the general research lines (RL) and dissertation chapters.

Overview and discussion of the main results

Research line 1: The development of pre-service teachers' reading attitude

Chapter 2, *'Attitude profiles explain differences in pre-service teachers' reading behavior and competence beliefs'*, investigates pre-service teachers' reading attitude at time of enrollment in pre-service teacher education. To this aim, 253 pre-service teachers completed a questionnaire regarding their reading attitude, reading behavior, and perceived reading ability. Using cluster analysis, we distinguished three pre-service teachers' reading attitude profiles at the start of pre-service teacher education (i.e., personally-oriented, socially-oriented, and low-affect readers). The latter profile alas being the largest one and hereby conforming earlier results pointing to a rather large amount of pre-service teachers entering teacher education low in affective aspects of reading. Pre-service teachers in these three profiles moreover differed in their perceived reading ability and reading behavior. This result is in line with findings based on studies focusing on primary and secondary students, where this relationship also was found. This study therefore concluded with stressing the importance of acknowledging individual differences in reading attitude when designing teacher education courses that provide teachers with the tools and willingness to foster their fellow teachers' and students' reading enthusiasm.

Chapter 3, *'Pre-service teachers' reader profiles: Stability and change throughout teacher education'*, reports on the longitudinal development of pre-service teachers' reading attitude throughout pre-service teacher education, hereby, aiming to examine possible profile changes from time of enrollment until near graduation and the relationship with pre-service teachers' reading behavior and perceived reading ability. Additionally, it was examined whether pre-service teachers' reading attitude profiles could be related to whether or not they were willing to promote reading in their future school(s). To this aim, in a sample of 131 pre-service teachers, cluster (movement) analysis was executed at the start of teacher education and near graduation to identify different reading attitude clusters and possible changes throughout teacher education. Based on the results three reading attitude profiles (i.e., personally-oriented, socially-oriented, and low-attitude) were corroborated at both measurement occasions. Cluster movement analysis identified that the majority remained in the same profile over time. However, when pre-service teachers did switch profile, they most likely evolved toward the personally- or socially-oriented profile. Convergent validity evidence was found in

that pre-service teachers in the low-attitude profile were least likely to read and perceived themselves as least competent of all profiles. Furthermore, pre-service teachers in this profile appeared to be least willing to invest in reading promotion in their future school(s). This study therefore concluded with emphasizing the importance of using a longitudinal approach to gain insight in reading attitude development throughout teacher education and preferably also during the first crucial years in the profession.

Research line 2: Designing, implementing, and evaluating CPD on promoting reading

Chapter 4, '*Design principles for professionalizing primary school teachers on promoting reading motivation*', provides a comprehensive description and operationalization of the design principles of a CPD program for primary school teachers focusing on promoting reading motivation combining Desimone's (2009) framework for effective professional development with Self-Determination Theory (SDT) (Ryan & Deci, 2000, 2020). More particularly, the CPD program's core features as distinguished by Desimone (2009) (i.e., content focus, coherence, active learning, collective participation, and duration) and the need for autonomy, competence, and relatedness as put central in SDT are analytically described and elaborated on. By reporting these design principles and in accordance with Rijlaarsdam et al. (2018) describing facilitator's instructional activities and participants' learning activities, we contributed to theory building, opportunities for replication, dissemination, and implementation of evidence-based CPD practices regarding promotive reading education. Furthermore, in line with the emerging literature on treatment fidelity of educational interventions (e.g., O'Donnell, 2008) and in view of developing further iterations of the CPD, the implementation check of the CPD program's underlying design principles using a multi-actor approach showed that the design principles were perceived as intended by the researchers who developed and implemented the design and this more specifically by both the participating teachers, an external observer, and the facilitator.

Chapter 5, '*In pursuit of beginning teachers competent in promoting reading motivation: A mixed-methods study into the impact of a continuing professional development program*', reports on the impact of a year-long CPD program (i.e., of which the design principles are described in chapter 4) on beginning primary school teachers' reading motivation and self-efficacy regarding promoting reading motivation. To this aim, a convergent parallel mixed-methods design with repeated measures was established, including two CPD conditions (group vs. individually-oriented) and a comparison condition. Based on the quantitative results only, no clear impact of and differences between the conditions could be observed. The qualitative deductive analysis, however, showed growth in teachers' reading motivation and

self-efficacy at a different pace and level of intensity for both CPD conditions. Furthermore, the qualitative inductive data analysis showed that beginning teachers also reported on changes in their teaching behavior related to students, class, and school level. The majority of the participants in both CPD conditions more specifically reported on the CPD impact via their change in instructional practices on their students and on the hampering or stimulating impact of the context, such as school leadership, curriculum and policy environment. This study concluded with emphasizing the continuing need for well-designed professional development to stimulate and improve teacher competence regarding affective aspects of reading from the very beginning of a teaching career.

Final conclusion

According to the main rationale of the present dissertation, we aimed at (a) gaining in-depth insight into the current state of pre-service teachers' reading attitude and its development throughout pre-service teacher education and (b) providing an evidence-based CPD program to foster beginning teachers' reading motivation and self-efficacy beliefs regarding reading motivation promotion and, in turn, aiming to foster promotive teaching practices and students' reading motivation as a result of these. Two research lines were derived from this main rationale. Both research lines were interconnected and intended as an initial step in gaining a deeper understanding of the development of pre-service and beginning teachers' own affective reading attitude, reading motivation, their self-efficacy beliefs regarding reading motivation promotion, and the CPD needed to enhance these. Based on the obtained results, we conclude that there is room for improvement concerning the current attention these focuses receive in educational research, policy, and practice and this both internationally as in Flanders in particular. Therefore, we emphasize the need to invest in teachers' reading promotion behavior (i.e., both pre-service, beginning, as well as in-service teachers) as well as in creating appealing and motivating reading experiences to support students in becoming capable and motivated readers. By reflecting on five considerations derived from the dissertation's limitations, implications, and suggestions for future research, we aimed to position this dissertation within current and emerging issues, obstacles, and developments in the fields of reading and CPD and to provide valuable contributions potentially directing future agendas in the fields under study. In this respect, we highlight the urgency to explicitly invest in pre-service and beginning teachers' affective aspects of reading so that they can become and remain competent and motivated role models who continually promote and nurture their students' affective aspects of reading.

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|| Dutch summary

Dutch summary

Nederlandstalige samenvatting

Leesattitude en -motivatie van beginnende leraren: Een onderzoek naar de evolutie van lerarenopleiding naar instroom in het lerarenberoep en naar de impact van een professionaliseringsprogramma

Inleiding

Lezen is een sleutelvaardigheid in het onderwijs en de samenleving (Schaffner et al., 2014; Sullivan & Brown, 2013). Naast cognitieve aspecten van lezen (bijv. strategieën voor het decoderen en begrijpen van teksten) (Okkinga et al., 2018) zijn ook affectieve aspecten (bijv. leesattitude, leesmotivatie, bekwaamheidsperceptie) (bijv. De Naeghel et al., 2012; McGeown et al., 2015) essentieel om een competente en gemotiveerde lezer te worden én blijven. Gezien de zorgwekkende (inter)nationale achteruitgang van de affectieve aspecten van lezen bij leerlingen in het basis- en secundair onderwijs (Smith et al., 2012) en de relatie tussen affectieve en cognitieve aspecten van lezen (Mol & Bus, 2011; Stanovich, 1986), is de noodzaak dan ook groot om diepgaand aandacht te besteden aan deze affectieve aspecten van lezen.

Het worden en blijven van een competente leraar kan worden beschouwd als een continu professionaliseringsproces dat bestaat uit drie onderling samenhangende fasen: (1) de lerarenopleiding, (2) de eerste jaren in het beroep, bekend als de inductiefase, en (3) de verdere professionalisering van leraren doorheen de rest van hun onderwijs carrière (Feiman-Nemser, 2001; Rossi et al., 2017). Professionalisering kan dus gevat worden als een continu leerproces, waarbij leraren zich voortdurend motiveren om te reflecteren op hun

onderwijspraktijk en om zich te professionaliseren om hun eigen competentie te verbeteren en op die manier ook die van hun studenten (Fauth et al., 2019; Kelchtermans, 2004; Kennedy, 2014). De impact van de competentie van leraren op de prestaties en motivatie van studenten is namelijk ontegensprekelijk (Guerriero, 2017). Aan de basis van het onderwijsgedrag van competente leraren liggen cognitieve (bijv. kennis) én affectief-motivationale eigenschappen (bijv. houding, motivatie en zelfredzaamheid) (Blömeke et al., 2015). Zowel de lerarenopleiding als de inductiefase blijken cruciale fasen te zijn in het proces om zo een competente leraren te worden (Feiman-Nemser, 2001). Als we echter nauwgezet kijken naar de status van deze affectief-motivationale eigenschappen gelinkt aan lezen en leesonderwijs bij leraren in opleiding, dan blijkt uit de weinig beschikbare literatuur hierrond dat er reden tot bezorgdheid is. Een grote groep leraren in opleiding - in navolging van de trend in het basis- en secundair onderwijs – stroomt de lerarenopleiding namelijk binnen met een eerder negatieve houding ten opzichte van lezen (Applegate & Applegate, 2004; Applegate et al., 2014; Nathanson et al., 2008).

Inzicht in hoe affectieve aspecten van lezen bij leraren in opleiding zich ontwikkelen doorheen de lerarenopleiding lijken volledig te ontbreken. Als we bovendien kijken naar de beschikbare professionaliseringsprogramma's die zich specifiek richten op het bevorderen van de leesmotivatie en (bekwaamheidsperceptie op vlak van) leespromotie bij beginnende leerkrachten, blijkt dat er weinig bekend is over welke aanpak het beste werkt voor deze specifieke doelgroep (bijv. professionalisering in groep versus individueel). Verder is er meer inzicht nodig in de evidence-based ontwerpprincipes die ten grondslag moeten liggen aan dergelijke programma's en hoe deze principes dan geoperationaliseerd en geïmplementeerd kunnen worden. Dit proefschrift bouwt verder op eerdere inzichten en beoogt (1) een diepgaander inzicht te verkrijgen in de huidige stand van zaken van de leesattitude van leraren in opleiding en de ontwikkeling daarvan doorheen een volledige lerarenopleiding en (2) een evidence-based professionaliseringsprogramma te ontwikkelen, implementeren en evalueren om de leesmotivatie bij beginnende leraren basisonderwijs en hun bekwaamheidsperceptie op vlak van leespromotie bij hun leerlingen te stimuleren.

Onderzoekslijnen

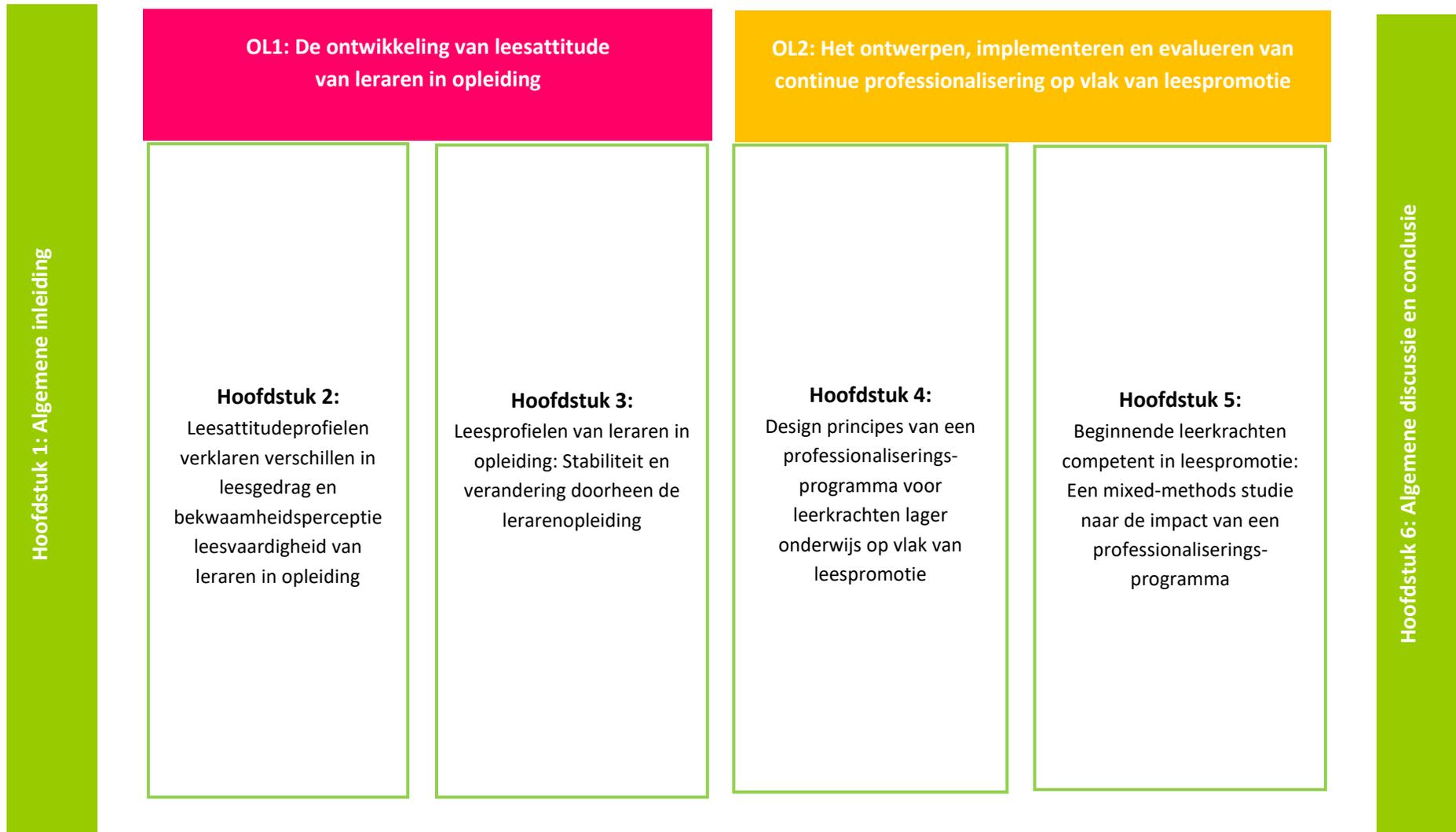
Twee onderzoekslijnen geven dit proefschrift vorm:

- (1) Een eerste onderzoekslijn focust op het in kaart brengen van de leesattitude van leraren in opleiding. Ten eerste wordt de leesattitude van leraren in opleiding in kaart gebracht aan het begin van de lerarenopleiding en ten tweede wordt ook de ontwikkeling van die

leesattitude opgevolgd tot net voor deze leraren in opleiding afstuderen. Deze onderzoekslijn beoogt meer specifiek inzicht te verkrijgen in de relatie tussen de affectieve en conatieve componenten van de leesattitude van leraren in opleiding en hun leesgedrag, bekwaamheidsperceptie op vlak van leesvaardigheid en bereidheid tot leespromotie. Deze onderzoekslijn is gericht op het profileren van de affectieve en conatieve componenten van de leesattitude van leraren in opleiding, door na te gaan of verschillende leesattitudeprofielen bij leraren in opleiding voorkomen aan het begin van lerarenopleiding en te onderzoeken in welke mate deze profielen veranderen of stabiel blijven doorheen de opleiding. Verder focust deze onderzoekslijn zich op de relatie tussen de leesattitudeprofielen en het leesgedrag van de leraren in opleiding, hun bekwaamheidsperceptie op vlak van leesvaardigheid en hun bereidheid tot leespromotie.

- (2) Een tweede onderzoekslijn richt zich op het bevorderen van de leesmotivatie van beginnende leraren basisonderwijs en van hun bekwaamheidsperceptie om leesmotivatie bij leerlingen te promoten. Hiervoor werd een professionaliseringsprogramma ontwikkeld dat gebaseerd is op inzichten verkregen uit de eerste onderzoekslijn en op theoretische en empirische literatuur over de effectiviteit van professionalisering en de zelf-determinatietheorie (ZDT; Ryan & Deci, 2000; 2020). Deze onderzoekslijn beoogt in het bijzonder de impact te bestuderen van het ontwikkelde professionaliseringsprogramma op de leesmotivatie van beginnende leraren basisonderwijs en op hun bekwaamheidsperceptie om leesmotivatie bij leerlingen te promoten.

Figuur 1 visualiseert de structuur van dit proefschrift, benadrukt de onderlinge samenhang tussen de verschillende hoofdstukken en positioneert de hoofdstukken binnen de onderzoekslijnen (OL).



Figuur 1. Overzicht van de studies en hun relatie met de overkoepelende onderzoekslijnen (OL) en proefschrifthoofdstukken.

Overzicht en discussie van de hoofdbevindingen

Onderzoekslijn 1: De ontwikkeling van leesattitude van leraren in opleiding

In *hoofdstuk 2*, werd de leesattitude van leraren in opleiding onderzocht aan het begin van de lerarenopleiding. Met behulp van clusteranalyse konden drie leesattitudeprofielen bij leraren in opleiding worden onderscheiden (persoonlijk-georiënteerde, sociaal-georiënteerde, en laag-affectieve lezers). Dit laatste profiel is helaas het grootste en bevestigt eerdere resultaten die wijzen op een vrij groot aantal leraren in opleiding die de lerarenopleiding beginnen met een eerder negatieve leesattitude. De aanwezige leesattitudeprofielen verschilden bovendien ook op vlak van leesgedrag en bekwaamheidsperceptie gelinkt aan leesvaardigheid. Dit resultaat is in lijn met bevindingen van studies die zich richten op leerlingen uit het basis- en secundair onderwijs waar deze relatie ook werd vastgesteld. Concluderend benadrukt deze studie het belang van het erkennen van individuele verschillen in leesattitude bij leraren in opleiding en de noodzaak om hierop in te spelen bij het ontwerpen en implementeren van cursussen en curricula.

In *hoofdstuk 3*, werd de longitudinale ontwikkeling van de leesattitude van leraren in opleiding in kaart gebracht. Meer specifiek werd onderzocht in welke mate wijzigingen in leesattitudeprofielen plaatsvonden doorheen de lerarenopleiding en of er een relatie was met leesgedrag, bekwaamheidsperceptie op vlak van leesvaardigheid en de bereidheid tot leespromotie in hun toekomstige school. De clusteranalyse bevestigde de in hoofdstuk twee geïdentificeerde leesattitudeprofielen (PO, IO, LA) en dit op de twee verschillende meetmomenten in de tijd (aan de start en op het einde van de lerarenopleiding). Bovendien bleek op basis van de clustermovementanalyse dat de meerderheid van de leraren in opleiding doorheen de opleiding binnen hetzelfde profiel bleef. Wanneer leraren in opleiding wel van profiel veranderden, switchten ze meestal in de richting van de persoonlijk- of sociaal-georiënteerde profielen. Convergente validiteit werd gevonden in het feit dat leraren in opleiding uit het profiel met de meest negatieve leesattitude ook het minst geneigd waren om te lezen en zichzelf als het minst leesvaardig beschouwden van alle profielen. Bovendien bleken de leraren in opleiding van dit profiel het minst bereid om lezen te promoten in hun toekomstige school(en). Deze studie beveelt verder longitudinaal onderzoek aan om inzicht te krijgen in de attitudeontwikkeling doorheen de hele lerarenopleiding en bij voorkeur ook tijdens de eerste cruciale jaren in het beroep als beginnende leerkracht.

Onderzoekslijn 2: Het ontwerpen, implementeren en evalueren van continue professionalisering op vlak van leespromotie

In *hoofdstuk 4*, werd een uitgebreide beschrijving en operationalisering gegeven van de ontwerpprincipes van een professionaliseringsprogramma voor leerkrachten basisonderwijs dat zich specifiek richt op leespromotie. Dit programma combineert het raamwerk voor effectieve professionalisering van Desimone (2009) met inzichten uit de self-determinatietheorie (ZDT) (Ryan & Deci, 2000, 2020). Meer specifiek worden de kerncomponenten van een effectief professionaliseringsprogramma zoals beschreven door Desimone (2009) (focus op inhoud, coherentie, actief leren, collectieve participatie en duur) en de behoefte aan autonomie, competentie en verbondenheid die centraal staan binnen ZDT, analytisch beschreven en uitgewerkt. Met het rapporteren van deze ontwerpprincipes en door in overeenstemming met Rijlaarsdam et al. (2018) de instructieactiviteiten van de facilitator en de leeractiviteiten van de deelnemers te beschrijven, draagt deze studie bij aan theorievorming en biedt ze mogelijkheden voor replicatie, verspreiding en implementatie van evidence-based professionalisering gericht op leespromotie. Aansluitend bij de oproep in de literatuur om meer aandacht te besteden aan “fidelity of implementation” (O'Donnell, 2008) en met het oog op het ontwikkelen van verdere iteraties van het professionaliseringsprogramma, wees de implementatiecheck van de onderliggende ontwerpprincipes met behulp van een multi-actor benadering erop dat de ontwerpprincipes werden ervaren zoals beoogd door de onderzoekers die het ontwerp ontwikkelden en implementeerden.

In *hoofdstuk 5*, werd de impact van het in hoofdstuk vier beschreven professionaliseringsprogramma onderzocht. Dit programma liep gedurende een volledig schooljaar en richtte zich op het stimuleren van de leesmotivatie van beginnende leraren basisonderwijs en hun bekwaamheidsperceptie om het lezen van hun leerlingen te bevorderen. Een gerandomiseerd mixed-methods onderzoek met herhaalde metingen werd opgezet met twee professionaliseringscondities (groep versus individueel) en een controleconditie (beginnende leraren die niet deelnamen aan het professionaliseringstraject). Op basis van de kwantitatieve resultaten was geen duidelijke impact van het programma zichtbaar en konden geen duidelijke verschillen tussen de verschillende condities worden waargenomen. De kwalitatieve deductieve analyse toonde echter wel groei in de leesmotivatie en de bekwaamheidsperceptie van de deelnemende leraren om het lezen van hun leerlingen te bevorderen. Voor de beginnende leraren in beide professionaliseringscondities gebeurde dit wel op een verschillend tempo en met een verschillende intensiteit. Bovendien wees de kwalitatieve inductieve gegevensanalyse ook op veranderingen bij de beginnende leraren op

vlak van hun onderwijsgedrag en dit met betrekking tot het leerling-, klas- en schoolniveau. De meerderheid van de deelnemers van beide condities rapporteerde ook veranderingen in de leesmotivatie van hun leerlingen en dit als gevolg van veranderingen in hun eigen onderwijsgedrag. Ze wezen verder ook op de belemmerende of stimulerende impact van de context waarin ze werken. Concluderend stelt deze studie dat er vanaf de prille start van de onderwijs carrière van een leraar nood is aan continue professionele ontwikkeling om de competentie van leraren continu te stimuleren en verbeteren en dit ook wanneer het gaat om affectieve aspecten van lezen.

Algemeen besluit

Dit proefschrift belicht twee onderzoeklijnen die zich richten op (1) het verkrijgen van een diepgaand inzicht in de stand van zaken van de leesattitude van leraren in opleiding en de ontwikkeling van die leesattitude doorheen de volledige lerarenopleiding en (2) het in kaart brengen van de impact van een evidence-based professionaliseringsprogramma op de leesmotivatie van beginnende leraren basisonderwijs en hun bekwaamheidsperceptie op vlak van leespromotie. Op basis van de resultaten gelinkt aan beide onderzoeklijnen kunnen we besluiten dat er zowel binnen het onderwijsonderzoek als bij het beleid en in de onderwijspraktijk ruimte is voor verbetering en dit zowel internationaal als in Vlaanderen in het bijzonder. In dit verband wijzen we op de urgentie om expliciet te investeren in de affectieve aspecten van lezen bij leraren in opleiding, beginnende en meer ervaren leraren, zodat zij competente en gemotiveerde rolmodellen voor hun leerlingen worden én blijven. Volop investeren in leespromotie bij leraren (in opleiding) kan er dan ook mee voor zorgen dat ook hun leerlingen vaardige en gemotiveerde lezers worden én blijven.

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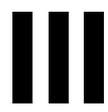
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Academic output

Academic output

Output integrated in this dissertation

Journals (a1)

Vansteelandt, I., Mol, S.E., Caelen, D., Landuyt, I. & Mommaerts, M. (2017). Attitude profiles explain differences in pre-service teachers' reading behavior and competence beliefs. *Learning and Individual Differences*, 54, 109 -115. doi:10.1016/j.lindif.2017.01.016

Vansteelandt, I., Mol, S.E., Van Keer, H. (2020). Pre-service teachers' reader profiles: Stability and change throughout teacher education. *Submitted to Journal of Research in Reading*.

Vansteelandt, I., Mol, S.E., Vanderlinde, R., Lerkkanen, M.K., & Van Keer, H. (2020). In pursuit of beginning teachers competent in promoting reading motivation: A mixed-methods study into the impact of a continuing professional development program. *Revised and resubmitted to Teaching and Teacher Education*.

Journals (a2)

Vansteelandt, I., Mol, S.E. & Van Keer, H. (2019). Design principles for professionalizing primary school teachers on promoting reading motivation. *L1-Educational Studies in Language and Literature (Special issue Systematically Designed Literature Classroom Interventions: Design Principles, Development and Implementation)*, 19, 1-26. doi:10.17239/L1ESLL2019.19.04.01

Conference contributions

Vansteelandt, I., Mol, S.E., & Van Keer, H. (2019). *Continuous professional development on reading for newly qualified teachers: A mixed-method approach*. Paper presented at the 18th Biennial EARLI Conference, Aachen, Germany, 12–16 August, 2019.

Vansteelandt, I., Mol, S.E., & Van Keer, H. (2019). *Design principles for a continuous professional development program on promoting reading motivation*. Paper presented at the 18th Biennial EARLI Conference, Aachen, Germany, 12–16 August, 2019.

Vansteelandt, I., Van Keer, H., & Mol, S.E. (2019). *Bringing continuous professional development in practice: design principles for a professional development program for primary school teachers focusing on promoting students' reading motivation*. Paper presented at the 12th ARLE Conference, International Association for Research in L1 Education (ARLE), Lisbon, Portugal, 26–28 June, 2019

Vansteelandt, I., Mol, S.E., & Van Keer, H. (2019). *Beginnende leerkrachten als rolmodellen voor lezen: de nood aan continue professionalisering*. Paper gepresenteerd tijdens het VELON-VELOV congres, Nederland, Breda, 18-19 maart 2019.

Vansteelandt, I., Mol, S.E., & Van Keer, H. (2018). *Do teachers like to read? The evolution of reading attitude throughout teacher education*. Paper presented at the 3rd International Conference on Language Education and Testing, Belgium, Antwerp, 26 –28 November 2018.

Vansteelandt, I., Mol, S.E., & Van Keer, H. (2018). *Beginnende leerkrachten als rolmodellen voor lezen?! Paper gepresenteerd tijdens de 32^{ste} Conferentie Onderwijs Nederlands (HSN), België, Brussel, 16-17 november 2018.*

Vansteelandt, I., & Van Keer, H. (2018). *Continuous professional development for beginning teachers as a means for social engagement*. Paper presented at the 11th Sanord conference, Finland, Jyväskylä, 15 - 17 August 2018.

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Vansteelandt, I., Mol, S.E., & Van Keer, H. (2017). *Do teachers like to read? Profiles of pre-service teachers' reading attitude*. Paper presented at the 17th Biennial EARLI Conference, Tampere, Finland, August 27 – September 2, 2017.

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Other academic output

Journals (a4)

Vansteelandt, I., & Van Keer, H. (2019). Beginnende leraren gaan voor graag en goed lezen. *FONS*, 5(1), 30–32.

Vansteelandt, I. (2019). Een sterk leesbeleid op elke school : van le(r/v)ensbelang! *MeerTaal*, 7(1), 28–30.

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Landuyt, I., Caelen, D., Mommaerts, M., & **Vansteelandt, I.** (2015). Meer lezen in de lerarenopleiding. *FONS*, 1(1), 20–21.

Book chapters (b2)

Smits, T., & **Vansteelandt, I.** (2019). Talige diversiteit. In T. Smits, P. Janssenswillen, & W. Schelfhout (Eds.), *Leraren opleiden in een superdiverse samenleving* (pp. 21–39). Leuven: Acco.

Conference contributions

Vansteelandt, I. (2019). *Beter en graag lezen voor elke leerling: naar een duurzaam leesbeleid op school*. Paper gepresenteerd op Landelijk Netwerk Taal, Nederland, Utrecht, 26 september 2019.

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Vansteelandt, I. (2018). *Lezen (aspirant-)leerkrachten for life?* Paper gepresenteerd op Onderwijzerstop, België, Gent, 3 maart 2018.

Vansteelandt, I., Mommaerts, M., Landuyt, I., & Caelen, D. (2015). *Actieonderzoek en leesattitude van leraren in opleiding.* Paper gepresenteerd tijdens het VELON congres, Nederland, Arnhem, 27 maart 2015.

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Vansteelandt, I., Mommaerts, M., Landuyt, I., & Caelen, D. (2014). *Actieonderzoek als stimulans voor een positieve leesattitude bij studenten uit de lerarenopleiding.* Paper gepresenteerd tijdens de 28^{ste} Conferentie Onderwijs Nederlands (HSN), België, Brugge, 14-15 november 2014.

Vansteelandt, I., Mommaerts, M., Landuyt, I., & Caelen, D. (2014). *Naar een omslag in de leesattitude van studenten in een lerarenopleiding in een meertalige en grootstedelijke context.* Paper gepresenteerd tijdens het VELOV congres, België, Mechelen, 16 maart 2014.

IV

Data storage fact sheets

Data storage fact sheets

Data storage fact sheet 1

% Data Storage Fact Sheet

% Name/identifier study: Chapters 2 and 3

% Author: Iris Vansteelandt

% Date: May 26, 2020

1. Contact details

=====

1a. Main researcher

- name: Iris Vansteelandt

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If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

=====

* Reference of the publication in which the datasets are reported:

Vansteelandt, I., Mol, S.E., Caelen, D., Landuyt, I. & Mommaerts, M. (2017). Attitude profiles explain differences in pre-service teachers' reading behavior and competence beliefs. *Learning and Individual Differences*, 54, 109 -115. doi:10.1016/j.lindif.2017.01.016

Data storage fact sheets

Vansteelandt, I., Mol, S.E., Van Keer, H. (2020). Pre-service teachers' reader profiles: Stability and change throughout teacher education. Submitted to Journal of Research in Reading.

* Which datasets in that publication does this sheet apply to?: The sheet applies to all the data used in both publications.

3. Information about the files that have been stored

=====

3a. Raw data

* Have the raw data been stored by the main researcher? YES / NO

If NO, please justify:

* On which platform are the raw data stored?

- researcher PC
- research group file server
- other (specify): researcher's external hard disk

* Who has direct access to the raw data (i.e., without intervention of another person)?

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other (specify): ...

3b. Other files

* Which other files have been stored?

- file(s) describing the transition from raw data to reported results. Specify: SPSS-syntax files were stored.
- file(s) containing processed data. Specify: Survey data was processed and cleaned in SPSS.
- file(s) containing analyses. Specify: SPSS-generated output (i.e., output of preliminary analyses as well as

output of the main analyses regarding the research questions) was stored; output of descriptive analysis (SPSS), cluster analysis (SPSS),

cluster movement analysis (SPSS), one-way analysis of covariance (SPSS), chi-square analysis (SPSS).

- files(s) containing information about informed consent

- a file specifying legal and ethical provisions

- file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...

- other files. Specify: ...

* On which platform are these other files stored?

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- all members of UGent

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Data storage fact sheet 2

% Data Storage Fact Sheet

% Name/identifier study: Chapters 4 and 5

% Author: Iris Vansteelandt

% Date: May 26, 2020

1. Contact details

=====

1a. Main researcher

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- e-mail: Iris.Vansteelandt@UGent.be

1b. Responsible Staff Member (ZAP)

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and Teacher Education.

* Which datasets in that publication does this sheet apply to?: The sheet applies to all the data used in both publications.

3. Information about the files that have been stored

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3a. Raw data

* Have the raw data been stored by the main researcher? YES / NO

If NO, please justify:

* On which platform are the raw data stored?

- researcher PC
- research group file server
- other (specify): researcher's external hard disk

* Who has direct access to the raw data (i.e., without intervention of another person)?

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other (specify): ...

3b. Other files

* Which other files have been stored?

- file(s) describing the transition from raw data to reported results. Specify: SPSS-syntax files were stored and

a coding scheme was stored that has been used to analyse the focus group and interview data.

- file(s) containing processed data. Specify: Survey data was processed and cleaned in SPSS.

- file(s) containing analyses. Specify: SPSS-generated output (i.e., output of preliminary analyses as well as

Data storage fact sheets

output of the main analyses regarding the research questions) was stored; output of descriptive analysis (SPSS)

and one-way analysis of covariance. Reports of the qualitative data analyses (.docx files and/or paper).

- files(s) containing information about informed consent: informed consents were stored as .pdf files.

- a file specifying legal and ethical provisions

- file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...

- other files. Specify: ...

* On which platform are these other files stored?

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- other: researcher's external hard disk

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- all members of the research group

- all members of UGent

- other (specify): ...

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