

Continuous Professional Development, it's all in the game

A series of studies on different perspectives for continuous professional development (CPD) of teachers



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teachers**

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CHAPTER 1

General introduction

1.1 Introduction

Continuous Professional Development (CPD) for teachers is important nowadays. Different countries use different strategies in order to support CPD (Cheng & Yeung, 2010; Gerard, Varma, Corliss, & Linn, 2011; Pedder, Opfer, McCormick, & Storey, 2010). Not only governments focus on CPD, many school boards and school leaders incorporate staff CPD in their mission statements. In addition many researchers focus on the participation of teachers in CPD as well (OECD, 2008; Deneire, Van Petegem, & Gijbels, 2009; Nabhani & Bahous, 2010; Van Eekelen, Vermunt, & Boshuizen, 2006; Vermeulen, Klaijnsen, & Martens, 2011). They all try to find ways to raise teacher participation in CPD. In other words, government, school boards, school leaders and many researchers share the opinion that more teachers should participate in CPD or invest more time in CPD. That shared opinion was the starting point of this Phd. A school board presented their struggle with teachers participating in CPD to the Ruud the Moor Centre (an institute within the Open University which focused on teacher professionalization). They wanted to tackle the complex problem of CPD participation by combining their experience with scientific insights. Solving one question led to the next one; a structural relation between the schools and the researcher arose. Since the beginning of the cooperation the different aims were clear; a PhD thesis incorporating scientific insights with practical tools and guidelines. In that way the school got practical support rooted at scientific insights and the researcher investigated a real problem in close collaboration with a school board, coaches, team coordinators (TCs) and teachers.

There are a lot of speculations as to why teachers are reluctant to participate in CPD. Possible explanations are a lack of the necessary commitment from schools (Opfer & Pedder, 2011), the content of CPD which is often too general (Daly, Pachler, & Pelletier, 2009; Diepstraten & Evers, 2012) or the lack of willingness to participate in CPD activities (Van Eekelen et al., 2006). Despite all the research that has been done, still no clear picture has emerged of how to trigger CPD effectively.

Kwakman (1999) highlighted that paying attention to personal characteristics (e.g., demographics, interests, willingness to explore and need for variety) is

important with regard to professional development of teachers. Likewise, Van Eekelen and colleagues (2006) found that reluctance to learn is partly determined by individual factors, such as self-efficacy, demographic variables, conscientiousness and reflection. On the other hand, Van der Heijden (1998) focused on organizational factors (see also Evers, 2012) that affect participation in CPD, such as career history, inter- and intra-organizational networks.

Although multiple reasons for the lack of teacher participation in CPD have been presented, a model that explains why teachers do not participate in CPD was not yet available, nor guidelines for activating such participation. The goal of this PhD was to shed more light on how teachers can be triggered to participate in CPD.

In order to study the complex process of triggering teachers towards CPD participation the I-Change model was used (De Vries, Kremers, Smeets, Brug, & Eijmail, 2008). The I-Change model is a phase model for behavioral change and includes an awareness phase, a motivation phase, and an action phase. It focuses on the stages that precede behavioral change and gives insight in which factors are relevant in each phase and gives directions for how to influence these factors to urge behavioral change. Though this model was applied in the domain of health prevention and health education, it also seems applicable to the domain of teachers' CPD participation. CPD participation can thus be seen as a phase model where awareness of the need to participate in CPD comes first, motivation to participate second, and finally action follows.

In line with Kwakman (1999) and Van Eekelen and colleagues (2006) the first study of this PhD focused on the influence of individual factors on CPD participation. The assumption was that teachers go through the three phases sequentially and that a different set of individual factors determines the kind of guidance a teacher needs to go through these phases. Some can go through the phases autonomously, others need some guidance of another person. The usefulness of the I-Change model was studied to verify its relevance in an educational setting (opposed to the health care field where it has proven its value). The main research question in the first study was "Are teachers triggered to participate in CPD following a sequential, gap-based model and what is the relation with personal and psychological factors?"

Although the I-Change model seemed logical (a teacher becomes aware of a performance gap, is motivated to do something about it and eventually takes action to overcome that gap), it did not have a good match with practice. A possible explanation was that the gap-approach did not trigger awareness. In

general, the literature offered two perspectives with regard to promoting CPD. The first, most dominant perspective consisted of a deficiency approach. In short, this perspective started from a gap analysis or a perceived lack of competency. The second perspective started with a strength-based approach including appreciative inquiry (AI) and talent development. An appreciative approach might inspire teachers more, because it was simply more motivating and fun to improve skills you are interested in and already possess (Visser, 2010).

Since the I-Change model from a deficiency perspective did not have a good match with practice and therefore did not offer insight in what could trigger teacher CPD, the deficiency approach was abandoned. In a new study the I-Change model was applied without the pre-set deficiency approach. Since feedback is important to learn (Hattie, 2009; Hattie & Timperley, 2007) or to become aware of a gap (Saldler, 1989; Nicol & McFarlane-Dick, 2006), this study started with a conversation between the teacher and his or her TC. The given feedback should meet criteria to be effective for encouraging learning; for instance, the need of a trustworthy source (Ilgen, Fisher, & Taylor, 1979) and a joined frame of reference (Dixon, 2000). The research question answered in this study was “What is efficacious in triggering teachers’ CPD participation in terms that it creates awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?”.

The third study incorporated these findings in order to answer the research question “How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?”. Since strengths and people’s passions are likely to correspond more with an appreciative approach than with a deficiency approach the game was developed from a positive and fun perspective. The focus of the game is to strengthen the triggers (strong aspects and passions) in combination with raising awareness about the teacher’s preference of triggers to learn. More specific, how can teachers get a better insight in their strengths and passions so that they consciously move these aspects to perfection, as well as the awareness of their preferred triggers to participate in CPD. For instance, some teachers feel activated by new developments in their field of expertise while others get triggered more during interaction with colleagues.

1.2 Outline of this doctoral dissertation

The overall research question of this PhD was “What triggers CPD participation of teachers?”. To answer this main question three separate studies were conducted after the theoretical foundation had been set.

Chapter 2: Towards a Model Guiding Continuing Professional Development.

This chapter discussed the theoretical foundation for the studies to come; I-Change model. Triggering CPD turned out to be a complex process due to the delicate balance between optimal contextual characteristics and individual factors. The I-Change model incorporated distal and proximal factors influencing the actual behavior, in specific the participation in CPD. According to the I-Change model, people go through the three phases before performing a certain behavior (the awareness phase, the motivation phase, and the action phase). In the awareness phase the target population (i.e. teachers) becomes aware of the current behavior, that is, the behavior itself, its performance and consequences. Awareness means that knowledge about the behavior moves from an unconscious state to a conscious state. The motivation phase is the phase wherein the target population (i.e. teachers) reaches a state in which motivation is formed to engage in the desired behavior. The final phase is the action phase. As the name suggests, in this phase the target group (i.e. teachers) performs the desired behavior. The I-Change model is helpful in understanding how teachers can be activated to participate in CPD and to develop powerful interventions that trigger CPD participation. The first study incorporates personal differences between teachers for example the Core Self Evaluations (CSE) as a predicting factor for teachers going through the phases of the I-Change model. The CSE comprise self-efficacy, self-esteem, neuroticism and locus of control. An explorative study on a population of teachers was conducted in order to test the applicability of the CSE in education.

Chapter 3: Stimulating Teachers’ Continuous Professional Development.

This chapter aimed at validating the developed I-Change model and getting insight in the relevant individual factors in each phase. In Study 1 the following research question was answered: “Are teachers triggered to participate in CPD

following a sequential, gap-based model and what is the relation with personal and psychological factors?”

Sub questions are:

1. How many teachers in the current study who became aware of a performance gap, were motivated to do something about it and subsequently take action?
2. Were awareness and motivation to participate in CPD and action influenced by personal and psychological factors?

The underlying assumption in the study is that not all teachers participate in all the phases. Indeed, teachers often stalled in one of the three phases. Personal factors are one of the influencing factors within the I-Change model explaining how teachers go through the three phases. An example of such a factor is CSE which was significant in finishing two of the three phases.

Chapter 4: Assessment and feedback in order to enhance CPD.

Based on some unexpected results of Study 1 described in Chapter 2, in Chapter 3 Study 2 is described which aimed to find an answer to the research question “What is efficacious in triggering teachers’ CPD participation in terms that it creates awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?” This chapter investigated the usefulness of a deficiency approach as compared with an appreciative approach for triggering CPD.

To gain insight into teachers’ conditions for professional development, a retrospective instrument (the story-line) was used. The first study (described in Chapter 2) resulted in more question than answers regarding why teachers do or do not take part in CPD. Therefore a qualitative data gathering was used in this second study. The aim was define how many teachers had CPD goals, how these goals originated and what those teachers did to fulfill these goals.

Chapter 5: Clickx: Design Based Research.

The findings of the previous chapters offered insights for a new type of intervention that might stimulate CPD within schools. In Study 3 described in Chapter 4, the goal was to develop a powerful intervention (game) for finding a potential answer to the research question: “How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?” This chapter describes the development of a game aiming at strengthening the triggers for CPD and raising awareness about the preferences

of how teachers would like to learn. The goal of the game was to offer insight into their strengths, passions and triggers to take part in CPD. Following a Design Based Research (DBR) approach, a variety of stakeholders participated in the development, design and testing of the prototype of the game in a real life setting. Different games were developed and played in order to determine their suitability (as was preset by the criteria).

Chapter 6: General Discussion.

In the final chapter the overall research question was answered and a critical discussion about the findings was presented. Issues such as reliability, validity and usefulness were addressed with respect to the different studies. The chapter ended with the implications of this doctoral thesis for practice.

CHAPTER 2

Teachers' Participation in Continuing Professional Development. The I-Change Model

Abstract

It is often suggested that not all teachers participate in continuous professional development (CPD) while CPD is important for improving the quality of teachers. As a consequence, the question arises why certain teachers do not participate in CPD and how these teachers' engagement in CPD participation can be triggered. Many countries have used different incentives to enhance teachers' CPD, however the results of those incentives are not very effective. Researchers have been searching for effective CPD conditions, but these conditions only partly explain why teachers do or do not engage in CPD. The integrated model for explaining motivational and behavioral change (or in short, the I-Change model) is proposed to answer these questions. This model is a phase model for behavioural change. The I-Change model defines three phases: the awareness phase, the motivation phase (i.e. intention), and the action phase (i.e. behavior) phase. Within a phase model, teachers have to move through each of the phases. If teachers stall in the first two phases these teachers do not show CPD participation; only when teachers reach the action phase they are engaging in CPD participation. Using the I-Change model we provide insights in the underlying determinants of CPD participation which may give a better understanding of the complex process of teachers' engagement in CPD. With more knowledge of these determinants underlying CPD participation it becomes possible to describe more appropriate guidance (i.e. interventions) to enhance teachers' CPD.

This chapter is based on:

Reynders, L., Vermeulen, M., Kessels, J., & Kreijns, K. (submitted). Teachers' Participation in Continuing Professional Development. The I-Change Model

2.1 Introduction

Interest in Continuous Professional Development (CPD) of teachers is becoming an international trend (Day, Flore, & Viana, 2007; OECD, 2008), because when teachers engage in CPD, it is believed that the quality of the teachers increases which, in turn, has impact on the quality of education (Hattie, 2012).

Many teachers participate in CPD (Social and Cultural Planning Office (SCP), 2009; Deneire et al., 2009; OECD, 2008), but contradicting results in research indicated that some groups of teachers do not take part in professional development activities (Nabhani & Bahous, 2010; Van Eekelen et al., 2006; Goodnough, 2010).

De Weert, Corthouts, Martens, and Bouwen (2002) suggested that teachers have to take responsibility in order to become aware of what they wish to learn. In other words, to gain insight in their learning objectives and take charge of their own learning paths. Teachers themselves should be proactive and shape their professional development but some are better equipped and motivated to do so whereas others need a bit of help or encouragement (Fox, Wilson, & Deane, 2010). Therefore, more insight is needed as to how to trigger CPD within schools in order to improve teachers' participation in CPD activities.

Numerous studies about behavioral change, stressed the importance of personal factors, more specifically, the influence of personal factors in relation to incentives (i. e., interventions) (Broekhuizen, van Poppel, Koppes, Brug, & van Mechelen, 2010; Fishbein & Ajzen, 1975; Kroesbergen, 2009; Kwakman, 1999; Schülz, Sniehotta, Mallach, Wiedeman, & Schwarzer, 2009; STIVORO, 2011; Van Osch, 2009). Additionally, other aspects influence CPD participation of teachers such as the climate within schools (Akcan & Tatar, 2010), and the relationship with managers (Browne, 2010). These contextual factors could influence CPD. However, in this study, we emphasize personal factors in order to shed light on the reasons why not all teachers participate in CPD activities. Knowing these reasons, guidance (i.e. interventions) can be developed in order to support teachers in their CPD journey.

Research on CPD participation of teachers is short of the integration of personal factors influencing interventions to enhance CPD participation. Since CPD is a complex process and people are complex creatures, a model is needed to first

understand teacher CPD. A model used within the healthcare sector -focusing on personal factors and influencing change and intervention- is explored within this chapter in order to explore the applicability for educational purposes.

This chapter starts with a further explanation as to why a suitable model is needed for behavioral change in education, more specifically CPD participation. Next, usefulness and application of the I-Change model as a promising model is described, because this model is developed outside the educational field,. Two possible ways of using the I-Change model (etiological and phase model) are explained. An orientation on the usefulness for both manners is then addressed, and subsequently, possible interventions within the domain of education to trigger teachers' CPD participation.

2.2 Theoretical Framework

Although numerous research has been conducted on the topic of teacher CPD, still no explanation has been found for the contradicting results. For example, Deneire et al. (2009) found, based on the TALIS results (OECD, 2008) that teachers themselves declare they do engage in CPD. However, Vermeulen et al. (2011) found that school leaders complained about the number of teachers who participate in CPD and this study indeed revealed that a vast number of teachers said that they have not been participating in CPD for years. These contradictions could be the results of differences in measuring CPD, but could also be caused by differences in perceptions of the concept of CPD, motivation, and behavior. Motivation is one of the concepts different researchers use at a different way, have different definitions for, etc. Moreover, the concepts of motivation and intention seem intertwined because of the multiple definitions used throughout science. For example, De Vries et al. (2008) incorporated motivation as the second phase into their model. Motivation is the result of distal and proximal measures, for example self-efficacy and is the antecedent for action. This description is merely the same for the theory of planned behavior (TPB) (Ajzen, 1991) which uses the concept of intention. This doctoral theses is centered around the I-Change model, and therefore uses the concept of motivation. When refereeing to specific other theories (i.e. TPB) the concept intention is mentioned. Besides the fact that more consensus among researchers is needed about concepts, a model is required to explain different

research outcomes and at the same time give direction or possible interventions to influence CPD participation.

Traditional models of behavioral change mainly focused on motivation or intention (e.g., TPB, Ajzen 1991, or Social Cognitive Theory, Bandura, 1986). These models considered motivation or intention as a proximal measure for behavior. Although motivation is a very important factor, the transition between motivation and behavior is not that direct. Multi-phase models of behavioral change were developed, taking into account different influencing factors in different phases. The integrated model for explaining motivational and behavioral change (or in short, the I-Change model (De Vries et al., 2008)) integrated a number of those motivational- and multi-phase models, namely the TPB (Ajzen, 1991), social cognitive theory (Bandura, 1986), transtheoretical model (Prochaska & Velicer, 1997), and the health belief model (Janz & Becker, 1984).

The I-Change model (De Vries et al., 2008) is a phase model for behavioral change and includes an awareness phase, a motivation phase, and an action phase. Though this model was applied in the domain of health prevention and health education, with some adaptations it might be applicable to the domain of teachers' CPD participation. This model does incorporate multiple factors influencing each phase therefore doing justice to the complexity of CPD and teachers. The I-Change model seems a simple model just stating the obvious (becoming aware, being motivated and take action). However, it is not that clear-cut because of the many influencing factors.

The I-Change model is used in two ways (De Vries et al., 2008); the first way is determining the actual appearance of desired behavior by focusing on the proximal and distal factors. This resembles an etiological model, giving an explanation for absence or occurrence of behavior. The second way focuses on the phases that precede behavioral change. A phase model gives insight in which factors influenced each phase and gives directions for how to influence behavioral change. Each way of use is described in the next two sections.

The I-Change model as an etiological model

Etiological models focus on the causality between events (De Vries et al., 2008), in this case between motivation and behavior. For the I-Change model just as in TPB (Ajzen, 1991), the central variable is the motivation or intention to perform a particular type of behavior: the desired behavior, in our case teachers' participation in CPD activities. The causality between intention and behavior is

assumed. However, as De Vries et al. (2008) stated, the relationship between intention and actual behavior is not perfect. Facilitating factors such as action plans and actual skills increased the likelihood that intentions could translate into activity whereas barriers could decrease the likelihood of the translation. When describing the I-Change model as an etiological model the focus is on the intention and behavioral phase and on the influencing factors of these two phases.

Intention itself is determined by the proximal factors attitude, social influence and self-efficacy. Attitude, is the individual's overall sympathy or antipathy towards the consequences or outcomes of performing the behavior. Social influence is a combination of subjective norm (as in the TPB), social modelling, and social support (Broekhuizen et al., 2010). Subjective norm was defined by Fishbein and Ajzen (1975) and refers to what extent individuals believe that most people important to them like them to perform that specific behavior. Social modelling and social support refer to the amount of people in an individual's surrounding performing that specific behavior, and how supportive an individual's surrounding is in performing that specific behavior (Broekhuizen et al., 2010). Self-efficacy consists of the 'beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura, 1997, p. 3).

Figure 1 shows the proximal factors influencing the actual behavior; self-efficacy, action plans, skills, and barriers. Self-efficacy influencing the action phase is a different kind of self-efficacy that influences the motivation phase. More specifically, within the motivation phase, self-efficacy is related to the intention of behavior, whereas in the action phase, motivation refers to the maintenance of behavior (Schülz et al., 2009). Action planning encompasses specific goal setting to raise the chance of actual execution (Latham & Locke, 1991). Skills refer to the actual skills an individual needs to perform the specific behavior. Finally, barriers refer to an individual's anticipation on possible barriers.

The proximal factors for intention (e.g., attitude, social influence, and self-efficacy) and for behavior (e.g., self-efficacy, action plans, skills, and barriers) are in their turn influenced through information factors and predisposing factors (see Figure 1). Information factors are further divided into personal-, message-, channel-, and source factors. By means of these factors, intention is established. Personal factors that influence behavior are, for example, demographics (Kwakman, 1999), interests, positive attitude to explore and

need for variety (Kennedy & Clinton, 2009). Message factors are the outcome of persuasive communication (Gollwitzer, 1999). Channel factors are for example television, whereas a celebrity is an example of a source factor. Together with these information factors, the predisposing factors (indirectly) influence intention.

These predisposing factors are subdivided in behavioral-, psychological- and social environment factors. The behavioral factors include behaviors related to a specific behavior, for example alcohol consumption in relation to smoking. An example related to education could be reading academic journals on teacher education and participating in workshops. Psychological factors are for example coping strategies, depression, and social skills. Because environmental factors target social factors from the environment, they resemble social support and social modelling.

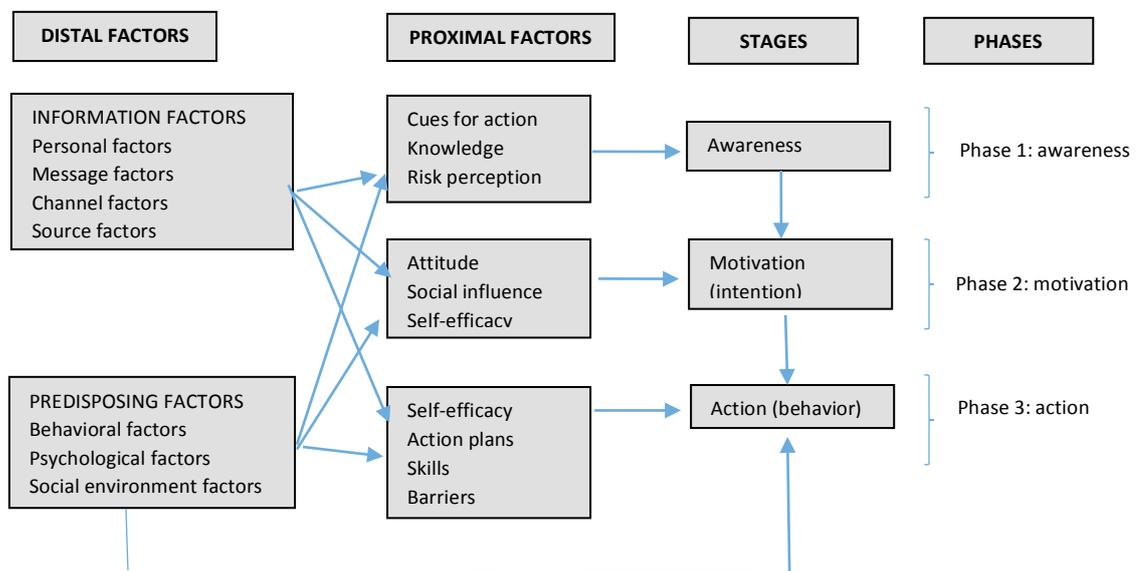


Figure 1: The I-Change behavior phase model (De Vries et.al., 2008): the awareness phase, the motivation phase and the action phase.

The I-Change model as phase model

Besides to the I-Change model as an etiological model that describes human behavior and therefore useful to interpret research outcomes and explain behavior, the I-Change model can be used to develop interventions to trigger the behavioral change. The I-Change model distinguishes three phases: the awareness phase, the motivation phase, and the action phase (De Vries et al., 2008). In the awareness phase the target population (i.e. teachers) becomes aware of the current behavior, that is, the behavior itself, its performance and consequences. Awareness means that knowledge about the behavior moves from an unconscious state to a conscious state. A number of factors are involved in the awareness process, namely, cues and hints (cues to action), the feedback given (knowledge), and the information sources about what the desired behavior should entail (risk perception) (see Figure 1).

The motivation phase is the phase wherein the target population (i.e. teachers) reaches a state in which it forms the motivation to engage in the desired behavior. Motivation is influenced by attitude, social influences, and self-efficacy. These factors were already discussed.

The final phase is the action phase. As this name suggests, this is the phase where the target group (i.e. teachers) performs the desired behavior. The action phase is regulated through self-efficacy, action plans, skills, and barriers as discussed previously.

2.3 Usefulness and application of the I-Change model

Current research insights with respect to professional development of teachers support the applicability of the I-Change model. Regarding the I-Change model as an etiological model, which explains intention and behavior, it is important that the determinants of behavior reflect the determinants of teachers' CPD participation and vice versa. Regarding the I-Change model used as a behavior phase model, it is important that the phases correspond to the phases identified in achieving teachers' CPD participation.

Usefulness of the I-Change model as an etiological model

The current literature was analyzed to uncover determinants of teachers' CPD participation as well as the facilitators and barriers that may help or obstruct the transition of behavioral intention into actual behavior. It was assessed

whether these determinants, facilitators and barriers, fit the I-Change model and vice versa. In order to do so, the focus was set on the information- and predisposing factors influencing intention and behavior. Hereafter, we will describe the distal factors; information factors and predisposing factors (see Figure 1).

Information factors

The information factors that influence the intention to show a specific behavior and the actual behavior itself are divided into personal-, message-, channel-, and source factors. In the literature related to education these factors can be detected as well, as is further explained in the sections below.

Personal factors

Some scholars identify as personal factors demographics, interests, and the need for variety (Kwakman, 1999). The range of personal factors, which may influence intention, is endless, therefore only some of the examples found in education-related literature are discussed.

Ilgen et al. (1979, p.355) studied self-esteem and stated “those with high self-esteem, when compared to those low in self-esteem, relied less on their own self-perception.” Thus, self-esteem may influence the information of a teacher during the formation of intention. For example, it is possible that teachers with high self-esteem give more value to the social influence compared to low self-esteem teachers.

Van Eekelen et al. (2006) found that the willingness (i.e. motivation) to learn is determined by personal factors; self-efficacy, demographic variables, conscientiousness, and reflection. Self-efficacy is related to reflection, which in turn can be associated with CPD participation (Wheatly, 2002). Similarly, Ross and Bruce (2007) found that teacher self-efficacy influenced the way teachers perceive their performance. Likewise, self-efficacy is positively correlated with the ability to correctly assess personal performance (Schunk & Ertmer, 2000). Both Ross and Bruce (2007) and Schunk and Ertmer (2000) assigned an important role to (teacher) self-efficacy in terms of how accurately teachers can assess their own behavior. In terms of the I-Change model, self-efficacy influences the information used to form an intention for behavior. In addition, self-efficacy may define how individuals formulate personal goals (Schunk & Ertmer, 2000; Van de Wiel, Szegedi, & Weggeman, 2004) and therefore influence the formulation of action plans. These action plans are an important

step between intention and behavior (Van Osch, 2009). The transition from intention to behavior is also affected by self-efficacy, and more specifically by the ideas people have about maintaining their goals. The locus of control individuals have (personal factor) influences how active and motivated they are in pursuing their goals (Van Amersfoort, 2009). Locus of control was defined as the degree to which individuals believe they have control over their own lives (Rotter, 1966).

Message factors

These factors refer to the actual information individuals gather in order to form an intention and influence behavior. CPD policy and qualification standards may increase intention. Sachs (2010) argued that standards for teacher performance can be used to improve performance and the status of teachers (quality of teaching seen by others) or trigger CPD participation (Ingvarson, 1998). When a school has formulated a CPD policy, teachers seemed to be more motivated to participate in learning activities (Geijsels, Sleegers, Stoel, & Krüger, 2009). However, many schools lack such specific CPD policy (Opfer & Pedder, 2011; SCP, 2009) and therefore do not offer enough message information to their teachers.

Channel factors

It is possible to distribute information throughout a wide range of channels. In the Netherlands regarding CPD participation, most information is presented in written form or face to face.

Source factors

The credibility of the information source is important in forming an intention (Ilgen et al., 1979). For instance, knowledge in the form of feedback given by a respected colleague is more likely to influence intention and behavior than feedback from an emotional pupil. The school-managers' competence significantly influenced teacher's CPD (SBL, 2006). Therefore, incompetent managers influence teacher attitude towards CPD participation negatively. Besides an individual's ability to influence intention and behavior of teachers, organizational factors are important, such as a safe school climate (Ackan & Tatar, 2010; Chen, 2011; Geijsels et al., 2009).

Predisposing factors

Predisposing factors influence the proximal factors, which determine intention and behavior (De Vries et al., 2008). Within schools where not many teachers engage in CPD, teachers rarely see other colleagues participate in CPD. In other words, the social environment of teachers is not ideal to increase CPD. Most CPD that can be observed is still limited to participation in courses and training, but these types of CPD are not evaluated as highly effective by teachers (Daly et al., 2009). Courses and training focus either on school-wide CPD or on subject specific CPD. School-wide CPD courses and training have fixed content and are often too general (i.e. 'one size fits all') making them less useful for applying them in the daily practice of teaching (Van Veen, Zwart, Meirink, & Verloop, 2010). Nevertheless, these courses and training are quite popular as they address large groups of teachers or even the entire staff and are relatively easy to organize. A shift to more customized CPD is ongoing. For instance, professional development activities are more customized to the school. The pitfall is that the individual need is still not the starting point of CPD. Another example is the encouragement of teachers to get a master's degree. The individual need seems to be the starting point of CPD but still a teacher has to choose from the masters offered (and accredited).

Subject-specific CPD courses and training seems to be more appealing for teachers (Daly et al., 2009) and are more effective when courses and training are adjusted to the learning needs of individual participants (Tracey, Arroll, Barham, & Richmons, 1997) and when learning processes stimulate active learning (Van Veen et al., 2010). Therefore, subject-specific CPD seems to shape a more inviting social environment for CPD participation compared to broad and school-wide CPD.

Another factor identified as a social environmental factor is the presence of a professional learning community where collaborative learning takes place (Cordingley, Bell, Thomason, & Firth, 2005). A professional learning community offers a specific context where teachers work and learn. The functioning of professional learning communities within schools depends on numerous contextual factors (Castelijns, Vermeulen, & Kools, 2013). Participating in a professional learning community could trigger teachers to engage in CPD.

Usefulness of the I-Change model as a phase model

Wiersma, Van der Mooren, and Vermeulen (2002) demonstrated that three conditions must be met in order to improve teachers' performance. CPD is an important process to improve that performance. First, they must gain insight into their own potentials, constraints and interests. Second, the teachers have to define goals. Third, the teachers must take action. In short, CPD can be seen as a phase model where awareness of the need to participate in CPD comes first, motivation to participate second, and finally action follows. These phases are exactly the same phases as identified by the I-Change model.

Awareness phase

As stated before, the I-Change model is developed within the field of healthcare. Therefore, phases could act differently within our field of interest (education). For instance, within healthcare behavioral change has a physical aspect and therefore the consequence of a lack of action is larger within healthcare opposed the education. Within healthcare, many models referred to awareness related to a gap that needs to be eliminated. With regard to teacher CPD, a performance gap approach is often implicitly present (for example Gallant & Mayer, 2012; Opfer & Pedder, 2011; Pedder et al., 2010). Other examples of deficiency models are the onion model (Korthagen, 2004) and the phase model for core reflection (Korthagen & Vasalos, 2005), both assumed that changing behavior should start from a tension or discrepancy between the current and ideal situations. Saunders (2012) explained that many professional development programs assume a gap and therefore only support short-term learning and practice-change to close that gap. This could be an indication of a culture where teachers see their profession as checklists of performance standards and competencies (Hargreaves, 2000).

The reflective practitioner model (Schön, 1983) stated that change can only occur when individuals are aware that the current practice is insufficient and when they want to improve performance. These models incorporated awareness of a gap as an important phase preceding the actual change of behavior. After awareness is reached, new possibilities for improved practice could emerge (Posthom, 2008). However, Van Eekelen et al. (2006) found that awareness alone was an insufficient condition for participation in CPD. Some groups of teachers were aware of a performance gap but were ignorant about how to participate in CPD activities. In other words, that group of teachers was aware of the need to take part in CPD but could not act on it.

Motivation phase

Within I-Change as a phase model, the motivation phase is reached after the individual has become aware. As stated previously, not all teachers moved from being aware to taking action (Van Eekelen et al., 2006). The motivation phase eased the transition from awareness to action. The core of this phase was studied extensively through the TPB (Ajzen, 1991). Various proximal factors were addressed (Fishbein & Ajzen, 2010) such as attitudes, subjective norms and behavioral control that influenced the motivation to participate in a professional development activity. Intention to perform a certain behavior was a proximal measure of whether that behavior would actually be performed (Fishbein & Ajzen, 2010).

Action phase

Although intention was a proximal measure for action, numerous authors have suggested that many factors affected actual behavior (e.g., Kroesbergen, 2009; Broekhuizen et al., 2010; Schülz et al., 2009; Van Osch, 2009). Goal formulation - or in terms of the I-Change model - action plans were an important transitional factor between motivation and action. Hoban (2002) stated that one of the conditions required for learning is the presence of a goal. While participating in CPD is the last phase of the model, information factors and predisposing factors (together the distal factors) influenced the proximal factors leading to action.

In summary, the I-Change model as a phase model seems applicable for the educational field because various similarities can be drawn. The remainder of this chapter will present the I-Change model as a phase model which differs from or is an addition to an etiological model because the objective of this chapter is not to describe or predict CPD participation but to develop interventions with the aim to augment CPD participation.

2.4 Designing guidance (i.e. interventions)

Now that is described what kind of determinants and facilitators can play a role in behavioral change, the attention can be shifted to guidance or interventions for teachers to augment their CPD participation. Separate target interventions can be designed, implemented, and evaluated. That is, for those determinants that can be influenced and at the same time are strongly related to the various

phases of CPD participation. The interventions should focus on these determinants and strengthen their influence. Thereby moving through the phases until teachers participate in CPD.

Persuasive communication

Persuasive communication is here defined as information for teachers about the advantages of CPD participation aiming at convincing teachers to participate in CPD. Persuasive communication (Gollwitzer, 1999) can be used as a part of an overall intervention to encourage teachers' CPD participation. Persuasive communication is one of the information factors within the I-Change model playing a decisive role in performing behavior. These information factors include the exact content of the message, how the message is presented, and by whom or what. For school leaders, the aim is to convince teachers of the advantages of CPD as it benefits both the teacher and the school. School leaders should pay more attention to teachers' CPD participation so that the teachers don't feel constrained but motivated. Another outcome might be that school leaders talk about the CPD policy (i.e. a message factor as noted previously) within their school because this has proven to be effective (Geijsels et al., 2009). In doing so, in the ideal situation, the leaders send the message across that CPD is important (message factor) and more teachers will participate in CPD (social environment factor). In short, various factors influence each other, the proximal measures, and eventually intention and behavior.

Organizing communication about CPD in schools

Organizing CPD in schools may comprise a number of actions that has to be accomplished. Important determinants identified were the presence of a CPD policy and the presence of quality standards. CPD policy and quality standards are necessary elements in organizing CPD participation and act as information factors (e.g., channel and source factors) for teachers to assess their CPD participation in relation to their teaching performances. However, do all teachers know about the existence of a possible CPD policy within their school? This information needs to be known before it can be exploited for assessing one's current teaching. Moreover, it can be questioned whether teachers can assess their own practice objectively even when information sources as policy and quality standards are at their disposal (Ross & Bruce, 2007; Schunk & Ertmer, 2000). Therefore, the message information should not be restricted to

availability but information about teacher's performance should be provided as well for instance feedback about personal performance. Janssen (2013) suggested a specific professional development cycle for schools to integrate professional development plans, which incorporate action plans for schools to offer more structure to their teachers. Within that professional development cycle policy-information as well as performance-information gets incorporated. Therefore, the cycle could enhance CPD participation for teachers.

Coaches within schools

Janssen (2013) found that coaches are a valuable addition within the CPD cycle of schools in that they support teachers; give feedback and other necessary information. A coach should particularly emphasize feedback because the combination of feedback and reflection is crucial for teachers to establish innovations (Hattie & Timperley, 2007). Teachers may become aware of their need to improve their teaching by comparing the performance they think they actually have accomplished with the desired performance (Regehr & Eva, 2006). However, they may not assess their own performance correctly (Schunk & Ertmer, 2000). Therefore, a coach could provide the teacher with feedback (message factor). Teachers experienced difficulties in formulating an action plan (Janssen, Kreijns, Bastiaans, Stijnen, & Vermeulen, 2012). Formulating an action plan was another important factor in the transition of the motivation phase to the action phase and for maintaining CPD participation. Therefore, interventions to enhance CPD could incorporate a coach who provides teachers with feedback, help them to formulate goals and action plans, and to support them to participate in CPD. Otherwise, teachers could stall in one of the phases (Wiersma et al., 2002). Janssen et al. (2012) concluded that teachers guided by a coach were more capable in formulating learning goals. Their results showed that personal factors affected the extent to which an individual could formulate a goal on their own without coaching.

Because coaches have an important role, their recruitment should be done prudently. Coaches need to possess basic knowledge about personal factors that can be influenced and/or personal factors. Additionally, they should know how a particular teacher performs; ideally, the coach is a representative of the school and thus of the school norms and goals. Teachers are more willing to take part in CPD activities that match their needs (Tracey et al., 1997). In some cases, teachers did not exactly know what their needs were, and the coach helped them to elicit these needs (Janssen, 2013).

2.5 Discussion

Central topic of this chapter is to explain the processes that influence teachers when engaging in CPD and to offer interventions how to trigger CPD participation based on a model. The I-Change model (De Vries et al., 2008), developed within the field of healthcare was, in theory, applicable for teacher development. The practical applicability of this model has to be investigated in future research.

The two phases preceding action (e.g., awareness and motivation), were related with a number of different educational studies. However, some consequences of separate phases and especially the action phase are dissimilar between healthcare and education. For example, an overweighted individual is aware of the importance of exercising, has the motivation of going to the gym, but does not actually go to the gym. That same individual can get ill as a consequence. Not acting on an intention has less direct (and less severe) consequences for a teacher. For example, a teacher is aware of the usefulness of a smart board, has the intention of using the smart board but does not put that intention into action. The result might be that students are less interested in the lessons and do not absorb as much information as they could, the lesson is less effective. This example shows that not following an CPD intention for teachers may have consequences for students but only modest ones for the teacher himself. In other words, the consequences of a lack of action within education are seldom directly brought back to individual teachers. The distance between motivation and behavior could be greater in education than in healthcare. The I-Change model gives insights in the reasons why teachers do not participate in CPD and gives direction to interventions that can enhance teacher CPD.

A few possible interventions were described incorporating the different elements of the I-Change model. But till now, the knowledge about the specific influence of distal factors on the proximal factors leading to establishing awareness, motivation or action is still in a preliminary stage with regard to the subject of teachers CPD. The effect of self-esteem on the motivation (Ilgen et al., 1979; Van Eekelen et al., 2006) and action phase (Schunk & Ertmer, 2000; Van de Wiel et al., 2004) and that of locus of control on the action phase (Van Amersfoort, 2009) was discussed. Broader exploration is needed on the relation of personal factors (one of the information factors of the I-Change model) with proximal factors and finally in what phase interventions are useful.

Future research within education should investigate whether the I-Change model as a phase model and the deduced interventions are relevant for teachers and their CPD. Furthermore, future research needs to set directions for what action should follow and if adjustments of the model for the educational field is needed.

CHAPTER 3

Stimulating Teachers' Continuous Professional Development in the Netherlands

Abstract

Planned Continuous Professional Development (CPD) in the past and current international initiatives are frequently based on an implicit deficiency assumption or gap-based model. This study answered the research question "Are teachers triggered to participate in CPD following a sequential, gap-based model and what is the relation with personal and psychological factors?" Specifically, the influence of personal and psychological factors on three phases of teacher CPD according to the I-Change model (awareness of the need for CPD, motivation to take part in CPD and taking action) was studied. The analysis of 119 questionnaires showed that not all teachers participated in all three phases. Surprisingly, few teachers had a performance gap and even a smaller number had the motivation to improve. The results showed that teachers with high scores on Core Self Evaluations (CSE) were less likely to become aware of or formulate a CPD goal than teachers with lower CSE scores.

This chapter is based on:

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3.1 Introduction

Continuous Professional Development (CPD) of teachers is more prominently present in international literature on education (Day et al., 2007). Different countries use different strategies or policies to support CPD (Jones & O'Brien, 2011; Forsberg & Wermke, 2012). However, these efforts do not always pay off and teachers are not always willing to participate in CPD activities (Van Eekelen et al., 2006; Chapter 3)

The literature on CPD is multifaceted. Some authors advocate for CPD that fits the needs of participants (Avalos, 2011; Kennedy & Clinton, 2009) or personal characteristics of teachers (Kwakman, 2003). Other authors emphasize the importance of contextual factors (Van der Heijden, 1998). Some authors combine these factors. For instance, Dymoke and Harrison (2007) consider the importance of both personal and professional needs, while Walker and Cheong (1996) discuss the importance of a balance between individual and organizational needs. Guskey (2002) state that the majority of CPD programs fail because of two important factors, teachers' motives and the process of teacher change. While authors emphasize different factors influencing CPD, the need for triggering CPD in order to enhance engagement in CPD is a constant factor.

Over the years, different models were developed for triggering CPD. For instance, models that focused on teacher change and pointed at CPD programs as the initial trigger for CPD participation (Gusky, 1986). In addition, motivation was acknowledged as an important factor for participation in CPD activities as it affects teachers' beliefs and attitudes. While Guskey's model focused on how the process of CPD participation started, it did not give any detailed description of how to stimulate teachers to participate in planned CPD.

Loucks-Horsley, Hewson, Love, and Stiles (1998) presented a continuous and circular design of CPD, starting with goal formulation, leading up to reflection on the CPD activity undertaken. In contrast to Guskey's model, the latter model did not explicitly incorporate teachers' motivation.

Other more general models of behavioral change focused mainly on motivation and intentions to engage in certain behavior (e.g., Theory of Planned Behavior, TPB, Ajzen, 1991; and Social Cognitive Theory, SCT, Bandura, 1986). These models considered intentions as a proximal measure for actual behavior.

In the last decade, multi-phase models of behavioral change were developed, taking into account different influencing factors in different phases of the

process. The Integrated Model for explaining motivational and behavioral change, in short, the I-Change model (De Vries et al., 2008), integrates a number of motivational- and multi-phase models, more specific the TPB (Ajzen, 1991), SCT (Bandura, 1986), the trans-theoretical model (Prochaska & Velicer, 1997), and the health belief model (Janz & Becker, 1984).

The I-Change model (De Vries et al., 2008) is a phase model for behavioral change. It includes three phases: an awareness phase, a motivation phase, and an action phase. The model provides insight into factors relevant to each phase. It also gives directions on how to influence these factors in order to reinforce behavioral change. While this model is applied predominantly in health prevention and health education, it is relevant and applicable to the domain of teachers' CPD participation. CPD participation can thus be seen as a phase model where awareness of the need to participate in CPD comes first, motivation to participate second, and finally action follows.

While the I-Change model could be applied to multiple kinds of CPD, in this study it was applied exclusively on teachers' deliberate learning processes. For three reasons the focus was on teachers' deliberate learning processes. First, it was important for the school-practice that teachers learn to articulate better what they have learned in performance- and development interviews. Kennedy (2011) showed that teachers do not mention these learning events when asked what CPD activities they have undertaken. Second, to focus on deliberate learning processes was to be in line with many national and school policies, which tried to stimulate teacher engagement in specific CPD activities. These policies focused on closing a gap in teacher performances compared to the standards set by policy makers or school-management. Third, some teachers should participate in CPD to keep up with standards. The proposed I-Change model could provide guidance on triggering teachers to take part in CPD activities.

As indicated earlier, the I-Change model was developed within the field of healthcare where many models referred to awareness related to unhealthy behavior that needs to be changed. With regard to teachers' CPD, the need to change was a performance gap. Saunders (2012) explained that many professional development programs assume a gap and therefore only support short-term learning and practice-change to close this gap. Such a gap approach was often implicitly present (Gallant & Mayer, 2012; Opfer & Pedder, 2011; Pedder et al., 2010). Examples of such deficiency/gap models are the onion model (Korthagen, 2004) and the phase model for core reflection (Korthagen &

Vasalos, 2005). Both assume that changing behavior should start from a tension or discrepancy between the current and ideal situations. The reflective practitioner model (Schön, 1983) states that change can only occur when individuals become aware that the current practice is insufficient and when they want to improve performance. These models incorporate awareness of a gap as an important phase preceding the actual change of behavior. After awareness is reached, new possibilities for improved practice can emerge (Posthom, 2008). While awareness constitutes a form of professional awakening Van Eekelen et al. (2006) concluded that awareness alone is an insufficient condition for participation in CPD.

Wiersma et al. (2002) asserted that not all teachers go through the three conditions – insight into their own potentials, both constraints and interests, define goals, and take action – automatically. This is in line with the assumption within the I-Change model where not all teachers automatically pass through the three phases - awareness, motivation and action.

Triggering CPD turned out to be a complex process due to the delicate balance between optimal contextual characteristics and individual factors. The I-Change model incorporates multiple factors (distal and proximal) that influence the actual behavior, in this case participating in CPD. Figure 1 (in Chapter 2) contains the three phases within the I-Change model (the awareness phase, the motivation phase, and the action phase) and their influencing factors (De Vries et al., 2008).

In the awareness phase the target population (i.e. teachers) becomes aware of the current behavior, that is, the behavior itself, its performance and consequences. Awareness means that knowledge about the behavior moves from an unconscious to a conscious state. A number of factors are involved in the awareness process, namely, cues and hints (cues to action), the feedback given (knowledge), and the information sources about what the desired behavior should entail (risk perception) (see Figure 1, Chapter 2).

The motivation phase is the phase in which the target population (i.e. teachers) reaches a state in which it forms the motivation to engage in the desired behavior. Motivation is determined by the proximal factors attitude, social influence and self-efficacy. Attitude is the individual's overall sympathy or antipathy towards the consequences or outcomes of performing the behavior. Social influence is a combination of subjective norm, social modelling, and social support (Broekhuizen et al., 2010). Subjective norm was defined by Fishbein and Ajzen (1975) and referred to the extent to which individuals

believe that most people important to them might like them to perform that specific behavior. Social modelling and social support refer to how many people in an individual's surrounding perform that specific behavior and how supportive an individual's surrounding is in performing that specific behavior (Broekhuizen et al., 2010). Self-efficacy consists of the 'beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura, 1997, p. 3).

The final phase is the action phase. As the name suggests, in this phase the target group (i.e. teachers) perform the desired behavior. The action phase is regulated through self-efficacy, action plans and skills. Self-efficacy influencing the action phase is different from the self-efficacy influencing the motivation phase. More specifically, within the motivation phase, self-efficacy is related to the intention of behavior, whereas in the action phase self-efficacy refers to the maintenance of behavior (Schülz et al., 2009). Action planning encompasses specific goal setting to raise the chance of actual execution (Latham & Locke, 1991). Skills refer to the actual skills an individual needs to perform the specific behavior. Finally, barriers refer to an individual's anticipation of possible barriers.

In short, each phase of the I-Change model is influenced through a specific proximal factor (see Figure 1, Chapter 2). However, these proximal factors (and thereby implicitly the outcome of each phase) are influenced by distal factors. Distal factors are facilitators and barriers that might help or obstruct the transition between phases. Within the I-Change model the distal factors are subdivided into information factors and predisposing factors.

The information factors consist of personal-, message-, channel-, and source factors. Some scholars identified personal factors as demographics, interests, and the need for variety (i.e. Kwakman, 1999). Message factors refer to the actual information individuals gather. Sachs (2010) argued that standards for teacher performance can be used to improve performance as well as the status of teachers (quality of teaching seen by others) or trigger CPD participation (Ingvarson, 1998). Standards serve the role of a message on "how to perform". When a school had formulated a CPD policy, teachers seemed to be more motivated to participate in learning activities (Geijsels et al., 2009). However, many schools lack such specific CPD policy (Opfer & Pedder, 2011; SCP, 2009) and therefore do not offer enough message information to their teachers. A wide range of channels to get information across could be used and are also of influence. In the Netherlands, in the context of CPD participation, most

information is presented in writing or face-to-face. In addition to the channel, source factors were an important distal factor influencing proximal factors and thereby influencing the phases of the I-Change model (see Figure 1, Chapter 2). The credibility of the information source is important (Ilgen et al., 1979). For instance, knowledge in the form of feedback given by a respected colleague is more likely to influence intention and behavior than feedback from an emotional pupil. The school managers' competence is shown to significantly influence teachers' CPD (SBL, 2006).

The predisposing factors incorporated in the I-Change model are behavior-, psychological-, and social environment factors. Within schools where not many teachers are engaged in CPD, teachers rarely see other colleagues participate in CPD. In other words, in such cases the social environment of teachers is not ideal to increase CPD. Most CPD that could be observed is still limited to participation in courses and training, but these types of CPD have not been evaluated as highly effective by teachers (Daly et al., 2009). Using the metaphor of the iceberg, psychological factors are the underwater characteristics and include, for example, self-esteem, self-efficacy and locus of control.

The I-Change model can be helpful in gaining more insight into distal and proximal factors from an educational perspective. This can shed more light on why some teachers do not move from phase to phase and do not engage in CPD and can lead to interventions that help teachers to overcome hurdles within a particular phase. This chapter discusses the results of the study in which the usefulness of the I-Change model is verified in educational practice. The main research question is: Are teachers triggered to participate in CPD following a sequential, gap-based model, and what is the relation with personal and psychological factors? Subquestions include:

1. How many teachers in the current study who became aware of a performance gap, were motivated to do something about it and subsequently take action?
2. Were awareness and motivation to participate in CPD and action influenced by personal and psychological factors?

In order to make the results of this study useful for practice and science, the study was carried out in a specific situation (a group of three schools under one school board). By focusing on teachers within one school board, the contextual elements such as Human Resource Management policy were considered stable. In the Netherlands, a school board is one group of managers for different schools at different locations. This stability made it possible to study the

influence of the selected focus variables (e.g., personal and psychological factors) on CPD.

3.2 Psychological factors

For this study, a specific set of psychological factors was selected proven to be relevant within the field of education.

Core Self Evaluations

Extensive research corroborated the existence and value of Core Self Evaluations (CSE) as a construct that encompassed four psychological variables: neuroticism; self-esteem; self-efficacy and locus of control (Judge, Locke, & Durham, 1997). The evidence of a common construct for neuroticism, self-esteem, self-efficacy and locus of control led to the development of the Core Self Evaluations Scale (CSES) (Judge, Erez, Bono, & Thoresen, 2003). Neuroticism was defined as the tendency to be anxious, contrite, and insecure (Costa & McCrae, 1988). Judge, Locke, Durham, and Kluger (1998) defined self-esteem as the overall value people attribute to themselves. Bandura (1997), as has been described, defined self-efficacy as “belief in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). The fourth core construct, locus of control, was defined as the degree to which a person believes he or she has control over his or her own life (Rotter, 1966).

The four core variables of CSE were related to the four out of five factors of the Big Five (agreeableness, openness, conscientiousness and extraversion). Judge, Erez, Bono, and Thoresen (2002) found a strong to moderate relationship between CSE and both conscientiousness and extraversion as well as a weak relationship or no relationship between CSE and agreeableness and openness. In addition, there was a strong relationship between CSE and neuroticism (within the Big Five), but CSE proved to be a broader construct than neuroticism alone.

The construct of CSE has been studied over the years, thus providing more evidence for its existence and value. Judge et al. (1997) tested this core construct primarily in the fields of work- and organizational psychology, but CSE has not yet been linked to CPD. However, the link between the separate constructs and CPD was made by different authors as presented hereafter.

The relationship between self-efficacy and awareness was supported by the research of Schunk and Ertmer (2000) and Ross and Bruce (2007). These authors found that self-efficacy determined how accurately people perceive their own performance. Van Dinther, Dochy, and Segers (2011) and Ross and Bruce (2007) found that self-efficacy influences the way people set goals and the effort people make to obtain their goals (proximal factors within the I-Change model).

Locus of control could also be linked to the phases of the I-Change model, because it influenced peoples' response to feedback (part of the information factors) (Ilgen et al., 1979). In addition, locus of control influenced how active and motivated a teacher was in establishing goals (Van Amersfoort, 2009) that is, how genuinely a teacher intended to take part in CPD.

In order to include the CSE as a psychological factor in future studies, the reliability had to be examined. Although the CSES was an established questionnaire in the Netherlands and beyond, there was no guarantee that teachers would act according to its expectations. To examine the practical relevance of the chosen variables in addition to their theoretical relevance, an existing database was consulted. This pre-study intended to answer the question, "Is the CSES a reliable measure for teachers?"

The database consisted of 79 teachers from different secondary schools in the Netherlands. The distribution of men and women was respectively 22.8 and 77.2 per cent and the mean age was 34.8 years (SD = 12.5). The Dutch Core Self Evaluations Scale (DCSES) (de Pater, Schinkel, & Nijstad, 2007) consisted of 12 items scored on a 5-point scale ranging from totally disagree (1) to totally agree (5). The 12 items of the DCSES had a mean score of 36.13 with a standard deviation of 5.32 and a Cronbach's alpha of .79. On the basis of this reliability, it was concluded that the DCSES was acceptable as a psychological test and can be used in future studies.

The personal factors measured in this study were age, experience and whether the teacher was employed in pre-university education.

Age

Many studies incorporated age as a control variable. Age influences multiple aspects of CPD (Hustler, McNamara, Jarvis, Londra, & Campbell, 2003). For instance, age influenced teachers' perceptions of the kinds of activities that fall under CPD, and older teachers had more negative attitudes toward CPD than their younger colleagues. In addition, there was a relationship between age and

motivation to learn and between age and learning process (Colquitt, Jeffrey, LePine, & Noe, 2000).

Experience

Experience was defined as the number of years a teacher has been in the teaching profession. Experience influenced the learning needs of teachers (Nabhani & Bahous, 2010).

Although age and experience were closely related variables, they were both included in the study. People who entered the teaching profession after a career in another field might develop a different way of going through the I-Change model.

Teaching in pre-university education

In the Netherlands, secondary schools offer different education systems. Pre-vocational secondary education includes vocationally focused training (ages 12 to 16). Senior general secondary education includes more theoretical studies (ages 12 to 17) and pre-university education has the most scientific content (ages 12 to 18). The student and teacher populations of these education systems differ accordingly.

3.3 Method

Participants

The underlying assumption of the I-Change model was that some teachers did not become aware of the need to develop as professionals. Therefore, working in pairs of one teacher and his/her team coordinator (TC) was important because the TC could give information (feedback) to the teacher in order to raise awareness. The online questionnaire (available through the first author) was presented to 408 pairs consisting of a teacher and a TC, representing the total population of three different schools under the jurisdiction of the same school board. From the invited pairs, 119 completed the entire questionnaire (29.2%). The distribution of the sample was 56.4% men and 44.6% women. The mean work experience in education was 16.2 years ($SD = 13.3$). The mean age was 44.2 years ($SD = 18.8$). This sample was representative of the Dutch teacher population in secondary education (Inspection of Education, 2010).

Procedure

An online questionnaire seemed the most suitable research method because it could be made part of the process of teacher assessment within the schools, and it was least time consuming for both teachers and researcher. When teachers have to invest a lot of time and energy in research participation, the return rate would drop drastically.

All TCs and teachers received a pre-notice email about the questionnaire before their Spring break, signed by the director of the school board. After the vacation, each participant received an invitation by mail to complete the online questionnaire. Approximately one month after the invitation, the TC and teachers who had not completed the questionnaire received a reminder.

First, the TC completed the questionnaire assessing the teacher's performance. Next, the teacher responded to an extended questionnaire. The teacher also assessed his/her own performance followed by immediate information about the TCs feedback. Hereafter, the TC answered questions about his or her response to that feedback. The combined results (answers of the TC and answers of the teacher) were the unit of analysis for this study.

Instruments

For collecting data on teacher's performance, a suitable topic had to be chosen. In a pilot study a focus group of five teachers discussed a variety of possible topics for assessing teachers. The criteria to judge the suitability of the topics used by the five teachers were: 1) recognizability for teachers; 2) use of similar definitions among different teachers; 3) possibility of differentiation of competence between teachers; and 4) opportunity for teachers to score themselves as having a need to improve. Participants measured each topic against the criteria and checked if they had a shared connotation for those topics. To summarize, the focus group named three topics (giving instruction, use of student-activating teaching methods and differentiation in the classroom) suitable for assessing. In the end, the panel of teachers found that the topic "ability to use student-activating teaching methods" was most suited to incorporate in the analysis of this study. Additionally, a study by Freedman, Echt, Cooper, Miner, and Parker (2012) showed that teachers search for active teaching methods to promote deeper levels of information processing. Student-activating teaching methods were examples of student-centered approaches to learning which emphasize the responsibility and activity of students regarding learning ultimately leading up to deep learning and

understanding (Baeten, Kyndt, Struyven, & Dochy, 2010). The first draft of the questionnaire was reviewed by the same group of five teachers. After this pilot phase, the topic of student-activating teaching methods was incorporated to score teacher performance and a few textual adjustments were made to make it better suited to the educational setting.

TCs received the questionnaire about teacher performance. This questionnaire consisted of two parts; part one referred to the contact between TC and teacher regarding quantity and quality, while part two incorporated the scoring of teacher performance by the TC. The teacher questionnaire consisted of the same two parts, and two new parts were added. The first new part showed the scoring the TC gave to the teacher and asked for a response (for example “To what extent do you agree with the feedback of the TC?” scoring from totally disagree to totally agree). The second new part of the teacher questionnaire contained personal factors and the CSE. The Core Self-evaluations Scale (Judge et al., 2002) was translated and validated into the Dutch Core Self-evaluations Scale (de Pater et al., 2007). The Dutch Core Self-evaluations Scale ($\alpha = .81$) consisted of 12 items (3 items per sub-scale) with a five-point response scale ranging from totally disagree (1) to totally agree (5). One of the indicators for locus of control was ‘I decide what happens’.

Analysis

To answer the first subquestion ‘How many teachers in this research project become aware of a performance gap, are motivated to do something about it and take action?’ insight into the flow of participants through the phases of the I-Change model was needed (Figure 2).

The first step of the flowchart was to assign whether teachers had a performance gap and thus the possibility of becoming aware of a gap. In other words, not every teacher needs to improve his/her performance in using student-activating teaching methods. This precondition was determined through the comparison of the teacher performance scores (on a scale of one to ten) given by the TC and the teacher. In other words, the individual questionnaires of the TC and teacher were combined, resulting in one data set. When the two scores differed by at least two points, room for improvement or, in other words, a gap was present.

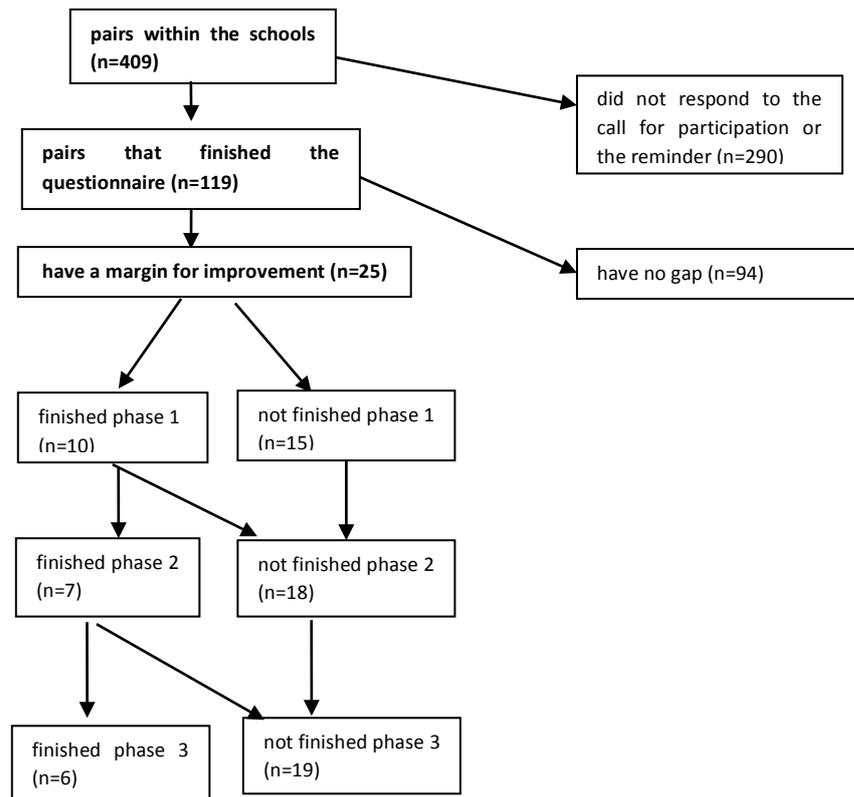


Figure 2: Flow of participants throughout the study

Teachers had two possible ways of being assigned to the awareness phase:

- 1) The TC gave a higher score than the teacher and the teacher disagreed. For example, if the TC gave the teacher a seven and the teacher gave a score of five.
- 2) The TC gave a lower score than the teacher and the teacher agrees with the score of the TC.

The motivation phase included teachers who intended to take action. Motivation was measured with the question: 'To what extent do you want to do something to optimize the use of student-activating teaching methods?' (Five-point scale: 1 = I will certainly take no action; 5 = I will certainly take action).

Teachers participated in the action phase if they had formulated a goal. Goal formulation was used since the actual behavior could not yet be performed.

Moreover, goal formulation was closely linked to the formulation of an action plan, one of the proximal factors of action. Goal formulation was measured with the question: 'Do you have specific development goals to optimize the use of student-activating teaching methods?' (four-point scale: 1 = not at all; 4 = multiple).

In the analysis, the successive order of the I-Change was accounted for; analysis for motivation phase (phase 2) only included teachers who completed the awareness phase (phase 1), and analysis for action (phase 3) only included teachers who completed the previous phases.

Control analyses were performed to check for the influences of personal and psychological factors. In other words, a check was performed to ensure that these factors did not differ before teachers entered a phase.

The CSE and personal factors (age, experience) were tested with an independent T-test. The variables were set as testing variables and inclusion in the analysis of the research questions was set as the grouping variable. The possible significance of being employed in pre-university education was evaluated using χ^2 .

The only significant variable was teacher's experience. The group of teachers who became aware of a gap had less experience ($M = 11.52$, $SD = 8.83$) ($t(41) = -3.16$; $F = 39.71$; $p = .003$) than teachers who did not become aware of a gap ($M = 17.86$, $SD = 12.59$). As a consequence, experience was not incorporated in the analysis of the second research question.

To answer the second subquestion 'In what ways are awareness, motivation to participate in CPD and action influenced by personal and psychological factors?' the Mann-Whitney U test was performed using the CSE and age as testing variables and teacher's inclusion (or not) in a phase as the grouping variable. The possible significance of being employed in pre-university education was again tested using χ^2 (results are discussed below).

3.4 Emerging themes

Few teachers became aware of a performance gap

Figure 2 shows the flow of participants through the phases. With regard to the use of student-activating teaching methods, of the 25 teachers with performance gaps, ten (40%) became aware of the gap. From this group seven (28%) had the motivation to overcome the gap and six (24%) formulated a goal

in order to take action. Less than a quarter of the teachers became aware of a performance gap or had the intention to take part in CPD.

The I-Change model holds the assumption that not all teachers complete all the phases, and indeed, some teachers got stuck in a phase. Based on the feedback of the pilot study, it was a surprise that so few teachers had a gap with regard to using student-activating teaching methods and an even lower number (6) was ready for action. Possible explanations will be given later on in this chapter. From our study, it was impossible to predict how many of the 24% of the teachers who intend to take action will actually take part in CPD.

Core self-evaluations and age partially influenced the transition from awareness through motivation to participate in CPD to action

CSE was significantly related to completion of awareness and action (phases 1 and 3 of the I-Change model) (resp. $U = 33.0$, $p = .019$ and $U = 29.0$, $p = .039$). Teachers who finished phases 1 and 3 had a lower mean score on the CSE than teachers who did not finish these phases. This might indicate that CSE was an important variable to consider in planning the CPD process. In other words, teachers who had more self-efficacy, higher self-esteem, emotional balance, and an internal locus of control were less likely to become aware and take action. Note that the mean score in the lower group on CSE was still above the theoretical mean (theoretical mean= 36 and mean of the low-scoring group= 43.7). The relatively high score of the low-scoring group (mean= 43.7 compared to the theoretical mean= 36) indicated that both the low-scoring group and high-scoring group teachers ranked high on CSE. The former conclusion that stated that low-scoring teachers were more likely to finish phase 1 and 2 can be specified in teachers with an above average score on CSE were more likely to finish the awareness and action phase than those who had an extremely high score on CSE.

Although CSE had a significant influence on two of the three phases of the I-Change model, the results contradicted our expectations, namely that teachers with high CSE scores were more likely to complete the phases than those with low CSE scores. In the case of self-esteem, a possible explanation could be that the high scores might reflect overconfidence, which can result in less self-reflection and receptiveness to the input of others (distal factor of the I-Change model; see Figure 1).

An explanation for the contribution of the other two components of CSE (emotional stability and locus of control) was less obvious. People who were

emotionally stable should be able to move toward CPD more easily than people who were not as stable because a high score on emotional stability indicates less anxiety and insecurity. The results of this study, however, contradicted this common sense notion.

Along the same line of reasoning, teachers with a more internal locus of control were likely to attribute failure to their own behavior and, accordingly, should become aware more easily of a development possibility than people with an external locus of control. The results of this study, again, contradicted this common sense notion. Perhaps an explanation could lie in the fact that this study did not take the content of teachers' CPD goals into account.

In short, teachers with an above average score on CSE were more likely to finish Phases 1 and 3 than those who had an extremely high score on CSE. Here, a plausible explanation for two scales of the CSE emerged; high scores on self-esteem and self-confidence may reflect overconfidence, which results in less self-reflection and lower receptiveness to the input of others.

Age was significant for coming into the awareness phase

Teachers who finished the first phase were older ($M = 47.4$, $sd = 10.01$) than teachers who did not finish the first phase ($M = 35.6$, $SD = 11.64$). Schunk and Ertmer (2000) found that older students use more self-regulating strategies than younger students. This distribution could persist later in life, thus supporting our findings.

Being employed in pre-university education was not significantly related to the transition between phases (Table 1). This may mean that the type of educational system in which a teacher works had little influence on how he or she developed the intention to participate in CPD.

Table 1: Influence of employment in pre-university education on completion of each of the three phases

Individual factor	phase 1				phase 2				phase 3			
	<i>n</i>	<i>Chi</i> ²	<i>df</i>	<i>p</i>	<i>n</i>	<i>Chi</i> ²	<i>df</i>	<i>p</i>	<i>n</i>	<i>Chi</i> ²	<i>df</i>	<i>p</i>
Being employed in pre-university education	25	.33	1	.653	25	.11	1	1.000	25	.38	1	.606

As expected, CSE and age influenced the transition between phases. But neither CSE nor age influenced all the phases. As a result, the hypothesis that

personal and psychological factors influence the transition between phases was partially confirmed.

CSE was only significantly related to completion of awareness and action (phases 1 and 3 of the I-Change model). A potential explanation for the non-significant relationship between CSE and motivation (or intention) could be found in the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) and the Theory of Planned Behavior (Ajzen, 1991). In short, the TRA stated that intention was influenced by a person's subjective norm and attitude toward behavior. The Theory of Planned Behavior extended this view by incorporating the influence of perceived behavioral control (very similar to self-efficacy). One's attitude toward behavior was the product of his or her belief about the outcome and the value that he or she placed on that expected outcome. A person's subjective norm was a combination of the beliefs of others and the extent to which a person wanted to conform.

Unlike Fishbein and Ajzen (1975), who measured intention more extensively, this study measured motivation very straightforwardly by asking one question ('To what extent do you want to do something to optimize the use of student-activating teaching methods?').

3.5 Concluding observations

The group of teachers who detected a performance gap applying student-activating teaching methods was relatively small (Figure 2): 25 out of 119 teachers (21%). Based on previous studies (Freedman et al., 2012; Baeten et al., 2010) and the pilot study performed earlier, it was assumed that this was an underestimation of the size of the group with a gap.

The phases of the I-Change model were presented as consecutive phases, each phase showed the teachers who had successfully finished the previous phase. However, this study revealed that some participants did not finish the awareness phase but did finish the motivation phase as well as participants that did not finish the motivation phase but did finish the action phase. Though this study did not take these teachers into account, it was interesting to speculate on how they were able to skip phases.

One possible explanation for teachers coming in the action phase without being aware or motivated was that these teachers had been forced to formulate a goal. Probably, this group resembled the old fashioned way of collective CPD,

where the CPD subject was set in a fixed program. In other words, teachers were forced to select one of the pre-set subjects (goals).

This study supports the assumption that few teachers participated in planned CPD activities (Kennedy, 2011). The expectation that feedback (information factor) about a performance gap would increase motivation and participation in CPD was not confirmed.

Additional qualitative research has been performed to obtain further insight into the reasons why so few teachers showed the intention to take part in CPD activities. Preliminary results (see Chapter 4) showed that teachers and TCs (22 pairs who also participated in the quantitative study) had a shared definition about the topics, and the content of their assessment closely resembled each other. However, when teachers were interviewed individually, they mentioned CPD goals that were not discussed in their assessment conversation. It seems that teachers were more easily motivated to take part in CPD and to formulate goals based on their interests and fields of expertise. Desimone, Smith, and Ueno (2006) found that teachers with strong content knowledge were more likely to engage in CPD compared to teachers with low content knowledge. In other words, teachers without a knowledge or performance gap showed more intention to participate (and took action) in CPD.

A positive psychology view can enrich the results obtained by psychologists and the corresponding insight they offer (Seligman & Csikszentmihalyi, 2000), and weaker areas may improve as a 'side effect' (Tjepkema & Verheijen, 2005). 'Strength based development' is becoming more and more common in a wide variety of institutions and companies, but little is known about its effects (Van Woerkom, Stienstra, Tjepkema, & Spruyt, 2011). Patrick, Elliot, Hulme, and McPhee (2010) stated that for an autonomous professional to emerge, a shift must be made from a performance management approach to a developmental approach. The strength based development approach positively impacts wellbeing and extra role behavior (Van Woerkom et al., 2011). Greater wellbeing leads to more innovative behavior and better task performance and leads to positive results for many institutions and companies. However, in the educational field not much research comparing different models for CPD has been done (Kennedy, 2005).

3.6 Limitations and Future Directions

Although the authors only studied the Dutch context, they used measurement instruments originating in other countries (i.e. the CSE). Therefore, it could be expected that the results serve international purpose as well. Nevertheless, future research is needed to verify the results in an international context.

The authors opted to study the usability of their model within one school board. This choice had two advantages. The first one was a close relationship between schools (three within one district) and researcher. The researcher was familiar with the school board and numerous key persons within the schools (principal, coaches, TCs, teachers, etc.). The second advantage was the stability of the contextual factors. But the approach also had some drawbacks. This specific school board gave priority to CPD of their teachers, which might not be the case with other schools. Hence, the results found in this study might not be applicable to school boards with a different focus.

CSE and other personal factors had a significant effect on the phases teachers go through. However, the incorporation of environmental variables could give another dimension to triggering CPD of teachers.

Future research could shed light on why out of 25 teachers who had a performance gap, only six intended to take part in CPD activities. What made them decide not to take action to overcome their gap?

A better understanding of the contribution from the separate components of CSE is needed in order to make specific guidelines how to trigger CPD. Future research should incorporate tests for self-esteem, self-efficacy, locus of control, and emotional stability.

3.7 Implications

For far too long teachers and schools have been engaged in CPD that was not planned to meet the needs of the individual teacher, the school and the students. To reach effective CPD within schools, certain criteria should be met. First, the results of this study indicate that although some teachers follow logical steps (awareness, motivation and action), others were just motivated or formulated a goal. Thus, when the aim of a school is to trigger CPD, they should not try to force teachers to take every step of the process at a conscious level. CPD has to be planned but not every step in the process leading up to CPD participation has to be written down in advance. Qualitative research (see

Chapter 4) showed that sometimes teachers become aware of a need after a CPD activity was undertaken. Secondly, our model which was based on a deficiency approach -as were many planned CPD initiatives within schools- did not lead to large numbers of teachers who became aware of a performance gap. Therefore schools, HR-services or researchers should be careful in following the frequently used (sometimes implicit) gap assumption since CPD is a complex process, influenced by multiple factors and not always following chronological steps. In short, the previous two criteria indicate that planning CPD should be done with care. If planned CPD is too rigid, teachers participating in more spontaneous CPD activities will not be triggered to make explicit what they have learned. Therefore, school leaders should not try to enforce procedures regarding CPD but should frequently ask teachers what they have learned, what they do different than before etc. Another implication for practice deals with the effectiveness of CPD policies. Many schools search for ways to trigger CPD. This study gives them some guidelines. Personal and psychological factors seem to influence the course of CPD. When schools take these factors into account, they can create more effective policies. For instance, older teachers become more easily aware of a CPD goal than younger ones. It might be good to implement a mentor system that pairs older and younger teachers in order to teach the younger ones how they can become aware of a need. Notice that here the term need is used and not performance gap. It could hinder the relationship when the focus is on poor performance rather than building on strengths. This leads to a last important finding regarding the effectiveness of CPD. Schools should not only be flexible in the way CPD is planned but should also offer teachers the chance to excel in their strengths.

In summary, this chapter shows that only a limited number of teachers intended to participate in CPD explicitly following three consecutive phases, being influenced by personal and psychological factors on teachers' participation in CPD. It raises some doubts about the gap-approach; however, this approach may be useful in certain situations, such as underachievement or preparing for new tasks/situations. When teachers need to develop new basic skills, a gap analysis is essential. It is interesting to explore whether a positive approach might motivate more teachers to improve their performance and excel in their strengths.

CHAPTER 4

How to motivate teachers to take part in CPD: the deficiency versus the appreciative approach

Abstract

This study compared the efficacy of two approaches leading to continuous professional development (CPD). The first one is the deficiency approach that emphasizes the performance gap and CPD activities concentrated on eliminating this gap. The second is the appreciative approach implying that engagement in CPD is aimed towards improvement of skills teachers are interested in with the result that their performance has improved. The research question focuses on what is efficacious to enhance teachers' CPD participation. Twenty-two face-to-face assessments between teachers and their team coordinators (TCs) were observed and analyzed. A retrospective instrument was used to gain insight in teachers' engagement in CPD participation. The results indicated that engagement in CPD activities rose in situations that offer opportunities for CPD activities. But this was only true when teachers showed some degree of willingness for engaging in CPD activities, that is, they had to be intrinsically motivated or integrate the externally regulated CPD activities into their mindset. These indications have more in common with the appreciative approach than with the deficiency approach. This implicates a perspective change regarding CPD participation: rather than focusing on teachers' performance gaps the focus should lie on teachers' strengths and passions.

This chapter is based on:

Reynders, L., Vermeulen, M., & Kessels, J. (2012, June). Geen behoefte aan CPD ... ligt dit aan zelfbeoordeling van de leraar? Paper presented at the Onderwijs Research Dagen, Wageningen, Netherlands.

Reynders, L., Vermeulen, M., & Kessels, J. (submitted). How to motivate teachers to take part in CPD: the deficiency versus the appreciative approach.

4.1 Introduction

Continuous Professional Development (CPD) is aimed to improve the quality of the teachers pivotal for the quality of education (Hattie, 2012). So CPD participation (or teacher development; see Kelchtermans, 2004) is considered an important part of being a teacher (OECD, 2008) worldwide and, is therefore, a recurrent topic in the international policy of recent years (Forsberg & Wermke, 2012; Billet, 2001). Whereas various studies showed that teachers participate in CPD (Social and Cultural Planning Office (SCP), 2009; Deneire et al., 2009; OECD, 2008), other studies indicated quite the opposite (Nabhani & Bahous, 2010; Van Eekelen et al., 2006; Vermeulen et al., 2011). Various efforts have been made to motivate teachers' CPD (Hanley, Maringe, & Ratcliffe, 2008; Ross & Bruce, 2007), but still little is known about why teachers actually participate in CPD activities.

Teachers' participation in CPD can be seen from the perspective of behavior change (Avalos, 2011). From this perspective, beliefs regarding teachers' behavior with regard to CPD play an important role in the research as they might provide insight in why not all teachers participate in CPD and thus give directions how to motivate them to do so. However, literature and research about CPD rarely explicate the set of beliefs under laying the research (Wilson & Berne, 1999). This omission could be one of the reasons for the contradictory findings on teachers' participation in CPD. Beliefs also lead to different ways to query teachers. If the belief is that teachers only learn when there is a necessity to eliminate a performance gap, then it might become necessary to point them explicitly to the gap. But, if the belief is that teachers learn when they are interested in a topic, then a strategy is to point them to their strengths and passions. Corresponding with these two beliefs are the deficiency and the appreciative approach

respectively; the first focuses on the elimination of a performance gap and the second on the development of strengths and interests of a person. In many CPD studies and models a deficiency approach is implicitly present (for example Gallant & Mayer, 2012; Opfer & Pedder, 2011; Pedder et al., 2010).

The perspective of behavioral change also requires a model that can explain or predict behavior taking both two approaches as input. One such model is the I-Change model of De Vries et al. (2008) that has three consecutive phases: awareness, motivation, and action. This model is used throughout the current research.

The above has led to the following research question: What is efficacious in triggering teachers' CPD participation in terms that it creates awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?

This chapter starts with a theoretical framework in which both approaches for triggering engagement in CPD activity is described followed by introducing a model for explaining behavioral change: the I-Change model. It continues by describing the results of a qualitative study that compares the outcome of the two approaches. The chapter ends with a conclusion and discussion section.

4.2 Theoretical framework

Two approaches for triggering engagement in CPD activity

Many professional development programs assume (more often implicitly than explicitly) a gap in skills and/or knowledge between teachers' actual and desired performance (Wilson & Berne, 1999). The deficiency approach emphasized this gap and focuses on eliminating this gap. Sometimes the gap is caused by new policies or new technologies that require new performance (see for example Avalos, 2011); sometimes it is caused by insufficient professional development over the years (De Vries, Van de Grift, & Jansen, 2013) that requires updating performance. Handfield-Jones et al. (2002) described the on-the-ground voyage model of competence. According to this model, the performance declines over time because the profession advances introducing new insight and methods. The model further assumes that the professional (i.e. the teacher) remains inactive until the performance falls below a minimally acceptable personal norm or a professional norm. However, not all professionals become aware of this particular moment, some of them need feedback in order to take action to improve their performance, that is, participate in CPD (Ross & Bruce, 2007; Handfield-Jones et al., 2002).

In contrast to the deficiency approach is an appreciative approach. Rather than focusing on the performance gap, it views performance from the perspective of 1) what is strong, good and appreciated (Cooperrider, Whitney, & Stavros, 2008) 2) strength-based development (Van Woerkom et al., 2011), or 3) talent management (Lewis & Heckman, 2006). An appreciative approach incorporates the belief that participants are more motivated to take part in CPD because it is more rewarding to acquire the skills you are interested in or that you improve

already possessed skills (Visser, 2010). Indeed, Billet (2001) expressed that teachers only engage in effort-requiring activities when they are strongly motivated or interested to do so. Moreover, Tjepkema and Verheijen (2005) explained that with a positive approach, even weaker but important areas may improve as a side effect. They provided the example in which an employee had to improve his communication and social skills but only did this when he wished to learn to collaborate with others in order to handle larger and more complex tasks.

Though, development based on the positive and strong sides of someone's performance becomes more common in a wide variety of institutions and companies, little is known about its effects. One exception is Van Woerkom et al. (2011) who showed that this kind of approach positively affects wellbeing and extra-role behavior in the work situation (the employee executes tasks beyond the expected tasks). According to them, increased wellbeing results in more innovative behavior and better task performance. Research on self-efficacy as a positive influencer of behavior change or CPD participation, also contributes to this approach. When a person is already good at something or has experience with the behavior, self-efficacy usually is higher, then when self-efficacy is associated with a performance gap (Ross & Bruce, 2007; Cantrell & Callaway, 2008).

Several authors from a broader field than the educational field discussed the difference between the more negatively oriented deficiency approach (negative because it focuses on omissions) and the more positively oriented appreciative approach (positive because it focuses on where you are already good at, see for example, Buckingham and Coffman 1999, Lavender 2009). Buckingham and Coffman (1999) performed a study in 400 businesses with 80,000 managers and more than one million employees. They concluded that managers in their research made a distinction between talent and skills. Furthermore, good managers did not try to put in what was left out but focus on the unique talents of that person. Lavender (2009) remarked that both approaches are appropriate in different situations. For instance, the deficiency approach is associated with competence management where people learn from their mistakes. Consequently, their performance will improve. Competence management is justified for people just entering the profession or after a shift in tasks and responsibilities and an appreciative approach is more stimulating for more experienced people (Lavender, 2009).

Both deficiency and appreciative approaches draw on models of behavior change. Current insight in behavioral change theories point out that behavioral change is a dynamic process with different phases and that each phase has different determinants (De Vries et al., 2008). One such behavioral change theory that emphasizes its dynamic nature is the I-Change model which is an integrated model for explaining motivational and behavioral change (De Vries et al., 2008). This model is described in the next section.

The I-change model

The I-Change model integrates a number of theories and models that all focus on changing behavior (e.g., the theory of planned behavior, Ajzen, 1991; social cognitive theory, Bandura, 1986; transtheoretical model, Prochaska & Velicer, 1997; the health belief model, Janz & Becker, 1984; and goal settings theories). Although the I-Change model was developed for the domain of health prevention and health education, applying it in the domain of teacher professionalization could give valuable new insight in why CPD often seems so hard to accomplish (Van Eekelen et al., 2006). In the I-Change model three phases of behavioral change have been defined: awareness, motivation, and action. The model and accompanying phases could be applied from a deficiency and an appreciative perspective.

In the awareness phase a teacher may become aware of a behavioral problem if present; in the current study the behavioral problem is that not all teachers participate in CPD although a performance gap exists. Awareness about the performance gap may be the result of accurate knowledge and perceptions of one's own level of performance regarding the behavior (Handfield-Jones et al., 2002). Several authors (Regehr & Eva, 2006; Relan, Wilkerson, Doyle, & Guiton, 2006; Onstenk, Kallenberg, & Koster, 2007) have focused on the feedback and guidance that some teachers need to be able to evaluate their performance realistically. Indeed, in a number of cases, teachers tended to overestimate their level of teaching because they have not the faintest idea of their actual performance due to the lack of accurate knowledge how performances should be (Ross & Bruce, 2007). Information is important to get accurate knowledge about the performance in relation to the needs of the organization. Therefore, feedback on performance is essential to get awareness for the need of a CPD activity (Sadler, 1989, Nicol & McFarlane-Dick, 2006).

The motivation phase was the phase wherein the target population (i.e. teachers) reached a state in which the motivation to engage in the desired

behavior is formed (in this case motivated to participate in CPD activities). Motivation was determined by attitude, social influence and self-efficacy. Attitude was the individual's overall sympathy or antipathy towards the consequences or outcomes of performing the behavior. Social influence was a combination of subjective norm (as in the TPB), social modelling, and social support (Broekhuizen et al., 2010). Subjective norm was defined by Fishbein and Ajzen (1975) and referred to the extent individuals believe that most people who are important to them might like them to perform that specific behavior. Social modelling and social support referred to how many people in an individual's surrounding perform that specific behavior and how supportive an individual's surrounding was in performing that specific behavior (Broekhuizen et al., 2010). Self-efficacy consisted of the 'beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura, 1997, p. 3). The deficiency approach may have the disadvantage that overcoming the gap may not include activities the teacher finds interesting and probably is not good in it, thus, self-efficacy is not obvious, the motivation may emerge from coercive forces, that is, the motivation is extrinsic. The appreciative approach has the advantage that it is based on the teachers' passions, strengths and interests, therefore connecting with the intrinsically motivation (interest and pleasure (Deci & Ryan, 2000)) and the self-efficacy.

The final phase was the action phase. As the name suggests, in this phase the target group (i.e. teachers) performed the desired behavior (in this case participating in CPD activities). The action phase was regulated through self-efficacy, action plans, and skills. Self-efficacy influencing the action phase was a different kind of self-efficacy that influences the motivation phase. More specifically, within the motivation phase, self-efficacy was related to the intention of behavior, whereas in the action phase, motivation referred to the maintenance of behavior (Schülz et al., 2009). Action planning encompassed specific goal setting to raise the chance of actual execution (Latham & Locke, 1991). Skills referred to the actual skills an individual needs to perform the specific behavior. Finally, barriers may cause that not all CPD activities were completed. For example, the opportunity does not arise to carry out the CPD activity.

Feedback

To become aware of a performance gap, feedback is necessary. More in general, feedback is important for all learning (Hattie, 2009; Hattie & Timperley, 2007). Therefore, in this research the ability for the team coordinator (TC) to provide feedback to teachers was a prerequisite. Furthermore, various conditions for feedback should be met in order to be effective (Thurlings, Vermeulen, Bastiaens, & Stijnen, 2013). Meeting these conditions was the first research concern before proceeding on what teachers perceived as triggers to formulate CPD goals and activities. After feedback is given from the TC to the teacher, the first condition, especially important in assessment situations, is that the feedback receiver should trust the review of the assessor (Beausaert, Segers, & Gijssels, 2011). Trusting the review may depend on a number of factors. Akcan and Tatar (2010), for example, discussed an empathic climate as essential for good feedback. In addition, Pokorny and Pickford (2010) expressed that for students, a good relationship with the feedback provider is important. Finally, De Weert et al. (2002) pointed to the perceived safety in the communication as an important factor for feedback to be effective. Second, the feedback source should be credible. This is the case for the feedback receiver when the feedback giver is familiar with both the task and the performance on that task (Ilgen et al., 1979). Third, mutual understanding should exist between feedback giver and receiver (Campbell, 2005; Dixon, 2000). In other words, sharing a vision or having a mutual frame of reference is vital. All these three conditions should be met in order to have effective feedback that can lead to awareness of a CPD need.

4.3 Method

Participants

Before addressing the participants, it was decided that the TC of each teacher was the most suitable person to deliver the feedback about the teacher's performances to satisfy condition 2 of the feedback, which concerns the credibility of the feedback giver. The first reason is that TCs were themselves teachers and, therefore, familiar with the teacher's tasks. The second reason is that the TCs were hierarchically positioned above the teacher and held responsible for conducting the annual professional development interview and, thus, had insight in the teacher's performances.

After this decision, an invitation for a one-hour assessment and feedback session followed by a 30-minute interview was sent to 65 pairs (TC and teacher) from which 22 pairs agreed to participate. Some TCs participated in more than one interview because they were the TC for more teachers, resulting in 22 teachers and ten TCs. Of the participating teachers, ten (45.5%) were male and twelve (54.5%) female. The mean age was 43.43 years (SD = 12.0). The mean work experience was 14.9 years (SD = 11.7). The pairs worked in three different secondary schools, all of the same school board in the Netherlands.

Procedure

First hour: Assessment and feedback session

The first hour was a face-to-face assessment with feedback on the performance of the teacher given by the TC. The researcher's role was to facilitate/guide the assessment and feedback process because, in the participating schools, the TCs only recently started as superiors of the teachers in the Human Resource Management cycle and were still uncertain if they would do it right. For example, when the TC did not feel comfortable giving an assessment of the teachers' performance, the researcher tried to explore with the TC what kind of information was available in order to assess the teachers' performance. The researcher also checked whether the TC was able to give meaningful feedback during the assessment and if the teacher acknowledged the feedback.

The feedback was aimed to provide teachers with feedback on their performance gap (if present) in order to give rise to the formulation of CPD goals. To achieve this aim six steps were carried out one after the other. In the first step, TC and teacher agreed on the topics that would be the subject of the feedback. This is in accordance with De Weert et al. (2002) where the facilitator followed the choice of the topics, instead of prescribing them. Topics referred to teacher performance in different domains, for example, the quality of instruction, promoting student activities, or differentiation in the classroom. In the second step, TC and teacher wrote down (in private) the strong and weak points of the performance on the chosen topics. The feedback was not shared yet. The third step was that TC and teacher rated the teacher performance on a 10-point Likert scale accompanied with the verbal description (1= not developed, 2= scarcely developed, 3= partially developed, 4= mostly developed, 5= developed but needs refinement, 6= sufficiently developed, 7= more than developed, 8= well developed, 9= excellent, 10= unsurpassed). TC and teacher did not share the performance rating yet. The fourth step incorporated

comparing notes on the strong and weak points, which were discussed to check whether teacher and TC had similar frames of reference regarding the topics. To check their mutual understanding regarding the rating of teacher performances, a fifth step was performed. In this fifth step teacher and TC were asked to guess (write down) what grade the other one had given and why. In other words step four and five were used to check if condition 3 (mutual understanding about topic and rating) had been met. They then compared (step six) each rating. Thus the teacher may become aware how severe the performance gap is (if applicable). Teachers who were aware of a performance gap may go from the awareness to the motivation phase of the I-Change model.

Immediately after the assessment and feedback, the TC was kindly requested to leave the room in order to let the teacher speak freely. The teacher was asked how the climate during the assessment was perceived. Thus a check was made concerning condition 1; whether there is an emphatic, safe environment, and a good relationship with the feedback giver.

Thirty minutes Interview

After giving the feedback by the TC and the check on the feedback conditions, the story-line instrument (used for retrospective data gathering) was used for evaluating CPD experiences (Van der Sanden, Teurlings, Hoogenberg-Engbers, van der Neut, 2004; Beijaard, van Driel, & Verloop, 1999). The advantages of the story-line instrument are: a) teachers evaluate their CPD experiences themselves, b) their evaluations can be quantified in order to compare the responses of different teachers, and c) story-lines are relatively quick and easy to make; furthermore, they are generally perceived by the respondents as a valuable and alternative mode of self-expression. In sum, with this instrument more insight could be reached regarding the triggers for participation in CPD and whether these triggers were related to the deficiency or to the appreciative approach.

Following the suggestions of Nabhani and Bahous (2010), Van Eekelen et al. (2006), and Vermeulen et al. (2011), the first question for the teacher was whether CPD goals had been formulated (rather than asking first whether the teacher was aware of a potential performance gap). If teachers had formulated CPD goals, they were asked to elaborate on how this goal came to mind. They were also asked if they had made plans for actions or whether they were already doing some CPD activities to achieve their goals. When affirmative,

these teachers were asked to give details what their actions were and when they took place. The next step was to score the teacher's performance on each of the CPD goals (and actions) from start to present on the story-line on a 10-point Likert scale. At this point, the teacher constructed a development graph for each of the mentioned CPD goals. Changes in performance became visible for teacher and researcher. The last step in the story-line instrument was to imagine whether the CPD goal had been fully, partly or not achieved at all.

Analysis

The assessment and feedback as well as the interview were digitally recorded and transcribed. Afterwards, they were coded and analyzed with NVIVO version 9. The analysis for the assessment and feedback was performed in three steps and in two steps for the interview. For both the first two steps were identical. In the first step blocks of the transcripts were assigned to the developed categories (climate perceived by the teacher during pair interview, definition of the grade by teacher and TC, definition of the topic by teacher and TC, assessment skills of the TC, number of CPD goals, actions and progress toward CPD goal, kind of trigger). A second researcher checked for the accuracy of the interview coding. The two researchers discussed the chunks until full agreement on the interpretation had been reached. The second step was to develop a within-case overview in the form of a conceptually ordered matrix (Miles & Huberman, 1994). To create a clear overview within the cells, data reduction was applied by means of summarizing the raw texts (Kessels, 1993; Kessels & Plomp, 1996). The summaries were discussed until full agreement. The third step in the analysis was to assign a score or label to a selection of the categories. The scoring was performed according to a scoring manual. The meaning of all possible scores and the procedure for each category to assign a score were described in a scoring manual. For all categories that were scored, a Cohen's Kappa (inter-rater reliability) was calculated. A Kappa of 1 point means total agreement, but according to Landis and Koch (1977) a Kappa between .61 and .80 means substantial agreement. If the Kappa was insufficient, the scores were discussed and the scoring manual was adjusted. Eventually the Kappa's of this study were sufficiently high (Table 2). The scoring manual and the raw data are available from the first author.

Table 2: Inter-rater reliability: Kappa for climate, definition topic and definition grade

Category	Kappa
Climate during pair interview	.67
Definition of the topic	.73
Definition of the grade	.71

4.4 Results

Results regarding meeting the conditions for effective feedback

The findings with respect to the three conditions for effective feedback can be described after the feedback is actually given. We did not expect a reluctance of TCs to give feedback. However, the findings revealed that for 10 cases of the 22 assessment and feedback sessions the TCs were at first reluctant to rate the teacher’s performance because of reasons for uncertainty. One of their comments was: “What if I have no complete impression [of the teacher]? I can hardly give a rating in this case!” (Bernard, line 45). TCs wanted to have a complete impression before rating the teachers, specifically an impression based on classroom visits. In other words, many TCs thought that they could not give a rating if they had not made (enough) classroom visits. One TC said: “When I walk through the corridors, I get an impression. Just coincidentally because I walk along, look into the classroom, and see things. I have an impression based on these images; when everybody is standing around a table, I have another impression than when everybody is looking in their textbooks. For that reason, I conclude that I perform too few classroom visits in order to give a good assessment.” (Bernard, line 148-153). But for eight of the ten reluctant TCs, the problem of uncertainty about the assessment of teacher’s performance could be resolved by intervening and asking the TCs whether they had access to alternative information resources other than classroom visits. TCs mentioned as alternative information sources comments of colleagues, students, and parents, and superficial observations when the TCs walk along the classrooms. Ultimately, for 20 cases of the 22 assessment- and feedback sessions the TCs had rated the teacher performance.

After most TCs gave feedback the three conditions for giving effective feedback can be discussed. Regarding condition 1 (whether there is an emphatic, safe environment, and a good relationship with the feedback giver), the data on the

climate during the assessment and feedback session showed little variance, only high ratings were given. One of the teachers put it like this: "I talk very easily with him [the TC], he is very open...it is just pleasant." (Laura, line 716). Hence, the condition of a safe climate was met.

Regarding condition 2 (whether the feedback giver is credible); credibility is defined as having knowledge about the task and the performance of the other on that task. All teachers indicated to agree with their TC.

Regarding condition 3 (whether there is mutual understanding between feedback giver and receiver regarding the topics and the rating), as for the topics, in 5 cases out of the 22 assessment- and feedback sessions, a mutual definition of the topics was not reached. In seven other cases, the TC mentioned an aspect not mentioned by the teacher. In these cases, the TC focused on the teacher performance whereas the teacher focused on his interactions with the students. In all of these seven cases, the teacher immediately recognized the description after additional explanation. This observation led to the conclusion that the meaning of the topics became more shared after exchanging additional information. One teacher said: "I would never have thought of that myself but now he formulates it this way, I do" (David, line 106). The remaining ten cases shared their definition of the discussed topics.

To summarize the findings, in 17 cases the topics definition were shared whereas in only 5 cases it came to an agreement on some part of the topics which was sufficient to give feedback and acknowledgement of the feedback. Therefore, the shared frame of reference was sufficiently met to give effective feedback. As for the rating, it was observed that the ratings were frequently given without considering the accompanying verbal descriptions of the 10-point Likert scale. For example, one TC remarked: "You are a teacher, so you have school grades in your mind. You only give a student a four if that student is very, very bad. You do not give a colleague a four!" (Trudy, line 351). As a consequence, not a five but the score six would indicate that teachers needed to improve their performances. Most scores ranged from six to eight.

Results from the interviews

The interviews were targeted to get answers on 1) if teachers formulated CPD goals and what these were; 2) if they had made plans, or alternatively, were already carrying out CPD activities and what precisely these were and why; and 3) whether they progressed while following these goals or doing these CPD

activities. Regarding the first question, all teachers mentioned they had formulated goals. However, the number of CPD goals differed between teachers from one to seven. Accordingly, the kind of goals differed between teachers from getting an extra teachers degree to learning how to use a smart board. There was no relation to teacher characteristics. For example, the number of goals mentioned could not be related to age.

Regarding question 2, the CPD activities teachers mentioned in the story-lines resembled four of the six categories of CPD activities distinguished by Evers (2012): a) keeping up-to-date: reading, b) keeping up-to-date: participation in training related to work, c) experimenting, d) reflecting, e) collaborating with colleagues to improve lessons, and f) collaborating with colleagues to improve school development. Courses (long- and short-term), which were frequently suggested, can be categorized as keeping up-to-date. Experimenting was also mentioned frequently. Reflection did not come up at all. Collaborating with colleagues to improve lessons was acknowledged a few times. Interaction to improve school development was not mentioned.

The reasons why the teachers did these CPD activities resembled the classifications for motivation discussed by Ryan and Deci (2000). Ryan and Deci (2000) and Deci and Ryan (2000) presented the motivation continuum from external regulation, introjected regulation, identified regulation and integrated regulation, to intrinsic motivation. These types of motivation range from least motivated and least autonomous decided to most motivated and most autonomous decided. All five types of motivation emerged in the story-lines. An example of external regulation is "We had to choose one of the three presented courses." (Andrea, line 498-499). "A ministerial bill made me uncertified. To get certified, I have to follow a long-term professional training...I will do this with discipline, dedication, and enthusiasm, but it is not my own choice." (Mark, line 355-359) is an example of Introjected regulation. Identified regulation is seen in the following illustration "The school board asked which teachers were interested in a course about adaptive education. Since I have some trouble in the classroom, I saw the advantages." (Miranda, line 548-549) Sean (line 295) stated "I started that course because I always wanted to do a long-term course but also due to the fact I would not have to explain to others why I am uncertified." (Sean, line 295) which is a representation of integrated regulation. An example of Intrinsic motivation was "At one moment I thought, German is not the only thing I like, I'm interested in writing projects." (Karl, line 413-414).

All types of motivation were present in our study, however, simply counting the frequency did not do justice to the data because teachers mentioned combinations. An example of a combination of intrinsic motivation and introjected regulation is:

Identified regulation, integrated regulation, and intrinsic motivation were the most common reasons in this study (see Table 3). Nevertheless, many teachers remarked that intrinsic motivation alone does not lead to action. When intrinsic motivation was coincident with opportunities for action, the chance of actually doing the action (i.e. doing a CPD activity) was much higher. For example, if a course or training was offered right at the same time the intrinsic motivation existed.

The progression teachers made towards the various CPD goals differed. Shorter-term goals had a greater chance of being reached than long-term goals. However, teachers indicated that they improved their performance despite that they rarely fully succeeded in achieving their goals. In short, they remarked that CPD is actually a lifelong journey.

Table 3: Type of triggers

Interview number	External regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic motivation
1			x		x
2				x	
3	x		x		x
4			x		x
5			x		
6			x	x	x
7			x	x	
8	x		x		x
9			x		x
10			x		x
11			x	x	x
12			x		
13			x		x
14		x			x
15	x		x		x
16			x		x
17	x		x	x	
18	x			x	
19				x	
20				x	x
21	x		x	x	x
22			x	x	x

Results regarding indications for the deficiency approach versus appreciative approach

As discussed earlier, the one-hour assessment and feedback session was designed to become aware of performance gaps through feedback. Although the conditions for feedback and awareness of a gap were sufficiently met for most of the teachers, the interview using the story-line instrument showed only two story-lines with some sort of gap analysis (i.e. the analysis of the difference between actual and desired behavior) as being the motivation for CPD. An example for an indication for the deficiency approach was the following: "I felt uncomfortable about my performance, as if it was not good enough. Together with a supervisor, I searched for the cause." (William, line 183-184). However, there were many more indications that support the appreciative approach: many teachers developed skills, which they were already good at or took up a CPD activity in which they were interested: "I have the opinion that you have to stick to what you are good at. The message for education is to do what you do best. Do not fantasize a billion things around that, this would be at the expense of the thing you are good at." (Edward, line 97-99).

4.5 Discussion and conclusion

The current study searched for an answer to the research question 'What is efficacious in triggering teachers' CPD participation in terms that it creates awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?' Regarding the first part of the research question (the awareness phase) the current study revealed that feedback is indeed a source to trigger awareness of a performance gap. A learning community could be an appropriate way of stimulating feedback among colleagues (Ciuffetelli-Parker, Gallagher, & Griffin, 2011) and thus teacher CPD. Co-teaching is another way of confronting teachers with each other's approaches (Bashan & Holsblat, 2012). In co-teaching multiple teachers stand in front of one group of students, making it more natural to provide each other with feedback and learning opportunities. Perry and Lewis (2009) described another possibility that has the potential of improving individual performance as well as the entire educational system, namely lesson studies. A lesson study is a cycle of the formulation of long-term improvement goals regarding instruction, collaboratively design a lesson, conduct that lesson in duos, reflect on that lesson together, improve, and start over again.

Regarding the second part of the research question (the motivation phase) it was investigated if and what CPD goals and activities teachers formulated and whether these goals and activities supported a deficiency approach or the appreciative approach. To recall, the deficiency approach takes the gap between the actual and the desired performance of a professional as a deficiency that has to be overcome. The appreciative approach, in contrast, takes the performance gap as an information source to focus on the development of strengths or interests. Accordingly, it was expected that different CPD goals and activities would be formulated dependent on the approach favored by the teachers.

All teachers named at least one CPD goal and/or activity in the past year that fulfilled their need for development. This was remarkable because it was expected from the literature (cf., Nabhani & Bahous, 2010; Van Eekelen et al., 2006, Vermeulen et al., 2011) that not all teachers would participate in CPD. An explanation from the literature findings could be that teachers recognized their CPD participation only when the CPD goals and activities were of their own choices (usually pertaining to personal growth and personal interests) but when these choices were made by others (usually pertaining to school development and often outside personal interests) then the recognition diminished as they were not their own. Thus, the research mentioned in the literature investigated only CPD goals and CPD activities for school development, then teachers would likely to report not to participate in CPD. CPD goals and activities that are linked to personal growth seem more appealing for teachers (Daly et al., 2009). Yet, their disadvantage is that they often exclude school development. Indeed, CPD programs are more effective when adjusted to the learning needs of individual participants (Tracey et al., 1997). The teachers in this study had CPD goals that for the majority could be categorized as for personal growth and appealing to personal interests. This would indicate that the appreciative approach is favored.

To find more support for the appreciative approach, it is necessary to point out that the deficiency approach may initiate all types of motivational regulation (i.e. from extrinsic to intrinsic regulation) to overcome the performance gap whereas the appreciative approach is dominantly oriented towards the self-determined regulation. Our findings revealed that identified regulation and integrated regulation together with intrinsic motivation were the most often mentioned reasons to do a CPD activity, which are motivation types of self-determined regulation. Furthermore, only two teachers mentioned that they

had to do a CPD activity, which they would otherwise not have done. These two occasions supported the theoretical assumption that concentrating on a deficiency seldom stimulates professional development. Indeed, Studulski and Van der Vegt (2007) asserted that teacher change should not start from the shortcomings of people but from their strengths. Succinctly, the findings suggest the appreciative approach to be the most efficacious approach. School managers, therefore, should adopt the appreciative approach and support the self-determined teachers. Moreover, as intrinsically motivated CPD activities should come along with opportunities to do these activities, school managers, should take care that these opportunities are provided.

In the past many models did not explicate whether they used a deficiency or appreciative approach. Accordingly, various studies showed that teachers participate in CPD (Social and Cultural Planning Office (SCP), 2009; Deneire et al., 2009; OECD, 2008), other studies indicated quite the opposite (Nabhani & Bahous, 2010; Van Eekelen et al., 2006; Vermeulen et al., 2011). As stated previously, a gap approach was often implicitly present in models and studies (for example Gallant & Mayer, 2012; Opfer & Pedder, 2011; Pedder et al., 2010). This study searched for an answer what approach was more appealing for teachers starting from a model (I-Change model) applicable for both approaches. The results showed that an appreciative approach is more appealing for teachers in order to participate in CPD activities. Different models focusing on different aspects and using other perspectives underlying CPD might explain the opposite findings (Kennedy, 2014) between studies with regard to CPD participation of teachers.

This study offers indications for schools how to trigger teacher CPD and making CPD more appealing for teachers, that is, rather the appreciative approach than the deficiency approach should be adopted. Teachers were more motivated to participate in CPD through support and appreciative interaction than by focusing on deficiencies. What could be helpful is a mentoring and coaching culture between TC and teacher in enhancing appreciative assessment of teachers' performance on a more regular basis.

CHAPTER 5

The design of a CPD game

This chapter is based on:

Reynders, L., Vermeulen, M., Kessels, J., & Kreijns, K. (2013, November). *The design of a CPD game*. Workshop given at the EAPRIL conference, Biel, Switzerland.

Reynders, L., Vermeulen, M., & Kessels (submitted). The design of a CPD game.

5.1 Introduction

Continuous Professional Development (CPD) is an important part of being a teacher, but teachers have difficulty autonomously shaping CPD (Van Eekelen et al., 2006; Goodnough, 2010). Various efforts have been made to motivate teachers' CPD (Hanley et al., 2008; Ross & Bruce, 2007), but still little is known about why teachers actually participate in CPD activities.

Different models were developed for triggering CPD. For instance models that focused on teacher change and pointed to CPD programs as the initial trigger for CPD participation (Gusky, 1986). In addition, motivation was acknowledged as an important factor to participate in CPD activities as it affects the teachers' beliefs and attitudes. While Guskey's model focused on how the process of CPD participation started it did not have any detailed description of how to trigger teachers to participate in planned CPD.

Loucks-Horsley et al. (1998) presented a continuous and circular design of CPD, starting with goal formulation and leading up to reflection on the CPD activity undertaken. In contrast to Guskey's model, the latter model did not explicitly incorporate teachers' motivation. In the last decennium multi-phase models of behavioral change were developed, taking into account different influencing factors in different phases of the process. The Integrated Model for explaining motivational and behavioral change (or in short, the I-Change model; De Vries et al., 2008) integrated a number of those motivational- and multi-phase models, more specifically the TPB (Ajzen, 1991), SCT (Bandura, 1986), the transtheoretical model (Prochaska & Velicer, 1997), and the health belief model (Janz & Becker, 1984).

The I-Change model (De Vries et al., 2008) is a phase model for behavioral change including an awareness phase, a motivation phase, and an action phase. It focuses on the phases that precede behavioral change and gave insight in which factors were relevant in each phase and gives directions for how to influence these factors to enforce behavioral change. The previous chapters described an application of the I-Change model and its results within the field of education. As the application of just theory is insufficient (Anderson & Shattuck, 2012; Kelly, 2003; Van den Akker, Gravemeijer, McKenney, & Nieveen, 2006) to incorporate the research findings within the school-system, this chapter will focus on the research question "How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?"

Within this chapter the first orientation is on the kind of intervention that motivates people to take action. Hereafter, the development of such an intervention will be described. To do so, DBR will be applied. Marden, Herrington, and Herrington, McKenney, Reeves, and Oliver (2007) referred to DBR as a methodology that has a pragmatic goal of solving an educational problem with an innovative intervention. Other authors stressed that DBR offers the chance of solving a practical problem and contributing to theory (De Villiers, 2005; Reeves, 2000; Penuel, Fishman, Cheng, & Sabelli, 2011). Therefore, DBR seems to be a valid method of developing our intervention to trigger CPD.

5.2 Designing a powerful intervention

An intervention should be based on existing knowledge -and possibly adding to that knowledge- (Barab & Squire, 2004) and meet design characteristics, which are effective in establishing the desired purpose (Roschelle, Tatar, & Kaput, 2008). These ingredients to design an intervention are described hereafter as well as the kind of intervention most suitable with regard to our research question.

Existing knowledge items: I-Change phases (awareness, motivation, action), triggers, strengths and passions

Our intervention was based on the results of previous studies. In short, the previous studies offered support for the different phases within the I-Change model. Teachers were triggered through feedback to take part in CPD (awareness phase), were motivated to do something about it (motivation phase) and undertook action (action phase). More so, the last study revealed that an appreciative approach is more efficacious in triggering CPD participation. Therefore, the intervention should combine the appreciative approach with the I-Change model in order to answer the research question “How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?”

Since an appreciative approach was incorporated in the developed intervention this question can be operationalized as “How do teachers get a better insight in their own and each other’s triggers for CPD, passions and strengths?” If a teacher has to take charge of his own CPD or a team has to embody the team

development, it is useful to know your own triggers, strengths and passions and those of other team members. At the individual level, when each teacher has an understanding of the preferred triggers to CPD, that specific trigger can be searched for or be provided. For example, when a teacher knows that classroom visits of colleagues motivate him or her to experiment with new approaches in teaching, the teacher is more inclined to invest those classroom visits. Other teachers might better be triggered through informal interaction with peers. At the same time for the team level, when a team coordinator (TC) knows the strengths and passions of individuals, pieces of the team plan can be divided accordingly. In addition, the TC can offer the right trigger for CPD to each teacher. If the TC knows that one of the team members prefers direct feedback as a trigger for CPD, the TC has to make sure that feedback is provided.

The purpose of the intervention was facilitating teachers' participation in CPD. The design characteristics for establishing that purpose are discussed hereafter.

Design characteristic: relevant, active, fun

Van Veen et al. (2010) searched for general characteristics of interventions for effective professional development of teachers. These authors found that the content of the professional development activity had greater impact on the effect than where the intervention took place: on or off the job. Furthermore, the content had to be relevant for daily practice (McKenney, 2001). Another effective feature Van Veen et al. (2010) found was the use of active and exploratory ways of learning, for instance self-assessment, as well as the use of collaborative learning and interaction. Our previous studies showed that teachers benefited from positive triggers (appreciative approach) when engaged in CPD. Likewise, Visser (2010) stated that it is more fun to improve skills you already possess. In summary, the first design specification is that a powerful intervention should be relevant, active and fun.

Design characteristic: useful

The designed intervention should fulfil internal and external consistency criteria (Van den Akker et al., 2006; Plomp & Nieveen, 2007). Internal consistency focuses on the logical connection between elements. External consistency referred to the shared expectations of different stakeholders and the usefulness for the target group (Kessels & Plomp, 1999).

The usefulness for the developed intervention is in close relation to the findings of previous studies. An appreciative approach was most efficacious in facilitation CPD participation for teachers. This approach focused on strengths of teachers opposed to the performance gap approach focusing on shortcomings. The appreciative approach might motivate teachers more to talk about their wishes for CPD. Conklin (2009) stated an AI gave participants the possibility to voice their thoughts, ideas, hopes, and aspirations.

Since the purpose of this chapter is to develop a powerful intervention based on AI, the four foundations of AI (Whitney & Trosten-Bloom, 2010) should be followed. The first foundation was that all people have unique (gifts, skills and contributions). The intervention supported this through its focus on the triggers, strengths and passions of teachers. The second foundation was that organizations are human social systems with their own language and relational capacity. The results of a previous study that focused on a mutual language of teachers and representative of the school and climate of the organization were incorporated. The third foundation of AI was that images for the future are a social creation and serve to guide future actions. The social creation of ideas was integrated in the intervention through a demand of collaborative action. The fourth and final foundation was that through communication people shift from a focus on problems to possibilities for the future. Therefore, one of the key goals of the intervention was to stimulate interaction between people in order to enhance CPD participation. When a teacher becomes aware of the triggers that worked best in order to start CPD, that teacher can intentionally search for these triggers.

Design characteristic: Collaborative

Cordingley et al. (2005) found that CPD is more effective when done in collaboration with others. Our previous research showed that in many cases CPD was triggered through feedback from others. The purpose of the intervention is to enhance interaction between players in a way that has the most chance of triggering CPD. The interaction provided a better insight in a person's triggers, passions and strengths and those of others. An additional benefit of interaction is that teachers were confronted with new things (passions and strengths of others) and these served as a trigger as well. The knowledge about other teachers' triggers, strengths and passions can facilitate a transfer to them or make connection between players. In other words teachers who were triggered through the development of new things could

form a learning community. In short, a connection (or click) between teachers is facilitated through knowledge about each other.

Kind of intervention: game

Multiple authors (for example Reeves, 2000; Kelly, 2003) called for alternative ways to share the outcomes of research to practice since scientific publication did not find their way to the public and scientist did not find time or did not have the skills to write practitioner-oriented publications. A game seemed to be an appropriate form for an intervention to facilitate teachers CPD since it met multiple of the design criteria (active, fun, interactive). In order to ensure the applicability of a game to the school setting, a DBR approach is chosen to develop the game. The essence of DBR was that researchers and practitioners developed the design together to make sure that the theoretical foundation and practical knowledge were combined and incorporated.

Bijkerk and van der Heiden (2006) described all kinds of activating strategies to trigger learning from so called ice breakers to competitive games. Most suited for our purpose were games since they activate, trigger, diversify, generate interest, improve concentration, augment engagement and motivate. Therefore, the intervention developed in this study was a game, which incorporated the existing knowledge items and design characteristics described above. In order to develop this game, multiple design phases were followed. Van den Akker et al. (2006) and Andriessen (2007a) stated that each design process should have three steps: preparing, experimenting and concluding.

The preparation step encompassed a search for existing games and scoring them against the existing knowledge items and design characteristics. This search was performed to check if any existing game could fulfil the purpose of giving teachers insight into their own and other teachers' triggers, passions and strengths. A search on the Internet combined with games reported by practitioners (two teachers, two TCs, two coaches, a teacher educator and six experts) resulted in a list of 15 different games corresponding with that purpose. The study of the various games did not lead towards a specific and suitable game. However, the analysis guided to many useful ingredients when developing a new game, for instance a black box idea for assigning a name to a general description or checking your assignments with others, giving a chip for good answers, describing things without naming them and explaining the basics of the game in a manual.

In the experimenting step, a game, that served as a potential intervention to facilitate CPD, was developed based on the existing knowledge items, design characteristics and building blocks from the existing games. As said earlier, this facilitation was reached by enhancing teachers' awareness about their most likely triggers towards CPD and the content of that CPD (passions and strengths).

Playing a game facilitates the communication of participants about their triggers, passions and strengths. The main external characteristics of the game that had to be developed were a game board and cards. The researcher did not choose to develop a digital game since awareness of the other person seemed to be important in getting to know each other. Awareness of the other is different for face-to-face and digital interaction (Kreijns, Kirchner, & Jochems, 2003). Furthermore, not all teachers had a laptop or tablet and some schools did not have sufficient devices to provide for all. Therefore, a digital game could be a technical hurdle.

The cards of the game incorporated the existing knowledge items criteria (triggers, passions and strengths). In order to reach the optimal game multiple prototypes of the game (experimenting phase) should be developed (de Villiers, 2005). In DBR the end product is the result of an iterative design process of design, implement, analyze and redesign (DiSessa & Cobb, 2004; Durlach & Lesgold, 2012; Herrington & Reeves, 2011; Trna & Trnova, 2011). Consequently, each new prototype is the result of the evaluation and analysis of the previous one.

The concluding step was reached when researcher and practitioners (school internal coach, TC, educational specialist, external coach, and teacher educator) were satisfied with the last prototype. This means when the analysis of the evaluations showed that the outcomes were close enough to the 'intended outcomes' (Plomp & Nieveen, 2007).

5.3 Design cycles

The game was developed based on multiple design cycles. In each cycle a prototype was evaluated, choices and changes were made resulting in an improved game. The evaluation of various prototypes gave input to rearrange or adjust the previous design. This formative evaluation has various layers in DBR; more informal in the early stages of a project (for example expert reviews) to formal evaluation aimed at testing the design (Tessmer, 1993).

In DBR the researcher is not solely a representative of scientific research but also a designer and advisor (Barab & Squire, 2004; Van Weert & Andriessen, 2005). Therefore, a DBR-researcher has to possess a specific set of skills. Andriessen (2007b) discussed three competences of the researcher in order to perform DBR: being able to reflect, analyze and intervene. The researcher in this study instructed the players how to play the game and participated in the game.

Each design cycle focused on a different set of existing knowledge items and design characteristics (Goldman, Lee, Greenleaf, & Shanahan, 2013). Table 4 gives an overview of what was evaluated in which design cycle. In the first and last round (Prototype 1 and Final version) all criteria were evaluated. It is important to know from the start if all characteristics had the possibility to be present and at the end if every characteristic was really present. Usefulness was evaluated in all the versions since this can change with (small) changes made in each step. Although all input for the cards came from previous (and thus from teachers) the second prototype focused on the relevance of each card and the representation of the I-Change phases. This combined focus was applied to insure all changes were made in line with the previous results and the phases of the underlying model. Since the game was not really played in the second round, it was important to check for the fun aspect in Prototype 3.

Table 4: Evaluation of criteria (combination of knowledge items and design characteristics) in different prototypes

Criteria	Prototype 1	Prototype 2	Prototype 3	Final Version
Triggers	X			X
Strengths	X			X
Passions	X			X
Active	X			X
Collaborative	X			X
I-Change	X	X		X
Relevant	X	X		X
Fun	X		X	X
Useful	X	X	X	X

Different people evaluated the different designs in different manners always in close collaboration between researcher and practitioners (Dede, 2005; Edelson, 2005; Herrington et al., 2007; Majgaard, Misfeldt, & Nielsen, 2011; Van Aken, 2005). The practitioners evaluating the prototypes were a school internal coach, TC, educational specialist, external coach, and teacher educator. Prototype 1 was evaluated in a quantitative and qualitative way. The main goal

of this evaluation was to choose a suitable game (in accordance with the criteria). Participants were asked to score the games they played on some aspects. Not all criteria were scored because that would not be suitable. For instance regarding the phases of the I-Change model, a phase could not be reached since the game is still under construction. Therefore we asked in the group discussion whether the game holds the possibility of incorporating the phases of the I-Change model and how. Another example is the criterion collaborative. The researcher observed how participants played the game and concluded whether or not this criterion was reached. The group discussion along with the observations made by the researcher delivered the qualitative data. The combination of both type of data provided input for the decision what to change between the prototypes. For example, participants scored the games on usefulness but the decision which game to develop further was made on the combination of the scoring usefulness and discussing the relevance. The evaluation of Prototype 2 was solely qualitative and focused on reducing the amount of cards (always keeping in mind their relevance and link to the I-Change model) and evaluating the manual. The goal of this second evaluation was to make the content of the game and the manual consistent. Prototype 3 could be played autonomous (participants could read the manual and interference of the researcher was not necessary). The focus was on the lay out of the game.

Prototype 1

The evaluation of Prototype 1 was done by two separate groups of participants (two time four including the researcher). Each group played all the games in order to make it possible to score each game.

The first prototype was a collection of five separate games. The content of the triggers, strengths and passions were based on the interviews from previous studies. These studies resulted in 67 trigger-cards (for example a wide range of CPD workshops that is offered), 19 passion-cards (for example pupils or ongoing development) and 30 strength-cards (for example teamwork or tidiness).

Type 1: Stack of Cards

The goal of this game is get to know your own and each other's triggers, passions and strong points by trying to name a description given by another

teacher about him or herself. The game is played by at least three teachers (preferably not new to each other).

The game consisted of five stacks of cards:

1. The who-stack of cards referred to which team had to perform the assignment.
2. The assignment-stack referred to the third stack that had to be incorporated in the game; cards included triggers (stack 3), passions (stack 4) and strengths (stack 5).
3. The trigger-stack incorporated descriptions of triggers to take part in CPD.
4. The passion-stack contained descriptions of passions a teacher might have.
5. The strength-stack consisted of descriptions of strengths a teacher might have.

One teacher took a card from the trigger-, passion- or strength-stack the assignment card referred to. That teacher, without naming the word(s) on the card, discussed whether the description on the card was an appropriate description for him/her. The teammate(s) tried to name the description.

Type 2: Happy Families

The goal of this game is get to know your own and each other's triggers, passions and strong points by trying to point out the person who fits the description of the three cards. The game is played by at least three teachers (preferably not new to each other).

The game consisted of three piles of cards:

1. The trigger-pile incorporated descriptions of triggers to take part in CPD.
2. The passion-pile contained descriptions of passions a teacher might have.
3. The strength-pile consisted of descriptions of strengths a teacher might have.

In this game each gamer individually chose one trigger, passion and strength from the accompanying pile. Hereafter, gamers put their three cards in an envelope. The envelopes were hustled and the first one was opened. All teachers wrote down the name of the gamer they thought the descriptions portrayed. Each teacher explained his or her choice.

Type 3: Discover Yourself and the Other

The goal of this game is get to know your own and each other's triggers, passions and strong points by trying to point out the person who fits the description of the card. The game is played by at least three teachers (preferably not new to each other).

The game elements consisted of the same three piles as did type 2 (Happy Families). In this game each gamer individually chose three cards from each pile. Hereafter, all cards were put together in a new pile and hustled. The first card was turned and all teachers wrote down the name of the player they thought the descriptions portrayed. Each teacher (starting with the eldest) explained his or hers choice.

Type 4: Discover Yourself with a Coach

The goal of this game is get to know your own triggers, passions and strong points by discussing the items chosen with a coach. A teacher with a coach played this game, which consisted of the same three piles as, did type 2 (Happy Families) and type 3 (Discover Yourself and the Other). The teacher chose three cards from each pile. The three cards chosen from one pile were positioned from most to less important. The coach was offered some guidelines for discussing the cards and helping the teacher make a connection between the strengths, passions and triggers.

Type 5: Development Journey

The goal of this game is get to know your own and each other's triggers, passions and strong points by trying to win as many chips as possible after performing different assignments and discussion triggers, passions and strong points. The game is played by at least four teachers in two teams. This game is also suitable for teacher who are new to each other.

The game elements consisted of a game board and (the known) three stacks of cards (Figure 3). In the game a team threw a dice, moved their pawn on the game board and executed different assignments. The assignments were: depict, describe or draw a trigger, passion or strength. One of the team members performed the assignment and the other(s) tried to name the trigger, passion or strength. Some special assignments were put on the board for instance dreaming. When a team ended up on that booth, a member described a dream, explained that dream and named what was needed to accomplish that dream. For example, a teacher described the dream to motivate students. That teacher

the Other and Development Journey. A group discussion revealed that Stack of Cards was confusing. However participants agreed the other games were equally fun, relevant and suitable (possible link with I-Change), Development Journey was chosen by five out of six participants as the game to be elaborated in a second prototype because this game had the most relevance and link with the I-Change model (because of the special assignments). One of the participants wrote an open comment on the scoring card “Development Journey is more dynamic. The questions are fun and trigger a participant to go into depth”.

Since Discover Yourself with a Coach, Happy Families and Discover Yourself and the Other showed their relevance and did not ask much extra design effort (incorporating envelopes), these were incorporated in Prototype 2 as well. Observation of the researcher confirmed that Development Journey triggered the most collaboration (teams tried to win from each other), each participant was active in the games (Stack of Cards seemed the least active) and participants had fun (they laughed a lot).

Table 5: Evaluation of Prototype 1 based on a five-point scale (1 = not at all to 5 = entirely)

Name of the game	n	Criteria (means)				Overall mean
		Triggers Strengths Passions	Active	Fun	Useful	
Stack of Cards	6	3,5	3,33	3,67	2,83	3,33
Happy Families	6	4,17	4,17	4	4,17	4,13
Discover Yourself and the Other	6	4,33	3,83	3,83	4	4,00
Discover Yourself with a Coach	3	4	3,67	3,33	3,33	3,58
Development Journey	6	4	3,83	4	4	3,96

Prototype 2

Keeping in mind all suggestions from the previous evaluation session together with the criteria, the games were elaborated and a manual was designed. The main improvement from Prototype 1 to Prototype 2 was the strengthening of the third phase of the I-Change model (action) through the inclusion of goal formulation within the manual. Goal formulation is one of the factors influencing the action phase. Since action is outside the scope of this study, goal formulation as a proximal measure for action was used.

As described earlier, the evaluation of Prototype 2 focused on the content and therefore the game was not played. Two groups of three participants each

participated in this evaluation. Only a general evaluation took place since the content is equal for all developed games.

The second design cycle resulted in suggestions for improving the manual (linguistic suggestions and change of sequence) and a selection of relevant cards. At the end of the redesign process the game consisted of 28 trigger-cards, 15 passion-cards and 19 strength-cards. In a discussion with participants the conclusion was drawn that each card should not only consist of a word but also a picture in order to be more appealing to teachers with different learning styles (Furnham, Jackson, & Miller, 1999). These changes are made to make the game more relevant and useful and are in accordance with the I-Change model which for example takes into account different channels of information. Hence, the third Prototype 3 could be developed accordingly.

Prototype 3

The focus of the third design cycle was on the usefulness of the general design and on the fun aspect. Participants (two groups of three participants each without incorporating the researcher) evaluated these design characteristics for the game board, cards, attributes and name.

The focus group confirmed that the entire layout of the game board strengthened the fun aspect of the game. However, the colors could be improved. All participants were inspired through the cards showing a combination of text and pictures (Figure 4) in order to be useful to teachers with different learning styles (Furnham et al., 1999). Simple suggestions for improving the cards were made (for example centered text).

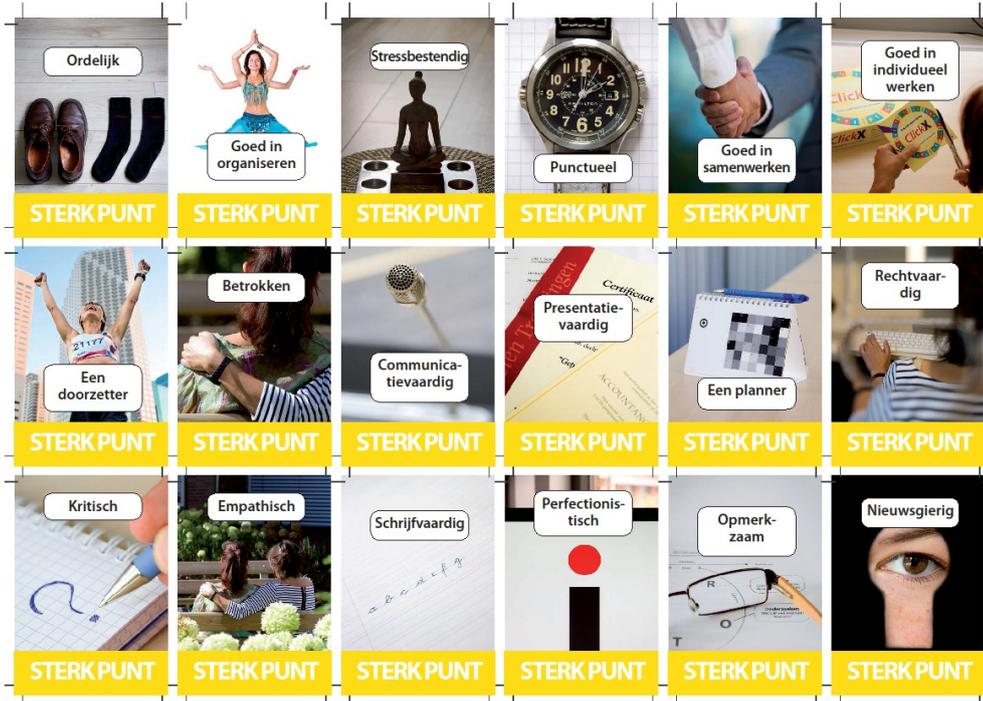


Figure 4: Cards with labels and images.

After some small changes (lay out of cards and colors of the game board), the definitive version and the game box Clickx could be developed (Figure 5).



Figure 5: Game board of Development Journey within the game box Clickx.

Final version

The final version of the game box included a game board, trigger-, passion- and strength-cards, three pawns, chips, a dice, a pencil, a notebook, four envelopes and a manual. With these elements four different games can be played; Development Journey, Discover Yourself with a Coach, Happy Families and Discover Yourself and the Other. All participants were asked to fill out an evaluation form after playing one of the games. The evaluation was in a yes-no format. Respondents (N=18) offered concrete suggestions for improvement when they gave a no-answer.

Happy Families

Four teachers played Happy Families. All shared the opinion that the design characteristics for relevance, activity, fun and usefulness were met. The characteristic of collaboration could be augmented through an increase of the number of players. When augmenting the number, too many teachers will have to sit back while the others make their card choices and the game will become slow and boring.

All teachers indicated they had a better insight in their strengths, passions and triggers for CPD and those of other players of the game. However, none of them developed a specific CPD goal during the game. As said earlier, the link with the action phase of the I-Change model was deliberately addressed in the manual by incorporating goal formulation (proximal measure for action). Participants were asked to follow the manual in the testing phase. However participants solely focused on the game instructions. In other words, participants did not read the goal of the game nor the guidelines what to do after the game or the scientific substantiation.

An additional suggestion from one of the players was to change the sequence of the game. In this prototype each player wrote down a name when an envelope was opened. Hereafter the group discussed the names everyone wrote down, then a new envelope was opened etc. However, when four members played the game and two envelopes were opened, the chances of guessing the right remaining name was rather high. It would be more fun to open all envelopes, write down the names for envelopes 1 to 4 and then discuss all.

Discover Yourself with a Coach

Three pairs (one teachers and her coach and two student teachers and their teacher educator) played Discover Yourself with a Coach; they all held the opinion that the design characteristics for relevance, collaboration and fun were met. One student teacher did not think of the game as useful. This student however did not provide further explanation. Three (student) teachers confirmed the characteristic of the game to facilitate activation by the players, but the coaches/teacher educators did not. This outcome reflected the design of the game; the coach supported the person being coached.

Four out of six evaluations confirmed the link between the game and the phases of the I-Change model. All participants indicated to have better insight in the triggers, passions and strengths of the (student) teachers. Hence, all participants went through the awareness phase. The link with the motivation phase was only implicitly measured across the action phase. Goal formulation was used as the proximal measure for the action phase; two (student) teachers and two coaches/teacher educators took that step.

An extra suggestion from one of the teacher educators was to extend the manual. More specifically, that teacher educator indicated it would be useful to

elaborate the guiding questions on establishing a link between the type of cards in the manual, especially for less experienced coaches or teacher educators.

Development Journey

Six teachers played Development Journey, and all held the opinion that playing the game was active and fun. Five teachers agreed that the design characteristics for relevance, collaboration and usefulness were met. Further explanations however were not provided due to the fact that the results were analyzed after the meeting and the questionnaire was anonymous.

After this evaluation, a possible link between the game and the I-Change model was still to be proven. All teachers indicated they had a better insight in others (and sometimes themselves) but none of them developed a specific CPD goal during the game (measure for the action phase). As said earlier, the link with the action phase of the I-Change model was incorporated in the manual participants had to follow. However, they did not follow that manual from start to finish.

General

Concluding, the respondents of the three games said the game was useful for increasing self-knowledge and it facilitated them to take some time to reflect on their own performance related to the goals they had in mind. Hereby, they indicated that the game was a useful alternative to start conversations and reflections about what triggers each teacher to learn, what they are passionate about and do well. The game offered a fun way to talk about important subjects and at the same time focused on teacher's positive aspects (passions and strengths). Thereby the appreciative nature of the game differed from many Human Resource Management (HRM)-conversation in schools, which often focus on what teachers still have to develop (deficiency approach). Multiple participants gave their feedback in front of the camera. These testimonies were bundled into a short clip about Clickx (see <https://www.youtube.com/watch?v=NeklCLOt-AA>).

As Conklin (2009) discussed, AI creates opportunities and gives voice to thoughts, ideas, hopes, and aspirations. Clickx lowered the threshold for conversations about what teachers think, where their strengths lay and what they are passionate about.

To summarize, all developed games complied with the pre-set design criteria. However, the link with multiple phases of the I-Change model was only proven for the coaching game. The focus groups offered suggestions to develop the games further; for instance invite more players for Happy Families, open all envelopes at once, and provide more guidelines for coaches to address the connection between triggers, strengths and passions.

5.4 Discussion

Several authors (Nabhani & Bahous, 2010; Van Eekelen et al., 2006; Vermeulen et al., 2011) concluded that teachers' participation in CPD was limited. In addition, a deficiency-based study (see Chapter 3) did not show much intention of teachers to participate in CPD. However, another study (see Chapter 4) showed that all teachers had CPD goals and often the intention to take part in CPD. Nevertheless, these teachers were seldom triggered through a deficit in their performance. Teachers indicated that they were willing to improve their performance on aspects they were interested in and in areas they already performed well. Joseph (2004) also found that the curiosity of participants determined their motivation.

AI helps teams to build more positive images about themselves (O'Connor & Yballe, 2007). An AI method is an appropriate way to facilitate triggers to CPD. The real trigger for teachers to participate in CPD is often in an internal drive to grow which can be the result of interaction with others (Chapter 4). When teachers interact with others, they get new ideas on how to enhance their professional proficiency. According to Bushe and Kassam (2005) AI is an effective method to generate new ideas on how to achieve professional development among teachers.

The research question answered in this chapter is "How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?" Designing a powerful intervention takes time and needs different prototypes before a final version that works sufficiently according to researcher and practitioners is reached. Each version has to go through different design cycles thereby carefully evaluating the design criteria in order to make it better suited for the goal of the intervention. The evaluation goals in this study differ for each prototype, focusing on different criteria (Goldman et al., 2013; Plomp & Nieveen, 2007).

The game seems to facilitate the first phase of the I-Change model: awareness. Teachers indicate to have a better knowledge of their own and each other's triggers for CPD, passions and strengths. Only (student) teachers who played 'Discover Yourself with a Coach' did formulated a CPD goal (proximal measure for the action phase). A possible explanation why teachers playing the other games did not reach a CPD goal is that, although the manual incorporates guidelines how to take the next steps in order to participate in CPD, teachers did not read the manual. Not reading the manual (or solely the practical game instructions) is a common fact when playing games (How many times does one read a manual cover to cover before playing a fun game the whole family is waiting to enjoy?). Therefore, formulation of a goal should be integrated into the game. For example at the end of the game, the group with most chips only wins when all team members together formulate as many CPD goals as they have earned chips. Another explanation can be found in the assumptions of the I-Change model. The model predicts that not all teachers go through the three phases (awareness, motivation and action) automatically. Some teachers might have the need of another person to reach the next phase. That other person was present in all games of Clickx but only in Discover Yourself with a Coach the other person is not a peer. Whether the coaching background of that other person or the hierarchical position makes the difference, should be studied in future research. In general, teachers played the game enthusiastically, talked about and supported each other interactively in naming their triggers, passions and strengths. This kind of open communication was a large step ahead in conscious CPD according to a coach from the school who observed this final evaluation and was a co-creator of Clickx.

Teachers who played the final version of the game indicate to have a better knowledge of their own and others triggers to learn, their passions and strengths. When teachers get used to talk to each other about their preferred triggers to CPD, passions and strengths, they reach a connection (click). This click facilitates openness in the educational field, which is new for many schools. Teachers will have the chance to work together and utilize each other's passions and strengths and offer and seek the most fitted triggers for CPD. In other words, the culture toward CPD changes within the school from a threat to an opportunity. An important requirement in really changing the culture is changing the HRM-policy in a similar appreciative direction. Cooperrider and Whitney (2006) stated that an AI searches for the best in people, their

organizations, and the world around them. Thereby making them more effective and constructive.

The I-Change model has the potential of guiding policy makers to change the HRM-cycle within schools. However, the I-Change model is applicable for a deficiency- as well as for an appreciative approach. Policy makers should keep in mind not to use a one-sided focus on performance gaps and shortcomings, but search for what makes a specific teacher special and how to let that teacher shine even more.

5.5 Limitations and future research

The evaluation of Clickx incorporated three out of four game versions. No final conclusions could be drawn about the applicability of the version Discover Yourself and the Other to facilitate CPD. However, since this game resembled Happy Families a lot, no deviating results were expected.

The participants in the evaluation were student or starting teachers. In other words, the group of experienced teachers did not participate in the final evaluation. Plomp and Nieveen (2007) stated that sometimes a final field trial of the intervention with the full (or a sample of the) target group is impossible. Consequently, the actual practicality and the actual effectiveness of the intervention could not be demonstrated. Conclusions focused on the expected practicality and effectiveness. Wang and Hannafin (2005) pointed to the limitations of the single case test. They indicated that the local problem had to be addressed but the generalizability had to be ensured. In other words the product of DBR had to be evaluated in a variety of circumstances in order to fulfil the research requirement of generalization (Barab & Squire, 2004). A group of teachers coming into the profession or just started within the profession participated in our research. Future research should investigate whether Clickx is also useful for more experienced teachers.

Clickx facilitated the first phase of the I-Change model (awareness), and one of the most important influencing factors of the action phase (goal formulation). The manual incorporated guidelines to facilitate the formulation of CPD goals but participants did not give any attention to those. Future research should study how goal formulation can be made more explicit in the game itself since it seemed that teachers did not read the entire manual.

Some teachers might have the need of another person to reach the next phase after awareness. Future research could focus on whether the other person that

helps a teacher to go to the next phase should be someone with a coaching background or a hierarchical superior.

The evaluation of the final version of the game offered some valuable suggestions. Future research could adjust the existing games according to the suggestions and evaluate them.

5.6 Conclusion

Becoming aware of CPD wishes is not that easy for teachers in schools. When teachers start to communicate and especially communicate about their unique qualities the chance for CPD participation raises (Whitney & Trosten-Bloom, 2010). The previous research showed that Clickx offers a way to facilitate the interaction between teachers based upon their strengths and passions. Furthermore, Clickx incorporates questions about the triggers towards CPD for individual teachers. After playing Clickx teachers are aware of their own and each other's strengths, passions and triggers. In other words, teachers went through the first phase of the I-Change model; awareness. Goal formulation has to be strengthened within Clickx in order to go through the action phase of the model. Although the manual incorporated these aspects, only few teachers formulated a goal. The next version of Clickx can integrate goal formulation more explicitly. Another possibility is to expand the manual for TC's incorporating guidelines how to help teachers formulate goals after awareness has been reached. These guidelines proved their use for the coaches participating in the evaluation. Therefore, researchers, practitioners and organizations should work together in order to make one game that facilitates teachers to discover, dream, design and deliver their own CPD.

CHAPTER 6

General discussion

6.1 Introduction

This doctoral thesis began with the presentation of the I-Change model aiming to better understand how to enhance teacher Continuous Professional Development (CPD) (see Chapter 2). At first, the I-Change model was applied in a deficiency manner (see Chapter 3), following the long tradition of a deficiency approach when it comes to planning for teachers' professional development. Later on, based on the results, we discovered that a deficiency approach was very often not an adequate model to explain teachers' willingness for CPD because it was found that an appreciative approach better fitted the aim (see Chapter 4) in search for an answer of the overall research question "What triggers CPD participation of teachers?". During this study, this main question was answered through three sub research questions. The answers to the first sub question "Are teachers triggered to participate in CPD following a sequential, gap-based model and what is the relation with personal and psychological factors?" are discussed in section 6.2. From our results we concluded that a deficiency approach did not seem to act as the expected trigger for CPD for the greater part of the teachers. Therefore, in the second study teachers were asked about CPD goals they already had and if they had goals, how these were established. Section 6.3 presents the results of the second sub research question "What is efficacious in triggering teachers' CPD participation in terms of creating awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?" The last sub research question focuses on triggers for CPD can be prompted in practice, and is formulated as follows "How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?". Section 6.4 discusses the results of this last sub research question. The overall research question is discussed in section 6.5 followed by strengths and limitations (section 6.6) of our research project and recommendations for future research (section 6.7). Finally, in section 6.8 the implications of the findings are presented.

6.2 Are teachers triggered to participate in CPD following a sequential, gap-based model and what is the relation with personal and psychological factors?

The first study (described in Chapter 3) assumed that not all teachers complete all the phases of the I-Change model. Indeed, teachers often stalled in a phase. Surprisingly, few teachers had a performance gap based on the feedback of their team coordinator (TC) and an even smaller number had intentions of improving their weaker competences. Only 40 % became aware of a performance gap, 27 % had the motivation to undertake action to overcome the gap and 24 % formulated a CPD goal (the CPD goal was our proximal measure of action). From our study, we could not predict how many teachers with a formulated CPD goal would actually take part in CPD. Hustler et al. (2003) led us to assume that in the end only half of those teachers with a CPD goal would take part in CPD. This finding could explain why increasing the number of teachers engaged in CPD is so difficult. Triggering CPD participation is a complex problem with multiple influencing variables. One of these variables comprises individual factors of teachers.

The results of this first study partly confirmed our expectations that the individual factors influence the transition between the various phases in the model. Some variables were significant for a phase but no single individual factor was significant in each phase. For example, the Core Self Evaluations (CSE) - a construct that encompasses four psychological variables; neuroticism, self-esteem, self-efficacy and locus of control (Judge et al., 1997) – was studied. The analysis showed that the CSE was significantly related to completion of awareness and action (phases 1 and 3 of the I-Change model). Teachers who finished phases 1 and 3 had a lower mean score on the CSE than teachers who did not finish these phases. However, the mean score in the lower group on CSE was still above the theoretical mean (mathematical mean of the scale), indicating that all teachers scored relatively highly on CSE. For this study it meant that teachers with an above average score on CSE were more likely to finish Phases 1 and 3 than those who had an extremely high score on CSE. Here, a plausible explanation for two scales of the CSE emerged; high scores on self-esteem and self-confidence may reflect overconfidence, which results in less self-reflection and lower receptiveness to the input of others. A possible explanation for the contribution of the other two components of CSE (emotional stability and locus of control) was less obvious. People who were

emotionally stable (high score on emotional stability) should be able to move toward CPD more easily than people who were not as stable because a high score on emotional stability indicates less anxiety and insecurity. The results of this study, however, contradicted this common sense notion. Along the same line of reasoning, teachers with a more internal locus of control were likely to attribute failure to themselves and accordingly, became aware more easily than people with an external locus of control. The results of this study, again, contradicted this logic way of reasoning. Perhaps, an explanation might be that this study did not take the specific nature of teachers' CPD goals into account. Teachers with an external locus of control may have set CPD goals that did not refer to their own actions, but depended on actions of others. For example, a teacher is aware that students are very restless during his lessons (awareness) and has the motivation to change that. However, that teacher points to the uncomfortable furniture as the cause of this restlessness and another kind of seats and tables would be very helpful. But investments are not this teacher's decision.

A potential explanation for the non-significant relationship between CSE and phase 2 completions could be found in the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975) and the Theory of Planned Behavior (TPB; Ajzen, 1991). Fishbein and Ajzen (1975) measured intention more extensively than this study did, because here the focus was on the first phase of the I-Change model, awareness. In this study motivation was measured very straightforwardly with one question ('To what extent do you want to do something to optimize the use of student-activating teaching methods?'). In order not to startle participants with a too elaborated and time-consuming questionnaire, almost all questions were linked to the awareness phase and individual factors.

Age was significant for Phase 1: teachers who became aware of a CPD goal were older than teachers who did not become aware. Our results were in line with the findings of Schunk and Ertmer (2000) found that older teachers have better self-regulating strategies (leading to awareness). They also found that older students use more self-regulating strategies than younger students.

In short; older teachers with lower scores on CSE (being relatively less emotionally stable, have lower self-esteem, a lower sense of self-efficacy, and a more external locus of control) were the most likely to become aware of a performance gap. But it should be noted, that the mean scores on the CSE scale were high (far above the theoretical mean of the scale). The lower score on CSE was also related to teachers who formulate a CPD goal.

To provide an answer to the first sub-question, we conclude that the results of the first study replicated the contradicting results found by different authors (as described in Chapter 1). Few teachers experienced a performance gap and an even smaller number was motivated to overcome the perceived gap. The results showed that the I-Change model did not entirely act as was expected. One group of teachers went through the model as expected. However, a small group of teachers did not run through the three phases sequentially. Some participants who did not finish the awareness phase finished the motivation phase, as well as participants who did not finish the motivation phase but completed the action phase. Nevertheless, the I-Change model seems promising in giving explanations regarding the complex problem of CPD participation. Because this model is a model of behavioral change, it has the possibility of developing guidelines and tools to trigger CPD participation of teachers. The I-Change model is a complex model with different phases, each influenced by different factors. When studying just a few individual factors (e.g., age and CSE) we discovered their relevance regarding the influence on the phases of the I-Change model (i.e. awareness phase). More specific, the results showed that teachers with high scores on CSE were less likely to become aware of or formulate a goal than teachers with lower CSE scores. Nevertheless, no single factor influenced all three phases.

The most unexpected result was that very few teachers seemed to perceive a performance gap, in other words teachers who finished the awareness phase. This surprising result and the urge for more insights in the complex problem of CPD were the triggers for the next study.

6.3 What is efficacious in triggering teachers' CPD participation in terms of creating awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?

The first part of the second study was designed to fulfil some important conditions in order to answer the research question "What is efficacious when enhancing teachers' CPD participation". Hattie (2009) and Hattie and Timperley (2007) found that feedback is important for all learning. Regehr and Eva (2006), Relan et al. (2006) and Onstenk et al. (2007) added that feedback is especially crucial for a gap approach. Since regular feedback is not very common in Dutch

educational settings, an assessment and feedback session was deliberately staged for the purpose of our study. This was part of the research interviews.

From other research it was known that three conditions for feedback leading to awareness of a CPD goal should be fulfilled. These three conditions were met; feedback receiver must trust the review of the assessor (Beausaert et al., 2011), the feedback source must be credible (Ilgen et al., 1979), and a mutual understanding must exist between feedback giver and receiver (Campbell, 2005; Dixon, 2000). Regarding condition 1 (operationalized as an emphatic, safe environment, and a good relationship with the feedback giver), only high ratings were given. Regarding condition 2 all teachers indicated to agree with their TC. Regarding condition 3 almost all pairs had a mutual definition of the topics. After feedback had been given and discussed (as was staged for this research in the assessment and feedback session), the TC left the interview setting.

The second part of study was about teacher's CPD goals within the last year. First, teachers named their CPD goals. Second, the teachers informed the researcher on triggers they experienced before participating in CPD activities. A story line method was used. All teachers named at least one CPD goal and/or activity, which contradicts the findings of many authors who stated that some groups of teachers do not take part in CPD at all (Nabhani & Bahous, 2010; Van Eekelen et al., 2006; Vermeulen et al., 2011). One possible explanation was that these teachers may have had a goal but did not undertake any further action.

To actively enhance the participation in CPD activities, an answer is needed to the question "What types of triggers precede these goals and actions?". In their Self Determination Theory (SDT), Deci and Ryan (2000) and Ryan and Deci (2000) proposed a continuum of types of motivation going from a-motivation through externally motivated behaviors to intrinsic motivation. In our study, intrinsic motivation appeared to be the most common trigger, but our findings also suggested that solely intrinsic motivation seldom led to participation in CPD activities. In contrast, intrinsic motivation needs to be accompanied by external motivation factors or opportunities to participate in CPD activities. Only two out of 22 teachers mentioned a trigger coming from a perceived deficiency. This finding supports the assumption that a more appreciative approach is a better trigger for CPD. An explanation for the lack of examples from the performance gap perspective could be that teachers did not like to talk about such examples because they pointed at a deficiency in their competence.

The assessment and feedback session in the first part of the second study created an open atmosphere, allowing a free discussion of teacher's performance. Moreover, teacher and TC discussed potential performance gaps in this part of the study. This gap-discussion took place just a few minutes before listing the CPD goals, giving gap triggers the advantage of being fresh in the person's memory. In our retrospective study using the story-line method, gap triggers were remarkably absent in the list of triggers mentioned by teachers. This indicated that even when teachers discussed poor performance with their TC, they did not take this as a starting point for their CPD. Many triggers formulated by teachers in our research came from an intrinsic motivation put in practice after an external possibility came along: for example a course offered by the school. Therefore, our findings advocate for more opportunities for CPD along with exerting a bit of external pressure and support to participate in CPD.

In short, the qualitative data confirmed the quantitative findings (Study 1 in Chapter 3); when CPD is related to a preset theme, few teachers have a CPD goal and motivation to participate in CPD. However, the open questions of Study 2 indicated that all teachers had CPD goals. The activities that teachers undertook to fulfil their goals fitted into four categories (reading; courses; experimenting; collaborating). The triggers preceding these CPD goals and activities were often intrinsic, or they were externally regulated but integrated into the teachers' mindset. However, a purely intrinsic goal was unlikely to be put in action. All but two triggers mentioned by teachers resembled the cornerstones of an appreciative approach rather than a deficiency approach. A change in perspective from deficiency to appreciative is followed by a change in answers (deficiency/few teachers have a CPD goal, appreciative/all teachers have a CPD goal). Hence, the advice to practice is to implement appreciative conversation. At the same time, the deficiency approach is still a useful approach when it comes to, for example, the minimum standards (i.e. minimum standards for beginning teachers), the implementation of new technologies, or a new role within the school.

To provide an answer to the second sub-question, we conclude that most teachers became aware of a possibility to get better and therefore had the motivation to take part in CPD activities when the theme is not preset. We found that the most efficacious trigger for teacher CPD is an intrinsic motivation accompanied with an external offering of CPD possibilities. These

findings uncovered a preference of teachers linked to an appreciative approach opposed to a deficiency approach.

6.4 “How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?”

When reflecting on the results of the previous studies and trying to translate the findings into meaningful guidelines for day-to-day practice, the research question “How can the findings of the previous studies be used to create a powerful intervention with the purpose of facilitating CPD?” was answered. In accordance with the positive triggers teachers need for engaging in CPD, this intervention should be encouraging and fun. As Visser (2010) stated, it is more fun to improve skills you already possess.

The outcomes of the previous chapter indicated that a) most teachers really want to take part in CPD (Chapter 4) and b) teachers are mainly triggered to take part in CPD based on positive interaction, as long as that interaction is combined with their intrinsic motivation (Chapter4). In other words, a real trigger for teachers to participate in CPD is often based on an internal drive to grow (Chapter 4). CPD is more effective when done in collaboration with others (Cordingley et al., 2005), therefore a game seemed to be an appropriate form for an intervention to facilitate CPD participation. A game integrates positive social interactions, playfulness, intrinsic motivation, and can be fun. Furthermore, a game facilitates exchange of the individual goals and enables more shared knowledge. In this way a game can be used in schools to start learning together from each other’s strengths.

The game should incorporate knowledge items (knowledge items are the proven concepts from the previous studies) and meet certain design characteristics in order to be effective. The knowledge items in our study were triggers, passions, strong points, and phases of the I-Change model. The design characteristics incorporated in the game were relevant, active, collaborative, useful and fun (Chapter 5). Designing a game that meets these criteria is only useful when none of the existing games does. Therefore, an exploration of existing games was conducted. This search did not lead towards an alternative that met our criteria. However, many useful ingredients to develop a new game were found, like a black box idea to assign someone to a general description or to check your assignments with others, earning a chip, describing things

without naming them and explaining the basis of the game in the tutorial. Hereafter, the development of a new game could start. To do so DBR was applied.

Based on the existing knowledge items and design characteristics, the researcher developed several alternative games and discussed them with a panel. After three prototypes, that were each round evaluated and redesigned, the final version, named Clickx, was ready for evaluation by the target group (teachers).

The final game consisted of four alternatives, each suitable for different groups and goals. For example the most extensive version Development Journey is appropriate for teachers who do not know each other in particular and aims at offering the participants more insight in the strengths, passions and CPD triggers of the gamers. In this board game teams of two players throw a dice, move their pawns on the board and execute different assignments. The other three game versions are card games. *Happy Families* and *Discover Yourself and the Other* are for teachers who know each other a little bit better and offer opportunities for learning more about their individual strengths, passions and triggers to CPD. These two versions ask each gamer individually to choose one or more (dependent of the version) strong points, passions and triggers. Hereafter, gamers are asked to assign each card (or for *Happy Families* stack of cards) to an individual. The last game version *Discover Yourself with a Coach* was developed for individual coaching sessions. The aim was to offer the teacher a better understanding of his or her strong points, passions and triggers for CPD. The coach is offered some guidelines in order to help the teacher make a connection between the strong points, passions and triggers. Three of the four pilot versions were tested by 18 teachers in total and they found the design fruitful for getting insight in one's own and each other's strengths, passions and triggers for CPD participation. The fourth game was not evaluated because of the overlap between *Happy Families* and *Discover Yourself*.

From our results it seems that the developed games mainly facilitated the first phase of the I-Change model: awareness. Teachers indicated to have a better knowledge of their own and each other's triggers for CPD, passions and strong points. Although many teachers indicated to be motivated to play Clickx, this kind of motivation is not the same as in the motivation phase of the I-Change model. Motivation operationalized in this study with regard to the I-Change model is motivation to take part in CPD. We can only assume that through more awareness, teachers are more motivated to participate in CPD. Only

(student) teachers who played the version Discover Yourself with a Coach formulated a specific CPD goal (proximal measure for the action phase).

In general, teachers played the game enthusiastically and supported each other when talking about their triggers, passions and strong points. This kind of open communication is a great leap forward in conscious CPD. When teachers get used to talk to each other about their preferred triggers to CPD, passions and strong points, they reach a connection (click) with one another. This click facilitates openness in the discussions about professional development, which is new for many schools. An important requirement for really changing the culture is altering the Human Resource Management-policy to a similarly appreciative direction. Cooperrider and Whitney (2006) stated that an AI approach searches for the best in people, their organizations, and the world around them. Thereby making such approaches more effective and constructive.

To provide an answer to the third sub-question, we conclude that Clickx encourages an open communication structure. Still, the formulation of a specific CPD goal was hard. With this study we showed that not everything within a school has to follow a formal path; playing a (specific) game has its advantages. Moreover, when introducing multiple ways to trigger CPD, teachers with different learning styles will be triggered.

6.5 Overall research question: What triggers CPD participation for teachers?

The results of the studies described above (Chapters 3 to 5) have indicated that teachers are intrinsically motivated to participate in CPD but in multiple cases an external offer triggers that motivation. In addition, we found that the I-Change model could work as a phase model when initiated by an appreciative approach more than through a deficiency approach. The I-Change model is a complex model with different phases, each influenced by different factors. When studying just some individual factors (e.g., age and CSE) we discovered their relevance regarding the influence on the phases of the I-Change model (i.e. awareness phase). These findings support the I-Change model in that distal factors (in this case personal factors) influence (across proximal factors) how people go through the three phases.

Nevertheless, the I-Change model did not entirely act as expected. For a small group of teachers following the phases led to the formulation of a CPD goal but another group did not follow the proposed (obligated) sequence of the phases. Still, the I-Change model, a complex model in itself, seemed promising in giving explanations regarding the complex problem of CPD participation. Because of the focus our research had to apply, our cooperation with three schools could not take all of the factors of the I-Change model into account but revealed that the studied factors are relevant for practice. For example, motivation (Phase 2 of the I-Change model) of teachers is one of the most important factors having to be fulfilled before CPD participation is possible (Chapter 4). The importance of source and channel factors (two of the multiple distal factors within the I-Change model) can be seen in the second study (Chapter 3 and 4) in that the TC had to be credible and multiple channels of information can serve of purpose. As described previously, one of the main shifts that took place in this doctoral thesis was the shift from a deficiency to an appreciative approach, resulting in other outcomes of the same problem. The I-Change model is a model (as do many models) which the underlying approach implicit. We concluded that using the I-Change model from an appreciative perspective is preferred (Chapter 4) in order to trigger CPD. Consequently, we propose renaming each of the stages of I-Change model. First,

in AI the 4-D cycle is important: discover, dream, design and deliver (Conklin, 2009). Van der Haar and Hosking (2004) described the discover-step as what gives life and energy to people's work. The passion cards within Clickx represented the discover-step. A dream is something that could be accomplished (Van der Haar & Hosking, 2004). The combination of discovering and dreaming is similar to the first phase of the I-Change model. Therefore, opposed to naming this first phase awareness of a performance gap, the term awareness of a dream or discovering a dream is suggested.

Secondly, the third step in the 4-D cycle *design* is described as what should be (Bushe & Kassam, 2005). In other words, it expresses a desire for change. In case of the I-Change model phase 2 (motivation) was renamed in designing a CPD plan. Thirdly and finally, the last step of the 4-D cycle of AI is deliver or what would be (Conklin, 2009). For the I-Change model this referred to what a teacher does after the CPD plan has been developed, thus engagement in CPD activities. Therefore, phase 3 was renamed participating in CPD activities. Figure 6 shows the renamed phases of the I-Change model. By these new

names the model emphasizes its appreciative nature and will have more accordance with the findings of our studies.

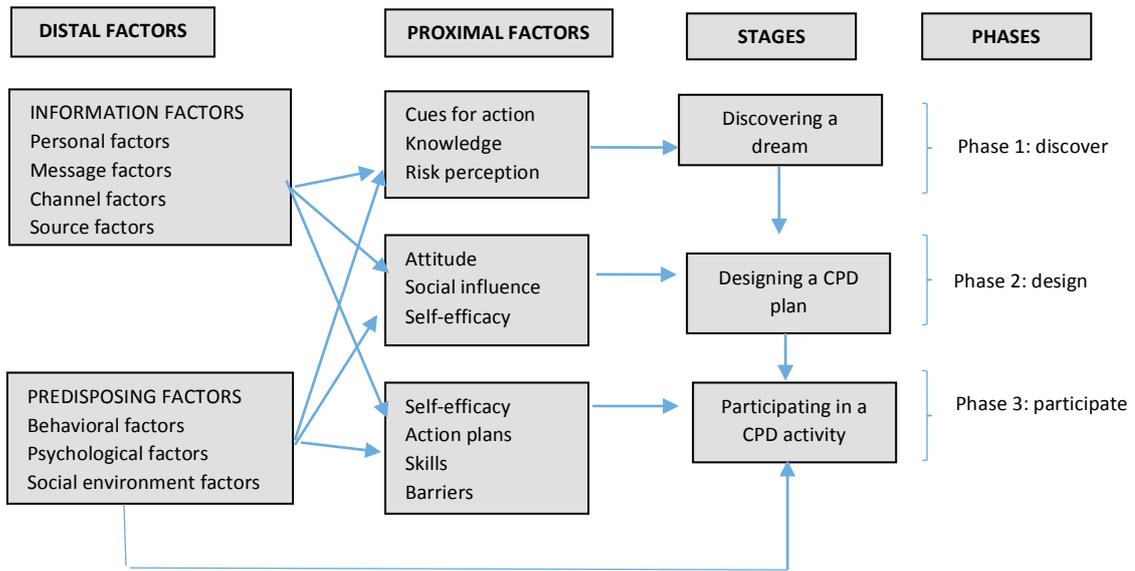


Figure 6: The Appreciative I-Change model for teacher CPD

6.6 Strengths and limitations

In line with the outcomes of the previous studies, and in specifically the breakthrough that occurred when adopting an appreciative approach, the emphasis of this section should be on strengths. However, scientific justification requires incorporating a critical self-reflection and a discussion of the limitations of the various studies in this research project. The discussion of the strengths and weaknesses will focus on reliability, validity and usability.

Reliability

Reliability differs for quantitative and qualitative research (Morse, Barrett, Mayan, Olson, & Spiers, 2002). For our quantitative study (Study 1 in Chapter 3) it is important to use reliable measures. The Dutch Core Self Evaluations Scale (DCSES) was used which is a reliable test but was not previously used for teachers. The relevance for teachers was studied before Study 1 started through consulting a database of 79 teachers from different secondary schools

in the Netherlands (see Chapter 2). The sufficiently high alpha (Cronbach's alpha of .79) ensured the usability of the DCSES. Furthermore, Study 1 made use of topics to question the TCs and teachers. These topics were discussed by a focus group consisting of five teachers.

Reliability of the qualitative data gathering was given attention through the use of a proven method within the educational field; the story line method (Van der Sanden et al., 2004; Beijaard et al., 1999). To make sure the researcher could get the most out of this method, she practiced with two colleagues and six colleagues practiced in pairs and the researcher took notes to improve the process. The analysis of the qualitative data was done by multiple researchers, making it possible to compute Cohen's Kappa (inter-rater reliability). This measurement was sufficient (the Kappa for climate, definition topic and definition grade respectively was 0,67, 0,73 and 0,71) and thus the analysis reliable.

The last study (Study 3, Chapter 5), developing a game was based on the procedures of DBR. DBR incorporates reliability in every design cycle by making the target population part of the design and evaluation team. We completed four design cycles. The number of cycles in DBR is not preset; rather a final version is reached when no substantial points of improvement emerge as was the case in Study 3 (Chapter 5) after four cycles.

Finally, we studied the complex problem of reluctance and willingness of teachers towards participation in CPD with quantitative and qualitative research methods. This multi method approach and the ensuing triangulation have a positive influence on the reliability of the results (Dede, 2005; de Villiers, 2005).

Validity

As with reliability, validity focuses on different aspects for quantitative and qualitative research (Winter, 2000). In our research we questioned the validity of the measurement used in the first study after the surprising results (few teachers having a gap). The topic was discussed by five experts, this could not be the reason for the surprising results. Therefore we interviewed the same population in Study 2 as in study 1 which confirmed the validity of the topic and accompanying question but also confronted us with an alternative interpretation of the grades given. In Study 1, TCs and teachers grades teacher performance on a 10-point Likert scale accompanied with a verbal description. However, the interviews showed teachers and TCs grading performance as a 6

do not follow the accompanying description “sufficiently developed” but think of a 6 as “to be improved”. This invalidity did not cause a problem since the absolute grade was not used but the difference between the scoring of TC and teacher served as a classification criterion.

Validity also refers to the extent to which findings from research can be usefully generalized. Therefore validity is crucial for quantitative and qualitative research and differs between our studies. The first study (quantitative) is generalizable since the measurements are reliable and the population is sufficiently big. The second and third study (Chapter 4 and 5) incorporated a smaller population (i.e. 22 pairs for Study 2). Therefore, the results are an indication of how the process of CPD works and what the game can offer. In order to generalize these results, one should be careful. In addition, only teachers and TC’s who participated voluntarily were included, and therefore the results are valid for voluntary CPD. This is not seen as a limitation since participation of the game Clickx in practice will also be voluntary. In short, the qualitative results are generalizable, for the qualitative results generalizability was not the goal (the goal was to get insight in the underlying processes).

The organizational factors were stable because our studies were conducted within the schools of one board. For that reason these factors could not be responsible for any variance since all TC’s and team members have the same school board. At the same time, it is uncertain whether our conclusions can be applied to other school organizations. Other boards may perceive their teachers as reluctant to participate in CPD and meanwhile not pay much attention to the topic while the organization under study paid abundant attention to teacher CPD. In other words, the study was performed within schools that were ready for change (Penuel et al., 2011). This additionally raises the question of generalizability to an international context. Our research population consisted of only Dutch schools and in some aspects the Netherlands seems to have educational policies different from other countries. Only future research can answer these questions. However, the topic studied here was CPD and almost all countries are interested in this matter (OECD, 2008).

Usability

Verschuren (2009) stated that for practice-based scientific research a third criterion is important: usability. He gave three indicators for usability. The first one is clarity of the result. Put differently, the results of the research should be

accessible for practitioners. The second indicator refers to acceptability. In other words, practitioners have to think of the results as true and relevant. The third criterion is learning possibilities, which means that the results offer possibilities to improve practice.

The clarity (first criterion) of the results received much attention by developing the game Clickx which has the purpose of making research findings accessible for all teachers. Clickx can be played multiple times but this was not studied here. Second time players do not have a game advantage, because insight and CPD goals change over time. The second (or multi) time players can explain the game to new gamers, which is an advantage for all. The selection of strong points, passions and triggers could be easier for them since these gamers had some practice. However, each time a teacher plays the game, the cards that are in the stack change since the other players are not the same and accordingly have made different card choices. In this view, teachers who intended to play the game in another group did not think it would become boring since other players come into the game and choose different aspects. Some teachers spontaneously said they wanted to play the game again in one year to see whether they emphasize the same aspects. However, we did not study a possible shift in strong points, passions and triggers for CPD due to limited time of our project.

The acceptability (second criterion) of our studies is ensured since all studies were performed in natural settings making it possible to draw real life conclusions. Moreover, the studies were developed in consultation with the school board to ensure that the outcomes might be useful for the participating schools. TCs just started their new and more hierarchical positions between teachers and management and could use some practice and guidance in assessing and giving feedback that lead to CPD of teachers. When assessment in the common way of a deficiency approach did not seem to work, teachers were provided with the story line tool that helped to get insight in their own learning history and preferences. TCs indicated that this research tool can be used by them as an input for a professional learning conversation with teachers.

The learning possibility (third criterion) is embedded since the goal of this research project was to find triggers for teacher CPD which in itself is a learning possibility. The results state that an appreciative approach should be applied for the majority of teachers and that communication about strengths, passions and triggers for CPD has to be encouraged among co-workers. The final product

of the studies, the Clickx game box, offers TCs, coaches and teachers a method to encourage such appreciative communication.

6.7 Future research

The I-Change model seems a valuable model for explaining and supporting teacher CPD. In order to embrace this model as one of the leading models in explaining teacher CPD and developing guidelines or tools, a bigger population (more schools) have to be incorporated in research and all factors within the I-Change model should be subject of research within the field of education. For example, the first study puts the emphasis on individual factors relating to CPD (one of the possible distal factors of the I-Change model). Future research can explore the influence of a wider range of individual ones. For instance, a better understanding of the separate components of CSE and their influence is needed in order to make specific guidelines how to trigger CPD based on individual characteristics. Future research should incorporate separate tests for self-esteem, self-efficacy, locus of control and emotional stability, to increase the feasibility of more specific recommendations for counselling teachers on CPD. Kwakman (1999) discussed environmental and individual factors affecting teacher CPD. Therefore, future research about the I-Change model should integrate both environmental and individual factors affecting teacher CPD. Burke, Christensen and Fessler (1984) described different stadia in the development of teachers and pointed to the importance of environmental factors, for instance the organization. Within an organization the rules, management type, culture among colleagues, atmosphere of commitment and activities and opportunities are of importance.

In addition, alternative routes within the I-Change model should be investigated since we found (Study 1 in Chapter 3) that not all teachers follow the preset route through the three phases. Possibly studying these alternative routes add to the understanding of the complex process of CPD.

We conducted the current study in the Netherlands. This raises the question whether the findings on how to trigger CPD also applies to schools in a non-Dutch context and different cultures. An international application of the findings of our studies seems grounded through the use of internationally validated tests (CSE) and literature. In addition, the international relevance should be explored further to verify the results in an international context.

The I-Change model was tested through a questionnaire resulting in a small group of teachers having the intention to take part in CPD. The reason for not participating in CPD was not part of the focus of the research and therefore could not be determined. Future research could investigate why some teachers who mentioned a CPD goal did not have the intention to take part in CPD. Such research should focus on a more extensive measurement of intention and whether actual CPD participation would occur. Our study measured intention through a single question whereas Ajzen and Fishbein (2005) used a more extensive measurement. In addition future research should be longitudinal, making it possible to check in a real life setting whether the intentions are actually put into action and what hinders them.

6.8 Implications

Becoming engaged in CPD activities is a complex process, influenced by multiple factors, not always following consistent and chronological steps. The results of this study indicate that although some teachers follow logical consecutive steps (awareness, goal formulation and intention), others just formulate a goal or have the intention to take part in CPD. For practice this means that when the aim of a school is to enlarge teacher's engagement in CPD activities, they should not force teachers to take every step of the process at a conscious level. As said, some teachers suddenly have an intention to take part in CPD. If these teachers would be obliged to search what made them aware and what the actual CPD goal is, they could think of these steps as irrelevant and lose the initial intention to take part in CPD.

In addition, not everything within the HRM-cycle should be formalized, informal activities may also contribute to CPD. For instance, paying Clickx led to more insight in triggers regarding CPD, passions and strong points. Moreover, the game contributed to an open communication culture to talk about CPD.

The I-Change model has the potential to support policy makers in their job but since the model is applicable for a deficiency as well as for an appreciative approach, the chosen approach should be explicated. Based on the findings of this study we recommend favoring an appreciative approach over a deficiency approach which might support policy makers to focus on talents instead of shortcomings. However, the deficiency approach should not be abandoned in specific situations (i.e. a teachers getting a new role within the school).

Individual factors and demographic variables influence the course of CPD. When schools take these individual differences into account, they can create more effective policies by offering a variety of CPD approaches, ways of engagement and organizing initiatives. For instance experienced teachers become aware more easily of a CPD goal (when provided with feedback) than their younger colleagues. It might be helpful designing a mentor system that pairs elder and younger teachers where they can exchange experiences on how they can become aware of learning need. Notice that the term need is used and not performance gap. It could hinder the relationship with the teachers when the focus is on poor performance rather than building on the passion for the profession and their strengths in current performance.

The overall conclusion and answer to the general research question (What triggers CPD participation for teachers?) is that teachers in our study prefer a positive and appreciative approach as a trigger for CPD rather than a deficiency approach that focuses on a gap. Only two out of 22 teachers showed the intention to participate in CPD based on a gap approach while all other teachers indicated to participate in CPD based on triggers that are a combination of intrinsic motivation and integrated regulation. For most teachers in this study, intrinsic motivation alone was not enough to trigger CPD. Therefore, it is important to be aware of the influence of external triggers such as a presented course, classroom visits, and experimenting with new instructional strategies. In other words, intrinsically triggered needs are often converted into actions when a specific opportunity for participating in a CPD activity is offered. For school leaders, this result indicates that they should offer different types of CPD activities with the intention of having their intrinsically motivated staff to actually participate in CPD. Schools could facilitate more teachers to participate in CPD by creating an environment that provides teachers with interaction, constructive feedback and dialogues on professional development. However, as was learned during this research, TCs often feel uncomfortable with their mentoring role and indicate that they need support when offering feedback. In other words, TCs want to get better and want to feel more comfortable in their more hierarchical role.

Teachers' engagement in CPD cannot be increased through one single policy or remedy. CPD is a complex social process with interplay of multiple factors on the individual and environmental level. Nevertheless, when focusing on passions and strong points of individuals, combined with CPD opportunities,

CPD is triggered more easily and the impact on the educational practice will be more noticeable.

The scope of this doctoral thesis was to develop a practical tool (powerful intervention) for schools to trigger CPD. Clickx offers a way to facilitate the interaction between teachers based upon their strengths and passions. Furthermore, Clickx incorporates questions about the triggers towards CPD for individual teachers. After playing Clickx teachers are aware of their own and each other's strengths, passions and triggers.

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Summary

Continuous Professional Development (CPD) is important for improving the quality of teachers. However it is often suggested that not all teachers participate in CPD. Different schools in the southern part of the Netherlands were looking for improvement with regard to their CPD policy and implementation of these policies. One school board -representing three different schools- asked the Open University for help concerning these topics. The goal of this research project was to find triggers for teacher CPD from literature, research findings and based on this knowledge, to develop interventions. All studies were shaped in accordance with the school board, team coordinators (TCs), coaches and teachers of the three schools. This thesis aimed first at understanding why teachers do not participate in CPD and second developing interventions that trigger CPD participation. Therefore, the overall research question of this thesis was “What triggers CPD participation for teachers?”

After the general introduction in Chapter 1, Chapter 2 gives an overview of various efforts that have been made to motivate teachers’ CPD. However, despite the many efforts, still, little is known about why teachers actually participate in CPD activities. Researchers have been searching for effective CPD conditions, looking at questions as what is needed for CPD activities to have the desired effect. Until now, the knowledge about the specific influence of distal factors (indirect effect on the dependent variable) on the proximal factors (direct effect on the dependent variable) leading up to CPD participation is still incomplete. Some of the known examples are the effect of self-esteem on the motivation (i.e. Ilgen et al., 1979) towards CPD and the influence of a person’s locus of control on the actual participation in CPD activities (Van Amersfoort, 2009). The assumption of this theses was that with more knowledge of these determinants underlying CPD participation, more answers to our research question could be given and it could be possible to describe more appropriate guidance (i.e. interventions) and develop more effective interventions within the participating schools to enhance teachers’ CPD.

The integrated model for explaining motivational and behavioral change (or in short, the I-Change model; De Vries et al., 2008) is proposed in Chapter 2 to give more insight regarding these questions on the conditions under which and

why teachers engage in CPD. This model is a phase model for behavioral change; these phases are awareness, motivation and action. Furthermore, it could give directions on how to develop interventions in order to enforce behavioral change.

The I-Change model, developed within the field of healthcare, was used, because it seemed applicable for teacher development as a form of behavioral change (Chapter 2). To test the applicability in educational practice, the two phases of the model (e.g., awareness and motivation) that preceded the action phase were conducted in different educational studies (Chapter 3 and 4).

Chapter 3 searched for practical relevance of the I-Change model within the educational field. The accompanying research question was “Are teachers triggered to participate in CPD following a sequential, gap-based model and what is the relation with personal and psychological factors?”. To be able to detect a gap in teachers performance, both teacher and team coordinator were invited to participated in an online questionnaire. In total, 119 pairs of one teacher and his/her TC answered a questionnaire. Engaging the TC was essential because the TC could give information (feedback) to the teacher in order to provide information to become aware of a possible performance gap. First, the TC completed the questionnaire assessing the teacher’s performance. Next, the teacher responded to the questionnaire. The individual questionnaires of TC and teacher were combined, resulting in one data set. When the two scores differed by at least two points, room for improvement or, in other words, a gap was present.

The analysis of 119 combined questionnaires gave evidence that the phases of the I-Change model are recognizable, although not all teachers participate in all three phases. However, the most surprising information from the survey was that few teachers had a performance gap and even a smaller number had the motivation to improve. Based on the comparison of the score of the TC and the teacher, 25 teachers could become aware of a performance gap. However, only ten (40%) became aware of the gap. From this group (teacher who became aware) seven (28%) had the motivation to overcome the gap and six (24%) formulated a goal in order to take action. The finding that only 25 out of 119 teachers had a performance gap was opposed to the reasons underlying the international focus on augmenting the participation of teachers in CPD. Multiple legislations mentioned teachers had to meet standards and to do so they had to be engaged in CPD.

The results showed that the I-Change model did not entirely act as was expected according to the I-Change model (De Vries et al., 2008). One group of teachers went through the model as expected. However, a small group of teachers did not run through the three phases sequentially. Some participants who did not finish the awareness phase finished the motivation phase, as well as participants who did not finish the motivation phase but completed the action phase. The I-Change model holds the assumption that not all teachers complete all the phases, and indeed our research showed that some teachers got stuck in a phase. In order to understand what distal and proximal factors preceded a phase, the influence of the Core Self Evaluations (CSE), age, experience, and teaching in pre-university education were studied. CSE is proposed as a construct that encompassed four psychological variables; neuroticism (or emotional stability), self-esteem, self-efficacy and locus of control (Judge et al., 1997). CSE is measured with the Core Self Evaluations Scale within which each variable can get a low or high score compared to the mean group scoring. The construct of CSE has been studied over the years, although primarily in the field of organizational psychology. In order to include the CSE as a factor in this educational study, the reliability had to be checked. To examine the practical relevance, existing databases were consulted indicating that the CSE was a suitable measure for getting insights in teachers' individual factors.

The analysis of the three phases of the I-Change model combined with the distal and proximal measures showed that the CSE was significantly related to completion of awareness and action (phases 1 and 3 of the I-Change model). Teachers who finished phases 1 and 3 had a lower mean score on the CSE than teachers who did not finish these phases. Although CSE had a significant influence on two of the three phases of the I-Change model, the results contradicted our expectations, more specific our expectation was that teachers with high CSE scores were more likely to complete the phases than those with low CSE scores. The opposite was reflected in our results. In the case of self-esteem, a possible explanation could be that the high scores might reflect overconfidence, which can result in less self-reflection and receptiveness to the input of others (which is a distal factor of the I-Change model). An explanation for the contribution of the other two components of CSE (emotional stability and locus of control) was less obvious. The expectation was that teachers with a high score on both constructs became more easily aware and participated more in CPD. The results showed that teachers who were emotionally stable

should be able to move toward CPD more easily than people who were not as stable because a high score on emotional stability indicates less anxiety and insecurity. The results of this study, however, contradicted this common sense notion. Along the same line of reasoning, teachers with a more internal locus of control were likely to attribute failure to themselves and, accordingly, should become aware of a gap more easily than people with an external locus of control. The results of this study, again, contradicted this common sense notion. Perhaps an explanation could be that this study did not take the content of teachers' CPD goals into account. Teachers with an external locus of control might have set CPD goals that did not refer to their own improvements but to changes other people could make.

The other distal factors measured in the study presented in Chapter 3 were age and teaching in pre-university education. Only age was significant for coming into the awareness phase: teachers who finished the first phase were older than teachers who did not finish the first phase.

Based on the results of Chapter 3, additional qualitative research has been performed in Chapter 4 for obtaining more insight in the reasons why so few teachers showed the intention to take part in CPD activities. The study presented in Chapter 4 answered the research question "What is efficacious in triggering teachers' CPD participation in terms that it creates awareness about the need for CPD participation (the awareness phase) and the motivation to start with CPD (the motivation phase)?" The study compared the efficacy of two approaches leading to CPD. The first one is the deficiency approach that emphasizes the performance gap and CPD activities concentrated on eliminating this gap. The second is the appreciative approach implying that engagement in CPD is aimed towards improvement of skills teachers are interested in with the result that their performance is developed further.

Twenty-two face-to-face assessments between teachers and their TCs were observed and analyzed. A retrospective instrument was used to gain insights in teachers' engagement in CPD participation. All teachers named at least one CPD activity in the past year that fulfilled their need for development. This was remarkable because as mentioned previous, it was expected that not all teachers would participate in CPD activities.

Our findings revealed that identified regulation (i.e. being offered a CPD activity and participating without pressure) and integrated regulation (i.e. being offered a CPD activity and participating with a lot of enthusiasm) were the most often mentioned reasons to engage in CPD. Furthermore, only two teachers

mentioned that they had to do a CPD activity which they would otherwise not have done, based on a gap in their performance.

The findings above suggest that the appreciative approach is the most efficacious approach because teachers indicated triggers towards CPD in line with that approach. In the past many models did not explicate whether they used a deficiency or appreciative approach. This could be a possible explanation for the opposite findings between studies with regard to CPD participation of teachers. When teachers are asked questions about participating in CPD activities after emphasizing the importance of CPD for the quality of teaching or after giving a set of competencies etc. a teacher is brought into the deficiency mode. Asking about their willingness to participate or actual participation is therefore answered from a deficiency point of view leading to less willingness opposed to an appreciative approach. Even the I-Change model does not explicate the underlying approach. Basically, this model is applicable in a deficiency and appreciative way but is answered from a deficiency point of view if the underlying approach is left implicit. Why the deficiency approach is more prominent in the mindset of people (and therefore comes to mind when the approach is left implicit) was not the focus of this research. Yet, we have explored possible causes because a more prominent deficiency approach opposed to an appreciative approach affects the key issues of our studies. One possible explanation for the dominance of the deficiency approach is that legislation focuses on minimum standards and not excellence. And due to the comparison with minimum standards, the search for deficiencies is a central point in such approaches. Another reason could be that in the tradition of the use of the Human Resource Management (HRM)-cycle by school managers, they predominantly focus on shortcomings or clearing the gap when having a performance interview. For researchers a possible cause could be that a gap between standards and actual performance is more easily to measure than talent and excellence.

The overall recommendation in Chapter 4 to school managers is to adopt an appreciative approach and support the intrinsic motivation of self-determined teachers. Moreover, as intrinsically motivated CPD activities should come along with opportunities to do these activities, school managers, should take care that these opportunities are provided. In order to support schools and their entire staff in making the transition from primarily being focused on teachers' shortcoming into being focused on strengths, an intervention to trigger CPD was presented in Chapter 5. Appreciative Inquiry (AI) is the approach

underlying the intervention since the focus on strengths was proven to be more effective in triggering teacher CPD, which is an inherent key element of AI. A game seemed an appropriate form for an intervention because CPD is more effective when done in collaboration with others (Cordingley et al., 2005). The goal of the game was to facilitate CPD participation.

Design Based Research (DBR) was the method chosen to develop the game. The essence of DBR is that researchers and practitioners developed the design together to make sure that the theoretical foundation and practical knowledge were incorporated.

The theoretical foundations were discussed in the previous chapters. In short, teachers became aware of professional development possibilities following an appreciative approach. Since AI is focused on strengths and passions and the focus of this study was to trigger CPD, the previous findings were operationalized in “if a teacher has to take charge of his own CPD or a team has to embody their team development, it is useful to know your own and others triggers, strengths and passions”. At the individual level, when each teacher has an understanding of the preferred triggers to CPD, that specific trigger can be searched for or provided. At the same time for the team level, when a TC knows the strengths and passions of individuals, pieces of the team plan can be divided accordingly. In addition, the TC can offer the right trigger for CPD to each teacher. The real trigger for teachers to participate in CPD is often based on an internal drive to grow (Chapter 4).

The first phase of the I-Change model is awareness, therefore intervention should start with awareness. Accordingly, the game will focus primarily on awareness about CPD participation but is also linked to the other phases. The expectation was that teachers can interact (collaborate) about their strengths (appreciative) with the aid of this game. The main external characteristics of the game that had to be developed were a game that is based on a board or cards. We did not chose to develop a digital game since awareness of the other person seemed to be important in getting to know each other, which seems difficult to achieve in a virtual environment.

After three evaluation rounds (three prototypes) the final version consisted of multiple separate games all focusing on strength, passion and CPD trigger. Therefore, a game box Clickx was developed. Clickx incorporated four different games. The first two games (Happy Families and Discover Yourself and the Other) are played with cards only. These two games share the rule that each

teacher has to choose some cards describing their personal triggers, strengths and passions. Hereafter, other players have to guess to whom the card belongs. The third game within Clickx is named Discover Yourself with a Coach. As the name suggests, teachers discuss triggers, strengths and passions of themselves individually with a coach. The fourth game in the box is the most elaborated game, Development Journey. Within this game teams play against each other depicting, describing or drawing a trigger, passion or strength. After those assignments teachers discuss whether the description is suitable for themselves or not. The board game Development Journey also incorporated some special assignments, for instance dreaming. When a team ended up on that specific booth, a member described a dream, explained that dream and named what was needed to accomplish that dream. By incorporating these special assignments, the 4-D cycle of AI is incorporated in the design as well. The 4-D cycle states that a person goes through 4 stages; discover, dream, design and deliver (Conklin, 2009).

After playing the final version of the game, players (n=18) said that all games facilitated the first phase of the I-Change model: awareness. Teachers indicated to have a better knowledge of their own and each other's triggers for CPD, strengths and passions. In short, playing the game facilitated the communication of participants about their triggers, passions and strengths. Only (student) teachers who played 'Discover Yourself with a Coach' formulated a CPD goal (proximal measure for the action phase). A possible explanation why teachers playing the other games did not reach a CPD goal is that teachers did not read the manual. And precisely that manual incorporates guidelines how to take the next steps in order to participate in CPD. Another explanation can be found in the assumptions of the I-Change model. The model predicts that not all teachers go through the three phases (awareness, motivation and action) automatically. Some teachers might need another person to reach the next phase. That other person is present in all games of Clickx but only in Discover Yourself with a Coach the other person is not a peer. Whether the coaching background of that other person or the hierarchical position makes the difference should be studied in future research. In general, the evaluation showed that teachers play the game enthusiastically, talk about and support each other interactively in naming their triggers, passions and strengths. This kind of open communication is a large step ahead in conscious CPD, but did not lead to a specific CPD goal as a consequence. Therefore we

recommended to adjust the games and incorporate the formulation of a CPD goal in the playing of the game.

The findings from previous chapter are discussed in Chapter 6. The results which were represented earlier have indicated that the I-Change model has the potential of guiding policy makers to change the premises underlying the HRM-cycle within schools. However, in order to embrace this model as one of the leading models in explaining teacher CPD and developing guidelines or tools, a bigger population (more schools) have to be incorporated in research and all factors within the I-Change model should be subject of research within the field of education.

As the I-Change model is applicable for a deficiency as well as for an appreciative approach, policy makers should keep in mind not to use a one-sided focus on performance gaps and shortcomings, but search for what makes a specific teacher special and how to let that teacher excel even more. However, the deficiency approach is a suitable approach in specific situation (e.g., beginning teachers, the implementation of new technologies, a new role within the school). In our research teachers became inspired to perform better (phase 1: awareness) by an intrinsic motivation along with an external offer. In order to develop their performance more, they were motivated to participate in CPD (phase 2) and took part in CPD activities (phase 3). The awareness phase could still be seen as a gap but solely a gap between what a teacher actually does and what that teacher wants to do (as opposed to has to do). However, when we would continue to talk about a gap, the deficiency connotation would persist.

As mentioned previously, in AI the 4-D cycle is important: discover, dream, design and deliver (Conklin, 2009). The combination of discovering and dreaming is similar to the first phase of the I-Change model. Therefore, opposed to naming this first phase awareness of a performance gap, we would prefer naming it awareness of a dream or discovering a dream. In the case of the I-Change model phase 2 (motivation) could easily be renamed in designing a CPD plan (the 3 phase of AI). The last phase of the 4-D cycle of AI is deliver or what would be. For the I-Change model this could mean what a teacher does in the future after the CPD plan is pursued, thus engagement in CPD activities. Therefore, phase 3 could be named participating in CPD activities. By these new names the model is in accordance with the overall conclusion that teachers in our study prefer a positive and appreciative approach as a trigger for CPD rather than a deficiency approach that focuses on a gap. In addition, individual

factors and demographic variables seemed to influence the course of CPD. For school leaders, this result indicates that they should offer different types of CPD activities with the intention of having their intrinsically motivated staff to actually participate in CPD.

When answering the overall research question “What triggers CPD participation for teachers?” one could state that focusing on the strengths and passions of teachers is more triggering opposed to focusing on their shortcomings. Moreover, personal and psychological factors (together named individual factors) seem to influence the course of CPD. When schools take these factors into account, they can create more effective CPD policies. For instance, older teachers become aware more easily of a CPD goal than younger ones. It is recommended to implement a mentor system that pairs older and younger teachers in order to assist the younger ones in how they can become aware of a need. Schools could facilitate more teachers to participate in CPD by creating an environment that provides teachers with interaction, constructive feedback and dialogues on professional development.

Samenvatting

Professionaliseren is belangrijk om de kwaliteit van leraren op pijl te houden en te verbeteren. Onderzoek suggereert echter dat niet alle leraren aan professionaliseringsactiviteiten deelnemen. Meerdere scholen in Zuid-Nederland zochten naar manieren om hun professionaliseringsbeleid en de implementatie ervan te verbeteren. Om die reden vroeg een schoolbestuur met drie brede scholen de Open Universiteit om ondersteuning. Het doel van dit project was om op basis van literatuur en onderzoek triggers te vinden die leraren aanzetten tot professionalisering om op basis van die inzichten interventies te ontwikkelen die leraren daadwerkelijk tot Continuous Professional Development (CPD) aanzetten. Alle deelstudies zijn in nauwe samenwerking tussen de onderzoeker, het schoolbestuur, teamcoördinatoren, coaches en leraren van de drie scholen vormgegeven. Dit proefschrift heeft als doel om a) meer begrip te krijgen van de redenen waarom leraren niet deelnemen aan professionaliseringsactiviteiten en b) interventies te ontwikkelen die deelname aan professionaliseringsactiviteiten triggeren. De bijbehorende onderzoeksvraag luidt: "Wat triggert deelname aan professionalisering bij leraren?".

Na een algemene inleiding op het proefschrift in Hoofdstuk 1 wordt in Hoofdstuk 2 aan de hand van diverse bronnen een overzicht gegeven van verschillende pogingen die zijn ondernomen om leraren te motiveren deel te nemen aan professionaliseringsactiviteiten. Ondanks de vele inspanningen van diverse onderzoekers is er weinig bekend over de redenen waarom leraren uiteindelijk participeren in professionaliseringsactiviteiten. Onderzoekers zochten vaker naar randvoorwaarden die maken dat professionalisering effectief is. Tot hiertoe was de kennis over de beïnvloeding van professionalisering via specifieke distale factoren (indirect effect op professionalisering) en proximale factoren (direct effect op professionalisering) beperkt en onvolledig. Enkele reeds bekende voorbeelden zijn het effect van self-esteem op de motivatie t.a.v. professionaliseren (i.e. Ilgen et al., 1979) en de invloed van locus of control op deelname aan professionaliseringsactiviteiten (Van Amersfoort, 2009). Wanneer we meer kennis hebben van de factoren die sturend zijn in het deelnemen aan professionaliseringsactiviteiten, dan is er een antwoord mogelijk op de

onderzoeksvraag en kunnen er specifieke interventies ontwikkeld worden zodat leraren getriggerd worden om te professionaliseren.

Het integrated model for explaining motivational and behavioural change (kortweg, het I-Change model; De Vries et al., 2008) wordt in hoofdstuk 2 voorgesteld als verklarend model omdat het meer inzicht geeft in de vraag onder welke condities en met welke redenen leraren deelnemen aan professionaliseringsactiviteiten dan eerdere modellen die bijvoorbeeld enkel motivatie in acht namen. Het I-Change model is een fasen-model gericht op gedragsverandering; en de fases zijn bewustzijn, motivatie en actie. Het model kan richtinggevend zijn in de praktijk voor het ontwerpen van interventies die een gedragsverandering teweeg brengen. Het I-Change model is ontwikkeld binnen de geneeskunde en wordt in dit onderzoek gebruikt omdat het, in theorie, goed toepasbaar lijkt voor het professionaliseren van leraren. Professionaliseren is immers een vorm van gedragsverandering. Om de toepasbaarheid op en de bruikbaarheid voor een onderwijssetting te bepalen werden de twee eerste fasen (bewustzijn en motivatie) onderzocht in Hoofdstuk 3 en 4.

Hoofdstuk 3 geeft de zoektocht weer m.b.t. de praktische toepasbaarheid van het I-Change model binnen een onderwijssetting. De bijbehorende onderzoeksvraag was “Triggert een prestatie-kloof het deelnemen aan professionaliseringsactiviteiten en wat is de invloed van individuele factoren?”. In totaal beantwoordden 119 koppels van één leraar en zijn/haar teamcoördinator (TC) de vragen van een online vragenlijst. Deelname van de TC was essentieel omdat de TC informatie (feedback) kon geven aan de leraar zodat deze zich bewust kon worden van een mogelijke kloof in zijn/haar functioneren. Eerst vulde de TC de vragenlijst in en scoorde het niveau van functioneren (middels een rapportcijfer) van de leraar. Vervolgens beantwoordde de desbetreffende leraar de vragenlijst. De vragenlijsten van de TC en leraar werden aan elkaar gekoppeld zodat er één dataset ontstond. Wanneer de score van de TC en leraar met minimaal twee punten verschilden, was er sprake van ruimte voor verbetering of in andere woorden: een prestatie-kloof.

De analyse van de 119 gecombineerde vragenlijsten liet zien dat de verschillende fasen van het I-Change model herkenbaar waren maar dat niet alle leraren de drie fasen doorliepen. Het meest verrassende was echter dat maar weinig leraren een prestatie-kloof hadden en zelfs een nog kleiner aantal de motivatie had om deze kloof aan te pakken door middel van

professionaliseringsactiviteiten. Gebaseerd op de vergelijking van de scores die TCs en leraren gaven, konden 25 leraren zich bewust worden van een prestatie-kloof. Echter slechts tien (40%) van hen werden zich hiervan daadwerkelijk bewust. Van de groep die bewust werd hadden zeven leraren (28%) de motivatie om de prestatie-kloof aan te pakken en zes (24%) van hen formuleerden een doel dat omgezet kon worden in actie. De conclusie dat slechts 25 van de 119 leraren een prestatie-kloof hadden stond op gespannen voet met de redenen die in internationaal onderzoek worden opgevoerd om aan te geven dat de deelname van leraren in professionalisering moet toenemen. Diverse landen namen in hun wetgeving op dat leraren aan standaarden moeten voldoen en bijgevolg moeten participeren in professionaliseringsactiviteiten.

De resultaten geven aan dat het I-Change model niet exact gevolgd wordt zoals het zou moeten volgens De Vries et al. (2008). Een kleine groep leraren doorliep het model niet in de vooropgestelde sequentie (fasen). Een aantal leraren die de bewustzijnsfase niet afrondde was wel gemotiveerd om deel te nemen aan CPD activiteiten. Ook waren er leraren die de motivatie fase niet bereikten maar wel tot actie overgingen.

Het I-Change model bevat de vooronderstelling dat niet alle leraren alle fasen afronden. Deze veronderstelling kon vanuit de data bevestigd worden, leraren bleven vastzitten in bepaalde fasen. De CSE, leeftijd, ervaring en lesgeven in havo/vwo werden met behulp van een vragenlijst gemeten om een goed begrip te kunnen krijgen van distale en proximale factoren die een bepaalde fase beïnvloeden. CSE werd voorgesteld als een overkoepelend construct dat vier psychologische variabelen omvat: neurotisme (of emotionele stabiliteit), self-esteem, self-efficacy en locus of control (Judge et al., 1997). Het construct wordt gemeten door het invullen van de Core Self Evaluations Scale. Op elke variabele kan je een lage of hoge score toebedeeld krijgen door respectievelijk onder of boven het gemiddelde van de groep te scoren. Het construct CSE is voornamelijk bestudeerd in de context van organisatie psychologie waar het overkoepelende construct CSE inderdaad gevonden werd. De betrouwbaarheid van CSE moest gecheckt worden op de doelgroep van leraren alvorens dit construct als factor mee te kunnen nemen in een studie die gericht is op het onderwijs. Om de praktische relevantie te onderzoeken werden bestaande databases gebruikt. Dit resulteerde in de conclusie dat CSE een betrouwbare meting is om inzicht te krijgen in de psychologische factoren van een leraar.

De analyse van de drie fasen van het I-Change model gecombineerd met de distale en proximale factoren liet zien dat CSE significant gerelateerd is aan het doorlopen van de bewustzijns- en actie-fase (fasen 1 en 3 van het I-Change model). Leraren die de fasen 1 en 3 succesvol doorliepen hadden een lagere score op CSE dan leraren die vastliepen in deze fasen. Het gegeven dat leraren met een hoge score op CSE meer kans hadden om de fasen te doorlopen vergeleken met leraren die een lage score op CSE hadden was tegen de verwachtingen op basis van de literatuur in. Met betrekking tot self-esteem is een mogelijke verklaring dat een hoge score op CSE wijst op zelfoverschatting wat kan uitmonden in weinig reflectie of ontvankelijkheid voor input van anderen (dit is een distale factor in het I-Change model). Een verklaring voor de andere onderdelen van CSE (emotionele stabiliteit en locus of control) is minder voor de hand liggend. De verwachting was dat een hoge score op beide constructen tot een verhoogd bewustzijn en meer deelname aan CPD zouden leiden. Uit de resultaten bleek echter dat leraren die emotioneel stabiel zijn minder angst en onzekerheid vertonen wat tot gevolg zou kunnen hebben dat ze eerder zouden deelnemen aan professionalisering. Het tegenovergestelde werd echter gevonden in dit onderzoek; een lagere score op emotionele stabiliteit en locus of control zorgt voor meer bewustzijn en deelname aan CPD. Op dezelfde manier zou een verwachting ten aanzien van locus of control kunnen spelen; leraren die meer intern gericht zijn schrijven falen eerder aan zichzelf toe (dan aan anderen) en zullen dus sneller in actie komen. Ook hier spraken de resultaten van het onderzoek deze verwachting tegen. Wellicht is een verklaring te vinden in het feit dat dit onderzoek geen rekening heeft gehouden met de inhoud van de doelen die gesteld werden. Leraren met een externe locus of control hebben misschien doelen gesteld die acties van anderen vragen en minder van zichzelf.

De overige distale factoren die gemeten werden, waren leeftijd en of een docent lesgeeft in havo/vwo. Enkel leeftijd was een significante factor m.b.t. de bewustzijn-fase: leraren die de eerste fase afronden waren ouder dan de leraren die bleven zitten in Fase 1.

Gebaseerd op de onverwachte en moeilijk verklaarbare resultaten van Hoofdstuk 3 werd aanvullend kwalitatief onderzoek uitgevoerd. Dit is beschreven in Hoofdstuk 4. Het doel was om meer inzicht te krijgen in waarom zo weinig leraren de intentie hebben om deel te nemen aan professionaliseringsactiviteiten. Het onderzoek dat beschreven wordt in Hoofdstuk 4 beantwoordt de onderzoeksvraag "Welke benadering triggert

volgens leraren het deelnemen aan professionalisering het meest?”. Dit onderzoek vergeleek de efficiëntie van twee benaderingen met betrekking tot CPD met elkaar. De eerste benadering was een deficiëntie benadering die de prestatie-kloof beklemtoont en professionalisering ziet als een middel om dit tekort weg te werken. De tweede benadering was de waarderende benadering die professionalisering ziet als het verbeteren van vaardigheden waarin leraren geïnteresseerd zijn.

Tweëntwintig face-to-face assessments tussen de leraar en bijbehorende TC werden op basis van een vooraf opgesteld protocol uitgevoerd, geobserveerd en geanalyseerd. Er werd gebruikt gemaakt van een retrospectief instrument om inzicht te verkrijgen in de betrokkenheid van leraren bij professionaliseringsactiviteiten. Alle leraren benoemden minimaal één door hen gevolgde professionaliseringsactiviteit die ontstond uit een behoefte aan verdere ontwikkeling (een professionaliseringsdoel). Dit gegeven bevestigt dat een verandering in startpunt (deficiëntie of waarderend) de uitkomsten veranderd.

De resultaten van deze studie toonden aan dat de meest voorkomende redenen om deel te nemen aan professionaliseringsactiviteiten voortkomen uit geïdentificeerde regulatie (b.v. een professionaliseringsactiviteit aangeboden krijgen en vrijwillig hierin participeren) en geïntegreerde regulatie (b.v. een professionaliseringsactiviteit aangeboden krijgen en zeer enthousiast vanuit eigen interesse participeren). Bovenstaande bevindingen suggereren dat een waarderende benadering effectiever is omdat leraren aangaven dat hetgeen ze triggerde om te professionaliseren meer in de lijn ligt met hun interesse en behoeften, wat past bij de uitgangspunten van de waarderende benadering dan bij een deficiëntie benadering (dat uitgaat van een tekort dat moet worden bijgespijkerd). Toch zal de deficiëntie benadering van waarde blijven als het gaat om bijvoorbeeld startende leraren, nieuwe technologieën die geïmplementeerd worden of een nieuwe rol die iemand krijgt.

Gebruikte modellen in onderzoek naar professionalisering van leraren uit het verleden expliciteerden zelden of ze vanuit een deficiëntie- of waarderende benadering opgesteld waren. Dit verschil in benadering kan een mogelijke verklaring zijn voor de tegenstrijdige bevindingen tussen studies met betrekking tot deelname aan professionaliseringsactiviteiten van leraren. Leraren worden in een deficiëntie-modus gezet als ze bevraagd worden over hun deelname aan professionalisering nadat ze te horen hebben gekregen hoe belangrijk professionalisering is voor de kwaliteit van hun werk, na het zien van een reeks

competenties waar ze aan moeten voldoen, etc. Als ze dan bevroegd worden op hun bereidheid of werkelijke participatie in professionaliseringsactiviteiten, worden deze vragen beantwoord vanuit een deficiëntie standpunt.

Zoals eerder gesteld expliciteerden modellen uit het verleden vaak niet welke benadering ten grondslag lag aan het model. Echter gebruikten veel van die modellen impliciet een deficiëntie benadering. Ook het I-Change model (De Vries et al., 2008) expliciteert niet vanuit welke benadering het ingestoken wordt. In principe is dit model zowel toepasbaar vanuit een deficiëntie als een waarderend standpunt maar wordt het door leraren vanuit een deficiëntie standpunt beantwoord als de waarderende benadering niet expliciet gemaakt wordt. De reden waarom de deficiëntie benadering prominenter in de mindset van mensen aanwezig is (en daarom als eerste in gedachten komt als de benadering impliciet blijft), was echter niet de focus van dit onderzoek. Toch hebben we mogelijke oorzaken verkent omdat dit gegeven het centrale punt van deze studies raakt. Een mogelijke verklaring waarom een deficiëntie benadering prominenter aanwezig is, is dat wetgeving zich richt op minimumeisen en niet op excellentie. Een andere reden kan liggen in de traditie van de Human Resource Management (HRM)-cyclus binnen scholen. Deze cyclus richt zich veelal op tekortkomingen en het wegwerken daarvan. Voor wat betreft een verklaring voor het gebruik van deficiëntie benaderingen in onderzoek kan een mogelijke reden zijn dat het verschil tussen standaarden en werkelijke prestatie gemakkelijker te meten is dan uitmuntendheid en persoonlijke interesse. De algemene aanbeveling in Hoofdstuk 4 voor schoolmanagers is dan ook om zich een waarderende benadering eigen te maken en daarmee de intrinsiek gemotiveerde leraar te ondersteunen. Specifieker, managers zouden professionaliseringsmogelijkheden kunnen aanbieden opdat intrinsiek gemotiveerde leraren getriggerd worden om deel te nemen. Om managers en andere belanghebbenden binnen scholen te ondersteunen om deze omslag te maken heeft Hoofdstuk 5 als doel een krachtige interventie te ontwikkelen die scholen en medewerkers ondersteunt bij het maken van een omslag van het voornamelijk focussen op tekortkomingen naar het gericht zijn op sterktes en mogelijkheden. Appreciative Inquiry (AI) is de benadering die ten grondslag ligt aan deze krachtige interventie omdat zij zich richt op sterktes. Een spel leek de een gepaste vorm om deze interventie in te gieten omdat professionalisering effectiever is wanneer het samen met andere gedaan wordt (Cordingley et al.,

2005). Het doel van het spel was om professionaliseringsdeelname te vergemakkelijken.

Design Based Research (DBR) is methode die gebruikt werd om het spel te ontwikkelen. Via deze methode wordt de toepasbaarheid van het spel in een school te garanderen. De essentie van DBR is dat onderzoekers en mensen uit de praktijk samenwerken om er zeker van te zijn dat theoretische en praktische kennis geïntegreerd worden.

De resultaten uit voorgaande hoofdstukken vormden de theoretische basis voor de interventie. Zeer kort samengevat komt het neer op dat leraren zich bewust worden van ontwikkelmogelijkheden door een waarderende benadering. Aangezien de waarderende benadering zich richt op sterktes en passies van mensen en het doel van deze studie is om professionalisering te triggeren, werden de eerdere bevindingen t.b.v. de spelontwikkeling geoperationaliseerd in “het is nuttig voor een individuele leraar of een team zijn/hun eigen en elkaars triggers, sterktes en passies te kennen wanneer ze hun eigen professionalisering vormgeven”. Voor een individuele leraar geldt dat als deze leraar zijn eigen triggers tot professionalisering kent, die specifieke trigger opgezocht kan worden of gegeven kan worden. Tegelijkertijd kan een TC - als de sterktes en passies bekend zijn – onderdelen van het teamplan conform deze kennis verdelen. Bovendien kan een TC aan elke leraar de juiste professionaliseringstriggers bieden. De werkelijke trigger voor leraren om deel te nemen aan professionaliseringsactiviteiten was vaak gebaseerd op een intrinsieke drang om te groeien gecombineerd met een aanbod dat gedaan werd (Hoofdstuk 4).

Het spel zou zich primair richten op het bewustzijn m.b.t. professionalisering, maar was ook gelinkt aan de andere fasen (motivatie en actie). De verwachting was dat leraren konden communiceren (samenwerken) over hun sterktes (waarderende benadering) met behulp van dit spel. Het hoofdkenmerk van het spel was dat het gebaseerd was op kaarten of een bord, om het gemakkelijk speelbaar te maken. De onderzoeker koos er niet voor om een digitaal spel te ontwikkelen omdat het je bewustzijn van de speler tegenover je belangrijk lijkt te zijn om elkaar te leren kennen. Dit lijkt moeilijker te bewerkstelligen in een digitale omgeving.

Na drie evaluatierondes (drie prototypes) bestond de definitieve versie van het spel uit verschillende aparte spelen die zich allen richtten op sterktes, passies en professionaliseringstriggers. Om die spelen te bundelen werd de speldoos Clickx ontwikkeld. Clickx bevat vier verschillende spelen. De eerste twee spelen

(Kwartet en Ontdek Jezelf en de Ander) worden enkel met kaarten gespeeld. Deze twee spelen delen de regel dat elke leraar kaarten dient te selecteren die relevante triggers, sterktes en passies voor die leraar beschrijven. Na deze keuze moeten medespelers gokken wie een bepaalde kaart geselecteerd heeft. Het derde spel heet Ontdek Jezelf met een Coach. Zoals de naam doet vermoeden bediscussieert een leraar triggers, sterktes en passies van zichzelf met een coach. Het vierde spel in de speldoos Clickx is het meest uitgebreide spel "Ontwikkelreis". Bij dit bordspel spelen teams tegen elkaar door triggers, sterktes en passies uit te beelden, te beschrijven of te tekenen. Na die opdracht reflecteert de leraar op de mate waarin de beschrijving bij hem of haar past. Het bordspel "Ontwikkelreis" bevat ook enkele speciale opdrachten, zoals 'dromen'. Als een leraar op dit vakje komt, dient een teamlid een droom te beschrijven en wat er nodig is om deze droom te verwezenlijken. Door deze speciale opdrachten in het spel op te nemen is, de 4-D cyclus van Al geïntegreerd in het design. De 4-D cyclus stelt dat een persoon steeds de volgende stappen doorloopt: discover, dream, design and deliver (Conklin, 2009).

Na het spelen van de definitieve versie van het spel gaven spelers (n=18) aan dat het spel de eerste fase van het I-Change model bevorderde (bewustzijn). Leraren hadden beter kennis gekregen van hun eigen triggers tot professionalisering, sterktes en passies en ook van de triggers, sterktes en passies van hun medespelers. Kortom, spelen van het spel vergemakkelijkt de communicatie tussen de spelers over hun triggers, sterktes en passies. Enkel leraren die "Ontdek jezelf met een coach" speelden formuleerden professionaliseringsdoelen (proximale meting voor de actie fase van het I-Change model). Een mogelijke verklaring waarom leraren die de andere spelen speelden dit niet deden, is dat leraren de handleiding niet lazen. In de handleiding staan richtlijnen beschreven hoe een leraar de volgende stap kan nemen om uiteindelijk deel te nemen aan professionaliseringsactiviteiten. Een andere verklaring is te vinden in een vooronderstelling van het I-Change model. Het model voorspelt dat niet alle leraren automatisch door de drie fasen gaan (bewustzijn, motivatie en actie). Sommige leraren hebben anderen nodig om de volgende fase te bereiken. Die ander is in elk spel van Clickx vertegenwoordigd maar enkel in "Ontdek jezelf met een coach" is de ander geen directe collega. Of het nu de coaching ervaring of de hiërarchische positie van de ander was die het verschil maakte, dient in vervolgonderzoek onder de loep genomen te worden. De evaluatie gaf over het algemeen aan dat leraren die het spel

speelden enthousiast spraken over hun eigen en elkaars triggers, sterktes en passies. Deze manier van communiceren is een grote stap voorwaarts bij het bevorderen van bewuste professionalisering maar ze leidt nog niet tot een specifiek professionaliseringsdoel.

De bevindingen uit voorgaande hoofdstukken worden samengebracht en bediscussieerd in Hoofdstuk 6. De eerder beschreven resultaten tonen aan dat het I-Change model potentieel heeft en dat beleidsmakers dit kunnen gebruiken om de onderliggende beelden van de HRM-cyclus in scholen te veranderen. Wij hebben slechts enkele factoren onderzocht waarvan een gedeeltelijke significantie werd aangetoond. Het I-Change model is een complex model dat een verklaring kan geven voor een complex probleem maar om het te omarmen als een van de leidende modellen moet er nog verder onderzoek gedaan worden.

Omdat het I-Change model op zowel een deficiëntie als een waarderende benadering toepasbaar is, is het belangrijk dat beleidsmakers zich bewust zijn van het feit dat ze niet moeten focussen op tekortkomingen maar zoeken naar wat een bepaalde leraar speciaal maakt en hoe ze die leraar nog meer kunnen laten excelleren. Hiermee zeggen we niet dat in bepaalde situaties (zoals bij startende leraren) een deficiëntie benadering geen nut heeft. Leraren werden in ons onderzoek geïnspireerd om beter te presteren (Fase 1: bewustzijn) dankzij een intrinsieke motivatie die vaak gekoppeld was aan een extern aanbod. Leraren werden gemotiveerd om deel te nemen aan professionaliseringsactiviteiten (Fase 2) zodat hun vaardigheden zich verder konden ontwikkelen en ze namen ook actief deel aan deze activiteiten (Fase 3). De bewustzijn-fase kan nog steeds gezien worden als het bewust worden van een tekortkoming maar in termen van wat een leraar doet en wat deze leraar zelf wil doen (i.p.v. wat deze leraar moet doen). Op basis van onze resultaten raden we aan niet te spreken over een tekortkoming omdat op die manier de deficiëntie benadering in de hand werken, maar juist om te spreken van sterkte of kracht.

Zoals eerder aangegeven is binnen AI de 4-D cyclus belangrijk: discover, dream, design and deliver (Conklin, 2009). De combinatie van “discover” en “dream” is gelijk te stellen met de eerste fase van het I-Change model. Om die reden stellen we voor om de eerste fase niet “bewustzijn van een tekortkoming” te noemen maar “bewust worden van een droom of een droom ontdekken”. Op eenzelfde manier kan Fase 2 van het I-Change model (motivatie) benoemd worden als “Het ontwikkelen van een professionaliseringsplan” (derde stap in

AI). De laatste fase van de 4-D cyclus van AI is “deliver” of anders gezegd “hoe zou het kunnen zijn”. In het I-Change model kan deze AI-stap gezien worden als wat een leraar in de toekomst doet nadat het professionaliseringsplan is opgesteld, met andere woorden, het deelnemen in professionaliseringsactiviteiten. Conform deze bevinding kan de derde fase van het I-Change model benoemd worden als “het deelnemen aan professionaliseringsactiviteiten”. Met deze nieuwe namen is het model in overeenstemming gebracht met de algemene conclusie dat veruit de meeste leraren in ons onderzoek op basis van een positieve en waarderende benadering willen participeren in professionaliseringsactiviteiten: dit in tegenstelling tot een benadering die zich primair richt op tekortkomingen. Voor schoolleiders betekent dit dat ze verschillende typen interventies zouden moeten aanbieden met de intentie om de intrinsiek gemotiveerde leraren werkelijk te laten deelnemen aan professionalisering. Clickx kan hierbij helpen. Wanneer de algemene onderzoeksvraag “Wat triggert deelname aan professionalisering bij leraren?” beantwoord wordt, kunnen we concluderen dat het richten van de aandacht op sterktes en passies van leraren een betere trigger is dan het richten op tekortkomingen. Bovendien lijken persoonlijke en psychologische factoren (samen individuele factoren) invloed te hebben op het verloop van die professionalisering. Bijvoorbeeld, oudere leraren worden zich sneller bewust van een ontwikkelbehoefte dan jongere leraren. Het is aanbevelingswaardig om een mentor systeem in te richten dat oudere en jongere leraren koppelt zodat de jongere leraar ondersteuning krijgt in de weg naar bewustwording van een professionaliseringsbehoefte. Scholen zouden meer leraren moeten faciliteren om deel te nemen aan professionalisering door een omgeving te creëren die leraren uitnodigt te interacteren met elkaar, constructieve feedback te geven en in dialoog te treden over hun professionele ontwikkeling.

Dankwoord