

THE EFFECT OF USING A LEGO TEACHING AID
ON THE HOPEFULNESS AND SELF-EFFICACY OF
TEACHERS

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Management**

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Preface

The MAPP program took me on a journey, very different to what I first imagined when I was accepted into the program. It pushed me out of my comfort zone with the weeks away from home, pulling my emotions in opposite directions with eagerness for new learnings, excitement for travelling and relief from house hold and mothering duties on the one hand and guilt on the other hand, for leaving three small children with my husband alone for many and extended times, while he also had a lot on his plate. With all the mixed emotions running wild inside of me, I grew, changed, stood up for myself and took charge ... of what was possible to take charge of.

I would like to thank the following people for all their assistance on my journey:

- Prof. Chrizanne van Eeden, my supervisor and mentor. It has been such a privilege and joy to walk the MAPP journey with you. You were there from the very first day and I could just draw from your knowledge, wisdom and experience.
- Brent Hutcheson and Linda Smith from Care for Education, for empowering me with knowledge and Duplo.
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- My three precious children for tolerating and understanding that they had to leave mommy alone when she sat in front of her computer.
- My parents for all the support, visits, picking up and dropping me off at the airport.
- My friends and fellow mummies in Plettenberg Bay, who stepped in and helped with my kids while I was in Vanderbijlpark.
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- The North-West University – Vanderbijlpark. What a beautiful campus. I felt at home from the very first day I stepped onto campus and was greeted by a gaggle of geese.
- The ten teachers that participated in the Six Bricks training and research. Ladies I had much fun and joy during the time spent with you and you showed me what is to be a caring teacher.
- Last, and most important, my heavenly Father for this amazing opportunity with such blessings and favour along the way.

As this chapter closes, I am excited to move forward and utilise this knowledge in my journey ahead.

Declaration

I, Mandie Boucher, declare that " The effect of using a Lego teaching aid on the hopefulness and self-efficacy of teachers" is my own work and that the views and opinions expressed in this work are those of the author and based on relevant literature references as shown in the list of references.

I further declare that the content of this research will not be submitted for any other qualification(s) at any other institutions.

A handwritten signature in dark ink, appearing to read 'M. Boucher', is written over a faint, light-colored rectangular stamp or watermark.

MANDIE BOUCHER

NOVEMBER 2017

Letter of Permission

The supervisor hereby gives permission to Mandie Boucher to submit this document as a mini-dissertation for the qualification MA in Positive Psychology.

The research report is in the article format as indicated in the 2015 General Academic Rules (A4.1.1.1.4 and A4.4.2.9) of the North-West University.

A handwritten signature in black ink on a light blue grid background. The signature reads "C. van Eeden." with a period at the end.

Professor C. van Eeden (Supervisor)

Declaration by Language Practitioner

DECLARATION

I, C Vorster (ID: 710924 0034 084), Language editor and Translator, and member of the South African Translators' Institute (SATI member number 1003172), herewith declare that I did the language editing of a mini-dissertation written by ms M Boucher from the North-West University (student number: 12138045).

Title of the mini-dissertation: The effect of using a Lego teaching aid on the hopefulness and self-efficacy of teachers



1 November 2017

C Vorster

Date

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Summary

The aim of this study was firstly, to explore teachers' hope and sense of self-efficacy with regard to the teaching context, secondly, after training teachers to use the Six Bricks and supplying blocks to enable them to apply the teaching aid in their classrooms, to study the effect of training in and application of the Six Bricks as a teaching aid, on the teachers' hope and sense of self-efficacy, by means of both quantitative and qualitative methods.

The teaching occupation appears to be exposed to various external and internal forces that influence a teacher's emotional well-being. The emotional state of a teacher plays a vital role in creating the classroom environment, where learning will either be enhanced or hindered, depending on positive or negative perceptions of well-being in individual teachers (Hargreaves, 2000; Sutton, 2005; Titsworth, McKenna, Mazer, & Quinlan, 2013).

Schools in South Africa's poor communities deal with many obstacles on a daily basis, often leaving teachers hopeless, frustrated and immobilised to make a difference in their learners' lives (Cappy, 2016). Many teachers try to use different strategies to help them manage negative emotions in the classroom, which lead to the assumption that the introduction of positive classroom interventions could have a positive effect on the classroom environment. For the purpose of this study, Six Bricks, as a teaching aid in the classroom, was introduced to participant teachers. This study focused on two concepts within the cognitive - emotional framework of teachers, namely hope/hopefulness and a sense of self-efficacy with regard to their teaching context. A research question thus proposed for this study was: Can the initial training in and application of the Six Bricks as a teaching aid in the classroom, increase the hopefulness and sense of self-efficacy of teachers?

Teachers' hope and sense of self-efficacy with regard to the teaching context, was explored through participants' answers to qualitative questions and scores on the State Hope Scale (SHS) and the Teacher Self-Efficacy Scale (TSES) before and four weeks after the introduction to Six Bricks. The researcher trained the participants in the use of ten exercises through a Six Bricks training workshop and every participating teacher as well as every child in each participating teacher's class received their own Six Bricks set to work with. The teachers were asked to use the Six Bricks teaching aid in their classrooms every day for 10 to 20 minutes, for a period of four weeks. A prompt was sent to the participating teachers, once a week during the four weeks of applying the Six Bricks exercises in their classrooms to measure their experience of the teaching aid. After the four weeks of implementing the teaching aid, the hope and sense of self-efficacy of participants were measured again.

Qualitative narratives were analysed through thematic analysis and the quantitative database was analysed by using a computerised program, the Wilcoxon Signed Ranks test which is a non-parametric t-test for two related samples, that explores any variation in scores from one point in time to another.

The results obtained from quantitative analysis indicated no significant differences in participants' levels of hope and sense of self-efficacy, however, qualitative results gave another perspective into the multi-dimensional processes effecting hope and sense of self-efficacy in the teachers. Qualitative thematic analysis identified themes of circumstances, learner attributes, equipment and materials, parent involvement, external support, normal teaching responsibilities, extra teaching effort and emotional disposition to influence teachers' hope and sense of self-efficacy. These themes were viewed through external and internal control frameworks.

Feedback from teachers during the initial four weeks of application of the Six Bricks exercises, indicated that the training and application of Six Bricks created positive classroom experiences. The salutary influence of positive emotions can increase problem solving, innovative thoughts and actions and an ability to adapt to changes (Fredrickson, 2001), therefore encouraging pathway thinking and enthusiastic beliefs that goals are achievable. Unfortunately, for some participants, it seemed as if the myriad of problems at school outdid the positive emotions created by the Six Bricks exercises. Positive experiences thus need to be more than negative experiences before a person will benefit (Fredrickson, 2013; Fredrickson & Losada, 2005).

The main finding of the study was that the training and application of Six Bricks resulted in positive classroom experiences which have the potential to influence both hope and self-efficacy in teachers, provided that they continue to use the Six Bricks on a regular basis. The research question whether the Six Bricks intervention could increase the hope and sense of self-efficacy of teachers, could therefore be answered twofold: quantitatively no significant differences could be found in pre- and post-Six Bricks intervention measurements of the constructs, indicating that the intervention did not have a direct effect on the hope and sense of self-efficacy of teachers but qualitatively it would seem that indirectly, through positive emotions experienced during the intervention, teachers displayed more positive views and attitudes towards their teaching context, leading to hope and self-efficacy to be perceived more positively.

* The references in this summary are listed in the reference list of Chapter 1.

Key Terms: Hope, hopefulness, self-efficacy, play as a teaching aid, teachers, Six Bricks

CHAPTER 1

THE EFFECT OF USING A LEGO TEACHING AID ON THE HOPEFULNESS AND SELF-EFFICACY OF TEACHERS

Key Terms: Hope, hopefulness, self-efficacy, play as a teaching aid, teachers, Six Bricks

This study aimed to investigate whether training in and application of LEGO Duplo - Six Bricks (Six Bricks) as a teaching aid in the classroom, could increase the levels of Hopefulness and Self-efficacy of teachers. The mini-dissertation is presented in three chapters. Chapter 1 explains the problem statement, study context, a literature background and the research methods of the study and therefore there may be some duplication with the literature part of Chapter 2. Chapter 2 reports on the research component, in article format and Chapter 3 presents the conclusions and recommendations resulting from the study.

The researcher has the privilege to be involved in some of the local schools that are situated in previously disadvantaged areas surrounding Plettenberg Bay, Western Cape. Art therapy group sessions are done with children selected by their teachers. Two of these schools are Afrikaans with predominantly coloured people and from these, teacher-participants for this study were recruited.

The teacher-learner interactions in situations at these schools had been observed and the researcher picked up that teachers were irritated, angry and disappointed at times. The children referred to the art therapy groups were the ones who often disrupted classes and who made it hard for the teachers to do their teaching in a peaceful manner. According to Gordon (2006), even very motivated teachers can feel undervalued when they constantly have to deal with the demands of the teaching context and based on this, the question arose whether such feelings of being undervalued could also include lower hopefulness in and self-efficacy of teachers regarding their teaching context. The researcher is of the opinion that teachers could be assisted by introducing positive classroom interventions to build their own and their learner's well-being in class. Therefore, in this research, the effect that a training experience with and application of Six Bricks as a teaching aid have on teachers' self-efficacy levels and their hopefulness towards dealing with learners' needs and challenges, was studied.

Problem Statement

School can become a stressful environment for a teacher and child and then it is not a constructive learning context. Cappy (2016) argued that situations influence a teachers' ability to promote positive change. According to Cappy, disadvantaged schools in South Africa's poor communities deal with many difficulties including violence, lack of funds, not enough educational resources and many more problems and uncertainties that accompany poverty. The author explained that, although teachers in low-income schools understood the potential they have as educators to make a difference in the lives of hopeless students, many felt immobilised by these teaching environments.

Teaching is an emotional occupation with teachers using their emotions all the time, either benefiting or damaging their students depending on these emotions (Hargreaves, 2000). Titsworth, McKenna, Mazer, and Quinlan (2013) agreed that emotions are important factors in classroom settings that can enable, but also constrain learning experiences of learners and teachers. Sutton (2005) argued that changes in teachers' emotions can be observed by learners and may influence their behaviour, while according to Nielson and Lorber (2009), learners' ability to remember newly learned information is better when such information is presented in a positive emotional climate in class. Seligman, Ernst, Gillham, Reivich, and Linkins (2009) have found that positive emotions in the classroom lead to better attention from learners as well as to more creative and holistic thinking, with the opposite effects for negative emotions, namely shorter attention spans and more critical and analytic thinking. The classroom environment's critical influence on both teachers' and learner's well-being, makes it a vital component to enhance learning and stimulate creative thinking. Thus, when learners' well-being is increased, they learn better which is the goal of any school (Seligman et al., 2009).

Sutton (2005) observed that teachers use various coping strategies to help them manage negative emotions in the classroom. These strategies include changing situations that may lead to negative emotions, defusing a negative situation with a joke, letting learners do activities that the teachers find easier to manage or asking students to take some time out. Teaching and learning through play could help children, amongst other things, to build social relationships, solve problems and deal with difficult situations and could have a positive effect on the classroom environment. According to Fenske (2016), there is much research on play and emotion, but few studies exist about the value of play within the learning environment. This study therefore proposed to look at play with Six Bricks as a teaching aid to foster more positive emotions, such as hopefulness and self-efficacy in teachers regarding their classroom management.

Literature Framework for the Study

This study focused on two concepts within the cognitive - emotional framework of teachers, namely their hope/hopefulness and their sense of self-efficacy with regard to their teaching context. Each construct was discussed separately in the literature review. Play as a learning aid, the Six Bricks exercise and block building were also explored in the literature.

Hope/hopefulness

Snyder, Lopez, Shorey, Rand, and Feldman (2003) defined hope as self-perceptions regarding the abilities to conceptualise goals, develop tactics to reach these goals and to maintain the drive for using these tactics. According to Snyder's Hope Theory there are three

main aspects that make up hopeful thinking, namely goals, pathways and agency (Snyder, 2002). Goals refer to an approach to life with certain goals to achieve, while pathways indicate finding various ways to reach your goals and agency is the belief that you have the resources to achieve these goals. Snyder (2005) found that high hope levels often led to success in reaching goals and that people who had higher hope, had better outcomes in their lives than those with lower hope. Hopeful thinkers had been characterised as people who were able to set clear goals, think of several workable pathways toward those goals and who persisted, even when it was difficult (Snyder, 2002). The author further argued that hope could inspire people to believe that the imaginable was also achievable and that people with high levels of hope could sometimes achieve the supposedly unachievable.

According to Snyder, Feldman, and Rand (2002), hope theory suggests that emotions can be viewed as a consequence of how successful people are in the pursuit of their goals. The authors argued that positive emotions reflect occurrences in which persons perceived that they were reaching their goals and on the other hand, negative emotions reflected occurrences when a goal was supposedly not being met. Bullough and Hall-Kenyon (2012) stated that there are many differences between people with higher and lower hope scores. These differences include that people with higher hope report better self-esteem, more optimism, less depression, more positive and less negative emotions, they also tend to introduce themselves to others in a more positive manner. Individuals with higher hope have a greater sense of well-being, cope better in problem situations and pursue harder to reach goals. Bullough and Hall-Kenyon claimed that these findings are true about teachers and teaching.

According to Day, Hanson, Maltby, Proctor, and Wood (2010), hope is considered a critical element in the pursuit of academic goals. Duggleby, Cooper, and Penz (2009) argued that hope had a positive effect on both job satisfaction and performance, while according to a study by Kumcagiz, Ersanli, and Alakus (2014), the experience of hopelessness had a significant negative correlation with teachers' work motivation and as a result, influenced the support that a teacher gave, the classroom environment and could also indirectly influence students' hope to reach their goals (Phan, 2013). Teachers with higher levels of hope would feel that they are more able to help students with learning disabilities and since higher hope is linked to persistence to achieve goals, if a teacher's goal is to help a student succeed this goal may well be reached, even with students who battle academically (Levi, Einav, Raskind, Ziv, & Margalit, 2013). Hopeful teachers model a hopeful approach in the classroom by promoting independence, problem solving and using personal experience to illustrate how to realise goals in the midst of difficulties (Lopez, 2010). Hopeful teachers further believe that they play an important part in their learners' achievements and have the ability to form the

necessary pathways to connect with the child's whole being (Colombo, McMakin, Jacobs, & Shestok, 2013).

Snyder et al. (2003) argued that people with high levels of hope seem to be concerned with other people's goals, which is very relevant to the teaching environment and also that the enhancement of hope may result in more positive interactions between teachers and learners (Snyder, 2005). Positive interactions are necessary as teachers with high hope levels tend to make it clear to their students not only what their teaching goals are but also how to reach these goals (Snyder et al., 2003). The authors explained that hopeful teachers pay much attention to the preparation of their lessons and are enthusiastic about the content, because they want students to master the information and not just learn what they have to in order to produce good marks when examined. Hopeful teaching interactions can be contagious as students pick up the teacher's enthusiasm. It is unrealistic to expect students to be hopeful when the teacher is not and in the same way it is also difficult for teachers to remain hopeful when their students feel hopeless. Snyder et al. (2003), further argued that good teachers need to realise where their students are emotionally and adapt their teaching so that they will have the desired impact on the students since learners who experience negative emotions, effectively distance themselves from the learning process by tuning out or shutting down (Sanders, 2010).

Hopeful teachers, according to Snyder (2005), do not just teach, they offer learners an exciting learning process, therefore this study proposed to research hopefulness in teachers with regard to their teaching context.

Self-efficacy

A sense of self-efficacy refers to a person's belief in his or her ability to do what is necessary to produce specific performance outcomes (Bandura, 1986, 1997). Believing that you can reach a goal is probably the most important part of reaching the goal (Maddux, 2002). Maddux explained that self-efficacy is not a personal characteristic, it is a belief or cognition. Self-efficacy levels can improve or block enthusiasm because self-related thoughts are important elements in the motivation process and as a result, people with a high sense of self-efficacy set and achieve higher goals (Schwarzer & Hallum 2008). The theoretical groundwork of self-efficacy was developed by Albert Bandura (1997), who argued that self-efficacy beliefs were focused on perceived abilities within a specific task and were therefore powerful precursors of behaviour. Bandura's (1986) theory of self-efficacy is based on the principle that there are two sets of performance expectations: outcome expectations or whether the person believes that certain behaviour will produce specific results and efficacy expectations or the person's self-confidence in their ability to do what will lead to the desired

result. Bandura believed that efficacy expectations are the most important and observed that people adjust their level of effort according to the results they think their actions would have and therefore, their behaviour is driven from their beliefs and not from their actual actions. A sense of self-efficacy is not a prediction, it is not about what someone will do, it is about what someone can do (Maddux, 2002). Maddux explained that self-efficacy is not an explanation for something, but a belief about an ability to do something. It is not an intention either, but has an influence on intentions. The author further argued that self-efficacy is not equivalent to self-esteem, as the latter is what you believe about yourself and the former will contribute to self-esteem in specific areas where you believe in your ability to accomplish goals. Certain behaviours lead to certain outcomes, yet self-efficacy is the belief that you can achieve the behaviour that leads to the outcome. Maddux concluded that a sense of self-efficacy is the belief that you are capable to manage skills to reach goals in certain areas under certain circumstances.

Schwarzer and Hallum (2008) viewed teacher self-efficacy as a job-specific individual attribute and according to Künsting, Neuber, and Lipowsky (2016), it is a specific kind of self-efficacy that has its place in the personal characteristics of teachers and that can explain differences in classroom and teaching practices which influence student learning. Teacher self-efficacy has been explained as a circular process where stronger self-efficacy beliefs are suggested to lead teachers to apply more efforts, which produce better performances, which in turn provide affirmative information that reaffirms higher efficacy beliefs (Malinen et al., 2013). According to Tschannen-Moran and Woolfolk Hoy (2007), teacher efficacy is context-specific which means that teachers may rate themselves high on self-efficacy when they teach specific subjects to specific students in specific settings, while feeling less efficient under different conditions. Guskey and Passaro (1994) defined teacher self-efficacy as the degree to which a teacher believes he or she can influence learner behaviour and academic achievement, particularly in under-achieving learners. In this regard, Guo, McDonald Conner, Yang, Roehrig, and Morrison (2012) found that teacher self-efficacy had more impact on the reading outcomes of learners than teacher experience or teacher education. Guo et al. further argued that teachers with a higher sense of self-efficacy created a more positive classroom environment and were more supportive of their learners, concluding that classroom practices might mediate the relationship between teacher self-efficacy and student achievement. According to Schmitz and Schwarzer (2000), teachers who scored high on self-efficacy were involved in more extracurricular activities and spent more free time with their students. Caprara, Barbaranelli, Steca, and Malone (2006) also observed that teachers' self-efficacy beliefs contributed meaningfully to learners' academic achievement, in line with the original view of Bandura (1993) that a teacher's sense of self-

efficacy affects the type of learning atmosphere that they create and has a positive correlation with the academic progress that their learners made.

Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) believed that, although self-efficacy as a construct was well-defined, more qualitative research would give a better understanding of the process and causes of growth in teachers' self-efficacy beliefs. Klassen, Tze, Betts, and Gordon (2011), who evaluated self-efficacy research on teachers in two hundred and eighteen studies done between 1998 to 2009, agreed that there was not enough information on the reasons for self-efficacy growth. According to Bandura (1997), there are four sources that influence a sense of self-efficacy, namely enactive mastery experience referring to previous success, vicarious experience referring to second handed experiences through observation of others, physical as well as emotional conditions and lastly, verbal persuasion referring to the encouragement from others. Tschannen-Moran et al. (1998) argued that verbal persuasion, like development workshops, can cause a temporary increase in teacher efficacy but needs to link with the development of new skills to make the increased efficacy levels last longer. The authors also believed that a hands-on approach in skills development where teachers experience the new skills through for instance role-play, could have a stronger effect on the beliefs of their teaching ability. When a new teaching practice is introduced to teachers, their self- efficacy may however first decrease because of the disruption of practice that the teacher is familiar with, but when they get more used to the new teaching practice and if they find it effective, their self-efficacy levels might increase (Stein & Wang, 1988; Tschannen-Moran et al.,1998). According to Bruce and Ross (2008), teachers with higher levels of self-efficacy may be more willing to try new teaching techniques, but their levels of efficacy will probably drop until they see that the new practice positively effects their learners and they incorporate it into their daily routine. This higher level of self-efficacy may then open them up to more skills development opportunities in future. Therefore, teachers' sense of self-efficacy pertaining to their teaching context, before and after the introduction of a new teaching skill, was studied in this research.

Durgunoğlu and Hughes (2010) compared Snyder et al.'s hope theory to Bandura's model of self-efficacy as both include goals and individuals' perception of their capacity to achieve these goals, as well as an awareness of using appropriate strategies and continuous effort. The Hope theory resembles that of self-efficacy, by including the confidence in one's capabilities as well as the availability of pathways and motivation to achieve specific goals. Snyder (2002) understood the outcome expectancy of self-efficacy as being similar to pathways thought of hope and the efficacy expectancies of self-efficacy, as similar to agency thought of hope. However, situational self-efficacy thoughts (agency) are the core of Bandura's self-efficacy model, whereas both agency and pathways are essential

in hope thought. Snyder (1995) therefore argued that hope theory takes a cross-situational view whereas efficacy expectations are situation specific.

Play as a learning aid

According to research by Lillard et al. (2013), a school day consists mostly of sitting at desks and listening to teachers, therefore, playtime at school is important to restore attention and improve learning. Tullis (2011) argued that both direct instruction as well as play have a place in high-quality childhood education and suggested that the research behind play should be enough to argue for its inclusion in education. According to Rasmussen (2016), the lack of recognising the value of play prevents parents and schools from prioritising play as part of daily learning.

Play is an important part of development in children, as it promotes not only physical, but also mental, social and emotional well-being (Ginsburg, 2007). Play approaches to learning are not just about taking a break from the normal classroom routine but, as argued by de Freitas (2013), play is a vital component in the way that children learn as it allows for reflection on and restructuring of their learning experiences. Through play a supportive environment becomes available where children are free to think critically, question and problem-solve, leaving them longing to know and learn more (Department of Education, Employment and Workplace Relations [DEEWR], 2009). The DEEWR view point argued that play allows children to simply enjoy being and can inspire positive outlooks on learning. According to the authors, learning through play allows children to express their unique views and to be creative, while associating present with past experiences to understand concepts better. Play not only allows teachers to build relationships with their learners but also helps children to develop relationships with peers and creates a sense of well-being (DEEWR).

Martlew, Stephen and Ellis (2011) claimed that play enhances learners' general knowledge across the curriculum and improves their willingness to learn. The authors further agreed that play develops skills that enable learners to interact with other children which improves not only their social skills, but also their cognitive skills, as learners become more skilful at making rules and as a result thereof develop more awareness of consequences as well as processes. According to Woolfolk (2010), when children play, they feel safe to try new behaviours and experiences, solve problems and master their environment. Woolfolk explained that play offers some of the stimulation that the brain needs to develop at different ages and that primary school children develop their language ability, reasoning skills and ability to cooperate with others, through the complex games that they partake in. According to Woolfolk, optimal learning for children up to the age of nine (Foundation Phase) occurs when the whole self, the body, mind and spirit are involved. The author also argued that play takes

away the stress associated with having to learn and achieve. Rasmussen (2016) agreed that learning in the early years, up to around eight should be based on whole-child development and a play-based methodology is the best way to achieve this as early play-based learning helps to develop empathy, creativity and problem-solving. In a study by Suggate, Schaughency, and Reese (2013), children who had learned how to read at the age of five were compared with those who learned when they were seven years old and results showed that the two groups had the same reading ability by the age of 11, with the difference that the children who learned how to read at age seven essentially displayed a higher level of understanding. What could the reason be? Schoning and Witcomb (2017) thought that perhaps they had more time to discover the world through play.

The teachers in the study by Martlew et al. (2011) believed that play encouraged a positive, enthusiastic attitude towards learning and stimulated self-assurance and independence in learners. Some teachers felt that play made learning available to all the learners, irrespective of their capability and that the children were more involved in learning and learned at a faster rate. Martlew et al. found that utilising play gave some teachers more time with individual children and also noted that it was a good experience for most teachers, although they acknowledged that teachers would have to adjust their thinking towards the way they planned the day. Woolfolk (2010) argued that children learn better when they use more of their senses and most of their school day involves only two senses, namely looking and listening, while play adds touch, smell and taste. According to Lynch (2015), although many teachers are aware of the educational benefits of play, the pressure to achieve academic goals prevents them from applying the knowledge. The author suggested that teachers should be empowered with practical approaches on how to implement play in their classrooms.

According to Jabbar and Felicia (2016), the learning through play approach is based on behaviourist strategies such as trial and error, stimulation and reinforcement, as well as constructivist values including learning by doing, active learning and problem-based learning. Jabbar and Felicia suggested that an engaging learning environment includes the availability of resources and activities at different levels of difficulty. The authors further argued that play as a learning aid is most successful when the aid provides achievable challenges and remains interesting through a variety of uses, keeping children engaged at different levels while its relevance to their learning is clear in a way that makes sense to them.

The play learning aid that was used in this study is the brainchild of a South African teacher and entrepreneur, Brent Hutcheson and the DUPLO bricks are produced by the LEGO company and supplied by Care for Education (CFE) (Hutcheson, 2013). The DUPLO

is colourful and fun and has the potential to bring a playful element to teaching without the children even realising that they are learning. The LEGO company has a department called The LEGO Foundation whose goal is to create a future where children will be allowed to learn through play to become creative, engaged and to never stop learning (LEGO Foundation, 2015a). The LEGO foundation does research on various LEGO products being used for educational purposes and they develop all products in association with teachers, for teachers and learners (Hands on Technologies, 2016). All product development in the LEGO Foundation is based on research conducted internally as well as by partnerships with the Chicago University, Massachusetts Institute of Technology, the University of Cambridge, Tsinghua University, Aarhus University, Harvard Graduate School of Education, the University of Copenhagen, Tufts University and BRAC University, as well as other research institutes working in the areas of children's motivation, imagination and intellectual abilities (LEGO Foundation, 2015b). According to reports that The LEGO Foundation received from international dealers, the teachers who have used the materials in their classrooms view them positively.

The Six Bricks exercise

The DUPLO eight-stud bricks are depicted in Figure 1 below.

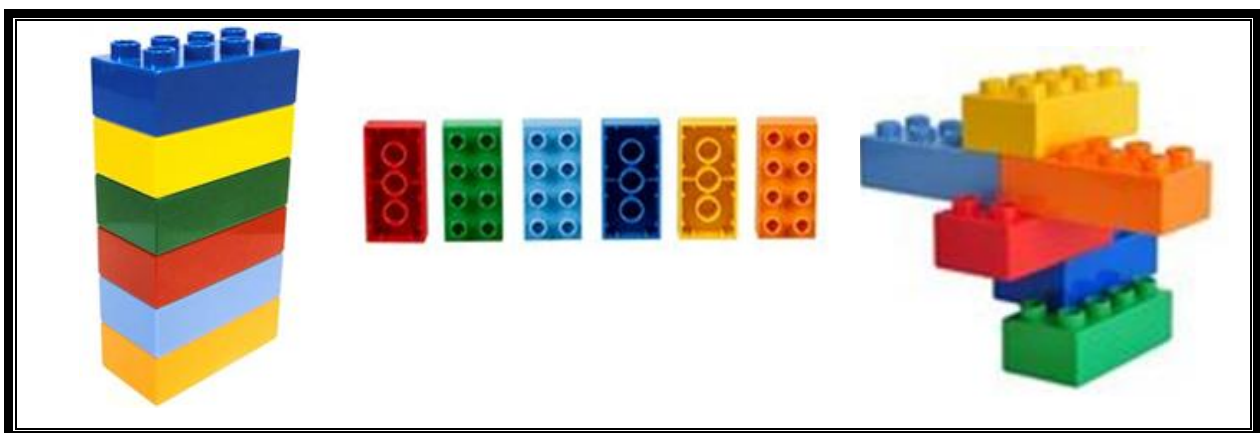


Figure 1: DUPLO eight-stud bricks

Research has indicated that it is very important for children to play and work with large manipulatives outside their range of vision, which are approximately 20 – 22 cm or the length of four DUPLO eight-stud bricks in a row, as this forces children to move their eyes left and right and to track objects across their midline that enhances bi-lateral integration (Hutcheson, 2014). Hutcheson further indicated that five DUPLO eight-stud bricks would allow children to play outside their field of vision and the sixth brick was included to create the midline, which was how the Six Bricks idea was conceptualised. CFE (2015) developed over 250 different exercises with the Six Bricks and explained that the use of the larger DUPLO bricks not only assisted the child in building outside their field of vision but also

made handling and building easier, therefore engaging the child as soon as they picked up a brick. The purpose with the Six Bricks, according to Hutcheson (2013), is that it is cost effective, easy to train and apply and always accessible by having them readily available on the child's desk, allowing teachers to do activities at any time during the school day.

Six Bricks encourages open-ended activities that allow the child to be creative while having fun and in the process. It creates a love of learning (Care for Education [CFE], n.d.). Some activities provide a chance for children to work together with others while allowing the teacher to scale the difficulty of the activities up or down, depending on the level that the children are functioning at. Through the various activities sensory, language, cognitive, motor, social and emotional skills are developed without the child even realising it (CFE, n.d.).

Six Bricks is not part of the formal curriculum that South African schools follow, but instead assists it. Teachers can use Six Bricks at any time during any lesson as it is a concrete tool that can be used to increase understanding of a subject, solve problems or grasp concepts. According to CFE, activities can be done at different times for different reasons. At the end of a day, activities can help children unwind, while first thing in the morning it can get the children ready for learning. Activities directly after break can assist in calming the children down in order to re-focus on their work or create a break with the Six Bricks during the course of a school day to re-energise the children. Six Bricks can be used as motivation to concentrate and when children are done with their work, they can build for fun (CFE).

Some of the examples of Six Bricks activities that will form part of the teacher training include stacking the bricks in a tower by balancing them short end to short end, alternating the activity by using dominant and non-dominant hands as well as using a clothing peg to grip and stack the bricks, balancing a brick on the top of both hands and moving around in the classroom like an aeroplane and the teacher stacking the bricks in a certain order and then hiding it, allowing children to copy the model while relying on their memory (CFE, 2015).



Figure 2: Illustrations of Six Bricks exercises (CFE, 2015)

According to Schoning and Witcomb (2017), six standard LEGO bricks can get connected in more than 915 million different ways.

Block building

Block play is believed to develop children's abilities in estimation, proportion and measurement when children for instance compare the height of the structures they build. It further develops skills in balance, copying, part-whole relations, imagination and transformation (Casey & Bobb, 2003). According to Casey et al. (2008), learners use various strategies during block building and they suggested that block building skills for pre-schoolers and school-aged children are linked to spatial competencies involving spatial visualisation and mental rotation. The authors also stated that spatial skills are important for mathematics learning. Verdine et al. (2014) have found that block building is a practical method to improve spatial skills in children before they start with formal mathematics teaching. Sarama and Clements (2009) stressed the importance of adults creating challenges, as well as a supportive space to integrate maths into children's play in an effortless way, through for instance building LEGO blocks.

Ferrara, Hirsh-Pasek, Newcombe, Golinkoff, and Lam (2011) emphasised that spatial skills are a vital element of a person's intellect, as it not only enables the encoding of information about both small and large-scale objects, for instance knowing which way to turn at an intersection to reach a destination, but also enables mental alteration of information, for instance visualising the same intersection when approached from a different direction. Brosnan (1998) found a correlation between 9-year-old children's ability to replicate a complex Lego structure and their performance on a mental rotation task.

A study by Kelley (2004) suggested that teachers should encourage complex block play for children with different skill levels, as the social interactions between those children resulted in more complex constructions. Spatial language is important for the growth of

spatial skills and Ferrara et al. (2011) have found that block play is a spatial setting in which children are inclined to use spatial language in conversation with each other. In this regard, Weizman and Snow (2001) suggested that language development is predictable by the amount of words that children are exposed to, but even more so when these words are used in a way that helps the child comprehend their meaning. It has been proven that children learn words easier and quicker when rooted in playful settings (Neuman & Roskos, 1990). Christakis, Zimmerman, and Garrison (2007) found that language improvement in a sample of middle- and low-income children was positively correlated to block play. The authors suggested that settings that were cognitively and socially enriched were important for children's intellectual and language development and argued that the distribution of blocks among these children might have stimulated development.

Research Questions and Aims

After reviewing the existing literature on teachers' hope/hopefulness and a sense of self-efficacy with regard to their teaching context, as well as play as a learning aid, the Six Bricks exercise and the benefits of block building, it was assumed that there could be a positive effect on the teaching experiences of teachers following the training in and application of the Six Bricks as a teaching aid in the classroom. A research question thus proposed for this study was: can the initial training in and application of the Six Bricks as a teaching aid in the classroom, increase the Hopefulness and Sense of self-efficacy of teachers?

Research aims were to:

- through mixed methods, explore teachers' hope and sense of self-efficacy with regard to the teaching context;
- after training teachers to use the Six Bricks and supplying blocks to enable teachers to apply the teaching aid in their classrooms, study the effects of training in and application of the Six Bricks as a teaching aid, on the teachers' hope and sense of self-efficacy, by means of both quantitative and qualitative methods.

To address the above research question, this research made use of a mixed methods approach to obtain reliable accounts of teachers' hope and self-efficacy levels with regard to the teaching context, before and after the introduction and application of the Six Bricks. Further, an open qualitative exploration was made of what could be expected to happen when teachers used a playful learning aid in the classroom. By following this approach, an understanding of the impact that the Six Bricks as a playful learning aid in the classroom would have on teachers' hope and self-efficacy could be attained, as well as some indication of further impact on teachers' well-being derived from the application of the Six Bricks in the classroom.

Research Methodology

The research consisted of a literature and an empirical study.

Literature study

A literature study conceptualised the constructs of hope and self-efficacy and discussed play as a learning aid, explained the Six Bricks concept and elaborated on the impact of building blocks on the learning process.

Empirical study

Research design

For the purpose of this study, the research design was a concurrent triangulation strategy of mixed methods. Mixed methods use the combined strengths of both qualitative and quantitative research to gather information and increase comprehension of research problems (Creswell, 2009). Creswell and Plano Clark (2011) explained that the concurrent triangulation design was characterised by collecting both quantitative and qualitative data in the same data collection phase, analysing the two datasets separately and then merging the results. According to these authors, the data from the two methods are independent and can be mixed when interpreting the data to provide a multipart view to the information. The purpose of the concurrent multi-method design in this study was to provide an understanding of the impact of an intervention on the constructs measured (Creswell & Plano Clark, 2011).

Participants and procedures

For this study, foundation phase teachers were recruited from a primary school under jurisdiction of the Western Cape Department of Education, whose approval was obtained. The specific primary school was selected because the researcher is familiar with the school, it is within convenient proximity for the researcher and the school has a sufficient number of foundation phase teachers to conduct the study. Both convenience and purposive sampling methods were thus used.

The headmaster of the school was approached with the intention to do a study and he agreed in writing that the research could be done at the school. After approval of the study proposal and obtaining ethical clearance, the researcher made an appointment with the headmaster to, with his assistance recruit consenting teachers for the study. The headmaster introduced teachers to the study, by means of a brief explanation about the study and by handing out the consent letters to them. He invited those interested to complete the informed consent letters within two days and to place them in sealed envelopes which were kept in a file made available for the purpose. He also arranged for a meeting between them and the researcher, where after the research process commenced.

Only teachers who agreed to willingly participate in the study and to sign the letter of informed consent participated in the research. The training workshop with consenting teachers was done on the school's premises, outside school hours at a time arranged with and convenient to them. Each of the participants received a set of Six Bricks for themselves, as well as a set for every child in their class and they could keep this after completion of the research to use in their classrooms. All of the participants were informed about their rights, had full transparency on information about the study and obtained contact details of the researcher to make use of if they had any further questions regarding the study. More ethical considerations regarding participation in this study are discussed under the ethical section in this chapter.

Data collection

The teacher-participants in this study had Afrikaans as their home language. The two validated questionnaires and the qualitative questions were in English and at a level that teachers could understand. Their answers to the qualitative questions were given in either English or Afrikaans. The researcher is proficient in both English and Afrikaans and was available throughout data collection to clarify any unclear terminology or other uncertainties. The Six Bricks training was done in the language of choice of the participants. Group consensus was sought in this regard.

Quantitative data

Teachers' hope and self-efficacy levels were measured using validated scales, before the participating teachers were trained to use the teaching aid. The researcher then hosted a workshop for the teachers to introduce the Six Bricks teaching aid to them. The teachers were trained to use ten exercises with the Six Bricks that they can apply in their classroom. CFE provided the researcher with enough of the Six Bricks sets that every child in each participating teacher's class received their own Six Bricks set to work with. The teachers were then asked to use the Six Bricks teaching aid in their classrooms every day for 10 to 20 minutes, for four weeks. They did one exercise per day with their learners. Ten exercises allowed them to use a different exercise every day for two weeks and then start from the beginning, although teachers were also encouraged to adapt exercises and think themselves what would suit and benefit their individual personalities and needs. After the four weeks of implementing the teaching aid, the hope and sense of self-efficacy of participants were measured again. Throughout the research process, the researcher was available to participants to offer support and clarify any uncertainty they might have had.

Measuring instruments:

The State Hope scale of Snyder et al. (1996) and the Teacher Self-Efficacy Scale of Schwarzer, Schmitz, and Daytner (1999) were the quantitative instruments used in this research. The scales are both in the open domain for use in research.

The State Hope scale (SHS) of Snyder, Sympson, Ybasco, Borders, Babyak, and Higgins (1996)

Snyder et al. (1996) developed the State Hope Scale, a six-item questionnaire to evaluate goal directed thinking in the present moment, from the Adult Hope Scale, a 12-item measure with 4 items measuring Pathways, 4 items measuring Agency, and 4 filler items. Research by Snyder et al. (1991) indicated evidence of good reliability and validity for this scale. Factor analysis indicated the first factor covered 53.4% of the variance. The second factor accounted for 18% of the variance. The total variance accounted for was 71.4%. The three agency items loaded highly on the first factor at .83 to .89 and the three pathways items loaded highly on the second factor at .69 to .88. Snyder et al. further reported the Cronbach's α values for the full six item version ranged from .82 to .95. Cronbach's α values for the three agency items ranged from .83 to .95 and for the three pathway items from .74 to .93. Test-retest reliability ranged from .48 to .93. Nel and Boshoff (2014) validated the Adult State Hope scale in the South African context.

Test takers rate statements on an 8-point Likert scale, to indicate agreement. Responses range from 1 (definitely false) to 8 (definitely true). The Pathways subscale is scored by adding items 1, 3 and 5. The Agency subscale is scored by adding items 2, 4 and 6. Subscale scores range from 3 to 24 and by adding the two subscales scores, the total hope score is calculated that range from 6 to 48. Higher scores represent higher hope levels. The rationale for using the State Hope scale was to measure participating teacher's hopefulness towards their students and their teaching experience in an objective manner. According to Snyder et al. (1996), the SHS is available for a variety of uses and it may be used in pre-post designs. The scale will be adapted slightly to help participants focus on their teaching experience by adding the words "in your teaching role" to the instructions of the scale.

Teacher Self-Efficacy Scale (TSES) of Schwarzer, Schmitz, and Daytner (1999).

This specific scale has been chosen since the wording of the items are clear and apply to the intended participants. According to Schwarzer and Hallum (2008), The Teacher Self-Efficacy scale is a 10-item questionnaire that identifies a sense of self-efficacy regarding job skills, grouped into four categories, namely job accomplishment, skill development on the job, social interaction with students, parents and colleagues and lastly coping with job stress.

The 10 items selected from the original 27, are personal and developed according to Bandura's social cognitive theory. The reduction of the items was to optimise validity of the scale. The original 27 items of the scale were administered three times to 300 German teachers to improve validity. Cronbach's α ranged from .76 to .82. Test-retest reliability indicated .67 (N = 158) and .76 (N = 193) over one year and .65 (N = 161) over two years (Schwarzer et al. 1999).

Test takers rate statements on a 4-point Likert scale, to indicate agreement. Responses range from 1 (not at all true) to 4 (exactly true). Responses are added up to calculate the self-efficacy score. Higher scores represent higher levels of self-efficacy. The rationale for using the Teacher Self-Efficacy Scale was to measure participating teacher's self-efficacy in a more structured manner. This instrument has been used in various countries including Germany, Romania, Slovakia, Turkey and Syria but has not been used in South Africa yet, as far as could be determined.

Qualitative data

Qualitative methods were used to explore the teachers' own perceptions of both their hope and sense of self-efficacy as well as their individual experiences of the application of the Six Bricks.

Firstly, qualitative questions explored their description in writing of their sense of hope and self-efficacy, before and after the training in and application of the Six Bricks as a teaching aid in the classroom. This allowed the researcher to get the participants' views in their own words, as they could consider their thoughts while answering the questions in an unobtrusive manner (Creswell, 2009). The qualitative data collection consisted of the following questions to be discussed in writing before being given the Six Bricks training:

Hope

1. Describe what you understand as having hope and being hopeful as a teacher.
2. Describe your feelings of hope as a teacher and for the children in your class at this moment. You may distinguish between top, middle and low achievers.
3. What do you think will either make you more or less hopeful about your task as a teacher?

Self-efficacy

1. Describe what you understand as having a sense of self-efficacy as a teacher.
2. Describe your sense of self-efficacy as a foundation phase teacher at this moment.

3. What do you think will either increase or decrease your sense of self-efficacy as a teacher?

The second set of qualitative questions that were completed by teachers after the application of Six Bricks, were as follows:

1. Please describe your feelings of hope as a teacher and towards your learners at the moment.
2. Please describe your sense of self-efficacy as a foundation phase teacher at the moment.
3. Has anything specific influenced your feelings of hope and/or your sense of self-efficacy as a teacher recently?

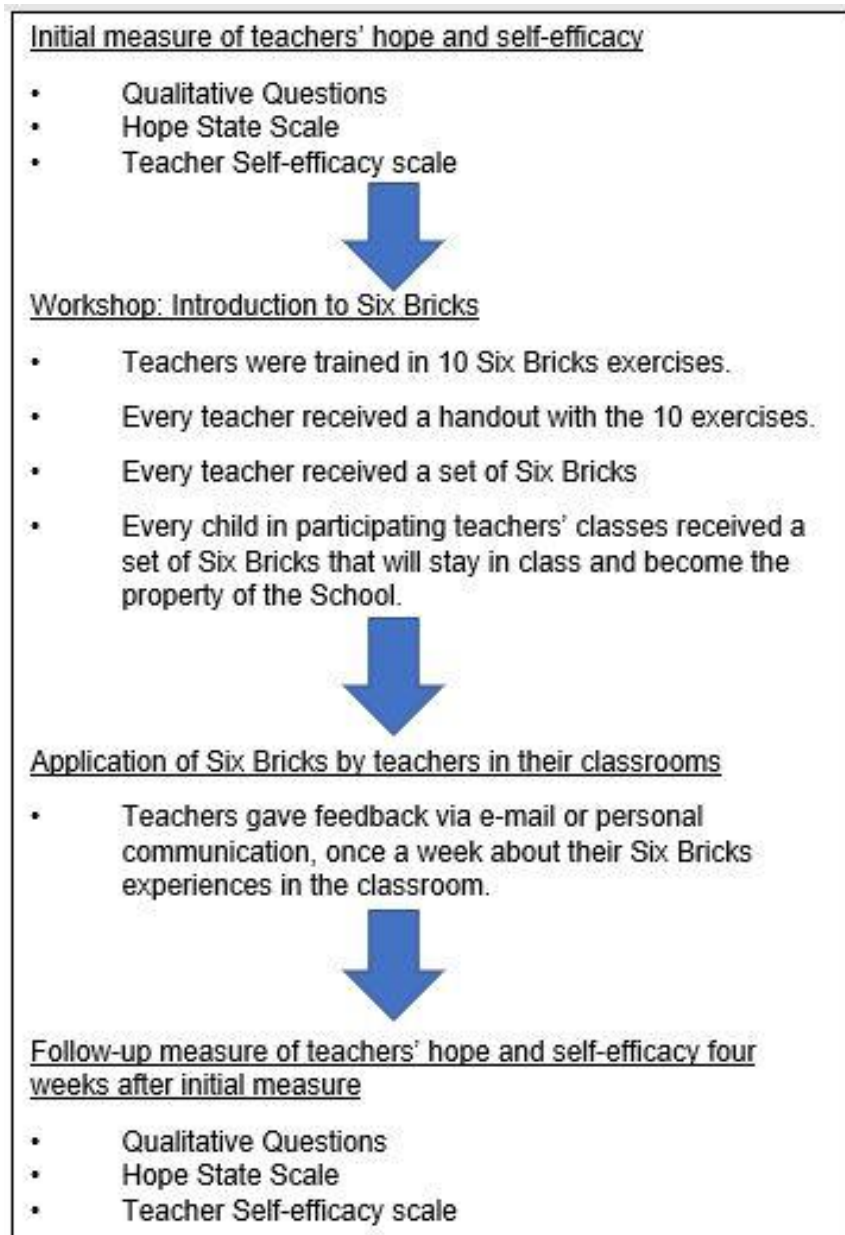
Secondly, an e-mail prompt was sent to the participating teachers, once a week during the four weeks of applying the Six Bricks exercises in their classrooms. In cases where the participants did not have access to e-mail, personal communication was arranged. The prompt read as follows:

Will you please, in a few sentences, share your experiences with or feelings about using the Six Bricks exercises in class this week?

The researcher was available to the participants during the four weeks to offer support and answer any questions they might have had.

The process of data collection can be seen in Table 1 below.

Table 1: Data Collection Schedule



Analysis of data

Qualitative data obtained by means of the qualitative questions and the brief prompts regarding classroom experiences, were analysed through thematic analysis in order to provide a detailed description of the teachers' hope and self-efficacy during the research process. Thematic analysis recognises and analyses themes in the data, describing the various elements comprehensively (Braun & Clarke, 2006). According to Braun and Clarke, the process of conducting thematic analysis comprises of the following steps:

Step one is where the researcher familiarises herself with the data through reading the data various times, typing the date and making notes of original ideas. According to Creswell (2009), the data needs to be prepared for analysis which will give the researcher an overall idea of the information. After obtaining information in the form of qualitative questions and brief e-mail feedback, the written texts were captured electronically by the researcher, into Microsoft Word as the typed text was helpful when it came to the coding of data.

Step two of thematic analysis is creating preliminary codes. Creswell described this coding process as arranging data into portions. Braun and Clarke proposed gathering data related to each code.

The authors explained that when all the data has been coded, during step three of the thematic analysis, the researcher will look for broader themes by organising codes into potential themes and gathering data that fits into each potential theme. Different codes may fit into one theme. Certain themes may produce sub-themes and it is important that the researcher regards themes as changeable. Some codes become themes or sub-themes and some are rejected. Creswell (2009) argued that five to seven themes should be generated, that will be viewed as major findings to such an extent that each will be discussed under a different title in the findings section of a qualitative study. Creswell explained that themes can be analysed for individuals or as a general description for a group. The researcher must decide which themes are central to the study, based on its relevance rather than its quantity (Braun & Clarke, 2006). The authors explained that, what seems like irrelevant data at this stage, should be stored in a theme called “miscellaneous”, rather than be excluded as themes can still change, be combined or separated or thrown out completely.

During step four of the thematic analysis, according to Braun and Clarke (2006), themes are reviewed. Firstly, the researcher has to read all the coded extracts for each theme again and determine whether it fits clearly into that theme. The authors claimed that refinement and re-coding might be necessary as additional data, previously overseen, might fit within certain themes. Themes that do not make clear sense at this stage, need to be re-worked, connected or disconnected to other themes and new themes might be generated. Once satisfied that the themes clearly represent the various codes within the themes, the researcher has to determine if the themes represent the true picture of the complete data set by reading the entire data again. Re-coding is an ongoing process throughout this stage until there is nothing significant to add and the researcher has a good understanding of what the different themes signify, how they tie in with the other themes and how they represent a comprehensive story of the data (Braun & Clarke, 2006).

Step five of thematic analysis is to define and name themes by defining the core of what each theme as well as the themes in general is about as well as recognising what part of the data each theme represents. The researcher needs to understand how and why themes are suitable in relation to the broad story told by the data and in relation to the research question. Each theme should be analysed in relation to this complete picture and sub-themes formed until the researcher clearly knows what the themes are as well as what they are not. Themes can be renamed until the name clearly describes the content of the theme (Braun & Clarke, 2006).

The last part of analysis is for the researcher to make an interpretation of the data by telling the complex story of her data in a substantial way that validates her analysis. The report should give more than just data, must include persuasive extract examples, tell the participants' stories and make an argument that is suitable to the actual research questions (Braun & Clarke, 2006). Braun and Clarke suggested the following criteria for good thematic analysis: the transcript must be checked against the original qualitative data and attention must be given to every data entry and the coding process must be in-depth and comprehensive, including all the appropriate extracts. Themes must be checked against themes as well as the original data set to make sure they are well-defined and in-line with the research question. Analysis cannot be rushed and must capture the data effectively with rich descriptions and deep understanding.

Some of the advantages of thematic analysis are the flexibility of the process and that it is relatively easy for inexperienced researchers to apply. Thematic analysis may produce unexpected results as participants use their own words to describe their own experience or point of view (Braun & Clarke, 2006)

The quantitative databases obtained by means of the two validated questionnaires completed by participants were analysed by using a computerised program such as SPSS and assisted by the Optentia statistical consultant to, calculate descriptive statistics, reliability of scales and significance of differences in scores on measurements.

All the data obtained in this research will be securely stored by the researcher for five years after which it will then be safely discarded.

Ethical Considerations

The researcher was familiar with, respected and protected the human rights of every research participant throughout the entire research process (Western Cape Department of Social Development [WCDSD], 2013).

Beneficence and non-maleficence

According to WCDSD (2013), the intentions of the research and the researcher's behaviour should be in the best interest of participants and such interests need to be protected, also when it is in conflict with the researcher's interests. WCDSD indicated that it is the researcher's responsibility to make sure that no participant is harmed by the research and to reduce any risks involved to a point where the benefits of participation are greater than the risks. No risks to any of the participants were foreseen in this study, but if any individual experienced emotional discomfort as a result of any research related activity, a single counselling session, free of charge, would be arranged with a counsellor who was willing to perform this service.

Permission for the research was obtained from both the Western Cape Department of Education as well as the principal from the school involved and also from the Human Health Research Ethics Committee (HHREC), which is the ethics structure of the North-West University (No: NWU-HS-2017-0112). This study was designed to benefit the participants in a non-monetary manner by providing a set of Six Bricks to every participating teacher as well as all the learners in participating teachers' classes. They further benefited from training on how to use the Six Bricks in their classrooms. All participating teachers and their learners kept the Six Bricks sets on completion of the research. The researcher took the responsibility to provide support to the participants throughout the project. To make sure that research participants were not harmed as a direct or indirect consequence of research, the researcher visited the research site regularly throughout the process and was available telephonically. Any risks and benefits of partaking in the study were explained to all participants.

Autonomy and respect for the dignity of participants

The researcher must respect the participants' choices and opinions at all times throughout the study, and be sensitive to different cultures and beliefs (WCDSD, 2013). The Department emphasised that the researcher should respect the privacy of participants by treating their information with confidentiality.

An informed consent form, with information regarding participants' rights as well as the purpose and procedures of the study was explained to participants and signed by both participants and researcher. Participation in this study was confidential and voluntary, with the right to withdraw at any time without any consequences. It was important to explain how confidentiality would be dealt with and that participants were not identified at any stage of the research.

Impartiality and justice

According to the Health Professions Council of South Africa (HPCSA, 2008), the participants of a research study should be better off or at least the same after completion of the study. All participants should be treated fairly and equally and therefore there would be no discrimination against or unfair exclusion of any participants (WCDSD, 2013).

A true account of research findings was given and the researcher refrained from falsifying any information. The researcher will keep all data safe for a period of five years after the study has been completed, where after it will be safely discarded.

Conclusion

The research process can be summarised as follows:

1. Writing and approval of proposal.
2. Obtained ethical clearance and permission from all concerned to do the research.
3. Recruitment: principal invited possible participant-teachers by giving them the relevant information regarding the research, informed consent and their rights as participants.
4. Conducted pre-arranged presentation, starting with discussion and administration of SHS and TSES and qualitative questions; followed by the Six Bricks training workshop on how to apply the Duplo in the classroom.
5. Started analysing qualitative questions through thematic analysis
6. Participants gave weekly e-mail or personal feedback for the four weeks while using the Six Bricks in their classrooms.
7. After four weeks, re-administered SHS and TSES and qualitative questions.
8. Continued data analysis (qualitative thematic analysis of weekly feedback and follow-up qualitative questions and scoring of quantitative measurements).
9. Wrote research report.
10. Gave feedback to participants regarding research results, also giving them the opportunity to ask any questions they may have had.
11. Keep the electronic data safe for 5 years after which the files will be deleted.
12. Publish research report and provide the Western Cape Department of Education and the school with copies of the dissertation and/or publication.

Overview of Chapters

Chapter 1: Literature background and methodology of study

Chapter 2: Manuscript as research report of study: how using a Lego teaching aid influenced the hopefulness and sense of self-efficacy of teachers.

Chapter 3: Conclusions from, limitations of and recommendations from this study.

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CHAPTER 2

MANUSCRIPT OF THE STUDY: THE HOPEFULNESS AND SELF-EFFICACY OF TEACHERS AFTER USING A LEGO TEACHING AID

Abstract

In this study, teachers' hope and sense of self-efficacy with regard to the teaching context were explored, next, teachers were trained to use the Lego Six Bricks teaching aid in their classrooms and thereafter, the effect of the training in and application of the Six Bricks as a teaching aid in the classroom on the teachers' hope and sense of self-efficacy, were studied by means of both quantitative and qualitative methods.

Participants' answered qualitative questions in writing, exploring their hope and sense of self-efficacy and the State Hope Scale (SHS) and the Teacher Self-Efficacy Scale (TSES) were used as quantitative measuring instruments. The results obtained from quantitative analysis indicated no significant differences in participants' levels of hope and sense of self-efficacy, while qualitative results produced a better understanding into the multi-dimensional processes, effecting hope and sense of self-efficacy in the teachers.

Qualitative thematic analysis identified themes of circumstances, learner attributes, equipment and materials, parent involvement, external support, normal teaching responsibilities, extra teaching effort and emotional disposition, as influences on teachers' hope and sense of self-efficacy. These themes were viewed through external and internal control frameworks, that were also identified from teachers' views.

The main finding was that the training and application of the Six Bricks, resulted in positive classroom experiences that have the potential to influence both hope and self-efficacy in teachers, provided they use the Six Bricks on a regular basis.

Keywords: Hope, hopefulness, self-efficacy, play as a teaching aid, teachers, Six Bricks

The aim of this study was to quantitatively and qualitatively research teachers' hope and sense of self-efficacy with regard to the teaching context before and after they were trained and applied the Lego Six Bricks as a teaching aid in their classrooms.

Gordon (2006) has noted that even motivated teachers feel undervalued when they constantly have to deal with the demands of the teaching context and based on this, the question arose whether such feelings of being undervalued could also include lower hopefulness in and self-efficacy of teachers regarding their teaching context? The researcher is of the opinion that teachers could be assisted in this regard, by introducing positive classroom interventions to build their own and their learner's well-being in class. Therefore, in this research, the effect that a training experience with and application of Lego Six Bricks as a teaching aid could have on teachers' self-efficacy levels and their hopefulness towards dealing with learners' needs and challenges, were studied.

A school can become a stressful environment for a teacher and child and then it is not a constructive learning context. According to Cappy (2016), disadvantaged schools in South Africa's poor communities deal with many difficulties including violence, lack of funds, not enough educational resources and other problems and uncertainties that accompany poverty. The author explained that, although teachers in low-income schools understand the potential they had as educators to make a difference in the lives of students, living in such adversity, made many feel immobilised by the teaching environments. The classroom environment's critical influence on both teachers' and learner's well-being, makes it a vital component to enhance learning, which is the goal of any school (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009).

Teaching has been described as an emotional occupation with teachers experiencing emotions all the time, either benefiting or damaging their students. Emotions are important factors in classroom settings that can enable, but also constrain teaching and learning experiences of learners and teachers (Hargreaves, 2000; Titsworth, McKenna, Mazer, & Quinlan, 2013). Research has shown that teachers' emotions can be observed by learners and may influence their behaviour and that learners' ability to remember newly learned information is also better when such information is presented to them in a positive emotional classroom, as this leads to better attention as well as more creative and holistic thinking (Nielson & Lorber, 2009; Seligman et al., 2009; Sutton, 2005).

Teachers use various coping strategies to help them manage negative emotions in the classroom, including changing situations that may lead to negative emotions and letting learners do activities that are easier to manage (Sutton, 2005). Teaching and learning through play could help children, amongst other things, to solve problems and to deal with

difficult situations and could have a positive effect on the classroom environment (Nielson & Lorber, 2009; Seligman et al., 2009). This study therefore aimed to see whether play with Lego Six Bricks as a teaching aid, could foster more positive emotions such as hopefulness and self-efficacy in teachers regarding their classroom management.

Hope and Hopefulness

Hopeful thinking has three main aspects according to Snyder's Hope Theory, namely goals, pathways and agency (Snyder, 2002). Goals refer to an approach to life with certain goals to achieve, while pathways indicate finding various ways to reach the goals and agency is the belief that one has the resources to achieve these goals. Hope has been defined as self-perceptions regarding the abilities to conceptualise goals, develop tactics to reach these goals and to maintain the drive for using these tactics (Snyder, Lopez, Shorey, Rand, & Feldman, 2003). High hope levels often lead to success in reaching goals, with hopeful thinkers being characterised as people who are able to set clear goals, think of several workable pathways toward those goals and who persist, even when it is difficult (Snyder, 2002; 2005).

Hope theory further suggests that emotions can be viewed as a consequence of how successful people are in the pursuit of their goals. Positive emotions reflect occurrences in which persons perceive that they are reaching their goals, while on the other hand, negative emotions reflect occurrences when a goal is supposedly not being met (Snyder, Feldman, & Rand, 2002). There are many differences between people with higher and lower hope levels, including that people with higher hope report better self-esteem, are more optimistic, have less depression, experience more positive and less negative emotions, have a greater sense of well-being, cope better in problem situations and pursue harder to reach goals. Such differences also apply to teachers and the teaching context (Bullough & Hall-Kenyon, 2012).

Hope is considered a critical element in the pursuit of academic goals and has a positive effect on teachers' job satisfaction and performance, while hopelessness has shown to have a significant negative correlation with teachers' work motivation, influencing the support that a teacher gives and the classroom environment which can then indirectly influence students' hope to reach their goals (Day, Hanson, Maltby, Proctor, & Wood, 2010; Duggleby, Cooper, & Penz, 2009; Kumcagiz, Ersanli, & Alakus, 2014; Phan, 2013). Teachers with higher levels of hope feel that they are more able to help students with learning difficulties and since higher hope is linked to persistence to achieve goals, if a teacher's goal is to help a student succeed, this goal may well be reached, even with students who battle academically (Levi, Einav, Raskind, Ziv, & Margalit, 2013). Hopeful teachers model a hopeful approach in the classroom by promoting independence and

problem-solving and using personal experience to illustrate how to realise goals in the midst of difficulties (Lopez, 2010). Hopeful teachers further believe that they play an important part in their learners' achievements and have the ability to form the necessary pathways to connect with the child's whole being (Colombo, McMakin, Jacobs, & Shestok, 2013).

As far as teaching is concerned, Snyder et al. (2003) argued that people with high levels of hope seem to be concerned with other people's goals and that the enhancement of hope may result in more positive interactions between teachers and learners (Snyder, 2005). Positive interactions are how teachers with high hope levels tend to convey to their students, not only what their teaching goals are but also how to reach these goals (Snyder et al., 2003). The authors further explained that hopeful teachers pay much attention to the preparation of their lessons and are enthusiastic about the content, because they want students to master the information and not just learn what they have to in order to produce good marks when examined. Hopeful teaching interactions can be contagious as students pick up the teacher's enthusiasm. It is unrealistic to expect students to be hopeful when the teacher is not and in the same way it is also difficult for teachers to remain hopeful when their students show hopelessness. Snyder argued that good teachers need to gauge where their students are at emotionally and adapt their teaching in order to have the desired impact on the students (Snyder et al., 2003), since learners who experience negative emotions, effectively distance themselves from the learning process by tuning out or shutting down (Sanders, 2010).

Hopeful teachers, according to Snyder (2005), do not just teach, they offer learners an exciting learning process, therefore this study proposed to research hopefulness in teachers with regard to their teaching context.

Self-efficacy

A sense of self-efficacy refers to a person's belief in his or her ability to do what is necessary to produce specific performance outcomes (Bandura, 1986, 1997). Believing that you can reach a goal is probably the most important part of reaching the goal (Maddux, 2002). Maddux explained that self-efficacy is not a personal characteristic; it is a belief or cognition. Self-efficacy levels can improve or block enthusiasm because self-related thoughts are an important element in the motivation process and as a result, people with a high sense of self-efficacy set and achieve desired goals (Schwarzer & Hallum, 2008). The theoretical groundwork of self-efficacy was developed by Albert Bandura (1997) who argued that self-efficacy beliefs are focused on perceived abilities within a specific task and are therefore powerful precursors of behaviour. Bandura's (1986) theory of self-efficacy is based on the principle that there are two sets of performance expectations: outcome expectations or

whether the person believes that certain behaviour will produce specific results and efficacy expectations or the person's self-confidence in their ability to do what will lead to the desired result. Bandura believed that efficacy expectations are the most important and observed that people adjust their level of effort according to the results they think their actions will have and therefore, their behaviour is driven from their beliefs and not from their actual actions. A sense of self-efficacy is not a prediction, it is not about what someone will do, it is about what someone can do, a belief about an ability to do something, it is not an intention either, but has an influence on intentions (Maddux, 2002). Maddux further argued that self-efficacy is not equivalent to self-esteem, as the latter is what you believe about yourself and the former will contribute to self-esteem in specific areas where you believe in your ability to accomplish goals. Certain behaviours lead to certain outcomes, yet self-efficacy is the belief that you can perform the behaviour that leads to the chosen outcome. Maddux concluded that a sense of self-efficacy is the belief that you are capable to manage skills to reach goals in certain areas under certain circumstances.

Teacher self-efficacy is a job-specific individual attribute and has its place in the personal characteristics of teachers that lead to differences in the classroom and to teaching practices that influence student learning (Künsting, Neuber, & Lipowsky, 2016; Schwarzer & Hallum, 2008). Teacher self-efficacy has been explained as a circular process where stronger self-efficacy beliefs are suggested to lead teachers to apply more effort, which produces better performance, which in turn provides affirmative information that reaffirms higher efficacy beliefs (Malinen et al., 2013). According to Tschannen-Moran and Woolfolk Hoy (2007), teacher efficacy is context-specific which means that teachers may rate themselves high on self-efficacy when they teach specific subjects to specific students in specific settings, while feeling less efficient under different conditions. Guskey and Passaro (1994) defined teacher self-efficacy as the degree to which a teacher believes he or she can influence learner behaviour and academic achievement, particularly in under-achieving learners. In this regard, Guo, McDonald Conner, Yang, Roehrig, and Morrison (2012) had found that teacher self-efficacy had more impact on learner outcomes than teacher experience or teacher education. Guo et al. further argued that teachers with a higher sense of self-efficacy created a more positive classroom environment and were more supportive of their learners, concluding that classroom practices might mediate the relationship between teacher self-efficacy and student achievement. According to Schmitz and Schwarzer (2000), teachers who have high self-efficacy levels were involved in more extracurricular activities and spent more free time with their students. Caprara, Barbaranelli, Steca, and Malone (2006) observed that teachers' self-efficacy beliefs contributed meaningfully to learners' academic achievement, in line with the original view of Bandura (1993) that a teacher's

sense of self-efficacy effects the type of learning atmosphere that they create and has a positive relation to the academic progress that their learners make.

Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) believed that, although self-efficacy as a construct was well defined, more qualitative research would give a better understanding of the process and causes of growth in teachers' self-efficacy beliefs. Klassen, Tze, Betts, and Gordon (2011), who evaluated self-efficacy research on teachers in two hundred and eighteen studies done between 1998 to 2009, agreed that there was not enough information on the reasons for self-efficacy growth. According to Bandura (1997) there are four sources that influence a sense of self-efficacy, namely enactive mastery experience referring to previous success, vicarious experience referring to second handed experiences through observation of others, physical as well as emotional conditions and lastly, verbal persuasion referring to the encouragement from others. Tschannen-Moran et al. (1998) argued that verbal persuasion like development workshops, can cause a temporary increase in teacher efficacy but needs to link with the development of new skills to make the increased efficacy levels last longer. The authors further believed that a hands-on approach in skills development where teachers experience the new skill, could have a stronger effect on their beliefs of their teaching ability. When a new teaching practice is introduced to teachers, their self- efficacy may however first decrease because of the disruption of practice that the teacher is familiar with, but when they get more used to the new teaching practice and if they find it effective, their self-efficacy levels may increase (Stein & Wang, 1988; Tschannen-Moran et al.,1998). According to Bruce and Ross (2008), teachers with higher levels of self-efficacy may be more willing to try new teaching techniques, but their levels of efficacy will probably drop until they see that the new practice positively affects their learners and they incorporate it into their daily routine. This higher level of self-efficacy may then open them up to more skills development opportunities in future. Therefore, teachers' sense of self-efficacy pertaining to their teaching context, before and after the introduction of a new teaching skill was studied in this research.

Durgunoğlu and Hughes (2010) compared Snyder et al.'s hope theory to Bandura's model of self-efficacy as both include goals and individuals' perception of their capacity to achieve these goals, as well as an awareness of using appropriate strategies and continuous effort. The Hope theory resembles that of self-efficacy, by including the confidence in one's capabilities as well as the availability of pathways and motivation to achieve specific goals. Snyder (2002) understood the outcome expectancy of self-efficacy as being similar to pathways thought of hope and the efficacy expectancies of self-efficacy, as similar to agency thought of hope. However, situational self-efficacy thoughts (agency) are the core of Bandura's self-efficacy model, whereas both agency and pathways are essential

in hope thought. Snyder (1995) therefore argued, that hope theory takes a cross-situational view whereas efficacy expectations are situation specific.

Play as a Learning Aid

Both direct instruction as well as play have a place in high-quality childhood education but the lack of recognising the value of play prevents schools from prioritising play as part of daily learning (Rasmussen, 2016; Tullis, 2011).

Play is an important part of development in children, as it promotes not only physical, but also mental, social and emotional well-being (Ginsburg, 2007). Play approaches to learning are not just about taking a break from the normal classroom routine. Play is a vital component in the way that children learn as it allows for reflection on and restructuring of their learning experiences while also restoring attention (de Freitas, 2013; Lillard et al., 2013). Through play, a supportive environment becomes available where children are free to think critically, question and problem-solve, leaving them longing to know and learn more (Department of Education, Employment and Workplace Relations [DEEWR], 2009). The DEEWR viewpoint argued that play allows children to simply enjoy being and can inspire positive outlooks on learning. According to the authors, learning through play allows children to express their unique views and be creative, while associating present with past experiences to understand concepts better. Play not only allows teachers to build relationships with their learners but also helps children to develop relationships with peers and creates a sense of well-being (DEEWR).

Martlew, Stephen, and Ellis (2011) claimed that play enhances learners' general knowledge across the curriculum and improves their willingness to learn. The authors agreed that play develops skills that enable learners to interact with other children which improves not only their social skills but also their cognitive skills, as learners become more skilful at making rules and as a result thereof develop more awareness of consequences as well as processes. According to Woolfolk (2010), when children play, they feel safe to try new behaviours and experiences, solve problems and master their environment. Woolfolk explained that play offers some of the stimulation that the brain needs to develop at different ages and that primary school children develop their language ability, reasoning skills and ability to cooperate with others, through the complex games that they partake in. According to Woolfolk, optimal learning for children up to the age of nine (Foundation Phase) occurs when the whole self, the body, mind and spirit are involved. The author further argued that play takes away the stress associated with having to learn and achieve. Rasmussen (2016) agreed that learning in the early years, up to around eight, should be based on whole-child

development and a play-based methodology is the best way to achieve this as early play-based learning helps to develop empathy, creativity and problem-solving.

The teachers in a study conducted by Martlew et al. (2011) believed that play encouraged a positive, enthusiastic attitude towards learning and stimulated self-assurance and independence in learners. Some teachers felt that play made learning available to all of the learners, irrespective of their capability and that the children were more involved in learning and learned at a faster rate. Martlew et al. found that utilising play gave some teachers more time with individual children and also noted that it was a good experience for most teachers, although they acknowledged that teachers would have to adjust their thinking towards the way they planned the day. Woolfolk (2010) argued that children learned better when they used more of their senses and most of their school day involved only two senses, looking and listening, while play added touch, smell and taste. According to Lynch (2015), although many teachers are aware of the educational benefits of play, the pressure to achieve academic goals prevents them from applying the knowledge. The author suggested that teachers should be empowered with practical approaches on how to implement play in their classrooms.

Jabbar and Felicia (2016) was of the opinion that the learning through play approach is based on behaviourist strategies such as trial and error, stimulation and reinforcement, as well as constructivist values including learning by doing, active learning and problem-based learning. Jabbar and Felicia suggested that an engaging learning environment includes the availability of resources and activities at different levels of difficulty. These authors further argued that play as a learning aid is most successful when the aid provides achievable challenges and remains interesting through a variety of uses, keeping children engaged at different levels while its relevance to their learning is clear in a way that makes sense to them, much as the Lego Six Bricks teaching aid does.

Lego Six Bricks

The play learning aid that was used in this study is Duplo bricks developed by the LEGO company and supplied by Care for Education (CFE). According to Hutcheson (2014), it is important for children to play and work with large manipulatives outside their range of vision, which is approximately 20 – 22 cm or the length of four DUPLO eight-stud bricks in a row, as this forces children to move their eyes left and right and to track objects across their midline which enhances bi-lateral integration. Hutcheson indicated that five DUPLO eight-stud bricks would allow children to play outside their field of vision and the sixth brick was included to create the midline, which is how the Six Bricks idea was conceptualised. The purpose with the Six Bricks according to Hutcheson (2013), is that it is cost effective, easy to train and

apply and always accessible by having them readily available on the child's desk, allowing teachers to do activities at any time during the school day.

Block Building

Block play is believed to develop children's abilities in estimation, proportion and measurement, balance, copying, part-whole relations, imagination and transformation (Casey & Bobb, 2003). According to Casey et al. (2008), block building skills for pre-schoolers and school-aged children are linked to spatial competencies involving spatial visualisation and mental rotation. The authors stated that spatial skills are important for mathematics learning. Block building is a practical method to improve spatial skills in children before they start with formal mathematics teaching and it is important to create challenges in a supportive space to integrate maths into children's play in an effortless way (Sarama & Clements, 2009; Verdine et al., 2014).

Ferrara, Hirsh-Pasek, Newcombe, Golinkoff, and Lam (2011) emphasised that spatial skills are a vital element of a person's intellect, as it not only enables the encoding of information about both small and large-scale objects for instance knowing which way to turn at an intersection to reach a destination, but also enables mental alteration of information, for instance visualising the same intersection when approached from a different direction. Brosnan (1998) found a correlation between 9-year-old children's ability to replicate a complex Lego structure and their performance on a mental rotation task.

A study by Kelley (2004) suggested that teachers should encourage complex block play for children with different skill levels, as the social interactions between those children resulted in more complex constructions. Spatial language is important for the growth of spatial skills and Ferrara et al. (2011) have found that block play is a spatial setting in which children are inclined to use spatial language in conversation with each other. In this regard, Weizman and Snow (2001) suggested that language development is predictable by the amount of words that children are exposed to, but even more so when these words are used in a way that helps the child comprehend their meaning. It has been proven that children learn words easier and quicker when rooted in playful settings (Neuman & Roskos, 1990). Christakis, Zimmerman, and Garrison (2007) found that language improvement in a sample of middle- and low-income children was positively related to block play. The authors suggested that settings that were cognitively and socially enriched were important for children's intellectual and language development and argued that the distribution of blocks among adversely prone children might have stimulated development.

In the above literature overview, the problem statement supporting this research was given and the theoretical frameworks of the constructs used in this study were discussed. Below, the research questions, aims and methods are described.

Research Questions and Aims

After reviewing the existing literature on teachers' hope/hopefulness and a sense of self-efficacy with regard to their teaching context, as well as play as a learning aid, the Six Bricks exercise and the benefits of block building, it was assumed that there could be a positive effect on the teaching experiences of teachers following the training in and application of the Six Bricks as a teaching aid in the classroom. A research question thus proposed for this study was: can training in and application of the Six Bricks as a teaching aid in the classroom, increase the hopefulness and sense of self-efficacy of teachers?

Research aims were to, by means of mixed methods, explore and measure teachers' hope and sense of self-efficacy with regard to the teaching context as well as to, after training teachers to use the Lego Six Bricks as a teaching aid in their classrooms, explore and measure the effect of training in and application of the Six Bricks as a teaching aid, on the teachers' hope and sense of self-efficacy.

Research Methodology

The research included a literature study and an empirical study. The literature study conceptualised the constructs of hope and self-efficacy and discussed play as a learning aid, explained the Six Bricks concept and elaborated on the impact of building blocks on the learning process. The empirical study researched the aims as indicated above while findings from the research were analysed and reported.

Research design

The research design was a concurrent triangulation strategy of mixed methods. Mixed methods use the combined strengths of both qualitative and quantitative research to gather information and increase comprehension of research problems (Creswell, 2009). Creswell and Plano Clark (2011) explained that the concurrent triangulation design is characterised by collecting both quantitative and qualitative data in the same data collection phase, analysing the two datasets separately and then merging the results. According to these authors, the data from the two methods are independent and can be mixed when interpreting the data to provide a multipart view to the information. The purpose of the concurrent multi-method design in this study was to provide an understanding of the impact of an intervention on the constructs measured (Creswell & Plano Clark, 2011).

Participants and procedures

Foundation phase teachers were recruited from a primary school under jurisdiction of the Western Cape Department of Education, whose approval was obtained. The specific primary school was selected because the researcher is familiar with the school, it is within convenient proximity for the researcher and the school has a sufficient number of foundation phase teachers to conduct the study (N=10). Both convenience and purposive sampling methods were thus used.

Subsequent to the approval of the study proposal and obtaining ethical clearance from the North-West University (NWU)'s Human Health Research Ethics Committee (HHREC) (No: NWU-HS-2017-0112), the researcher met with the school's headmaster to, with his assistance recruit consenting teachers for the study. The headmaster introduced teachers to the study, invited those interested to complete the informed consent letters and arranged for a meeting between them and the researcher, where after the research process commenced.

Only teachers who agreed to willingly participate in the study and to signing the letter of informed consent participated in the research. The training workshop with consenting teachers, was done on the school's premises, outside school hours at a time arranged with and convenient to them. Each of the participants received a set of Six Bricks for themselves, as well as a set for every child in their class and they could keep this after completion of the research to use in their classrooms. All of the participants were informed about their rights, the full detail about what the study entailed and obtained contact details of the researcher to make use of if they had any further questions regarding the study.

The study's teacher-participants' home language was Afrikaans. The two validated questionnaires and the qualitative questions were in English and at a level that teachers could understand proficiently. Their answers to the qualitative questions were given in both English and Afrikaans. The researcher is proficient in both English and Afrikaans and was available throughout data collection to clarify any unclear terminology or other uncertainties. The Six Bricks training was done in the language of choice of the participants. Group consensus was sought in this regard.

Data collection

Quantitative data

Teachers' (N=10) hope and self-efficacy levels were measured using validated scales, before the participating teachers were trained to use the teaching aid.

Measuring instruments.

The State Hope Scale (SHS) of Snyder et al (1996), is a six-item questionnaire to evaluate goal directed thinking in the present moment, derived from the Adult Hope Scale (AHS), a 12-item measure with 4 items measuring Pathways, 4 items measuring Agency, and 4 filler items. Research by Snyder et al. (1991) indicated evidence of good reliability and validity for the AHS. Factor analysis indicated the first factor covered 53.4% of the variance. The second factor accounted for 18% of the variance. The total variance accounted for was 71.4%. The three agency items loaded highly on the first factor at .83 to .89 and the three pathways items loaded highly on the second factor at .69 to .88. Snyder et al. further reported that the Cronbach's α -values for the SHS six item version ranged from .82 to .95. Cronbach's α values for the three agency items ranged from .83 to .95 and for the three pathway items from .74 to .93. Test-retest reliability ranged from .48 to .93. Nel and Boshoff (2014) validated the Adult State Hope scale in the South African context.

Test takers rate statements on an 8-point Likert scale, to indicate agreement. Responses range from 1 (definitely false) to 8 (definitely true). The Pathways subscale is scored by adding items 1, 3 and 5. The Agency subscale is scored by adding items 2, 4 and 6. Subscale scores range from 3 to 24 and by adding the two subscales scores, the total hope score is calculated that range from 6 to 48. Higher scores represent higher hope levels. The rationale for using the State Hope scale was to measure participating teacher's hopefulness towards their students and their teaching experience in an objective manner. According to Snyder et al. (1996) the SHS may be used in pre-post designs. The scale was adapted slightly to help participants focus on their teaching experience by adding the words "in your teaching role" to the instructions of the scale.

The Teacher Self-Efficacy Scale (TSES) of Schwarzer, Schmitz, and Daytner (1999) is a 10-item questionnaire that identifies a sense of self-efficacy regarding job skills, grouped into four categories namely job accomplishment, skill development on the job, social interaction with students, parents, and colleagues and lastly coping with job stress. The 10 items selected from the original 27, are personal and developed according to Bandura's social cognitive theory. The reduction of the items was to optimise validity of the scale. The original 27 items of the scale were administered three times to 300 German teachers to improve validity. Cronbach's α ranged from .76 to .82. Test-retest reliability indicated .67 (N = 158) and .76 (N = 193) over one year and .65 (N = 161) over two years. (Schwarzer et al., 1999; Schwarzer & Hallum, 2008).

TSES is rated on a 4-point Likert scale with responses ranging from 1 (not at all true) to 4 (exactly true). Responses are summed to calculate the self-efficacy score. Higher

scores represent higher levels of self-efficacy. The rationale for using the TSES was to measure participating teacher's self-efficacy in a structured manner. This instrument has been used in various countries including Germany, Romania, Slovakia, Turkey and Syria but has not been used in South Africa yet, as far as could be determined.

Six bricks training

The researcher hosted a workshop for the teachers to introduce the Six Bricks teaching aid to them. They were trained to use ten exercises with the Six Bricks that they can apply in their classroom. Care for Education provided the researcher with enough of the Six Bricks sets that every child in each participating teacher's class received their own Six Bricks set to work with. The teachers were then asked to use the Six Bricks teaching aid in their classrooms every day for 10 to 20 minutes, for four weeks. They did one exercise per day with their learners. Ten exercises allowed them to use a different exercise every day for two weeks and then start from the beginning, although teachers were also encouraged to adapt exercises and think of their own that will suit and benefit their individual personalities and needs. During the four weeks of implementing the teaching aid, teachers gave feedback about the process and after the four weeks of application, their hope and sense of self-efficacy were measured again. Throughout the research process, the researcher was available to participants to offer support and clarify any uncertainty they may have had.

Qualitative data

Qualitative methods were used to explore the teachers' (N=10) own perceptions of both their hope and sense of self-efficacy, as well as their individual experiences of the application of the Six Bricks.

Qualitative questions explored their description in writing of their sense of hope and self-efficacy, before and after the training in and application of the Six Bricks as a teaching aid in the classroom. This allowed the researcher to get the participants' views in their own words, as they can consider their thoughts while answering the questions in an unobtrusive manner (Creswell, 2009). The qualitative data collection consisted of the following questions to be discussed in writing *before receiving the Six Bricks training*:

Hope

1. Describe what you understand as having hope and being hopeful as a teacher.
2. Describe your feelings of hope as a teacher and for the children in your class at this moment. You may distinguish between top, middle and low achievers.
3. What do you think will either make you more or less hopeful about your task as a teacher?

Self-efficacy

1. Describe what you understand as having a sense of self-efficacy as a teacher.
2. Describe your sense of self-efficacy as a foundation phase teacher at this moment.
3. What do you think will either increase or decrease your sense of self-efficacy as a teacher?

During the four weeks of applying the Six Bricks exercises in their classrooms, an e-mail prompt was sent once a week to the participating teachers. In cases where the participants did not have access to e-mail, personal communication was arranged. The prompt read as follows:

Will you please in a few sentences share your experiences with or feelings about using the Six Bricks exercises in class this week?

After the application of Six Bricks, the qualitative questions that were completed by teachers were as follows:

1. Please describe your feelings of hope as a teacher and towards your learners at the moment.
2. Please describe your sense of self-efficacy as a foundation phase teacher at the moment.
3. Has anything specific influenced your feelings of hope and/or your sense of self-efficacy as a teacher recently?

The qualitative findings will be presented in the format of the three stages of data gathering given above.

Analysis of data

The quantitative database obtained by means of the two validated questionnaires completed by participants were electronically captured by the researcher and analysed by the Optentia statistical consultant using the Wilcoxon Signed Ranks test, a non-parametric t-test for two related samples (Bangdiwala, 2013), and calculations were done by using quantitative analysis software.

Qualitative data provided by teachers in the two sets of qualitative questions and the brief prompts regarding classroom experiences, were manually analysed by means of qualitative thematic analysis in order to obtain a detailed description of the teachers' hope and self-efficacy during the research process. Some of the advantages of thematic analysis are the flexibility of the process and that it is relatively easy for inexperienced researchers to apply. Thematic analysis may produce unexpected results as participants use their own

words to describe their own experience or point of view (Braun & Clarke, 2006). Thematic analysis recognises and analyses themes in the data, describing the various elements comprehensively (Braun & Clarke, 2006). According to Braun and Clarke the process of conducting thematic analysis comprises of the following steps, which the researcher followed: Step one was where the researcher familiarises herself with the content through reading the data various times and making notes of original ideas. Step two was creating preliminary codes. In step three the researcher looked for broader themes by organising codes into potential themes and identifying content that fits into each potential theme. Creswell (2009) explained that themes can be analysed for individuals or as a general description for a group. During step four themes were reviewed by reading all the coded extracts for each theme again and considering whether each fit clearly into that theme (Braun & Clarke, 2006). The authors explained that re-coding is an ongoing process throughout this stage. In step five themes were defined and named. The last part of analysis was for the researcher to make an interpretation of the data by telling the complex story of the teachers' experiences in a substantial way that makes her analyses trustworthy.

Trustworthiness

Trustworthiness of qualitative research can be defined as how accurate the participants' world and views are reflected (Creswell & Miller, 2000). Tracy (2010) expanded by adding that the following eight criteria that bring excellence to qualitative research: a worthy topic; rich rigor; sincerity; credibility; resonance; significant contribution; ethics and meaningful coherence. These criteria were adhered to in this study as is evident from the process in which participants wrote rich descriptive answers to qualitative questions in their own words and the researcher made no changes to what they gave. The researcher spent much time with the participants as well as in their school environment and this prolonged engagement in the field provided a better insight into the participants' views and experiences (Creswell & Miller, 2000). The study supervisor served as a co-coder and every step of the coding process was discussed and mutually agreed on. Interpretations of the data were discussed with participants to make sure that the researcher understood their narratives, thus confirming the themes through member-checking. The three stages of obtaining the views of the teachers allowed for triangulation of data (Creswell, 2009). A true account of research findings was given and the researcher refrained from falsifying any information.

Ethical Considerations

The researcher was familiar with, respected and protected the human rights of every research participant throughout the entire research process (Western Cape Department of Social Development [WCDSO], 2013). The intentions of the research and the researcher's

behaviour was in the best interest of participants. No risks to any of the participants were foreseen in this study, but steps were in place if any individual experienced emotional discomfort as a result of any research related activity. The researcher respected the participants' choices and opinions at all times and was sensitive to different cultures and beliefs and respected the privacy of participants by treating their information with confidentiality (WCDS, 2013). Participants were fully aware of their rights and gave written consent for their participation.

Permission for the research was obtained from both the Western Cape Department of Education as well as the principal from the school involved and also from the HHREC, at the NWU, (No: NWU-HS-2017-0112).

According to the HPCSA (2008) the participants of a research study should be better off or at least the same at completion of the study. This study was designed to benefit the participants in a non-monetary manner by training them on how to use the Six Bricks and by providing a set of Six Bricks to every participating teacher as well as to all the learners in their classes to keep on completion of the research. The researcher took the responsibility to provide support to the participants, visit the research site regularly and was available telephonically throughout the project.

The literature background to the study and the research methodology used, were described above. A report and discussion on the findings of the empirical research follow.

Results and Discussion

In the following sections, the quantitative and qualitative results of this study are described.

Quantitative findings

Results of pre-measurements and post-measurements applied

Teachers' hope and sense of self-efficacy (N=10) were assessed on two occasions in this study, once before the training on and application of Six bricks, and again four weeks later. The teachers' SHS and TSES test scores were investigated by comparing the differences between measurement 1 and measurement 2. The Wilcoxon Signed Ranks test is a non-parametric t-test for two related samples, that investigates any variation in scores from one point in time to another and was used because of the size of the samples and the skewness of the data (Bangdiwala, 2013). Calculations were done by using quantitative analysis software, SPSS (Laerd Statistics, n.d.). The Wilcoxon Signed Ranks test of the current study showed that the mean ranks were relatively similar at the two times that participants took the SHS and TSES, as shown in Tables 2 and 3.

Table 2: Mean ranks of participants' scores for the SHS

Ranks	Mean Rank
SHS T1 (Binned)	6.50
SHS T2 (Binned)	6.30

Table 3: Mean ranks of participants' scores for the TSES

Ranks	Mean Rank
TSES T1 (Binned)	3.30
TSES T2 (Binned)	3.30

The asymptotic significance for the differences in participants' SHS scores, was 0.41, indicating that there was no significant difference in participants' hope before and after the training on and application of Six bricks, as shown by Table 4.

Table 4: Wilcoxon Signed Ranks Test (Using participants' scores from SHS)

Z	-0.82 (Based on positive ranks)
Asymp. Sig. (2-tailed)	0.41
Exact Sig. (2-tailed)	0.69
Exact Sig. (1-tailed)	0.34
Point Probability	0.23

The asymptotic significance for the differences in participants' TSES scores, was 1.000, therefore indicating no significant difference in participants' sense of self-efficacy before and after the training on and application of Six bricks, as shown by Table 5.

Table 5: Wilcoxon Signed Ranks Test (Using participants' scores from TSES)

Z	0.00 (The sum of negative ranks equals the sum of positive ranks)
Asymp. Sig. (2-tailed)	1.00
Exact Sig. (2-tailed)	1.00
Exact Sig. (1-tailed)	0.75
Point Probability	0.50

These findings are discussed in the concluding discussion that follows later.

Qualitative findings

All qualitative narratives obtained from written answers to qualitative questions by the participating teachers, were thematically analysed. Firstly, the initial qualitative exploration of teachers' hope and sense of self-efficacy with regard to the teaching context is discussed. Thereafter, feedback regarding the Six Bricks training workshop and the weekly feedback from teachers about applying the Six Bricks, are described. Lastly, the follow-up feedback by

teachers on their hope and sense of self-efficacy four weeks later is discussed. Participants were allowed to use English, Afrikaans or both languages in all of the qualitative feedback.

Initial qualitative exploration of teachers' hope and sense of self-efficacy with regard to the teaching context

Through the participants' stories and descriptions, their views on their hope and self-efficacy were explored. This group of teachers' (N=10) unique views on both their hope and sense of self-efficacy brought forward aspects of the following dimensions, that will be discussed as separate themes that emerged: Circumstances, learner attributes, equipment and materials, parent involvement, external support, normal teaching responsibilities, extra teaching effort and emotional disposition.

Another noticeable aspect was two distinct thinking patterns that emerged from the data, namely that of external and internal locus of control thinking of the teachers. Locus of control is defined as the degree to which a person subjectively perceives who or what is in control of one's life outcomes and distinguish between those outcomes perceived to be within a person's control namely internal locus of control (ILOC), and outcomes outside of a person's control or external locus of control (ELOC) (Munoz, Brady, & Brown, 2017).

In the discussion below, the themes or dimensions indicated above are discussed within the ELOC and ILOC frameworks. The circumstances, learner attributes, equipment and materials, parent involvement and external support dimensions are discussed in the ELOC framework, while normal teaching responsibilities, extra teaching effort and emotional disposition dimensions are discussed in the ILOC framework.

Starting with ELOC, of the participants, 100% ascribed that their hope at times is influenced by factors outside of their control (ELOC) and 90% of participants linked their sense of self-efficacy at times to similar external forces (ELOC). The various external forces are discussed below in line with the dimensions that emerged as themes.

Circumstances

The environment and circumstances of a school and the community feeding children into the school system, played a vital role in both the hope and sense of self-efficacy of teachers. According to Cappy (2016) situations in disadvantaged schools in South Africa's poor communities including violence and lack of funds to name a few, influence a teachers' ability to make a difference in the lives of hopeless students and teachers may feel restrained by these teaching environments. Tschannen-Moran and Tschannen-Moran (2014) believed that an institution can have a collective mood that influences what employees will and can achieve.

Teachers' Hope

Of the participants, 30% indicated that external circumstances played a role in their hope for their learners. Some quotes from teachers were:

Participant K: *In this environment where most of our learners find themselves in now, it will be risky to say that there is any hope. Well, the real "top" achievers are minimum in each class/grade, depending on the environment and infrastructure at individual dwellings.*

Participant E: *It is not easy because the challenges can be sometimes overwhelming. I do visit their homes to see what are the real issues.* Participant E uses visits to her learners' homes as a pathway to reach her goals, despite unfavourable challenges.

Teachers' Self-efficacy

Of the participants 50% related their self-efficacy to circumstances, Teachers described their work as stressful due to departmental demands and administrative work added to their already strained work environment. Some of them said:

Participant D: *Work is very stressful and lots of admin work.*

Participant E: *When all situations, atmosphere, all my plans go according to what I want, then my self-efficacy will be more effective.*

These statements are in line with the view of Moradkhani and Haghi (2017), who stated that unfavourable educational situations are the core reason for decreased teacher self-efficacy and also of Bandura (1997), who stated that one of the sources that influence self-efficacy is physical conditions.

Learner attributes

Teachers' Hope

Of the participant teachers, 90% based their hope on what they see and experience from their learners. If they see positive results, they feel more hopeful and when they see negative results, their hope decreases. These were some responses:

Participant D: *Heelwat kinders in my klas het probleme met leer. Hierdie leerders ervaar gewoonlik teleurstelling omdat hulle nie die werk kan baas raak. Daar is baie leerders wat sleg presteer. Hul het amper geen konsentrasievermoë.* (Many children in my class have learning problems. These children experience disappointment because they can't master the work. There are many learners with poor achievements. They almost have no ability to concentrate).

Participant C: *At this moment my hope for the top-achievers are that they will excel in my class and that they could know more than necessary for the grade. My hope for the middle*

achievers is that they will pass this grade without struggling and not only be average. My hope for the low achievers is that they will still pass this grade, or if not possible, that they grasp the basic work done in this grade.

Participant I: Children tend to challenge your authority as a teacher and that is very discouraging and very irritating. I have a job to do. And children working so slow each and every day is very discouraging.

Two teachers indicated that their hope is that children will become self-driven and motivated to succeed. They placed their hope for their learners in the learners' ability to set goals and develop agency and pathway thinking to reach their goals.

Participant A: My hope is that the top achievers will be an inspiration to the low achievers to drive themselves to reach their best potential possible.

Participant I: For every child in class at this moment I hope that they will get a vision for themselves for the future. So many learners sit in my class without a plan and believe in a day to day living

Four teachers indicated that their hope will increase if the children in their class achieve and behave better.

Participant B: I will be more hopeful if I see all my kids in class succeed.

Participant C: I will become more hopeful when I see that my learners aren't struggling and I see them progressing.

Participant F: I will be more hopeful when learners do homework, engage during class and perform better at FAT's/tests.

Participant I: What would make me more hopeful is that just one of these "naughty" children would show improvement in their behaviour towards me and towards their school work. The marks of the weakest child in my class have to show slightest improvement, that would make me hopeful.

Teachers' Self-efficacy

Of the participants, 20% measured their self-efficacy against learner achievement and behaviour, for example:

Participant I: At the moment I don't feel very efficient. Every day is a battle between me and the learners and wanting them to do their work. It feels like I'm shouting more in the class "do your work!" than I'm actually teaching. One cannot teach if children don't adhere to why you are here, challenging your authority around every corner and back chatting. I think if the children could better their self-discipline then my job as a teacher would become easier.

Hoy, Hoy, and Kurz (2008) described teacher self-efficacy as a teacher characteristic linked to learner achievement and Eren (2014) connected teachers' hope positively to accountability for student achievement. Hoy et al. (2008) stated that socio-economic status is connected to learners' school achievement and the longer children live in poverty, the bigger the influence is on their achievement, with poor children having a greater chance to be held back in school. With poverty influencing school achievement, the authors have concluded that teachers with many poor learners in their classes may have low hope for these children to achieve and a lower sense of self-efficacy as a teacher. In line with Bandura's (1986) description of outcome expectations, some participants believed that better behaviour from learners will produce better self-efficacy outcomes.

Equipment and materials

Teachers' Hope

Of participant teachers, 20% ascribed their hope to the introduction of the Lego teaching aid in their classes. They seem to see the Lego teaching aid as a potential pathway to reaching teaching goals. Some said:

Participant D: *Hopelik gee die Lego's hul en myself hoop om een of ander doelwit te bereik.* (Hopefully the Lego will give them and me hope to reach some or other goal).

Participant K: *Things at school are getting worse each day – the teachers can only hope that the Lego will, might – be bring calmness into the class and the kids mindset as well. Hopefully the Lego will also help them to understand better and to help them to overcome their learning barriers which exist.*

Teacher' Self-efficacy

Of the participant teachers, 40% indicated that equipment and materials effect their sense of self-efficacy, with two of these participants implying that the lack of necessary equipment is detrimental to their sense of self-efficacy. Some participants had outcome expectations that the right equipment will lead to a higher sense of self-efficacy (Bandura, 1986). Some teachers said:

Participant A: *I don't always have the right equipment or teaching aids to help me be self-efficient in my task*

Participant B: *Self-efficacy is to teach in an environment where one has all the equipment. All the necessary materials to do your work.*

When asked what would increase their sense of self-efficacy, teachers indicated that having the necessary materials will. Some said:

Participant A: *The right learning aids*

Participant B: *To have all the equipment in my classroom.*

Two teachers indicated that they have a good sense of self-efficacy due to the equipment and materials that they currently have, for example:

Participant E: *I have the vital tools/equipment to do my work.*

Participant J: *I have the necessary resources, materials, ...*

Maughan, (2017) argued that teachers in America who do not earn big salaries, often spend more than \$500 of their own money annually on school materials for their class and they even developed a company collecting donations to fund various equipment needs. The problem seems to exist in South Africa as well and teaching equipment and materials poses a teaching challenge.

Parent Involvement

The involvement of parents was a prominent theme that emerged from the data. This school is located in a poor community where many parents are illiterate and unemployed. This plays a role in parent involvement as illiterate parents cannot assist children with school work and illiteracy also leads to adults going wherever they can find a job, often leaving the children with relatives during the working week.

Teachers' Hope

Of participant teachers, 30% ascribed their hope or lack thereof, to parental involvement, for example:

Participant K: *In some cases where the parents stand behind their kids and their academic development there might be a little light of hope – but it is smaller than a grain of sand.*

Two teachers indicated that they will feel more hopeful about their task as a teacher if parents get more involved with their children.

Participant A: Parent involvement is crucial and is the greatest lack at the moment in our school. If the parents can do their part in their child's learning, the child can and will do much better in their learning and understanding of schoolwork. Parent involvement will surely make me as a teacher more hopeful in my task

Participant J: More support from parents. Interest in their child's progress. As long as you have co-operation of parents

Teachers' Self-efficacy

Of participant teachers, 40% indicated outcome expectations that more parent involvement will contribute positively to their sense of self-efficacy as a teacher. Some said:

Participant A: *Parent involvement will increase my sense of self-efficacy.*

Participant B: *To have all the children's parent involvement in class will improve my sense of self-efficacy.*

Participant E: *I think more help from our parents e.g. to help their children do homework, teach them manners, in fact lay down or instil the foundation of being. The "thank you", "I beg your pardon", "please". "May I". "Clean behind yourself" ...*

Participant J ... *more support from parents.*

Good relationships between teachers and parents can cause teacher self-efficacy to be higher (Skaalvik & Skaalvik, 2007). According to Li and Hung, (2012), parental involvement positively influences teachers' satisfaction, while Lemmer (2013), stated that a teacher - parent partnership allows both the parent and teacher to add significantly to the child's development. In addition, parent involvement is correlated with lower drop-out rates for learners (Barnard, 2004; Parr & Bonitz, 2015). In a study by Sailors, Hoffman, and Matthee (2007), teachers from successful schools in South African low-income communities, used words such as enthusiastic, active and involved, to describe learners' parents.

External Support

Teachers' Hope

Of participant teachers, 50% indicated that their hope would increase if they received more professional external help for themselves and for their learners, either from management, colleagues or other professionals. Participants seemed to lack agency and pathway thinking, as external support is out of their hands. They said the following:

Participant A: *It is very difficult to stay positive every day in doing our task, because we are not recognised. There is no help from management and we are underpaid.*

Participant D: *Dat leerders wat baie sukkel verwys word na spesiale klasse of skole want hul hou die progressie van die hele klas agter.* (That children who battle be referred to special classes or schools as they slow down the progression of the whole class).

Participant J: *Smaller classes. Support to learners with learning barriers.*

Teachers' Self-efficacy

Of the participant teachers, 90% indicated that external support effects their sense of self-efficacy. Six teachers felt that help from management, other teachers, more training and

external help for children, including smaller classes, would increase their sense of self-efficacy. For example:

Participant E: *I need good communication skills for children, parents and colleagues to convey any message or teaching assignment.*

Participant J: *I have the support from my SMT. I can address my learners needs like hunger through the feeding scheme and trauma through support from outside psychologists.*

Participant K: *Elke jaar is my klas anders en die kinders se gedrag hang baie van die vorige leerkrag af. Sekere onderwysers is 'n swak skakel en dan is daardie kinders moeilik.* (My class is different every year and the children's behaviour strongly depends on the previous teacher. Certain teachers are weak links and the children from their classes are more difficult to deal with).

According to Bogler and Nir (2012) the most powerful dimension of empowerment leading to teacher job satisfaction is self-efficacy and they found that teacher empowerment influenced the relationship between perceived organisational support and job satisfaction. Bogler and Nir concluded that teacher job satisfaction is higher in a work environment that supports individuals. Hongbiao, Shenghua, and Wenlan (2016) argued that trust in colleagues has a positive correlation with teacher well-being and emotion regulation strategies.

While the above described themes reflected an ELOC framework of the teachers, the next three themes, are discussed in the ILOC framework, where the teacher's own efforts towards their hopefulness and sense of self-efficacy are described. These themes focus only on what the teachers believe they could achieve with what they have at hand. Of participant teachers, 80% attached their hope for their students to their own abilities and 80% attached their sense of self-efficacy to their own efforts.

Normal teaching responsibilities

Normal teaching responsibilities referred to a teacher taking responsibility for the task of instruction, or to stand in front of a class and teach the children the work that they must know to master their grade.

Teachers' Hope

The participants related their hopefulness to their own efforts, to taking responsibility for instructing their learners, which gives them a sense of control over their hope as it depends on themselves and not on other people or things. The motivational component of hope, known as agency manifested in the normal teaching responsibilities theme. The participants

seemed to have a common goal, and that is to see their learners master their work and succeed. For example, some teachers said:

Participant A: *I, as a teacher hope that what I teach the children daily will be effective for their learning, that they will understand the work and that they will apply what they have learned so that I, as a teacher can see the fruits of my teaching. The most rewarding thing for a teacher is to see how a young mind grows from my teaching into a strong and successful human being. I hope every day that I can reach every child through my teaching*

Participant C: *It means not giving up on any of them but instead believing that I can still make a difference in their lives or even just in their grade experience.*

Participant H: *Hier verstaan ek dat my manier van onderrig myself tevrede maak dat die leerders sal baat vind en hulle response na elke les vertel sy eie storie.* (Here I understand that I should be satisfied that my way of teaching will benefit the learners and their responses after every class tells a story).

Participant I: *Hope for me now is believing that something that seems impossible now, is actually achievable. That I can make a difference in the lives of young children.*

Participant J: *I take it as a challenge to teach them, yesterday I looked back at January 2017 when I told them that by November they will be able to add, subtract and work with numbers as far as 1000. Their first reaction was “wow” – yesterday, I reminded them how far we’ve come. So, nothing is impossible.*

Participant K: *Only when all the teachers will realise that they all have a task to do in their classrooms and stay positive and calm towards their profession and give what is expected from them and TEACH. TEACH and work together as ONE – we will all be successful and reach our goals!*

According to Eren (2017), teaching-specific hopes were linked to a sense of personal responsibility and this responsibility in turn, could be positively related to central educational outcomes such as student achievement.

Teachers’ Self-efficacy

Some teachers stated that:

Participant I: *Self-efficacy is to always be prepared. Being prepared for class each day. Lessons, admin up to date. Being prepared for unforeseen situations that could arise during the day. And being prepared to deal and handle difficult and weak learners to the best of your abilities.*

Participant C: *I think it means that you can do your teaching without struggling, in a sense that you don't need to depend on others to help with lesson plans or help explain how to teach a subject. I think my self-efficacy will increase as I gain experience as a teacher and as I gain more knowledge on how to work with the more "difficult" cases in my class.*

Participant K: *Ek kan enige probleem hanteer. Ek hanteer dit self voor ek dit na 'n ander onderwyser of die hoof toe neem. Ek het nie eens die jaar 'n insidente boek nodig nie. Baie van die ander onderwysers stuur kinders wat hulself nie gedra nie na my klas toe, want hulle weet ek kan die kinders hanteer.* (I can handle any problem. I handle it myself before I take it to another teacher or the principal. I don't even need an incident book this year. Many of the other teachers send unruly children to my classroom because they know that I can deal with the children).

One participant indicated that her sense of self-efficacy will decrease if she is not able to attend to learners' needs.

Participant D: *It will decrease when I am not reaching the learners that really need it.*

Outcome expectancies are self-efficacy thinking that need to be based on situation-specific goals (Bandura, 1977), and as with the hope component above, the goal is for learners to succeed. A sense of self-efficacy was linked to autonomy by two participants. According to Vangrieken, Grosemans, Dochy, and Kyndt (2017), teacher autonomy is often described by independence and individual work. Soodak and Podell (1996) looked at teachers' general sense of professional efficacy through a developmental lens, and suggested that teachers' sense of self-efficacy becomes more prominent as they gain experience. Bandura (1997) believed that mastery experiences or previous successes influence self-efficacy beliefs.

Extra teaching effort

Going above and beyond to reach their goals is what extra teaching efforts describe, a determination to find a way to reach their goal. Many teachers included this in what they described as having hope for their learners and that just doing what is expected of them, might not be enough to reach those struggling learners.

Teachers' Hope

Teachers shared the following:

Participant B: *Always finding ways to help them during difficult times. For instance, staying up late night thinking about ways to help that child understand work which they find difficult to understand*

Participant E: *Low achievers, children in this category are not coping well. They need all my support and energy. Sometimes it can be too much effort and no positive results.*

Participant I: *As a young teacher I have very high expectations of my class and will do all possible for them to realise their goals.*

Participant J: *Having hope means reaching learners who have learning barriers. Getting a message across to them. Teaching them other skills besides reading and numeracy.*

Although the community is known for the difficulties they face daily, some teachers are still able to make their teaching space at school a safe place. One teacher said:

Participant J: *Hope is being a role model to them in spite of their circumstances. I am able to teach my learners in a safe environment.*

This theme was developed from participants thinking of ways to reach their goal, which is to see their learners succeed, or pathway thinking. High hope contributes to developing logical methods to reach goals (Snyder, 2002)

Teachers' Self-efficacy

This theme brought Bandura's (1986) description of efficacy expectations to mind, as teachers believed that they can get their students to achieve if they adapt their actions according to the effect they believe their actions will have. The teachers shared that:

Participant C: *Being able to teach even the low achievers in a manner that helps them understand the work more clearly.*

Participant F: *That the teacher will be able to cope and deal with all situations and solve problems. Being capable of doing something and doing it well.*

Participant I: *Being prepared to deal and handle difficult and weak learners to the best of your abilities.*

Participant J: *To teach learners. My learners have no learning barriers, if there are any – then it is addressed accordingly and support is given.*

Participant K: *Jy moet 'n plan hê of maak vir probleme, hoe groot of klein dit ookal is. Deur probleme op te los, integreer jy ander inligting en kan ander lesse soos oor emosies ingewerk word.* (You need to have or make a plan for problems, however big or small. By solving problems, you integrate other information and lessons, for example about emotions, can be worked in).

Taylor, Pearson, Clark, and Walpole (2000) conducted case studies with teachers in schools where many learners were living in poverty, and concluded that the most successful teachers taught in different ways than less effective teachers. Sailors et al. (2007) described the most effective teachers in South African low-income communities as committed, caring

and collaborative. Such teachers are capable, dedicated and keen team players, who teach from their hearts.

Emotional disposition

Lazarus (1999) believed that a positive emotional disposition gives a person a better capacity to adapt to situations, to reach set goals and that positive emotions develop from circumstances that facilitate in reaching goals. Lazarus further explained that negative emotions are caused by conditions leading to a delay or disruption of reaching goals. The author described hope not only as a disposition but also an emotion, impacted by the inevitable changing circumstances of life.

Teachers' Hope

Teachers stated that:

Participant B: *I would say having hope for the children I teach is to care about them. Always finding ways to help them during difficult times... And also, to show them love at all times.*

Participant C: *I think it means that you still believe in them and that you think they will still be able to achieve their goals set by themselves and me. My main hope as a teacher at this moment is that all my learners will learn something from me and that I can make a difference in their life, even if it is just by giving them a hug every morning.*

Participant E: *The hope that I have is for them to succeed in life. I taught them that they are a success and blessed. That everything is possible if your mindset is right. Many of our children come from difficult circumstances but I always explain that their background, circumstances and poor environment don't determine who they will become! I have the privilege to shape a child's mind and instil knowledge. I don't want to be a failure in that! I believe they have a wonderful future and the right to live it and be equipped for any challenge! Middle-achievers – Their mindset is based on, not sure of themselves. Always need the assurance of there is hope. I do understand them, I have feelings of success for them. They are capable to succeed.*

Participant F: *To be positive in all situations, at all times.*

Participant I: *Hope is having and believing that the children can do anything. If they set their minds to it. Hope for me now is believing that something that seems impossible now, is actually achievable. That I can make a difference in the lives of young children.*

Participant J: *Motivating them to attend school or to find school as a happy place where they can be themselves.*

Snyder (2002) argued that a high-hope person has continuing positive emotions and will pursue goals with enthusiasm whereas a low-hope person has more negative emotions, resulting in little interest to pursue goals, concluding that it is ultimately not emotion but the goal-directed thinking that determine goal-related actions.

Teachers' Self-efficacy

Maddux (2002) explained that self-efficacy is a belief about an ability to do something and not a personal characteristic. Teachers stated that:

Participant D: *I was on leave for about 4 months. At this moment I enjoy my time with the learners. I feel that I am positive and probably more efficient as a teacher now. My sense of self-efficacy will increase when I am able to juggle work and personal things.*

Participant E: *I think after everything we need love and patience to work with children, especially the ones with learning barriers ... Positive energy helps. When I'm feeling low, I do allow that feeling but not to overpower myself. And I believe Prayer helps, it helped me through very difficult situations.*

Participant F: *I know that I can do all things. I just need to be positive throughout.*

Participant I: *I love my kids. But I want them to try so that I can help them be the best learner they can be.*

Participant J: *I am able to leave my personal problems and teach without that effecting my work.*

According to Moradkhani and Haghi (2017) emotional weariness has unfavourable effects on self-efficacy.

Participant A: *At this moment I have to motivate myself every morning to stand up and come to work ... My self-esteem is also low at the moment and I have to make the best that I can in these circumstances.*

As stated before, the above three themes were viewed from an ILOC framework. Munoz et al. (2017) noted that perceptions of ILOC were positively correlated with hope and suggested that interventions that increase these perceptions may also increase hope. According to Bernardo (2010) hope has both internal and external components and hope that is created outside of a person's control, is still able to provide desired outcomes.

Early research on teacher self-efficacy was also viewed from the theoretical bases of internal and external control (Rotter, 1966). On this foundation, teacher self-efficacy was expected to increase if teachers believe that students' achievement and behaviour can be influenced by their teaching and to decrease if teachers believe that external factors like

students' abilities and home environments, played a bigger role in learner achievement than the influence that a teacher may have (Guskey & Passaro, 1994).

In the discussion above, teachers' hope and sense of self-efficacy with regard to the teaching context, were explored. This initial exploration, before any intervention took place, served as the basis from where the effects of training in and applying the Six Bricks teaching aid can be studied. Below, the Six Bricks training workshop is discussed.

The Six Bricks training workshop

The researcher presented the participant teachers with training on using of the Six Bricks of the LEGO Foundation (2015). They were trained in ten different exercises and received a hand-out illustrating the ten exercises, compiled and provided by CFE (2015). As the focus was on learning through play, the workshop was practical, interactive and fun filled. Every participant had the opportunity to physically attempt every exercise, as can be seen in Figure 3 below. According to Girvan, Conneely, and Tangney (2016), teachers are motivated to use new skills or aids if they are convinced that it will lead to positive learner outcomes, and a positive experience from the start will encourage teachers to implement the new skill in their classroom. Such a positive experience can be created through a hands-on development workshop where teachers experience the new skill or aid, first hand (Tschannen-Moran et al., 1998).



Figure 3: Photographs depicting the Six Bricks Training Workshop

In the above, the Six Bricks training workshop was described, while below, feedback about teachers' experiences from applying the skills learnt in the workshop, is explored.

Weekly feedback from teachers for the first month of applying the Six Bricks

The participating teachers' weekly feedback regarding the use of the Six bricks in their classroom, through their choice of either email, sms or written responses, were thematically analysed. All of the feedback was positive with rich descriptions of teachers putting their unique stamp on the way they used the blocks. Teachers described their experiences with words such as fun, love, enjoy, laughter, joy, enthusiastic, improve and involved. Below are some examples:

Participant A: *... I am taking it step by step with them they are really enjoying it.*

Participant B: *Die Six Bricks werk baie goed in my klas, kinders geniet dit baie.* (The Six Bricks works well in my class. The children enjoy it a lot).

Participant D: *Wonderlike manier om die basiese dinge met genot vas te lê. Dit oefen ook leerders se luistervermoë. Die kinders is absoluut mal oor die blokkies. Dit gee ook geleentheid vir juf om te ontspan saam met die kinders!* (Wonderful way to teach basic concepts through fun. It exercises children's listening abilities. The children are absolutely crazy about the blocks. It also gives the teacher the opportunity to relax with the children!).

Participant E: *The learners love to work with the Six Bricks. I love their positive thinking about this*

Participant I: *Die kinders is mal oor die lego. Ek gebruik dit gereeld. Leerders was baie opgewonde om te speel met die blokkies. Dit was vir hulle iets nuuts.* (The learners are crazy about the Lego. I use it often. Learners were very excited to play with the blocks. It as something new for them).

Participant K: *Vandag het ons 'n lekker speletjie gespeel. Die leerders wou nog langer speel en ons speel dat dit skater lag van genot.* (Today we played a fun game. Learners wanted to carry on playing and we play and laugh for joy).

The teachers' reaction to the Six bricks teaching aid was interesting considering the fact that teaching aids fall under the Equipment and Materials theme described before as a feature of external control, about which they had negative perceptions. It seemed as if the Six Bricks experience gave them a feeling of empowerment. The flexibility of the Six Bricks exercises granted every teacher the autonomy to use the Bricks in the best way possible for her unique personality and class. The teachers reported back on the how they used the exercises they were trained in but also eagerly shared the new games they developed in their classes. Figures 4 and 5 below show the learners in action with the Six Bricks.

Participant F: *I love using the blocks. Every day since receiving them my class and I have been having fun! On Friday I did a data lesson and also did some group activities. I did a math lesson with the tens and ones and now my learners understand the concept better. The blocks have truly breathed new air of fun in my class. We play hard and learn hard...all work and no play make Jack a dull boy. Thank you so much. #lovemyblocks*

Participant C: *Die leerders kom al hoe meer in roetine met die blokkies en hulle weet ook al hoe die speletjies werk. Die leerders wat aan die begin gesukkel het om die patrone reg te kopieer kry dit al hoe beter reg.* (The learners are getting more into a routine with the blocks and they know how the games work... Learners who battled to copy patterns in the beginning are getting better at it.)

Participant E: *Hierdie week let ek op my leerders se dissipline is perfek wanneer hulle met die Six Bricks besig is. Selfs die besige kinders is involved.* (This week I saw that my

learners' discipline is perfect when they are busy with the Six Bricks. Even the busy kids are involved.)

Participant H: *Hulle is juis nou besig met woordprobleme met x somme, bv, ek het 6 blokkies en elke blok het 8 gaatjies, hoeveel gaatjies is dit? Daar is 10 blokkies en elke blokkie het 3 holtes, hoeveel holtes is dit altesaam?* (They are now busy with multiplication word sums, for example I take six blocks and each block has 8 studs ... how many studs are there? There are 10 blocks and each have 3 holes ... how many holes are there?)

Participant I: *Hierdie week het ons dit in wiskunde gebruik. Dit was genotvol. 'n bietjie chaoties maar leer het plaas gevind. Die leerders het self al die data ingesamel en sorteer. Al die vragies kon hulle beantwoord.* (This week we used it in maths. It was fun, a bit chaotic, but learning took place. Learners compiled and sorted the data. They could answer all the questions.)

One teacher remarked on the effect that the Six bricks had on the teachers as a team, and believed that the bricks brought them closer together and encourage the sharing of ideas.

Participant E: *Dit bring selfs harmonie, samewerking en uitruil van idees onder kollegas uit. Dit bring ons bymekaar. Ek stap in die klasse in en sien net Six Bricks! Ek sê altyd vir hulle "Ek kom steel nou idees." Ek sien wonderlike pogings onder my kollegas. Hulle leef hul in die Six Bricks pogings.* (It even brings harmony, teamwork and sharing of ideas between colleagues. It brings us together. I walk into the classes and see only Six Bricks. I always say that I am coming to steal ideas. I see wonderful attempts by my colleagues. They are immersed in their Six Bricks attempts.)



Figure 4: Learners doing Six Bricks exercises



Figure 5: Learners using Six Bricks for multiplication sums

Using the Six Bricks as a teaching aid evoked positive emotions in both the teachers and their learners. According to Ouweneel, Le Blanc, Schaufeli, and van Wijhe (2012), daily positive emotions could have a positive effect on hope levels. Aspinwall and Leaf (2002) agreed that positive emotions enable pathways thinking, by allowing an individual to adjust to circumstances and change to better ways to solve problems, that in turn foster the achievement of goals. According to Rowe, Fitness, and Wood (2015), positive emotions such as joy and happiness could lead to a greater sense of self-efficacy. Dong, Fabian, and Xu (2016) believed that more positive emotions could lead to a higher sense of self-efficacy, one of the reasons being that positive emotions may increase a person's ability to deal with negative feedback.

However, the application of Six Bricks in the classroom increased positivity in the moment but appeared not to be able to increase overall feelings of hope and self-efficacy in all of the teachers. Participant K remarked that: *NGO's do a lot to assist us in a way. That is not enough to overcome all the stumble blocks in the teacher's way.*

Participants used the Six Bricks exercises in their classrooms for four weeks. Thereafter, qualitative questions gauged participants' hope and sense of self-efficacy again, to explore the effect of the Six Bricks teaching experience on their perceptions of hope and self-efficacy in teaching.

Follow-up feedback on hope and sense of self-efficacy after four weeks

The follow-up qualitative narratives, four weeks after the training and implementation of the Six Bricks in the classroom revealed that the teachers were still ascribing their hope and sense of self-efficacy to the themes given before, which are discussed below. Only the equipment and materials theme was not mentioned again and the reason could be that the Six Bricks that they received, is now perceived by them as a handy teaching aid. The narratives indicated that 50% of the participants described their hope and/or sense of self-efficacy positively and two of these teachers indicated increased hope and self-efficacy without any other influence than the Six Bricks.

Circumstances

As far as the context is concerned, 50% of the participants indicated that socio-political circumstances were worsening at school. For example, between the time that the research commenced and the follow-up data collection, the school employed security guards to control the school grounds in an attempt to keep unwanted characters outside and learners inside the school grounds, as various substances were being provided to learners.

One teacher further ascribed her *self-efficacy* partly to circumstances by saying:

Participant I: *The only thing bothering me at the moment is the hack loads of meetings one has to attend each week. It messes with your schedule and tires one out!*

Learner attributes

Of the participants, 90% related learner attributes to either their hope or sense of self-efficacy.

Teachers' Hope

Of the participants, 70% still felt that learner attributes contributed to higher hope. Some examples included:

Participant C: *Doing the FAT's with the learners and seeing that they don't struggle as much. I feel hopeful that the majority of my learners will pass the grade this year as their marks have improved.*

Another experienced teacher felt that the Six Bricks not only brought hope but also confidence into her classroom.

Participant E: *Very confident! Very hopeful. My learners are growing in themselves, their achievements and their attitudes. My class is a gem!*

Teachers' Self-efficacy

Where learners showed improvement, it had a positive effect on teachers' self-efficacy. Some examples were:

Participant A: *I can see that from the first quarter of 2017 till now there is a lot of improvement in the learners who struggle a lot.*

Participant E: *The learners that struggle, they can cope with some of the work. They communicate with me (with a confidence) that wasn't there before.*

Normal teaching responsibilities

Teachers' Hope

Participant J said: *Positive. I know that if I can reach more than half of my class it will be an achievement. I am convinced that I can teach most subjects to even the most difficult students.*

Teachers' Self-efficacy

One inexperienced participant indicated greater independence and more trust in her own abilities to a point where she also felt that she added value to her colleagues instead of her constantly relying on them. This participant had an outcome expectation, believing that being

more independent would produce a higher sense of self-efficacy during the initial data collection. She said:

Participant C: *I feel like I have become more self-efficient as the time went by. I don't need to rely on my colleagues or HOD to know what I need to do next. I have been doing a lot more on my own, as well as for the other teachers.*

Extra Teaching efforts

When asked about their sense of self-efficacy, 30% of participants explained that putting in extra effort made them feel more efficient. Examples were:

Participant A: *I attend many workshops in order to help the learners that needs intervention.*

Participant F: *I try to include all my learners with lessons, auditory, visual and kinaesthetic. I bought an overhead projector, so I can accommodate both my visual and auditory learners. I also let my learners play with the blocks, or cut and paste etc to include my tactile learners. I try to diminish my obstacles in class to satisfy both myself and my class to achieve the main goal of passing the grade but also have a clear knowledge of the different themes I introduce to them. The workshops I attend, meetings, books I read allow me to do this.*

Participant H: *Ek het begin om hulle te motiveer deur met konkrete voorwerpe te werk om hulle te stimuleer hoe om antwoorde te kry, veral by wiskunde, speel gedurig speletjies met woorde, klanke ens, maak die leerproses speel-speel gewys om hulle belangstelling te hou.* (I started motivating them with concrete objects to stimulate them to find answers, especially in maths, often playing games with words, sounds and making the learning process playful to keep their interest.)

Emotional disposition

Of the participants, 80% linked their hope or sense of self-efficacy to their emotional disposition. Many indicated that they were naturally positive but that they sometimes struggled to stay hopeful and to feel self-efficient due to the various external factors they encountered on a daily basis.

Teachers' Hope

Teachers indicated a positive disposition towards their hope, some examples were:

Participant A: *My hope is to do my best in my ability everyday so that each child can reach their best potential*

Participant B: *I am feeling positive about my learners and know that they are capable of more in life. I know that they'll become what they want in future.*

Participant F: *I am a very optimistic person. Therefore, I hope to see all my learners do better academically. I may get discouraged about my learners' behaviour and attitudes, but I am hopeful to see a change in them. Basically every day I find hope that tomorrow will be a better day and everyday situations inspire me as to how I can help my learners. There are moments when I feel defeated but there are a few learners in my class that inspire me daily to give my all and hopefully they give their best.*

Participant H: *My feelings of hope are that my learners with a discipline or learning problem should get attention and activities to become learners who want to be successful in their learning programme. I'm the one who must motivate them properly to understand the activities and how to manage that.*

Participant I: *I try to inspire my kids each and every day.*

Teachers' Self-efficacy

Some teachers said:

Participant A: *I am a very positive person and I try every day to keep my learners in a positive environment, thinking positively and to do their best they can. Through all of these challenges I do my best and stay focussed on my passion in teaching. I have to motivate myself every day to come to work. My passion for teaching drives me at the moment but sometimes, being human, it is not enough.*

Participant D: *Today I feel very depressed and feel like I am not getting anywhere. Having one bad day does not mean you are having a bad life.*

Participant E: *I am capable to face any obstacle. There are bad days, but I can handle that. I am more positive and even remember my calling as a teacher. To shape the minds of children. To reach their hearts. To give them hope for their future.*

Participant I: *As a teacher in itself I feel efficient. I love my job. I love working with kids. And I mean children that want to learn.*

Participant J: *I am able to cope under pressure, can communicate well with my parents, I have empathy towards learners regarding their socio-economic backgrounds... I've been teaching for many years now. Have learnt to cope with stress.*

Considering the mostly positive feedback given by teachers after their experiences with the Six Bricks teaching aid, one cannot just conclude that the Six Bricks exercises brought about the changes in the teachers' perceptions that they reported on as their hope and sense of self-efficacy. However, some influence brought about their positive views in this second round of reflecting on their hope and self-efficacy. This is further discussed in the concluding discussion that follows later.

As stated before, in the feedback that teachers gave after having used the Six Bricks for four weeks, some of them still expressed their negative perceptions regarding their hope and sense of self-efficacy in the teaching context in which they operated. Negative perceptions from participants were however only influenced by factors outside of their control and came from the ELOC themes of circumstances, learner attributes, parent involvement and external support. Since positive psychology, the theoretical framework on which this research is based, does not negate the influence of negative feelings and experiences, the debilitating influences that teachers shared are briefly reported on below.

Participants' indicated that **circumstances** were responsible for their low hope. One teacher responded:

Participant K: Currently the learners as well as the teachers have little hope for the future. *The government is to be blamed for really bad condition in all school environments.*

Pertaining to **learner attributes**, various teachers mentioned that children's bad behaviour has a negative effect on their sense of self-efficacy, for example:

Participant D: *Today I feel very depressed and feel like I am not getting anywhere because I find it difficult getting the learners to quieten down and pay attention. I feel that they are not at the place where I want them to be at this stage of the year*

Participant I: *As a teacher I am in despair. It feels like the children get worse by the day. They don't do their homework, they have no respect. It is hard to come to school each day hopeful and it gets crushed by the children early in the morning before school starts. Children staying at home for a week without reason. Then when the same learner does bad in a test or in his report card it all comes back to you as the teacher. I am a very nice person, but my kids don't ever get to see that side because I always have to be strict and be a monster in class. As soon as I let that guard down they act out. I want to be a friend to my learners but how?*

Participant D: *Somehow, I feel that learners' behaviour should get better the longer they are at school. I am wrong.*

Participant H: *In my klas is daar op die oomblik verskriklike chaos wat dissipline betref. (At the moment there is chaos regarding discipline in my class.)*

Two participants emphasised how the lack of **parent involvement** lowers their hope by saying:

Participant A: *My challenge is to get the parents on board in order for the learners to do better. Surely with the help of the parents our children can thrive.*

Participant K: *The parents are not involved as they should be.*

One teacher commented on how the lack of parental involvement influences her sense of *self-efficacy*, by saying:

Participant A: *I find that the parents need a lot of intervention too in parenting, because we sit with children in our classes who do not have manners, who are rude unnecessarily and who does not listen.*

With regard to **lack of external support**, a participant said:

Participant A: *At this present time, I am not happy of how things at our school are managed. Here is so much potential, but lack in management. Budget cuts in our salary also gave me a low self-esteem.*

It seemed that for some participants, the daily problems with learners overshadowed the positive emotions created by the Six Bricks exercises and that the positive emotions only lasted as long as the activities were in action. Individuals deal in more detail with bad than good events according to Baumeister, Bratslavsky, Finkenauer, and Vohs (2001), causing bad emotions to have a stronger influence than good feelings. The authors also explained that a person would rather avoid the bad than to pursue the good. Ruthig, Trisko, and Chipperfield (2013) added that even though people are generally more exposed to positive than negative happenings, the negativity tends to overshadow the positivity. Positive emotions therefore need to be more than negative emotions before a person will benefit from these positive emotions and Fredrickson and Losada (2005) stated that this ratio is three positive emotions to one negative emotion. This ratio has been questioned but the fact remains that mental well-being is associated with higher positivity ratios (Fredrickson, 2013). Therefore, more positive emotions on a more regular basis can increase well-being. Fredrickson (2001) argued that the broaden and build effect of positive emotions can alter the effect of negative emotions and when people experience pleasant emotions, they are more open to try new things, look at things from different angles, support others in need and have a wider world view in general. The salutary effect of positive emotions, over time, build lasting psychosocial resources that lead to effective problem solution and psychosocial well-being in general (Fredrickson, 2013). According to Wissing (2014), building up these resources adds to personal growth and generates an upward spiral of well-being, which is what some of the teachers in this study could benefit from.

The above discussion about the follow-up narratives of teachers indicated that themes from both the ELOC as well as ILOC frameworks positively influenced participants' hope and sense of self-efficacy four weeks after applying the Six Bricks in their classrooms, whereas in the cases where participants reported negatively on their hope and/or sense self-efficacy,

they all stated external sources (ELOC) as the reason. It seemed as if the negative external factors influenced some teachers to such an extent that they found it difficult to find their inner motivation (ILOC). This is in line with literature correlating higher hope and sense of self-efficacy with ILOC (Guskey & Passaro, 1994; Munoz et al., 2017) and with descriptions of teaching environments' ability to immobilise teachers' efforts (Cappy, 2016).

In the above exposition, the quantitative and qualitative findings of this study were given. Below, a concluding discussion follows.

Concluding Discussion

Through a mixed methods approach, this study aimed to explore teachers' hope and sense of self-efficacy with regard to the teaching context. Teachers were trained to use the Six Bricks teaching aid in their classrooms and thereafter, the effect of training in and application of the Six Bricks as a teaching aid, on the teachers' hope and sense of self-efficacy, was researched.

The main findings were that the quantitative analysis of teachers' scores obtained from validated measurements of hope (SHS) and a sense of self-efficacy (TSES) before and after the introduction of the Six Bricks teaching aid, found no significant differences in the manifested levels of teachers' hope and self-efficacy. Furthermore, the qualitative thematic analysis of writings of teachers about their hope and self-efficacy in the teaching context before and after the Six Bricks teaching aid was introduced, showed that their internal locus of control (ILOC) and external locus of control (ELOC) thought patterns, influenced their experiences of hope and self-efficacy in various educational contexts that emerged as the following themes: circumstances, learner attributes, equipment and materials, parent involvement, external support, normal teaching responsibilities, extra teaching efforts and emotional disposition. A broader and deeper understanding of teachers' hope and self-efficacy in the teaching context emerged from the qualitative findings. The results are discussed in more detail below.

The lack of significant differences on the Wilcoxon Signed Ranks Test for teachers' scores on the SHS and the TSES, assessing their levels of hope and self-efficacy in the teaching context before and after the Six Bricks intervention (about a six-week interval), could be explained by the views of Nielsen (2004). Nielsen stated that insignificant findings from quantitative analyses may occur as a result of a study not having included a sufficient number of participants to produce statistically significant results. In addition, keeping in mind that the levels of hope and self-efficacy were compared before and after a skills training intervention, the time lapse and extent to which the new skills have been used and integrated, could also have played a role. Bandura (1997) identified enactive mastery

experience as one of the four building blocks for self-efficacy and stated that for skills to produce such a mastery experience, they must be well-honed and integrated. Bruce and Ross (2008), Stein and Ward (1988) and Tschannen-Moran et al. (1998) supported Bandura's view and even observed that newly acquired skills could initially lower self-efficacy, until they have been used repeatedly and with ease, which will increase a sense of self-efficacy. Theoretically, one could assume that the hope dynamics of agency and pathways to achieve desired goals, would function similarly and that a longer period of use and more applications of the Six Bricks teaching aid, would be required to statistically indicate elevated levels of hope (Snyder, 2002).

Regarding the hope or hopefulness and sense of self-efficacy qualitatively described by ten foundation phase teachers pertaining to their teaching context, the following was thematically found:

Hopefulness of teachers

Relating to the teachers' hope, various qualitative themes emerged within the ELOC framework of motivation.

The ELOC theme of *circumstances* acted as the setting or backdrop of this study, with the socio-economic status of the community influencing all teaching and learning circumstances severely. *Parental involvement* showed strong links to the circumstances, with parents often not able to assist their children for reasons brought forward from poverty. *Equipment and materials* relied on the circumstances, as more funds would lead to extra equipment, other than what the Department of Education provides. *External help* often depends on funds available from the community as School Governing Bodies need school funds to employ extra teachers and address problems outside of the Department of Education's provision and as a result has its roots in circumstances. Lastly, the *learner attributes* often spring forth from the circumstances they find themselves in. The literature described the interaction between teacher and learner's hope as interdependent (Snyder et al., 2003), thus creating a battle between the influence of a teacher's hope and external circumstances on learners' hope and motivation (Kumcagiz et al., 2014; Phan, 2013). From the participants' feedback it seemed that external themes formed a circular interaction with teachers' hope, resulting in higher hope when external forces are more favourable and lower hope when external forces produce obstacles.

The ILOC themes were in line with Snyder's hope theory (Snyder 2002). *Normal teaching responsibilities* acted as agency thought and *extra teaching efforts* indicated the various pathways devised by participant teachers to reach their goals. *Emotional disposition* firstly acted as agency, as it is a drive behind the pursuit of goals, displaying the influence of

emotions on pathway thinking (Aspinwall & Leaf, 2002). Secondly it acted as a possible catalyst or mediating variable in the interaction between external themes and teachers' hope, with favourable external forces leading to positive feelings that assist in creating higher hope and external obstacles causing negative feelings that has a negative influence on hope. (Bullough & Hall-Kenyon, 2012; Snyder et al., 2002, 2003)

Self-efficacy of teachers

The various ELOC themes that could be linked to Bandura's (1997) outcome expectancies for self-efficacy were teachers' described circumstances, learner attributes, parental involvement, equipment and external support, as factors that influence a sense of self-efficacy. The *circumstances* theme could, similar to its contribution to hope thought, be seen as the basis for the other ELOC themes, all being influenced by the socio-economic status of the community brought about by the circumstances. Teacher efficacy has been defined as context-specific, which means that teachers may rate their self-efficacy different, under different circumstances (Tschannen-Moran & Woolfolk Hoy, 2007). *Normal teaching responsibilities*, as an ILOC theme, also seemed to manifest as an outcome expectancy. From an outcome expectancy point of view, participants put their sense of self-efficacy at risk to be lower, if they believe that external forces have more control over their goal, in this case student achievement, than their own teaching abilities (Guskey & Passaro, 1994).

The ILOC themes of extra teaching efforts and emotional disposition are based on Bandura's (1997) principle of efficacy expectations, with the participants' belief in their ability to do what will lead to their desired result. Two of Bandura's proposed sources that influence self-efficacy namely, mastery and vicarious experiences play a role in extra teaching efforts, as teachers believe from experience or from observing their peers, that these extra efforts will bring them closer to achieving their goals (Bandura, 1997). Another source that influence self-efficacy according to Bandura is physiological and emotional stress. Bandura explained that it is not the emotional responses to stress that influence self-efficacy, but how they are perceived and understood. In the emotional disposition theme, teachers gave an insight into their perception of how their emotions, either stimulate or hinder their beliefs of achieving their goals.

The training of teachers to use the Six Bricks as a teaching aid in their classrooms, was successful and met with much enthusiasm by the teachers. According to teachers' weekly responses, the workshop produced positive emotions and stimulated participants' creativity as they could see and comment on alternative ways to use the Six Bricks, thereby encouraging pathway thoughts for hope, as well as efficacy expectations or beliefs that they can successfully repeat this in their classrooms to achieve certain outcomes. Participants'

positive feedback during the first four weeks of application, indicated that both teachers and learners enjoyed the new teaching aid, while using the Six Bricks produced not only positive emotions in the classrooms, but seemingly also allowed participants a sense of mastery in which the “I can” experience for teachers and “we can” experience with their learners gave a strong although brief perception of hope and self-efficacy.

The effect of the training in and application of the Six Bricks as a teaching aid in the classroom on the teachers’ hope and sense of self-efficacy was studied next. Even though quantitative results indicated no significant differences in participants’ levels of hope and sense of self-efficacy after the intervention, qualitative results gave another perspective into the multi-dimensional processes effecting hope and sense of self-efficacy in the teachers.

Hopefulness and a sense of self-efficacy of teachers

In reporting on their experiences of hope and self-efficacy for the second time in about six weeks, but with the Six Bricks experience as intervention, it was remarkable that teachers’ narratives were more positive compared to the first reports. Similar themes of circumstances, learner attributes, normal teaching responsibilities, extra teaching efforts and emotional disposition, could still be identified, but observably less negative and problem laden. In both hope and self-efficacy theory, the salutary influence of positive emotions and mind frames is described (Bandura, 1997; Maddux, 2002; Snyder et al., 2002). Theoretically, positive emotions through the broaden and build process (Fredrickson, 2001) would foster the pathways and agency thinking of hope, as well as the outcome and efficacy expectations underpinning self-efficacy. Conversely, high hope and self-efficacy beliefs in a person could lead to the experience of positive emotions, spontaneously and more often (Maddux, 2002; Snyder, 2002). The bi-directional relationships between positive emotions, hope and self-efficacy is thus obvious and calls for further research in this regard.

However, as stated before, the question still remains as to what brought about the more positive trend in the narratives of the teachers the second time around. The teachers’ narratives gave no indication that the Six Bricks intervention directly lead to their more positive outlook. The answer could partly be found in the salutogenic interactions of hope, a sense of self-efficacy and the experience of positive emotions described above, in which teachers with dispositional positive levels of hope and a sense of self-efficacy would respond positively to any good experience. Speculatively, the more positive views of teachers could also be ascribed to the stimulating supportive and almost caring attitude of the researcher and the underlying message of the Six Bricks intervention, as bringing a broadening and building effect into their problem saturated teaching context. Perhaps the intervention did have an effect on the teachers, but not the teaching skill so much as the underlying message

thereof and the atmosphere of social support, interactiveness and pleasurable stimulation that it offered within their difficult circumstances. The research question whether the Six Bricks intervention had an effect on the hope and sense of self-efficacy of teachers, could therefore be answered twofold: Quantitatively no significant differences could be found in pre- and post-Six Bricks intervention measurements of the constructs, but qualitatively it would seem that indirectly, through positive emotions and mind frames experienced during the intervention, hope and self-efficacy were perceived more positively in the demanding context within which the teachers operated. In a nutshell, the Six Bricks teaching aid training and application apparently did not have a direct effect on the hope and sense of self-efficacy of teachers, but indirectly through the positivity experienced by means of the intervention, more positive views and attitudes in teachers towards their teaching context came about. Further research in this regard is recommended.

Another observation made in this research was about the close association between the constructs for hope agency and pathways and for self-efficacy outcome and efficacy expectations. Durgunoglu and Hughes (2010) and Snyder (2002) considered the similarities and differences of the constructs and concluded that hope is more cross-situational focused while self-efficacy is more situation specific. In this study it was difficult to qualitatively distinguish between the constructs and some overlapping often occurred.

Although this study into the hope and self-efficacy of teachers could be seen as successful, with its aims reached and research question answered, it still had some limitations.

- The quantitative research of this mixed method approach could have included more participants in order to allow for meaningful statistical analysis of the differences obtained.
- This was an all-female sample in a milieu deprived school, whereas future research could be expanded to include men and more milieu enhanced schools.
- A longer interval of time between the intervention and the second phase of research, is advisable. That would allow for more application of the newly acquired teaching skill and for it to be integrated into the teacher's broad skills repertoire.
- The teachers' hope and sense of self-efficacy after the intervention could have been deeper explored by means of interviews instead of written paragraphs.

Recommendation for future research are, amongst others:

- That this research be replicated with more participants in the intervention and the quantitative component of the mixed method approach.
- That different samples and schools be involved in a similar study.

- That the role and function of positive emotions in the hope and sense of self-efficacy of teachers be further researched.
- That the effect of the Lego Six Bricks teaching aid be further investigated with other psychosocial constructs relevant to the teaching profession.

In conclusion, this study met the aims to measure and explore teachers' hope and sense of self-efficacy in the teaching context, to train the teachers in the use of Six Bricks as an educational aid in their classes and after a period of four weeks of application, re-measure and explore the effect of the Six Bricks intervention on the hope and sense of self-efficacy of the teachers. The research question was successfully answered with a two-fold explanation.

The researcher experienced the study as overwhelming at times, mainly due to the immense obstacles that the participant teachers face each day. However, participants' passion for teaching, their availability to participate in the research although already overloaded with work, and their general appreciative attitude towards the study, made this an exceptional experience. The researcher is grateful towards the participants who allowed her to learn from and journey with them.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

Key Terms: Hope, hopefulness, self-efficacy, play as a teaching aid, teachers, Six Bricks

This chapter consists of conclusions drawn from this study and the research aims. Following the conclusions, the limitations of the study are pointed out and recommendations for further research and practical application are made.

Conclusions of the Study

This study aimed to:

- through mixed methods, explore teachers' hope and sense of self-efficacy with regard to the teaching context;
- after training teachers to use the Six Bricks and supplying blocks to enable teachers to apply the teaching aid in their classrooms, study the effect of training in and application of the Six Bricks as a teaching aid, on the teachers' hope and sense of self-efficacy, by means of both quantitative and qualitative methods.

These aims were all met in the research conducted and conclusions drawn from the findings were as follows:

- Participant teachers' hope and sense of self-efficacy with regard to their teaching context were successfully explored through both qualitative and quantitative research measures. From the qualitative data, the following themes emerged that played a role in both teacher hope as well as self-efficacy, namely circumstances learner attributes, equipment and materials, parent involvement, external support, normal teaching responsibilities, extra teaching effort and emotional disposition. These themes acted as influences on both agency and pathways to reaching goals in hope thought, outcome and efficacy expectations in self-efficacy thought of participants.
- Participant teachers were successfully trained in the application of Six Bricks exercises and every participant received enough Six Bricks sets for themselves as well as their learners. The training as well as exercise handouts enabled them to apply Six Bricks exercises in their classrooms. Weekly feedback with regard to the use of the teaching aid provided proof that the teachers were not only applying the exercises in class but that it also produced positive emotions and alternative learning opportunities in the classroom.
- The effect of training in and application of the Six Bricks as a teaching aid in the classroom on the teachers' hope and sense of self-efficacy, were explored by means of both quantitative and qualitative methods, four weeks after the initial exploration of teachers' hope and sense of self-efficacy. Results obtained from quantitative analysis indicated no significant differences in participants' levels of hope and sense of self-efficacy, while qualitative results produced a better understanding into the multi-dimensional processes involved in producing hope and sense of self-efficacy in the teachers. The main finding was that the training and application of Six Bricks, resulted in

positive classroom experiences, that has the potential to influence both hope and self-efficacy in teachers, provided that teachers use the Six Bricks on a regular basis.

Further conclusions were drawn from the literature study.

- According to Snyder's Hope Theory there are three main aspects that make up hopeful thinking namely goals to achieve, pathways to reach your goals and agency, or the energy and motivation to reach these goals, wherein hopeful thinkers set clear goals, think of various workable pathways toward those goals and persist when difficulty is encountered (Snyder, 2002).
- Hope and emotions form an interactive cycle with a hopeful person, having ongoing positive emotions that lead to an enthusiastic pursuit of goals and with positive emotions manifesting when goals are reached. A less hopeful person has negative emotions more often, resulting in little interest to pursue goals and with negative emotions manifesting when a goal is not met. (Snyder, 2002; Snyder, Feldman, & Rand, 2002)
- Teacher and learner hope also forms an interactive cycle, feeding into each other. Hope is positively correlated to teachers' job performance, with hopelessness leading to negative effect on teachers' work motivation, that in turn influences the classroom environment as well as the support that a teacher gives. Such a lack of teacher involvement, indirectly influence learners' hope towards their academic goals, making it even harder for teachers to stay hopeful while their learners feel hopeless (Day, Hanson, Maltby, Proctor, & Wood, 2010; Duggleby, Cooper, & Penz, 2009; Kumcagiz, Ersanli, & Alakus, 2014; Phan, 2013; Snyder, Lopez, Shorey, Rand, & Feldman, 2003).
- Hopeful teachers offer learners an exciting learning process, reaching even students with learning disabilities, as their pathways connect with the child's whole being. (Colombo, McMakin, Jacobs, & Shestok, 2013; Levi, Einav, Raskind, Ziv, & Margalit, 2013; Lopez, 2010; Snyder, 2005).
- Pertaining to self-efficacy, a sense of self-efficacy is the belief one is, through one's skills, able to reach goals in certain areas under certain circumstances. Self-efficacy is based on two sets of performance expectations according to Bandura (1986), namely outcome expectations (believing that certain behaviour will produce certain results) and efficacy expectations (a belief in the ability to do what will lead to the desired result).
- Teacher self-efficacy is the degree to which teachers believe they can influence learner behaviour and academic achievement, particularly in under-achieving learners. Teachers' sense of self-efficacy may explain differences in classroom and teaching practices, with teachers displaying high self-efficacy creating a more positive classroom environment and being more supportive of their learners, than low self-efficacy teachers

(Guo, McDonald Conner, Yang, Roehrig, & Morrison, 2012; Guskey & Passaro, 1994; Künsting, Neuber, & Lipowsky, 2016; Maddux, 2002; Schwarzer & Hallum, 2008).

- Teacher self-efficacy is also described as a circular process with stronger self-efficacy beliefs supposedly encouraging teachers to apply more efforts, that produce better performances, leading to favourable outcomes that engender even higher efficacy beliefs, with the opposite of this process leading to lower efficacy beliefs. (Malinen et al., 2013).
- Hope and self-efficacy correspond in the sense that both include goals, a motivation to achieve goals, an individual's perception of their ability to achieve goals and using appropriate strategies to reach these goals. Outcome expectancy of self-efficacy shows similarity to pathways thought of hope, and efficacy expectancies of self-efficacy are similar to agency thought of hope, with the difference that hope theory takes a cross-situational view whereas efficacy expectations are situation specific (Durgunoğlu & Hughes, 2010; Snyder, 1995, 2002).
- As far as play is concerned, play is seen as an important part of child development, promoting physical, mental, social and emotional well-being. Play enable children to think critically, question and problem-solve, leaving them longing to know and learn more and allowing reflection on and restructuring of learning experiences, that can inspire positive outlooks on learning (de Freitas, 2013; Ginsburg, 2007; Rasmussen, 2016; Woolfolk, 2010). Teachers could use play to increase understanding and encourage learner engagement which could produce better academic achievements, that in turn lead to higher hope in learners, promoting the circular motion of high hope in teachers. Better academic achievements in learners also lead to higher self-efficacy beliefs in teachers though outcome expectations (Bandura 1986).
- Previous studies have shown teachers to have a good experience with play in the classroom, believing that play makes learning available to all of the learners, since they were more involved in learning and learned at a faster rate. Play encouraged a positive attitude towards learning and stimulated independence in learners, allowing teachers more time with individual children (LEGO Foundation, 2015; Martlew, Stephen, & Ellis, 2011)
- In order to engage children in a learning environment, resources must be freely available to use in activities at different levels of difficulty. (Hutcheson, 2013; Jabbar & Felicia, 2016; Sarama & Clement, 2009). A play learning aid should be interesting with achievable challenges at different levels and this is what the Six Bricks teaching aid could bring to the classroom (Hutcheson, 2013).

The following could be concluded from the empirical research:

- With regard to the aim of quantitatively comparing the levels of hope and self-efficacy of the N=10 participating teachers pre-and post- the Six Bricks intervention, the lack of significant differences could be explained by at least two factors. Firstly, too few participants were involved for a successful statistical analysis to be done and secondly, the time lapse from the first assessment to the second was too short to allow for changes in the hope and self-efficacy of teachers to be manifested cognitively and to be significantly measured. The possibility also exists that the scales used measured beliefs, which are cognitive processes and do not reflect emotional experiences. The qualitative research indicated a strong emotional undertone in the teachers' perceptions of their hope and self-efficacy in a demanding context.
- The initial qualitative exploration of teachers' hope and sense of self-efficacy in their teaching context revealed the influence of either internal or external locus of control on their experience within the teaching situation, that impacted on their hope or sense of self-efficacy. What was interesting was that it was difficult to distinguish between dispositional internally controlled or externally inclined teachers, since the circumstances in which they operate impose such demands, that even internally controlled teachers succumb to external pressures as far as their hope for and a sense of self-efficacy about their work and pupils are concerned. This finding support views by authors such as Phan (2013) and Snyder et al. (2002) as far as hope is concerned, and Bandura (1997) and Tshannen-Moran and Woolfolk Hoy (2007) pertaining to sense of self-efficacy, that these features could be detrimentally influenced by severe external factors.
- As far as the agency and pathway thoughts of hope are concerned, the qualitative theme of normal teaching responsibilities showed strong agency thought in the teachers, while the extra teaching efforts theme had a mostly pathways thinking basis. The emotional disposition theme conveyed both agency and pathways features of hope, which seems to reflect the views of Bullough and Hall-Kenyon (2012).
- *Self-efficacy of teachers*- The various themes where teachers described circumstances, learner attributes, parental involvement, equipment and external support, as factors that influence a sense of self-efficacy could be linked to Bandura's (1997) outcome expectancies for self-efficacy, since teacher efficacy has been defined as context - specific, leading to teachers rating their self-efficacy different, under different circumstances (Tschannen-Moran & Woolfolk Hoy, 2007). Normal teaching responsibilities also seemed to manifest as an outcome expectancy. From an outcome expectancy point of view, participants' sense of self-efficacy seemed to be higher, if they

believed that their own teaching abilities have more control over their goal of student achievement, than external forces (Guskey & Passaro, 1994).

The themes of extra teaching efforts and emotional disposition reflect Bandura's (1997) principle of efficacy expectations, with the participants' belief in their ability to do what will lead to their desired result. Two of Bandura's proposed sources that influence self-efficacy namely, mastery and vicarious experiences play a role in extra teaching efforts, as teachers believe from experience or from observing their peers, that these extra efforts will bring them closer to achieving their goals (Bandura, 1997). Another source that influence self-efficacy according to Bandura is perceived physiological and emotional stress. In the emotional disposition theme, teachers gave an insight into their perception of how their emotions, either stimulate or hinder their beliefs of achieving their goals.

- The training of teachers to use the Six Bricks as a teaching aid in their classrooms, could be seen as successful. The workshop produced positive emotions and stimulated participants' creativity on alternative ways to use the Six Bricks, encouraging not only pathway thoughts for hope, but also efficacy expectations or beliefs that they can successfully repeat this in their classrooms to achieve certain outcomes. Participants' positive feedback during the first four weeks of application, indicated that both teachers and learners enjoyed the new teaching aid, while using the Six Bricks produced not only positive emotions in the classrooms, but seemingly also allowed participants a sense of mastery that gave a strong though brief perception of hope and self-efficacy.
- The answer to the research question whether the Six Bricks intervention had an effect on the hope and sense of self-efficacy of teachers, could mostly be discerned from the final qualitative writings of the N=10 participating teachers, given about four weeks after the Six Bricks training and a week after the application period. The answer was two-fold in that quantitatively no significant differences could be found in pre- and post-Six Bricks intervention measurements of the constructs, but qualitatively, it appeared that indirectly, through positive emotions experienced during the intervention, hope and self-efficacy were perceived more positively in the challenging context within which the teachers operated. Positive emotions were evident in the post intervention narratives of the teachers, as a strong outcome of the intervention. The teachers' narratives gave no indication that the Six Bricks intervention directly lead to their more positive outlook, however in both hope and self-efficacy theory, the salutary influence of positive emotions and mind frames is described (Bandura, 1997; Maddux, 2002; Snyder et al., 2002). Theoretically, the bi-directional relationships between positive emotions, hope and self-efficacy, could cause positive emotions through the broaden and build process

(Fredrickson, 2001) to foster pathways and agency thinking of hope, as well as outcome and efficacy expectations of self-efficacy.

Limitations of this Research

Limitations of the current study were as follows:

1. A limitation, which was also a strength, depending from which angle it is viewed, was that all the participants worked at one school, giving a view on one community and one school environment. Teachers from other schools may view their hope and sense of self-efficacy very different as they teach under different circumstances. The strength however was that the participants all experience the same circumstances daily, thus providing a unique view for a unique group.
2. The participants applied the Six Bricks for a limited time of four weeks, before they gave follow-up feedback, which might have been too short to produce significant differences in participants' hope for their students and their sense of self-efficacy. If this was done over a longer period, it could have yielded different results.
3. The Six Bricks exercises produced positive feelings, but positive feelings and its effects on teachers were not the focus of the study, it was only viewed from its capacity to influence hope and a sense of self-efficacy in teachers. Although positive emotions correlate positively with higher hope and a higher sense of self-efficacy, the time period for this research study was not long enough to see the full effect of the Six Bricks intervention.

Despite the limitations mentioned, the research demonstrated success in meeting research aims and in answering the research question. The qualitative findings provided valuable information about this school's teachers' unique view on their hope and sense of self-efficacy and the effect that the training in and application of the Six Bricks as a teaching aid in the classroom, had on the teachers' hope and sense of self-efficacy

Recommendations from the Study

Recommendations for further research.

The following are recommended for further research.

- The four-week period used in the current research seemed to be too short to measure any real change in teachers' hope or sense of self-efficacy. Longitudinal studies to measure the effects of the Six Bricks teaching aid on the hope and sense of self-efficacy on the same group of teachers, at different times (Welman & Kruger, 2001) would be preferred. This will allow for a more accurate account regarding the effect of the teaching

aid on the constructs and will also identify how long teachers need to use the aid before a significant impact manifests.

- Application research with teachers from schools with different socio-economic environments could also be valuable. Comparative studies could be done on possible differences in the effect that the teaching aid has on teachers from high-, middle- and low-income schools.
- To study the effects of training in and application of a teaching aid could also have been done through an experimental research design, with random assignment and a control group. It is recommended that such research with the Lego Six Bricks teaching aid, be done in future.
- The effect of positive emotions, created by using Six Bricks in the classroom on teachers, can be studied through quantitative methods. Various positive psychology constructs can be measured pre- and post- introduction of the teaching aid through a battery of scales. This will identify the constructs that benefit most from this intervention.
- Perhaps using the broaden-and-build theory that was developed to account for the purpose of positive emotion (Passmore & Oades, 2014), a more suitable way to determine the impact of the Six Bricks exercises on the teachers' well-being, is to measure it over a longer time period, allowing teachers to use the Six Bricks more, leading to the experience of positive emotions more frequently.
- The effect of Six Bricks on the classroom environment can also be studied, again through the lens of the broaden-and-build theory, to measure the effect of more positive emotions in the classroom. Learning areas that improved as well as characteristics of learners who benefit from the increased positive emotions can also be identified.
- A qualitative study to understand how teachers believe the Six Bricks influenced the classroom environment, could be informative. This study should not be guided by a specific construct, but rather by teachers providing a general account of their experiences, achievements and failures regarding the use of the Six Bricks teaching aid.

Recommendations for practice/practical application.

- The most important recommendation is to grant teachers sufficient time to use and get used to applying the Six Bricks in their classes. Teachers reported on their learners' excitement regarding the Six Bricks exercises. Skill is required from the teacher to find the balance between new exercises to keep excitement and repetition of exercises to improve abilities of learners.
- On-going support and motivation will encourage teachers to keep using the aid and can be done formally through follow-up visits by the trainer, as well as through connecting teachers in teaching communities by arranging meetings where they can share their

ideas and classroom experiences. A Six Bricks community group exists on Facebook, that allow teachers to interact with other Six Bricks users, but in South Africa internet data is expensive, therefore additional practical meetings can be an accessible solution.

Personal Reflection

I was humbled to walk this journey with the teachers. Their words often touched me deeply, while I analysed their responses, on the one hand because of the circumstances that they face daily and on the other hand because of their deep-rooted passion to make a difference in their learners' lives. One specific day, I experienced what they must experience every day. On a visit to the participants during a break at school, as I opened the foundation phase gates to enter, a big group of learners pushed me and some senior learners on duty, out of the way in a deliberate act against the rules to run to the back of the school, where they made contact with unwanted characters for various reasons. I was shocked, for being pushed out of the way, sad, because there is some negative motivation behind the children's actions and very concerned, because I felt that there was nothing I could do to help these children. It was that feeling of helplessness that reminded me why I wanted to do this research in the first place...

Brent Hutcheson from Care for Education (CFE) introduced us to the Six Bricks exercises in a study session at the North-West University. As I am involved in many of the disadvantaged schools in our area, I could see how the Six Bricks activity could fill a gap for teachers. My first reaction was ... Hope! It gave me hope. I thought that this could also bring hope to over-worked, under-paid teachers who spend much their time and energy on children who often meet their effort with ungratefulness. I sent Brent an email telling him that I dream of a set of Six Bricks on every child's desk in Bitou (greater Plettenberg Bay area), that exists of many schools with seven of these being low-income primary schools. My research study opened the door, with CFE giving me the necessary permission and training to introduce Six Bricks to one of these schools. In the time it took to develop a research idea from start to where permission was granted for the study to commence, my relationship with CFE grew to a place where they granted me permission to do a Project which would introduce Six Bricks to a group of eight low-income schools in a neighbouring community. Due to unforeseen circumstances, the project fell through at the same time that Bitou approached me for a programme to uplift their Foundation phase teachers. Six Bricks was the perfect programme and without planning it, my initial dream of a set of Six Bricks on every table in Bitou, materialised. A month after my empirical research commenced in one of the 7 Bitou schools, I also introduced Six Bricks to the other six schools. This research study gave immense insight into the Project involving the other six schools.

I do not know where this will take me in future, but the impact that associating with CFE brought to our teaching community was beyond my wildest dreams! We are often not able to see the big picture, but this should not prevent us from doing our part. You never know when a humble request may turn into the catalyst that uplifts a whole community.

Due to an overload of expectations from and demands on teachers, they often focus on outcome based programmes that will bring maximum academic benefit to learners. I saw by means of this project that teachers and children need more time spent on their emotional well-being. They need more positive programmes and interventions, and that is what I believe NGO's should provide to our teaching communities. The deputy head from one of the other schools commented at the end of the Six Bricks workshop that the training felt like a retreat, because they had so much fun and that it was just what they needed after a stressful term. I hope to walk a long journey with the Six Bricks, because over and above its educational benefits, it has a smile generating quality, that never seems to fail.

In conclusion, by means of both quantitative and qualitative data obtained from ten participating teachers pertaining to their hopefulness and sense of self-efficacy experiences in the teaching context, the research question could be answered and the research aims met. The main finding was that, although there were statistically no significant differences in the levels of teachers' hope and self-efficacy measured before and after the intervention, qualitatively, the influence of teaching circumstances on the one hand and positive emotions and mind frames in these teachers on the other hand, indicated that the Six Bricks educational intervention had an indirect effect on the hope and sense of self-efficacy of the participating teachers. The final conclusion therefore seems to be that both hopefulness and a sense of self-efficacy in teachers are context related psychosocial belief systems.

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