# PROFESSIONAL DEVELOPMENT OF BEGINNER TEACHERS: AN ACTION RESEARCH APPROACH TO MENTORING

by

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# DEDICATION

I would like to salute and express my sincere gratitude to the following people without whose support this study would not have been possible:

- My cherished and adoring family, I treasure your unconditional love and encouragement.  Mom and Dad, thank you for all the opportunities you gave me and for instilling in me a passion for education.  I am grateful to you, for you are truly remarkable role models and wonderful parents!

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- Dr Pieter du Toit, my supervisor, I value your guidance and competence. Thank you for the chance you gave me to grow and to develop as a student, educator and a human being!

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- The headmasters of the participating schools I thank you for acknowledging the importance of professional development and mentoring.

Lastly I want to thank my Lord and Saviour, Jesus Christ for giving me strength and guidance throughout this journey.  This is for You!


*The Lord, your God is among you,*
*a Warrior who saves.*
*He will rejoice over you with gladness.*
*His will bring you quietness with His love.*
*He will delight in you with shouts of joy.*
Zephaniah 3:17

# ABSTRACT

This research investigates the use of action research and Whole Brain Teaching© for beginner teachers' professional development through the use of peer mentoring. Five beginner teachers formed part of a peer mentoring group. Whole brain learning and action research provided the theoretical framework for the informal mentoring project. It was used as content for professional learning and as core theories for the research design. Action research principles were applied by the mentor and the participants. In the first instance action research was used by the beginner teachers to consider their own teaching practice, while Whole Brain Teaching© was implemented as an innovative idea to consider its effect on whole brain learning and classroom management. The mentees were empowered to transform their teaching practice by implementing the principles of whole brain learning as a means to acting out the role of facilitator; and to take responsibility for developing scholarship of teaching as it is aligned with the role of scholar and lifelong learning.

The practical mentoring sessions with the beginner teachers and the effect of the programme were evaluated both quantitatively and qualitatively. As part of collecting quantitative data, the Hermann Whole Brain Instrument (HBDI) was used. The instrument was used to determine the learning styles of the peer mentor and the mentees. The brain profiles were used as baseline data. Qualitative data were collected during and after the five mentoring sessions conducted over a period of two months. It included feedback questionnaires, observations and video en photographic evidence.

The findings indicate that the peer mentoring programme contributed successfully to the professional development of the beginner teachers.

**Keywords:** Mentoring, professional development, action research, whole brain learning.

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**CHAPTER 1**

**INTRODUCTORY ORIENTATION**

**1.1     Introduction**

This study examines the use of action research and Whole Brain Teaching© for beginner teachers' professional development through the use of peer mentoring.  This focus is relevant in the light of the array of work by scholars who investigate beginner teacher behaviour.  Research studies on North American school districts have established that approximately 40-50% of teachers exit the profession within their first five years (Anderson, 2000; Ingersoll & Smith, 2003;  Maciejewski, 2007).  The National Commission on Teaching and America's Future (2007) reports that 30% of novice teachers resign within their first three years.  In their study Meister and Melnick (2003) documented the experience of 273 first and second year teachers across the United States.  In examining new teachers' perceptions as they transitioned from pre-service to in-service training, three major concerns emerged in their research:  Managing the behaviour and diverse needs of learners, time constraints, and workload and conflict with parents and other adults.  I use both the terms *teacher* and *educator* in this study.  Both terms refer to a person who teaches in the school education sector.

Strong evidence suggests that teacher effectiveness increases sharply after teachers' first few years in the profession.  However, research indicates that many teachers exit prior to attaining this level of expertise (Kain & Singleton, 1996; Worthy, 2005).  This finding is troubling in the light of research suggesting that well-prepared and capable teachers have the largest impact on learner achievement (Darling-Hammond, 2000).  I find it even more troubling when it is estimated that schools in the United States of America will need to recruit 1.7 to 2.7 million new teachers within the next decade (Hussar, 1999).  Evidence in schools and other studies also indicate an impending shortage of teachers in South Africa.  The following was predicted in 2006 in *The National Policy Framework for Teacher Education and Development in South Africa:*

According to this report a shortfall of around 15 000 teachers were expected in 2008. I surmise that this deficiency might be higher today.

It can therefore be deduced that there is a substantial demand for new educators in the teaching profession. Surprisingly, Van Mannen (1991) has found that novice teachers with high academic status are the ones that drop out in the early years. The president of the National Commission on Teaching and America's Future considers the following as a reason for this phenomenon: "They leave for many reasons, but lack of support is at the top of the list" (Carroll, 2005:199).

## 1.2    Problem Statement

As a beginner teacher and researcher at a primary school in South Africa, I have never received any support from a mentor. I had difficulty maintaining effective classroom management and wanted to promote learning style flexibility, specifically whole brain learning in my teaching practice. One of my biggest concerns was the large classes I had to teach. I felt incompetent in my disciplining skills because the noisy learners took all my attention. I was so focused on managing my classroom that many learners' specific learning needs were not addressed. While opting for a solution I discovered the Whole Brain Teaching© programme (Biffle, 2002, 2004), an education reform movement. This programme has as focus the promotion of the principles of whole brain learning. Learner-centredness is an essence of the South African education system. I will refer to Whole Brain Teaching© as the approach used to stimulate whole brain learning during a learning opportunity.

In a survey conducted by Dollase (1992), using both first and second year teachers, the most serious problems that beginner teachers face, were listed. Classroom discipline and student motivation were viewed by 91% of the teachers as the most serious ongoing dual concerns (Dolasse, 1992:86). While using action research and the principles of whole brain learning in my classroom and after investigating the effect this programme had on my teaching practice, I decided to use it to help other beginner teachers to prevail over some of their biggest concerns. In this dissertation I focus on implementing a

peer leadership role as part of my own and other beginner teachers' professional development. The rationale for using an action research approach is elucidated in Reason (1988) where the distinction is made that action research is research with people, rather than on people.

Beginner teachers' professional development needs have to be reconsidered in a changing education sector. Many school managers in South Africa are at variance with regards to how to manage novice teachers and they experience difficulties in helping beginner teachers in their practice. In relation to this, I was asked by various senior staff members in schools to consider the nature of this problem from a novice teacher point of view. In my conversations with the principals, it was clear that there is a lack of communication with beginner teachers. Le Maistre and Parè (2009) strongly state: "No other profession takes newly certified graduates, places them in the same situation as seasoned veterans and gives them no organised support." The stark reality of the situation is that when beginner teachers are left to "sink or swim", the costs to schools and districts are tremendous (David, 2000).

The purpose of this study is to determine what effect the application of whole brain learning and action research through peer mentoring has on the professional development of beginner teachers.

## 1.3   Research Questions

The key research question can be formulated as follows:
*Is beginner teachers' professional development influenced when applying the principles of Whole Brain Teaching© and action research through peer mentoring?*

The following sub-problems and -questions have been identified:
- The first sub-problem is that no organised support is given to beginner teachers in order to address the difficulties they experience. The first research question addressing this problem can be formulated as follows: *Can a beginner teacher's practice be improved through the use of action research and whole brain learning?*

- The second sub-problem is that many novice teachers do not address their own professional development.  As a point of departure for engaging in one's professional development, knowing one's learning style is empowering.  Therefore the second research question is:  *What is my own and my peers' learning styles?*
- The third sub-problem is that if beginner teachers are not given organised support, schools and districts will have to bear the consequences.  The third research question is:  *What is the role of peer mentoring in the professional development of beginner teachers?*

## 1.4    Theoretical Framework

This study is rooted in the constructivist theory since the beginner teachers implemented action research and Whole Brain Teaching© in their teaching practice, while focusing on the following:  "Learning experiences and activities that are constructive, cumulative, self-regulated, goal-orientated, situated, collaborative and individually different" (De Corte, 1996:147).  In the context of my study "learning experience" refers to the professional learning of the participants in the study, namely peer mentees.  "Constructivist theories share some commonalities with behaviouristic and cognitive theories for they focus on actively involving learners in learning and structuring knowledge frameworks so that these learners can extract maximum amounts of data" (Gravett, 2001:18-19).  If this is true for learners the same applies to mentees in terms of professional learning – that is mentees as learners.  A constructivist viewpoint is that knowledge changes, where the idea is that knowledge is built or constructed by learners.  "The fundamental assumption of constructivism is that knowledge is actively constructed by learners as they shape and build mental frameworks to make sense of their environment" (Cross, 1998).  In the context of my study the participants actively construct meaning as they shape and build frameworks to make sense of their classroom practice and professional development.

Vygotsky's (1978) main relevance to socio-constructivism derives from his theories on language, thought and their mediation by society.  He sees the

process of knowing as a disjunctive one involving the agency of other people and mediated by community and culture. In the context of this study community refers to the teaching community and a specific learning culture based on the principles of whole brain learning. These theories emphasise the social context of learning through peer collaborative groups, apprenticeship and the social model which underpins the forming of knowledge frameworks" (Gravett, 2001:18-19). When considering a constructivist theory, I believe that the professional development of novice teachers should focus on maximising human potential. Slabbert (1997:60) clarifies the concept as follows: "Maximising human potential is the process whereby the human being continually exceeds him- or herself in every possible way."

The theoretical framework was elaborated on in Chapter 2.

## 1.5    Research Design

As its name implies, action research is intended to achieve both action and research. The term was first used in the 1940s by Kurt Lewin and it implies the application of tools and methods of social science to immediate, practical problems, with the goals of contributing to theory and knowledge in the field of education and improving practice in schools (Kemmis, 1980).

I made use of this research design in a previous study, for much the same reason as I am utilising it now, for I aimed to solve a problem situation. The immediate problem being addressed by this current study is the lack of beginner teacher mentoring. I have decided to engage beginner teachers from the school where I am teaching and other schools in the vicinity for this study. Action research helped me to obtain, through the process of mentoring, the involvement of five beginner teachers. It was a dual commitment, where they were able to improve their own practice and subsequently assist other peers, and I could develop professionally in terms of my own teaching practice and through mentoring others. The novice teachers also used this research design as stated in a study by Wickham (2001) where action research is proposed as a means of enabling teachers to meet the diverse needs of learners. Action

research also recognises the roles of the researcher as facilitator of learning, learning process navigator, assessor and evaluator of the process.

Zeichner (1994) states that under certain conditions action research seems to help teachers become self-confident about their ability to promote learning and being proactive in dealing with difficult issues that arise in their teaching practice. Evidence is supplied in Zeichner (1994) that there is a movement towards more learner-centred instruction and improvements in learning. In addition and in the same way we as participants embarked on this action research journey in order to gain self-confidence and to promote professional learning amongst ourselves. A mentee-centred approach was followed.

## 1.6    Research Methods

Clert, Gacitua-Mario and Wodon (2001:7) provide a clear-cut distinction between methodology and method: "A methodological approach involves a theory on how a research question should be analysed. A research method is a procedure for collecting, organising and analysing data." My action research includes a mixed-methods approach. Mouton and Marais (1990:169-170) state that phenomena investigated in the social sciences are so enmeshed that a single approach cannot succeed in encompassing human beings in their full complexity. I decided to use this approach because "it can simultaneously address a range of confirmatory and exploratory questions with both the qualitative and quantitative approaches. It also provides the opportunity for a greater assortment of divergent views" (Teddlie & Tashakkori, 2009:33).

This study was conducted over a ten month period. Most of the empirical data sets were obtained over a period of two months. Four mentoring sessions were held during this period in a staff room at a school, which was centrally located for all five participating beginner teachers.

## 1.6.1   Data collection plan

The five beginner teachers were interviewed at a neutral location. The interviews were conducted at a school, centrally located for all participants to reflect on their usage of action research and whole brain learning without any

interference. We had group discussions when the mentoring programme started, once before they presented a learning opportunity, once thereafter and when the peer mentoring process was completed. The rationale for employing this procedure was that narrative data collected over time illuminates an individual's shifting feelings, perceptions, understanding and experiences (Clandinin & Connelly, 2000). The interview is useful for exploration and confirmation.

The Herrmann Brain Dominance Instrument was completed by all participants. Coffield et al. (2004) acknowledge various substantiated reasons for using the HBDI as a means of individual and group reflection on thinking and learning preferences. It is presented as a tool for learning, including professional learning, for use in a climate of openness and trust and is considered as more detailed and situation-focused than many of its competing learning style inventories, while accommodating many of the constructs that receive incomplete or less reliable and valid coverage as scientific instruments.

The data gathering methods provided the most direct evidence of the effect of peer mentoring on the beginner teachers. The use of the HBDI allowed for a better understanding of each individual's thinking style. This enriched the mentoring process, since I was aware of how each beginner teacher preferred to learn and think. The semi-structured interviews allowed me to probe initial responses and get feedback on the mentoring process. The evaluation questionnaires provided self-reflective feedback.

## 1.6.2  Data collection methods

For the purpose of this action research study, I decided to use both quantitative and qualitative approaches. In many cases the mixing of qualitative and quantitative methods may result in the most accurate and complete depiction of the phenomenon under investigation (Tashakkori & Teddlie, 1998). The beginner teachers also utilised a mixed-method approach to reflect on their teaching practice. Journal notes, video tape recordings, observations and learner feedback questionnaires were used.

A quantitative approach was administered through the use of learner feedback questionnaires (See Appendices G and H) and the Herrmann Brain Dominance Instrument (Herrmann, 1996). Quantitative and qualitative approaches were used in the mentoring evaluation and reflection forms (Appendices I and J).

A qualitative study was conducted through semi-structured interviews with the beginner teachers. The interviews were conducted in the context of mentoring the beginners on the use of action research and Whole Brain Teaching© for their own professional development and to stimulate whole brain learning in their practice.

### 1.6.3  Data analysis

When I started observing the effect action research and whole brain learning had on my own practice over the previous view years, I completed the HBDI for the first time. Since the outcome, in the form of a brain profile, empowered me to embrace the principles of whole brain learning even more, I experienced a need for all participating beginner teachers to have their brain profiles determined.

The qualitative data analysis was ongoing and done throughout the data collection process. This process included video recordings. The video material was observed several times in order to transfer the raw material (data) into more accessible data by transcribing it. I read and reread the data from the video material as it was transcribed until I was familiar with and sensitive to the content (Dye, Schatz, Rosenberg & Coleman, 2000). I then coded the data using inductive, constant, comparative methods, where I revisited the data numerous times to refine, rethink and document conclusions about recurring themes or patterns (Creswell, 1998). The reason for this was that it allowed me to find patterns, trends and themes that would answer the research questions. As Patton (2002:402) states, it is "a creative process that requires making careful considered judgements about what is meaningful in the data".

## 1.7    Overview of the Research Report

Chapter 1 focuses mainly on the research problem, purpose of the study, research questions, methodology and methods.

A literature review on beginner teachers, mentoring, professional development, Whole Brain Teaching© and whole brain learning is reported in Chapter 2 in order to support the study.  A closer look at different scholarly sources of information is conducted in an attempt to understand the research context.

The research processes used in this study are discussed in greater detail in Chapter 3.  Action research was used as the research paradigm, while quantitative and qualitative approaches such as semi-structured interviews, questionnaires, journals and observations were used to answer the research questions.

Chapter 4 presents the analysis and representation of data.  The conclusions drawn from the study and recommendations for further study are discussed in Chapter 5.  A meta-reflection on my experience and thoughts throughout the action research process is presented in Chapter 6.

**CHAPTER 2**

**THEORETICAL FRAMEWORK**

## 2.1    The South African Education Context

In order to identify the challenges many beginner teachers are facing, I considered the South African school system. The Outcomes-Based Education (OBE) system which involves changes in approach and curriculum (Engelbrecht & Harding, 2008) has been used since 1998.  I use this approach in my Intermediate Phase classroom.  The beginner teachers whom I mentored and I are adequately prepared to implement OBE because of the respective Higher Education Institutions from which we obtained our initial teacher qualifications.

According to Owen (1995) teachers are now placed in a certain role, because as opposed to being the repository of all knowledge and wisdom, they must facilitate and mediate educational experience.  According to the Department of Education's *Norms and Standards for Educators* (2000) educators need to take responsibility in executing the following seven important roles:  They are mediators of learning, interpreters and designers of learning programmes. They need to be leaders, administrators and managers.  For their own professional development they are also scholars, researchers and lifelong learners.   Teachers also have a pastoral and citizenship role in the community and are seen as assessors and learning area/subject/discipline/phase specialists.

The transition to the OBE system has been fraught with criticism (Jansen, 1998).  Many revisions to this system have been made and there are suggestions of more changes, but the focus is still that "the learner is put at the centre with the educator as mediator or facilitator of learning by using a variety of teaching techniques and any other resources that can promote learning" (Powell, 1999).  I adopted the OBE principles as essential elements of the mentoring process under discussion in this study.  This process is regarded as

Outcomes-Based Mentoring (OBM). The reason for intentionally using OBM was to act as a role-model for the mentees.

The vision of OBE (Outcomes-Based Education) is to transform education. Fullan in Carl (2002:17) states that "educators must not only be trained to teach well, but they must also be able to bring about change". Using some of Bernstein's (1971:192) early concepts, teachers are able to identify some of the daunting challenges they are facing: In the classroom the challenge is that learners must be encouraged to express their different identities in a co-operative environment. They must both learn through their own activities and achieve specific learning outcomes — a difficult balancing act (Bernstein, 1971:192). Educators face many daunting challenges and novice teachers are expected to manage on their own.

## 2.2    Professional Development

The meaning of the term "professional development" is highly contested. Buysse and Winton (2009:235) find it unsettling that there is no agreed-upon definition or shared understanding of this term in education or related fields.

In figure 1 the who, what and how of professional development is considered. In their article Buysse and Winton (2009:240) suggest that professional development is more likely to be effective and would enhance teaching and learning when it contains the following elements:

- Professional development approaches are focused on professional practices and consist of content-specific rather than general instruction.
- Professional development is aligned with instructional goals, learning standards and the curriculum materials they use in practice.
- Learning opportunities are intensive, sustained over time and include guidance and feedback on how to apply specific practices through methods such as coaching, consultation or facilitated collaboration (e.g. communities of practice, teacher study groups).
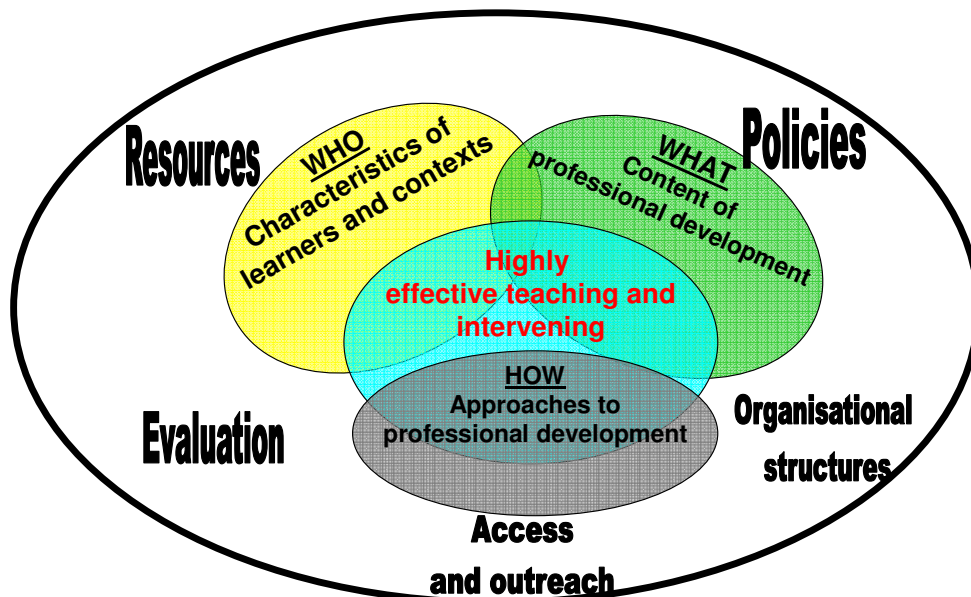
Figure 1:  A conceptual framework for professional development
(Buysse & Winton, 2009:239)


The most common type of professional development is a workshop (Garet et al., 2001:920).  However, after facilitating teachers on the Whole Brain Teaching© approach in the past, I realised that a once-off workshop approach is ineffective.  It has been criticised for not providing teachers with sufficient time, activities and content necessary for increasing teachers' knowledge and fostering meaningful changes in their classroom practice (Garet et al., 2001). The professional development training seminar approach does not always encourage the expert thinking skills necessary to confront the core problems found in everyday teaching (Mitchell et al., 2009:345).

Considering the aforementioned I realised that in order to mentor beginner teachers I had to focus on their experience of successful implementation and not so much on their professional development (Guskey, 2002).  The rationale for this decision is that "professional development is a special challenge for novice teachers, who may focus more on coping with a new role, and

developing and consolidating their instructional skills than on growth and new approaches (Mitchell et al., 2009). I therefore used a practice-orientated instead of only a workshop-focused approach in the mentoring sessions I conducted. In this study the mentees participated in all the aspects and many sessions were facilitated.

The following figure illustrates the fact that teachers will believe that something will work (e.g. Whole Brain Teaching©), when they have seen it work and this experience then shapes their attitudes and beliefs.
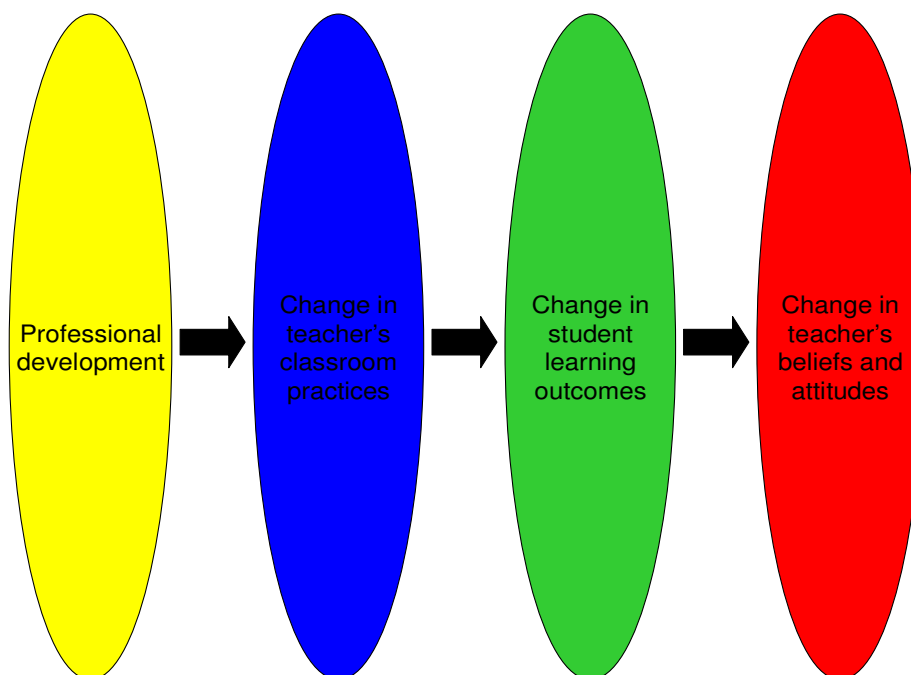


Figure 2: A model of teacher change (Guskey, 2002:383)

Of all the aspects of professional development, sustaining change is perhaps the most neglected. It is clear that to be successful, professional development must be seen as a process, not an event (Loucks-Horsley et al., 1998). There have been calls from various quarters to change the nature of professional development for teachers and to make it more meaningful and applicable for everyday classroom teaching (Capobianco & Joyal, 2008; Cochran-Smith, 1991; Lasley et al., 2006 & Leiberman, 1995).

A longitudinal study done by Desimone et al. (2002:102) found that professional development that was focused on specific teaching practices increased the use of those practices in the classroom. Their data also indicate that it was more effective when there was collective participation between teachers. In contrast to traditional forms of professional development, some reform activities such as mentoring and coaching take place, at least in part during the process of classroom instruction or during regular teacher scheduled planning time (Garet et al., 2001:921). Wood and Stanulis (2009) support the latter point of view when they define the aspect of quality teacher induction: They describe it as "the multi-faceted process of teacher development and novice teachers' continued learning-to-teach through an organised professional development programme of educative mentoring support and formative assessment".

In this study I focus on the use of mentoring as a way to influence beginner teachers' professional development. As indicated in the current discussion, professional development is considered an essential mechanism to deepen teachers' content knowledge and transform their teaching practice. The following definition of the term professional development clarifies its meaning for the sake of this study:

> *It is concerned with growth, which requires nurturing in a conducive environment. It is an interactive process whereby professionals learn to practice as they learn about practice, not so as to adopt current practice unthinkingly, but to appreciate it critically. It must be practice focused. It also needs guidance and support, not just from someone older and wiser, but from fellow learners. Finally, it involves transformation, sometimes painful, at other times exhilarating, but essentially involving newer insights into one's self and one's engagement with good practice* (Coles, 1996:152).

The importance of the professional development of teachers is highlighted by the Department of Education in *The National Policy Framework for Teacher Education and Development in South Africa* (2006): "Conceptual, content and pedagogical knowledge are necessary for effective teaching." The teacher's willingness and ability to reflect on practice and learn from the learners' own experience of being taught are also emphasised. Educators have to take the

responsibility for this and schools need to understand the importance of the professional development of their novice teachers.  In this regard Hargreaves and Fullen (1998) refer to the following:  "Schools need to provide continuous, quality learning experiences for all teachers.  These learning experiences should help teachers become optimistic, hopeful and empowered so that they believe that they can help improve the education of all children".  This point is also noted by Sarason (1990:145) when policy makers are reminded that "it is virtually impossible to create and sustain over time conditions of productive learning for students when they do not exist for teachers".

While considering the professional development of beginner teachers I reviewed an article by Korthagen (2002) where it is proposed that a more holistic approach towards teacher development should be followed.  Such an approach implies that competence is not equated with competencies, but tries to find a realistic middle ground between views based on different paradigms, for example humanistic and behaviourist perspectives (Harris et al., 1995).  In my relationship with the beginner teachers I concentrated on their holistic development while considering different paradigms.

## 2.3    Quality Teaching

As is the case of stipulating a definition for professional development, describing quality in teaching is complicated.  However, for the value of this study I have attempted providing one.  Henard (2009), an analyst at the OECD (Organisation for Economic Co-operation and Development), outlined in The Institution of Management for Higher Education (IMHE) that quality teaching can be regarded as an outcome or a property, or even a process; conceptions of teaching quality happen to be stakeholder relative.  In the same report it is stated that quality teaching is necessarily learner-centred.  I noticed that attention should not simply be paid to the teacher's pedagogical skills, but also to the learning environment that must address the learners' personal needs.

In an article appropriately titled, "More Value to Defining Quality" (Harvey & Green, 1993) are quoted where they view quality as exceptional, as perfection,

as fitness for purpose, as value for money and as transformative. I agree with the authors that this definition does more justice to education as a process wherein learners are the centre of the action (Van Kemenade et al., 2008).

In accordance with achieving and identifying "quality" in my study, the following abilities are regarded by Taylor (2001) as necessary for quality teaching and learning:

> *Engagement locally and globally with peers and colleagues, equity and pathways, leadership, engagement with learners, entrepreneurship, designing for learning, teaching for learning, assessing for learning, evaluation of teaching and learning, reflective practice, professional development and personal management of teaching and learning.*

I believe that transformation will effortlessly occur when educators consider providing quality education. It comes from a "never-ending process of reduction and elimination of defects" (Hau, 1996).

## 2.4    Learning Styles and Whole Brain Learning

According to Kolb (1984) a learning style is the preferred way that an individual deals with given information and how she or he constructs meaning out of stimuli.

> *In our classrooms students are rushed through a basic curriculum designed for students with homogenous learning styles without consideration of atypical learning styles and this leads to boredom, underachievement and discipline problems"* (Repress & Lutfi, 2006:24).

The theory of multiple intelligences by Gardner (1983a & b) acknowledges the existence of an array of intelligences in all individuals, such as linguistic, musical, logical-mathematical, spatial, body-kinaesthetic, interpersonal and intrapersonal. In later years he analysed the fact that new intelligences will and should be identified in future. Slabbert, De Kock and Hattingh (2009) recognise physical, mental, emotional and spiritual intelligences as fundamental

constituents.  They state that the holistic concept refers to the interrelatedness of these intelligences.

It is therefore necessary for teachers to be aware of learners' individual intelligences as an alignment between their learning styles and a teacher's teaching style.  This will lead to better recall and understanding as well as more positive post-course attitudes (Felder, 1993).  To the contrary the application of the theory of multiple intelligences tends to emphasise processes of learning rather than teaching.  The theory therefore challenges a teacher to notice and take into account the diverse skills, abilities, talents and preferences that learners exhibit in the classroom and to present material in ways that will allow their multiple intelligences to be recognised (Gardner, 1983b).  In the classroom situation teachers cannot individualise instruction for each learner.  They therefore need to prepare activities that offer an exciting range for all learners, which will allow these learners to use their multiple intelligences (Kafanabo, 2006).

"The creative power of the brain is released when human beings are in environments that are positive, nurturing, stimulating and that encourage action and interaction" (Repress & Lutfi, 2006:24).  Herrmann (1989:17) is of the opinion that man's brain dominance is expressed in the way in which an individual learns, understands, solves problems and expresses him- or herself. He calls these cognitive preferences, or preferred modes of knowing. Facilitators of learning must accommodate and activate all the cognitive styles of learners during the learning process.  Learning styles are defined by Herrmann and identified by the HBDI (Herrmann Brain Dominance Instrument) as not fixed personality traits, but to a large extent, learned patterns of behaviour (Coffield et al., 2004:169).

According to the Herrmann Brain Dominance Thinking Styles Assessment (2000) the adult human brain is one of the wonders of the world.  It weighs approximately 1.4 kg and contains 12 trillion neurons.  Each neuron has the possibility of connecting with 100, 000 adjoining neurons.  This means that the total number of possible combinations in the brain, if written out, would be one,

followed by over 10.5 million miles of zeros.  The potential of the brain is unlimited.  In the last twenty years knowledge of the brain has progressed further than it had in the previous twenty centuries, thanks to new technologies which permit one to see the brain in action.  The Herrmann Brain Dominance Instrument (HBDI) was developed from this knowledge.  The HBDI permits one to become aware of thinking preferences in order to use them in one's personal and professional life (The Herrmann Brain Dominance Thinking Styles Assessment, 2000).

Poulou (2005) accentuates the importance that prospective teachers need to become expert learners themselves and be able to conceptualise how expertise is developed.  The beginner teachers', who participated in this study, completed the HBDI in order to enhance their understanding of how they think and learn.

Herrmann (1996) combines the theories of MacLean (the triune brain theory) and Sperry (the left and right brain theory) and the connectors (the corpus callosum and hippocampal commissure) in order to establish a four-quadrant model representing the whole thinking brain.  As stated in Herrmann (1996) the brain research of Sperry in 1975 began to reveal the dual specialisation of the brain.  By observing patients who had their brain hemispheres separated in order to manage epilepsy, Sperry made a multitude of discoveries.  For example, the left side of the brain, which controls the right side of the body, appears to have the function of logical, analytical, sequential and rational thinking (Herrmann, 1996:14).  Conversely, the right hemisphere tends to perceive the world and other people in a global mode, instantaneous, intuitive, visual, synthesising, emotional and expressive.  It finds solutions through sudden and spontaneous intuition, leaving to the left hemisphere the job of proving them in logical, analytical and scientific manner.  The left hemisphere breaks down everything into different elements; the right hemisphere, on the other hand, considers the global whole and searches systematically for connections, analogies and similarities in order to synthesise a concept.  This has been demonstrated and observed again and again in laboratory tests (The Herrmann Brain Dominance Thinking Styles Assessment, 2000).

Herrmann's study included other findings about the limbic system, also a dual structure, buried deep inside the brain. The principal location for emotion and memory, this system directs our affective, inter- and intrapersonal processes. Herrmann synthesised this body of research into the four quadrant model. The metaphoric whole brain model is based on the following principle: "Four interconnected clusters of specialised mental processing modes, that function together situationally and iteratively, making up a whole brain in which one or more parts become naturally dominant" (Herrmann, 1996:14).
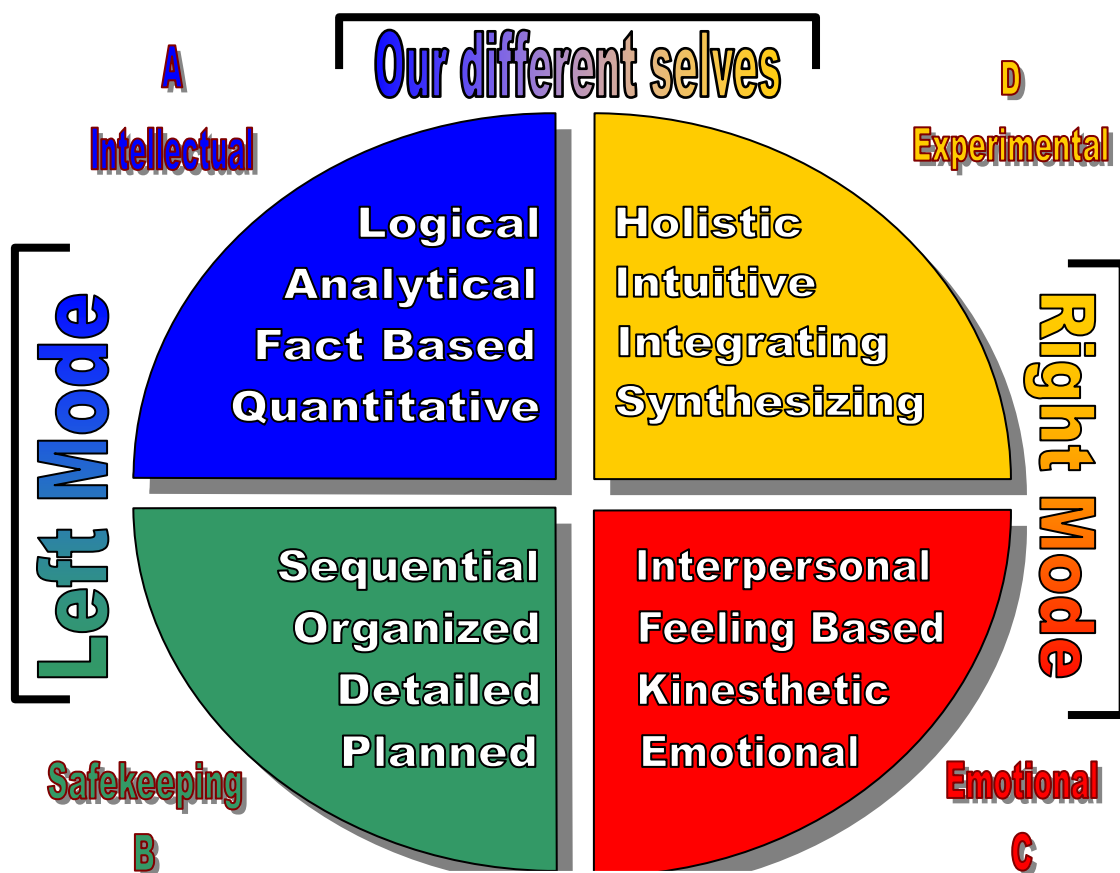


Figure 3: Herrmann's whole brain model (Herrmann, 1996:13)

Each of us has access to the above modes, but we clearly have preferences for some. Those thinking preferences, based on the dominance of specialised thinking processes, form the basis of the Whole Brain Model, the foundation of the HBDI. This model stresses the totality principle of holism used in this

study, because several other models of learning styles are compatible with the whole brain model. One of the basic principles of holistic education is inclusion. It refers to including all types of students and providing a broad range of learning approaches to reach these students (Miller, 2001). A holistic educator will therefore structure learning environments to promote the creative and vast potential of the human mind (Rinke, 1985:67-68).

The Whole Brain Model provides an account of how people think and learn, valuing diversity and arguing for mutual understanding. As stated in Coffield et al. (2004), teachers may be stimulated to examine and refine their ideas about communication and learning. The implementation of the Whole Brain Teaching© programme corresponds with D quadrant thinking, since it is underpinned by the notion of holism.

It has been documented (Knowles, 1990; Buzan, 1991; Ornstein, 1997) that effective learning takes place if the whole brain is involved. In my own teaching practice Whole Brain Teaching© was used to consider its effect on whole brain learning. Herrmann (1996) agrees that diversity in approach is needed to increase the overall level of learner engagement and chances of success. For example, he states that interactive brainstorming and creative dramatics each appeals to people with different ways of thinking. The result can be that individuals and groups will gravitate to the processes which they understand and which work for them. Coffield et al. (2004:168) report that the Herrmann model positively encourages change and growth.

## 2.5 Whole Brain Teaching©

According to the website, www.wholebrainteaching.com, this teaching approach was formerly known as Power Teaching©, but the name was changed to Whole Brain Teaching© in July 2009; the approach is considered one of the largest growing education movements in the United States of America. Seminars have already been presented to educators representing more than 120 000 learners. It is a teaching approach that involves the whole class, while using gestures and sounds to stimulate a learner to think and learn.

It uses certain principles, games and classroom management tools.  This programme is suitable to be used in any learning environment.

The Whole Brain Teaching© programme is employed in a learning environment to provide support to teachers in classroom management strategies and for the facilitation of learning and success (Biffle, 2002, 2004).  The main objective is to improve learner motivation, engagement and learning by ways of effective teacher-learner and learner-learner communication.  Educators also share the problems, ideas and triumphs they experience in their teaching practices with colleagues.

The following table illustrates how the six basic teaching principles of Whole Brain Teaching© stimulate the brain:

| Whole Brain Teaching© principle | Description |
| --- | --- |
| *Class-Yes* | Activates the pre-frontal cortex, the reasoning centre of the brain.  This area is seen as a "light switch" that must be turned on for the rest of the brain to process information. |
| *Five classroom rules* | During the repetition of the rules learners are engaging seeing, hearing, saying and doing.  The limbic system engages the pre-frontal cortex, Broca's area, Wernicke's area, the limbic system, hippocampus, visual cortex and the motor cortex. |
| *Teach-Okay* | This is the most powerful of the Whole Brain Teaching©'s learning activities.  Learners have their pre-frontal cortex engaged, they activate Broca's area as they listen, Wernicke's area as they speak, the visual and the motor cortex as they see and make gestures.  This whole brain activity powerfully stimulates the hippocampus in order to form long-term memories. |
| *The scoreboard* | It keys directly into the limbic system's emotions and the Amygdala which registers pleasure (Mighty Oh yeah!) and pain (Mighty Groan!) as students accumulate rewards and penalties. |
| *Hands and Eyes* | This focuses all mental activity on seeing and hearing during the learning opportunity. |
| *Switch* | It helps learners fully develop both their listening (Broca's area) and their speaking (Wernicke's area) abilities. |

Table 1: The basic teaching principles of Whole Brain Teaching©
(www.wholebrainteaching.com)

The following figure graphically illustrates how the principles of Whole Brain Teaching©, as was explained in table 1, activate the different areas in the brain.

Pre-Frontal Cortex
Class Yes!
Teach/ Okay!
Hands and eyes

Motor cortex
Teach/ Okay!
(Making gestures)

Broca's Area
Teach/ Okay !(Listening)

Visual cortex
Teach/ Okay !
(Seeing gesture)

Wernicke's Area
Teach/ Okay! (Speaking)

Amygdala
Scoreboard

Limbic System
Scoreboard (Emotions)

Hippocampus
Repetition (Memory Information)
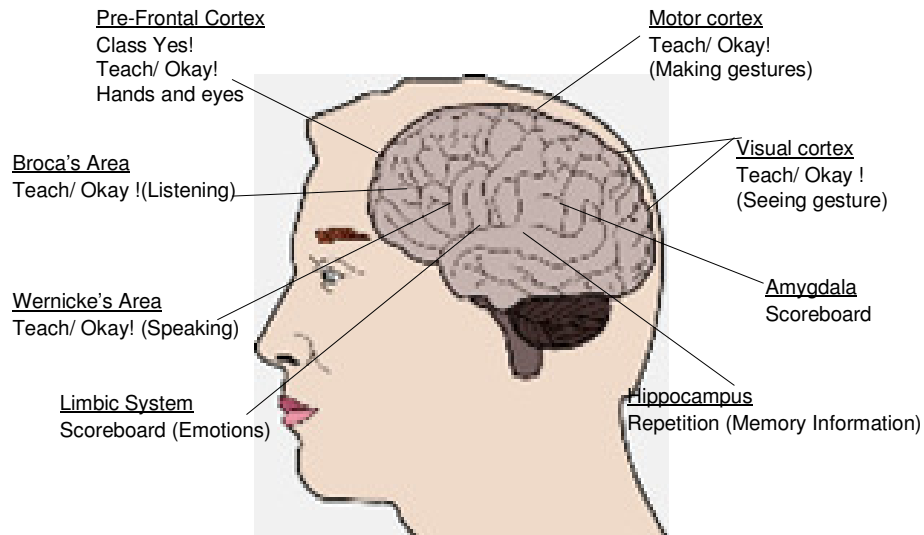
Figure 4: The manner in which Whole Brain Teaching© stimulates the brain

In Fleisher (2006) and Biffle (2002) essential parts of Whole Brain Teaching© are explained:  In the activity "Teach your neighbour", students work in pairs to teach one another what they have learned.  "Teach your neighbour" is designed to have learners shift from being in a learner role to being in a facilitator role. Different types of "Teach your neighbour" activities include games such as "The crazy professor" or "Super speed reading".

With "Crazy professor" learners work in pairs where one plays the role of the "Crazy professor" and the other the role of the "Eager student".  These types of strategies are designed to enhance learner engagement and learning through the development of communication and interpersonal competencies.

The "Super speed reading" game is played in pairs where learners read words in succession.  The "Super speed maths" is another fun game to use, the goal is that learners try to set and break personal records for the amount of problems solved in a minute.  These games and activities are cooperatively

done by learners in pairs. Thousand et al. (1994) did research which established that having learners work together cooperatively is a powerful way for them to learn and that it has positive effects on the classroom and school climate. It is considered important that learners spend much of the time learning skills in cooperative relationships with others. Critical Outcomes are central to Outcomes-Based Education. They are broad generic cross-curricular outcomes which encapsulate the skills, knowledge and values that contribute to general success in learning. The second outcome relates specifically to cooperative learning. It entails working effectively with others as members of a team, group, organisation and community. In working with others critical thinking skills are developed by the teacher by means of posing questions in order for learners to engage in critical discussions.

During question-and-answer sessions in Whole Brain Teaching© an "It's cool" will echo from learners when classmates give incorrect responses to questions, or a "Ten-Finger Woo" might be given for exemplary responses. The "Guff-counter" is another strategy to eliminate negativism and rude remarks towards teachers and learners. These types of classroom strategy were designed to decrease unnecessary performance pressures that interfere with learning and success. The "Volume-meter" (Appendix E) is used during group activities to regulate the volume of the learners in the class, the "Countdown-method" is considered in making ordinary activities, such as the handing out of papers, fun and effective for time-management and the five classroom rules (Appendix D) are applied whenever they are needed and while involving the whole class through gestures and sounds.

The "Scoreboard" is where learners accumulate points by receiving penalties and rewards for their participation and good behaviour in the classroom. The "Guff-counter" is used by the teacher to eliminate rude remarks (guff) from learners among themselves or towards teachers. When there is "guff" the teacher receives a mark on the scoreboard and if there is none, the learners obtain a mark.

Whenever the teacher is dealing with disobedient learners, the "Bull's eye Game" is regarded as a good resource as it is designed for learners who are immune to punishment. In this game they are rewarded for understanding their behaviour through the eyes of the teacher and they are given the opportunity to evaluate their own behaviour objectively. "The Agreement bridge" (Appendix F) is a problem-solving game which unites disobedient learners with their teachers in collaborative problem-solving. The goal of the game is to participate in a structured discussion that arrives at a satisfactory agreement (Biffle, 2009).

Another game which is used for the revision of course material is "Mind soccer". It is played in the classroom by dividing the class into two teams. The soccer field poster is placed on a black board. Revision questions are asked by the teacher (referee) and various activities in this game make it a purposeful, motivational and fun activity (Biffle, 2005).

I previously conducted action research on my own teaching practice, where the research question of the study aimed to investigate how learning opportunities in my Arts and Culture teaching practice, using the Whole Brain Teaching© programme, promoted whole brain learning. I used a video and observation sheets together with questionnaires to analyse and reflect on the learning opportunities presented. The data obtained with regards to the research question confirmed that this teaching style did address whole brain learning.

## 2.6    Mentoring and the Beginner Teacher

Beginner teachers are identified in literature as those who are either fresh out of a teacher preparation programme or who have been teaching for one or two years. In other articles it is indicated that teachers are classified as novices when they are in their first five years of practice (Mitchell et al., 2009). The need has also been recognised to offer some degree of support for teachers who are not just new to the classroom, but new to the school or district (Stansbury & Zimmerman, 2000). For the purpose of this study I regard a beginner teacher as someone in his or her first five years of teaching.

In research completed by Sabar (2002) the interviews conducted with novice teachers confirmed what Ryan (in Bollough,1987) described as four loose but identifiable stages that beginner teachers go through on the way to professional competence:  "Fantasy, survival, mastery and impact".  During the second half of the year, the novice teachers had time to reflect on their failures and successes in school.  During this adjustment through the mastery stage attention can be directed toward devising new teacher plans and adapting learning material (Sabar, 2002).  Feimann-Nemser et al. (1999) view induction as "a transitional phase in teacher development between pre-service and in-service professional growth during which novice teachers are evolving from students of teaching to teachers of students".

Veenman's (1984) international review of perceived problems among beginner teachers was found remarkably consistent across time and education systems. The following are some of the greatest challenges that were perceived then and that are still present today:  Classroom management, motivation of learners, dealing with individual differences among learners, assessing learner work and relations with parents.  It was also established by a current international study that in countries as different as China, New Zealand and Switzerland, today's new teachers express the same problems (Britton, Paine & Raizen, 1999).

Mentoring is a core focus of my study and so is constructivism.  It therefore made sense to consider referring to constructivist mentoring.  Löfström and Eisenschmidt (2009) outline the critical constructivist theory that I will apply in order to transform teaching by engaging novice teachers and peer mentors in collaborative inquiry with equal participation.  My decision to use mentoring is based on a model from Gimbert and Fultz (2009), where they identify four themes for effective leadership that should be used to manage beginner teachers.  The fourth theme illuminated teacher development opportunities that promote novice teacher success.  Research has shown that 60% of principals feel that a mentoring programme is one of the most influential resources for new teachers (Brock & Grady, 1998, 2007).

Novice teachers need support. They also tend to need additional knowledge, skills and support in the areas of classroom management, planning of learning opportunities, comprehension of curriculum, school policies, procedures and effective communication skills with learners, parents and fellow teachers (Amoroso, 2005; Brock & Grady, 1998, 2007; Renwick, 2007).

In the mentoring programme under discussion I used action research and Whole Brain Teaching© to facilitate the professional learning of the beginner teachers. The focus was on addressing the specific needs of novice teachers in order to gain knowledge and insight into what is necessary for increasing learner achievement in the classroom setting (Gimbert & Fultz, 2009). Mentoring can serve to facilitate desirable goals, positive change and human possibility through such well-established ideas as lifelong learning" (Mullen, 2005). The latter is defined as follows: "It is the effortful process of continually discovering our potential and fulfilling our purpose in live as long as we live" (Slabbert, 1997:64).

A peer mentoring relationship was developed as I, the researcher and peer mentor, am also regarded as a beginner teacher. Kram and Isabella(1985) compare the functions found in a mentoring relationship with the mutuality found in peer relationship in the following table. I presented this table to the mentoring group at our first session and they approved the following characteristics, but we agreed that it is difficult to implement in practice. As mentor I still consider it a valuable guideline and therefore tried to apply these different features in my mentoring approach.

| Mentoring relationships | Peer relationships |
|---|---|
| Career-enhancing functions | Career-enhancing functions |
| • sponsorship | • information sharing |
| • coaching | • career strategising |
| • exposure and visibility | • job-related feedback |
| • protection | |
| • challenging work assignments | |
| Psychosocial functions | Psychosocial functions |
| • acceptance and confirmation | • confirmation |
| • counselling | • emotional support |

| | | | |
|---|---|---|---|
| • | role modelling | • | personal feedback |
| • | friendship | • | friendship |
| Special attribute | | Special attribute | |
| • | complementarities | • | mutuality |

Table 2:  Comparison of mentoring and peer relationships (Kram & Isabella, 1985:117)


Ritchie and Genoni (1999:221) define the group mentoring structure I used during the mentoring sessions as follows:

> *It brings together a number of individuals under the guidance of one or more experienced group leaders or facilitators for a particular purpose. It is intended that the individuals, who are at a similar stage of learning or have related learning needs will form a supportive group.  The leader or facilitator role consciously incorporates a mentoring function.*

I used this mentoring approach when working with the beginner teachers, while conducting action research to reflect on my mentoring practice.  Ritchie and Genoni (1999) also state that group mentoring encompasses individual mentoring, peer mentoring and co-mentoring.  This is characterised by "mutuality, ccomplementarity and equal power relationships" (Ritchie & Genoni, 1999:222).

In my constructivist mentoring practice I used the following self-managing learning approach (Holbeche, 1996) in terms of my peer mentoring relationships: Four, five or six peers form a mentoring group.  They met periodically and went through a formal process of developing objectives as individuals and reviewing the progress in group meetings.  The author states that many participants have commented on the value of tapping into another's ideas, challenges and support over a period of time.

"Educative mentoring relies on developing an explicit vision of quality teaching and of teacher learning where mentors interact with novice teachers in ways that help them learn in and from their practice" (Feimann-Nemser, 2001).  It is a reality shock for beginner teachers and a problem for senior staff when they realise that "the knowledge they [beginner teachers] come with is often

contradictory or irrelevant to the knowledge they need in order to cope, when concrete problems arise in school" (Ezer & Sabar, 1992).  Professional development must be personalised to address the specific needs of the novice teacher.  A large number of studies report the positive effects of mentoring novice teachers (Huling-Austin, 1992; Odell & Huling, 2000).

Mentoring does, however receive some criticism.  Sweeney (1994) asserts that the mentoring role must be well defined, especially if you have expectations for results.  Podsen and Denmark (2007:10) agree that "enthusiasm for mentoring has not been supported by a clearly defined purpose for mentoring and the training needed to support the mentors".  In this study I remained focused on using the principles of action research and whole brain learning to structure the mentoring approach.

In my role of being a peer mentor I found the following idea from Harrison et al. (2006) as portraying the role I want to fulfil in an excellent way:

> *It is someone with whom to cooperate and discuss pupils' work, a role model for the planning, organisation and delivery of the teaching.  A good listener, flexible, someone who enables reflection, creates opportunities and recognises novice teacher's pressure points.*

My motivation for this peer mentoring relationship was to offer opportunities to the respondents for professional learning in order to acquire new understanding, skills and knowledge to transform their practice and encourage a sharing and enquiring mind-set within schools over time.  Educational mentoring focuses on novice teachers and mentors collaboratively and reflectively designing learning opportunities, discussing observations, analysing student work and reflecting on the novice teacher's growth as a teacher (Feimann-Nemser, 2001; Odell & Huling, 2000).

**CHAPTER 3**

**RESEARCH METHODOLOGY**

**3.1     Introduction**

This chapter outlines and describes the research design of the study, the sampling procedures used, the data collection instruments, data analysis and issues related to the validity of the study.

As mentioned in Chapter 1, the purpose of this study is to determine what effect the application of the principles of whole brain learning and action research through peer mentoring has on the professional development of beginner teachers.

**3.2     The Research Design:  Action Research**

Traces of action research theory are found in the writings of philosophers such as Aristotle, Galileo and Newton.  John Dewey (1933) was one of the earliest philosophers to contribute a foundation for this research design.  He felt that educators should be sceptical of teaching and that they should be concerned with reflection and improvement.  Other researchers credit Kurt Lewin (French & Bell, 1995; Tomal, 1996) as the actual cornerstone of action research. "He [Lewin] felt that action research programmes were crucial in addressing social change issues and making social improvements" (Tomal, 2010:14).

I distinguish the following as the three general aims of this research design in education:  Staff development, improved teaching practice and the modification and elaboration of theories on teaching and learning.  Staff development through action research may take on a number of forms, including increased teacher understanding of the classroom and school (Carr & Kemmis, 1986; Grundy & Kemmis, 1982; Nixon, 1981); increased self-esteem resulting from active involvement in research, professional conferences and perhaps publication (Elliot, 1985; McCutheon, 1981; Sheard, 1981) and greater feelings of competence in solving problems and making decisions related to teaching and learning.

Education in South Africa is deemed as being underachieving and the research design that was used is considered a powerful process for change and improvement or even innovation and transformation.   As educator I consider myself one of the key contributors to the transformation of education in South Africa (Engelbrecht & Harding, 2008).  As part of my contribution I opt for reflecting on my practice in a scholarly way through the use of action research. I therefore believe that the change in our school system should start in our classrooms.  Whitehead (1993) concurs that it is through enquiring into our own practice that we are able to create a living form of educational theory.  "Action research is insider research and every action researcher therefore engages in a form of professional development" (McNiff, Lomax & Whitehead, 1996).

My decision for introducing action research to the novice teachers as a means of addressing their professional development was that it is a practical process and generally does not require elaborate statistical analysis (Tomal, 2010).  It would be predominantly unproblematic for the respondents to administer it in their school setting.

Kemmis and McTaggart (2000) identify several key approaches to action research:  Participatory research, classroom action research, action science, soft system approaches, industrial action research and action learning.  The latter is explained briefly, for it influences this study.  "Action learning is used widely in the initial and continuing professional learning of teachers and other professionals" (McNiff & Whitehead, 2005). The authors also state that one of the attractions of this research design is that everyone can do it, so it is not only teachers in schools who investigate their work but also principals, heads of department and administrators.  The fundamental idea of action learning which is manifested in this action research study is to "bring people together to learn from each other's experiences" (Pedler, 1991; Revans, 1980, 1982).

I consider action research to be distinguished from other research designs because of the collaborative effort of the researcher in working with the subjects and developing action plans to make improvements (Tomal, 1996). Action research can take on a variety of forms as Cochran-Smith and Lytle

(1993) have demonstrated, and can be individual or collaborative undertakings. Collaborative forms can be collaborations between teachers and outsiders, such as university researchers (Feldman, 1993) or collaborations among teachers, which Feldman (1999) refers to as collaborative action research. The latter is used in this study, where I as the mentor and researcher worked with the novice teachers to take action within our individual contexts in order to improve practice and to come to a better understanding of our respective practices. The ultimate aim of this collaboration was to develop sophisticated understanding of the problems, issues and practices of teachers in authentic settings, bridging the theory-practice gap (Stringer, 1996).

The Collaborative Action Research Network (CARN, 2006) states that practitioners themselves should be actively and creatively involved in defining and developing professional practice and that practitioners should contribute to the growth of valid professional knowledge and theory. McNiff (2002) is also of the opinion that there is a commitment between new or seasoned academics and teachers for educational improvement. My focus was to integrate "teaching and teacher development, curriculum development and evaluation, research and philosophical reflection, into a unified conception of reflective educational practice" (Elliot, 1991:54).

Action research is consequently regarded as valuable, because it is done by people who themselves are studying. I believe teachers can use action research for much the same reason as Melanie Walker (1996), who states in her book *Images of Professional Development:* "My primary commitment was to good practice in my own teaching and in my classroom."

Richard Sagor (1992:8) states in his book *How to Conduct Collaborative Action Research*:

> As action researchers, you don't need to worry about the generalisability of your data because you are not seeking to define the ultimate truth of learning theory. Your goal is to understand what is happening in your school or classroom and to determine what might improve things in that context.

Action research has many advantages, but I regard the following highlights from Walker (1996) as significant:

- It encourages an enquiring approach to curriculum development rather than an unreflective adoption of models and practices constructed elsewhere.
- Action research done by teachers and teacher educators in their teaching practice provide textured portrayals of the processes of implementation.
- Professional development is therefore built on the capabilities of effective educational practice.

Kember (2000:24) summarises the main purposes of action research as follows:  It is concerned with social practice, aimed towards improvement; it is a cyclical process, participative, pursued by systematic inquiry and determined by the practitioners.  Macintyre (2000:7) has the following to say about action research:

> *One of the greatest strengths of action research is being able to choose a relevant, timely topic and the facility to react to the context and the findings as they unfold.  Action research is also found to be a quite straightforward practical approach to tackling issues of substance.*

I believe we need teachers in South Africa who will consider tackling the obstacles and striving to find solutions.  McNiff, Lomax and Whitehead (1996) affirm that well-conducted action research can lead to one's own personal development, to better professional practice, to improvements in the institution in which one works and to making a contribution to the good order of society.  They state the following with regards to good professional practice:

> *It emphasises the action, but does not always question the motives for the action.  In action research, there must be praxis, rather than practice.  Praxis is informed, committed action that gives rise to knowledge rather than just successful action.  It is informed because other people's views are taken into account.  It is committed and intentional in terms of values that have to be examined and argued.  It leads to knowledge from and about educational practice* (McNiff, Lomax & Whitehead, 1996:8).

## 3.3    The Action Research Process

I used this paradigm for my personal professional development as well as that of the beginner teachers.  The novice teachers used it to reflect on their own practice and I, as the researcher, used it to deliberate on how I mentored the participants.  Consequently I briefly consider assorted action research models that can be used in order to substantiate the way in which it was applied in this study.

Various researchers have proposed variations of Lewin's (1946) action research model, but the general framework is still similar to the original model. He states that it can unfold through the spirals of initial diagnosis, data collection, analysis and feedback, action planning, implementation, evaluation and follow-up.  My role in this study has been that of researcher and peer mentor.  The five participants were considered as mentees, interviewees and co-researchers.

Two action research models, respectively from Griffiths (1990) and Hodginson and Maree (1998) are discussed to consider different models which had an impact on this research study.  The following action research model from Griffiths' (1990) contains three loops which add an inner loop associated with reflection in action and an outer loop associated with long-term reflection.  I used this model for contemplation purposes:  "Research proceeds by doing and making mistakes in a self-reflective spiral of planning, acting, observing, reflecting, planning, etc.  This spiral is one in which feedback is going on in many ways at once" (Griffiths, 1990:43).

**Doing**

**Planning**

**Monitoring**

**Evaluating**

**Systematic observation**

**Long term reflection**
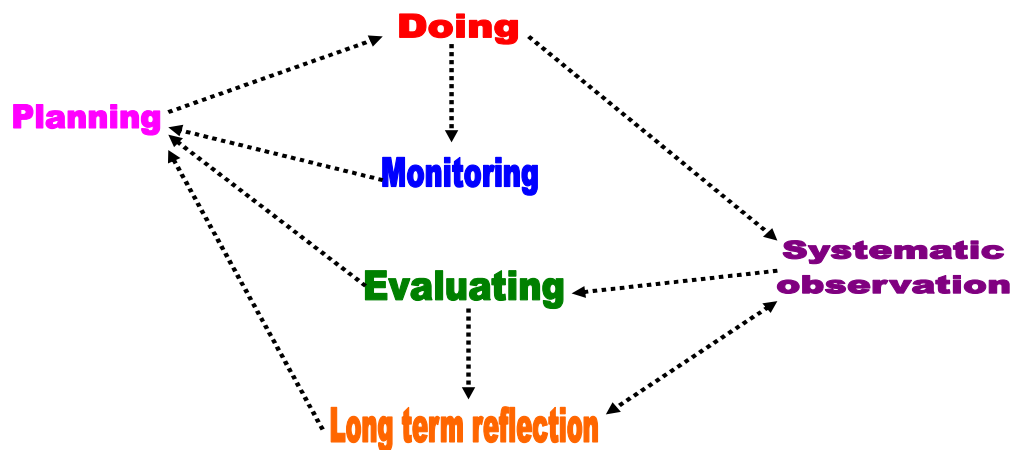
Figure 5:  Griffith's (1990) action research model

The next action research model from Hodginson and Maree (1998) was used by the novice teachers in their own teaching practices to reflect on their own practice.  This model was used during the mentoring sessions for action research facilitation.  The mentees considered their own professional development and decided to transform their practice deliberately.  They implemented Whole Brain Teaching© in their learning environment where they acted to improve it.  In order to observe the effect this would have on their own professional development and teaching practice they observed the effects of the new actions and reflected on the change process.  They made use of action research reflection forms (Appendix I) while observing the video recording they made of one learning opportunity.   Learner feedback questionnaires (Appendices G & H) and journal writings were used in order to reflect on their own practice.  The psychological and emotional effects of the mentoring process were evaluated as the D quadrant in the beginner teachers' brains were activated through the process.
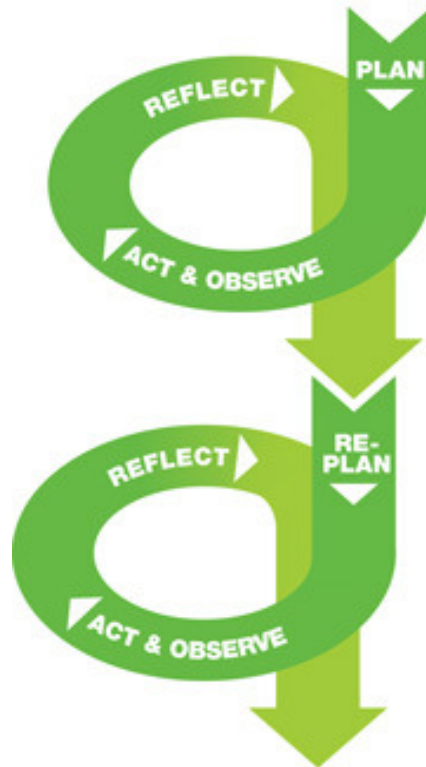
Figure 6:  An action research process (Hodginson & Maree, 1998)

With regards to the process or methods used in action research the following are regarded as important:  "When it is clear what issues are being tackled, the process of carrying out the research is rarely as linear and orderly as it might appear in an initial plan or report.  A significant feature of action research which everyone agrees upon is that it operates in cycles" (McNiff, Lomax & Whitehead, 1996:22).  Additional factors might be found to be important, requiring their own subsidiary investigation.  My aim was that of following an orderly and logical path, but also recognising that diversions and by-ways might be part of the most relevant and effective route (Kember, 2000:27).

In my study the following two spirals were present:  The primary spiral 1 was the action research I conducted in a prior study in my own teaching practice.  It also included the mentoring sessions I conducted with the five novice teacher participants, known as mentees.  At the same time the secondary spiral 2 was when the beginner teachers administered this research design in their own teaching practice.  I employed it in this manner as I wanted to administer the

effect action research and whole brain learning had on the beginner teachers' professional development.

Figure 7 illustrates this process in the format of a visual representation. "Cycles transform into new cycles, and so the whole enquiry may be seen as a cycle of cycles, which has the potential to continue indefinitely" (McNiff, Lomax & Whitehead, 1996). As has already been mentioned, I refer to two spirals in my study as illustrated in the next figure. My action research study of the mentoring sessions is the primary spiral 1. In that spiral various cycles are visible. My prior research I conducted in my own teaching practice, where cycle 1 commenced. I also delivered a paper on that research at a conference. Cycle 2 was concluded during this current study, when I conducted action research on my constructivist mentoring practice as a peer mentor to five beginner teachers.

The participants' action research studies, conducted in their own teaching practice, are spiral 2, as illustrated in the figure, emerging from the primary spiral. I, the mentor as well as all the participants, also presented this research at a conference.
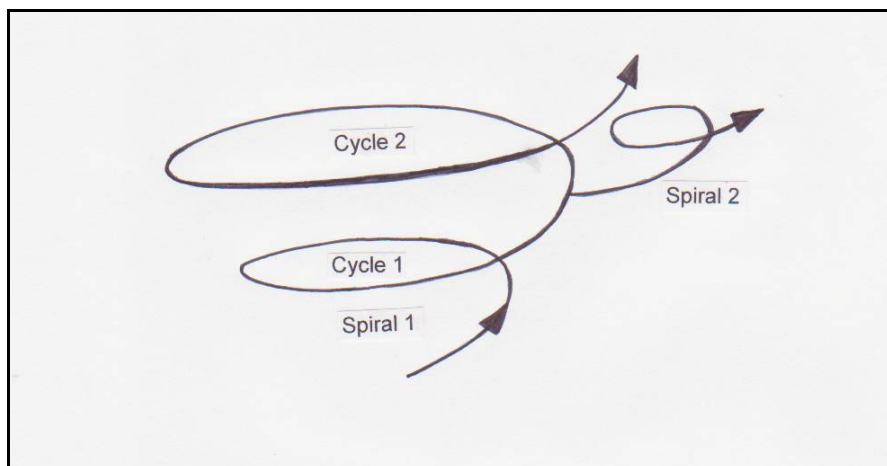


Figure 7:  Action research cycles (McNiff, Lomax & Whitehead, 1996).

The following summary of the essential components and methods of action research (Carr & Kemmis, 1986:165-166) is widely accepted:

> *Three conditions are individually necessary and jointly sufficient*
> *for action research to be said to exist:  Firstly, a project takes as*

*its subject matter a social practice, regarding it as a form of strategic action susceptible to improvement; secondly, the project proceeds through a spiral of cycles of planning, acting, observing and reflecting, with each of these activities being systematically and self-critically implemented and interrelated; thirdly, the project involves those responsible for the practice in each of the moments of the activity, widening participation in the project gradually to include others affected by the practice, and maintaining collaborative control of the process.*

Considering the aforementioned methods and components, I designed the field study, collected and analysed data according to the guidelines by Margulies and Raia (1978).  The final step of evaluation continued to analysis and reflection (Susman & Evered, 1978).   My peers and I actively collaborated throughout the process as suggested by scholars such as Elden and Chisholm (1993).  They therefore offered practical knowledge forged through their struggle with real-life problems, and contributed to the theoretical knowledge which Argyris et al. (1985) refer to.

Active teacher involvement was central to all the stages of the research process.  It extended from planning and preparing the research, through data gathering, interpretation and representation, finally to reporting and using the research outcomes as Mitchell et al. (2009) propose.  The beginner teachers conducted this in their own practice.

In Chapter 2 (figure 2) "A model for teacher change" is used to consider the observable change action research and whole brain learning had on the mentees' professional development - their own beliefs and attitudes.

## 3.4    Subjects

Sampling involves selecting units of analysis in a manner that maximises the researcher's ability to answer research questions set forth in a study (Teddlie & Tashakkori, 2003:715).  In my study I employed purposive sampling techniques and this is defined by Maxwell (1997) as a type of sampling in which "particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well as from other choices" (Maxwell, 1997:87).   It is also known as purposeful sampling and

Tomal (2010) defines it as a method where specific individuals are selected from whom improvement is desired. In the case of the study under discussion the participants or subjects were the beginner teachers I mentored on the use of Whole Brain Teaching© and action research in their classrooms.

"In action research, the researcher generally has a defined target population in which he or she desires improvement" (Tomal, 2010). It is therefore the most commonly used sampling technique in action research. I selected people that could best help me understand the central phenomena. They were teachers at three different Afrikaans medium primary schools. These are public schools in South Africa. Each mentee is located in Pretoria and in his or her first five years of teaching. Two mentees were in their first year of teaching, one in her second and two in their third year of practice. One of the novice teachers (mentee 5) unexpectedly had to undergo an operation, where he missed three mentoring sessions, but received the beginner teacher manual (Appendix L), which I developed, as well as all the other relevant material. His journey in this programme was different from that of the other mentees. I conducted one individual interview and facilitation session with him and he attended one group session.

Sampling frames is a formal or informal list of units or cases from which the sample is drawn (Teddlie & Tashakkori, 2009:180). In purposive sampling frames are informal and based on expert judgement of the researcher or some available resource identified by the researcher. A sampling frame is "a resource from which you can select your smaller sample" (Mason, 2002:140). The frame in this study was five novice teachers who indicated that they wanted to develop professionally. The participants were selected in different ways: Three of them attended a workshop I had presented on Whole Brain Teaching© and indicated their interest in this programme. I presented a paper at a seminar for senior staff, where some of the principals identified the other novices for the mentoring programme.

## 3.5  Data Collection

Data collection is essential in any research study; I considered selecting the best methods as essential in ensuring the acquisition of relevant and valid information.  The data collected form the basis of any analysis.

The sets of data were collected in many ways as the following quote affirms:

> *In recent years, the classroom learning environment paradigm has expanded its use of research methods from primarily using traditional surveys and questionnaires to incorporating more mixed methods.  The use of mixed method studies allows researchers to better understand what is actually occurring in the classroom* (Fisher & Khine, 2006:197).

In order to answer my research questions, I used questionnaires, video recordings and interviews to collect empirical data.

For the purpose of this action research I decided to use both quantitative and qualitative approaches.  The beginner teachers used action research in their classrooms where they also used a mixed methods approach to reflect on their teaching practice.  Journal notes, video recordings, observations and learner feedback questionnaires were used.

A quantitative approach was adopted by me - the peer mentor and researcher.  It entailed the use of mentee feedback and professional development questionnaires, mentoring evaluation forms and the HBDI.

A qualitative approach was followed through semi-structured interviews with the beginner teachers.  The group interviews were conducted in the context of mentoring the beginners on the effect action research and Whole Brain Teaching© had on their own professional development.

## 3.6    Instrumentation

### 3.6.1  Quantitative data collection

The quantitative data sets were collected through the use of the Herrmann Brain Dominance Instrument (HBDI) to identify the thinking preference profile of each individual.   De Vos et al. (2002:172) define a questionnaire as a set of

questions on a form, which is completed by the respondent in respect of a research project. The questionnaire was completed by the beginner teachers participating in the study as well as me, the peer mentor. The HBDI is based on 20 years of extensive research on brain dominance and over one million mental preference profiles have been analysed and "comprises 120 items, a four-category classification of mental preferences of thinking styles, sometimes referred to as learning styles" (Coffield et al., 2004:162).

The Herrmann Brain Dominance Instrument (HBDI) is an assessment tool that profiles a person's mental preferences or specific thinking modes. Having one's brain profile done is very costly. Fortunately the leadership of the respective schools agreed to cover the costs on behalf of the participating beginner teachers. The entire process of completing the HBDI online, having the data analysis done by the Ned Herrmann Group at Lake Lure in the United States of America, was managed by a registered HBDI practitioner. This professional HBDI practitioner conducted a feedback session on the outcome of the brain profiling during the first formal meeting the peer mentoring group had. These brain profiles form the core of the quantitative data gathered.

The results of the HBDI survey indicate the degree of preference you have for each of the four quadrants. The HBDI is not a test; there are no right or wrong answers. It does not measure intelligence, skill or competency. A low score in a given area does not indicate inability; it provides a participant with a better understanding of his/her potential development opportunities (The Herrmann Brain Dominance Thinking Styles Assessment, 2000). The use of the HBDI allows for a better understanding of each individual's thinking style. This helped the mentoring process because I better understood how each beginner teacher reasoned, communicated and preferred to teach in his or her learning environment.

I used a feedback questionnaire for my own reflection of the mentoring sessions I facilitated. This was a four-scale questionnaire, which focused on my use of discussions, educational technology, activities, professionalism, purpose and mentorship. The novice teachers also completed personal

reflection forms focusing on their action research. This stressed the following themes: Scholarly discourse, educational technology, activities, assessment, whole brain learning and their professional development.

### 3.6.2  Qualitative data collection

For the purpose of this study, two group interviews were conducted with the five novice teachers during the first and last mentoring sessions. The interviews were semi-structured and essentially qualitative data-gathering techniques were employed. I used this approach in the action research design, for as Fontana and Frey (2008:128) state in the edited volume by Denzin & Lincoln, "increasingly, qualitative researchers are realising that interviews are not neutral tools of data gathering, but rather active interactions between two (or more) people leading to negotiated, contextually based results". There is an inherent faith that the results are trustworthy and accurate and that the relation of the interviewer to the respondent that evolves during the interview process has not unduly biased the account (Atkinson & Silverman, 1997; Silverman, 1993). In my study I strived to be equitable in all the contact I had with the participants.

There are some advantages group interviews have over individual interviews: "They are relatively inexpensive to conduct and often produce rich data that are cumulative and elaborative, they can be stimulating for respondents and the format is flexible" (Fontana & Frey 2008:128).

The group-interview technique "straddles the line between formal and informal interviewing" (Fontana & Frey, 2008:128). In the group interviews I conducted, my purpose was exploratory where the questions were fairly unstructured or open-ended. I wanted to establish familiarity with the topic. In this study I therefore used collaborative conversations so that the research could be a context in which transformative processes occur. In the interviews I used probes as sub-questions to elicit more information. I videotaped the mentoring conversations for action research purposes and for the analysis of the conversations. During the group dialogues of the first and last mentoring sessions I mainly tried to keep my opinions to myself and was prepared with

icebreakers and adequate questions, as is expected of the effective facilitation of professional learning.

Merton et al. (1956) noted that there are three problems present in group interviews. These features were considered by me as the researcher: I had to keep one person from dominating the group; I as the interviewer had to encourage recalcitrant respondents to participate and I had to obtain responses from the entire group to ensure the fullest coverage of the topic. The requirements for interviewer skills are therefore greater than those for individual interviews. I had to use good facilitation skills to address the several types of difficult participants as Tomal (2010) identifies: There might be an excessive complainer, who uses the session to express negative feelings. The hostile interviewee can be difficult to control, while the long-winded interviewee can disrupt the communication by not allowing others to speak. The shy participant might feel uncomfortable in a group setting and may even find it hard to understand. The drifter interviewee usually takes discussions off track.

The interview technique is useful and it enabled me to summarise, reflect, stimulate and ask questions for clarification. The group interviews in this study revealed the teachers' knowledge, fears, failures, dreams and uncertainties as beginner teachers.

## 3.7    The Research Plan

As noted in Chapter 1, this empirical study took place over a period of ten months. Four mentoring sessions were conducted during this period. The table below is a plan of action on how the core research activities were sequenced:

| Mentoring session | Place and time allocation | Structure |
|---|---|---|
| 1.  Conducting HBDI | Individual participation on Internet<br><br>45 minutes | Individual session |
| 2.  HBDI feedback and group-interview | School staffroom<br>120 minutes | Group session |

| | | |
|---|---|---|
| 3.  Facilitation on Whole Brain Teaching© | School staff room  60 minutes | Group session |
| 4. Facilitation on action research | School staff room  90 minute session | Group session |
| 5. Reflection and evaluation  Group interview | School staff room  120 minutes | Group session |
| 6. Individual interview with mentee who was in hospital | Mentor's home  60 minutes | Group session |

Table 3:  Research plan

## 3.8    Data Analysis

Data analysis involves "organising, accounting for and explaining the data" to find patterns, themes and trends that would answer the research questions (Cohen et al., 2000:147).

The sets of interview data were made available to the teachers for confirmation. Member checking was therefore used to check the accuracy of the account. The data set was identified and stored.

Mixed method data analysis consists of seven stages:  Data reduction involves the reducing of the dimensionality of the qualitative and quantitative data, while the data display stage involves describing pictorially the qualitative and quantitative data (Johnson & Onwuegbuzie, 2004:22).  The third stage of the data analysis process is the data transformation stage, wherein quantitative data from the HBDI are converted into narrative data that can be analysed qualitatively, and qualitative data are converted into numerical codes that can be represented statistically (Johnson & Onwuegbuzie, 2004:22).  The data correlation stage involves that the quantitative data can be correlated with the qualitative data or the qualitative data being correlated with the quantified data.

The data consolidation follows, wherein both qualitative and quantitative sets of data are combined to create new or consolidated variables or data sets and the next stage, data comparison, where data from the qualitative and quantitative data sources are compared. Through this process the results of the HBDI can be considered with effect of how the beginners experienced the mentoring process. Data integration characterises the final stage, whereby both quantitative and qualitative data are integrated into either a coherent whole or two separate sets of coherent wholes (Johnson & Onwuegbuzie, 2004:22). I represented the themes after the mentoring sessions and data collections were conducted. During the analysis of data I summarised in detail the findings in the report.

## 3.9    Validity of Research

This study uses a variety of methods with the aim of confirming and validating its findings. Validity refers to the extent to which the data sets are accurate and useful (Tomal, 2010). Cohen et al. (2000) state that the use of two or more participants can lead to more valid and reliable data.

The value of action research depends on its implementation. I videotaped the mentoring sessions but minimised it for the participants' awareness in order to maintain a natural environment. I did not have anyone else in the room for the videotaping purposes, which could have intimidated them. I did not lose any participants during the data collection process, although one mentee unexpectedly had to undergo surgery. He later rejoined the programme. I used a different mentoring method with him but compared his professional development with the other participants in Chapter 4.

The effect of Whole Brain Teaching© was observed. To validate the findings I ensured that any other external or internal changes in the participants were monitored correctly.

The objectivity of the study was carefully considered. "Researchers need to take every possible step to reduce bias and make their findings as objective as possible" (Macintyre, 2000:6). The HBDI that was used is considered a valid

and reliable measure to produce consistent data regarding thinking patterns (Coffield et al., 2004). The model goes beyond the limitations of the left brain/right brain dichotic approach and includes metaphoric expressions for the cerebral and limbic dimensions of mental functioning (Herrmann, 1989).

For the semi-structured interview Kvale's (1996:237) guidelines were taken into consideration, where validation has to take place in all the stages (thematising, designing, interviewing, transcribing and analysing) of the interview-based investigation.

Mertens (1998:181) defines research to be valid "if there is a correspondence between the way the respondents actually perceive social constructs and the way the researcher portrays their viewpoints". In my study teachers were allowed to speak for themselves, with little interpretation from me as the researcher and peer mentor. I went through the reports I had compiled with the teachers afterwards, allowing them to check the transcripts.

In my dealings with the beginner teachers I strived to treat them with "respect, sensitivity and authenticity" (Smit, 2001:129). The fact that I was the researcher as well as the mentor could have resulted in potential problems of subjectivity and positive bias. The beginner teachers might have had feelings about me as their mentor. They could also have found it difficult to distinguish between my roles as mentor and as researcher. For this reason I decided to use the HBDI to give all parties the opportunity to better understand how everyone thinks and reasons.

**CHAPTER 4**

**EMPIRICAL STUDY**

## 4.1 Introduction

The data analysis and representation done in this chapter conform to the methodology outlined in Chapter 3. The action research project operated in terms of a primary and secondary spiral. These two spirals contained cycles where I made intermediate claims throughout and presented evidence in support. This process helped me to verify that I was aligned with answering the research question.

The chapter is organised in terms of the three sub-questions specified in Chapter 1. It initially reports the learning styles of myself, the peer mentor and researcher and those of the five participants. It then examines what the effect was on the beginner teachers' practice after considering the use of action research and Whole Brain Teaching©. Thirdly the role of peer mentoring on the professional development of beginner teachers is investigated.

This chapter provides analysis, interpretation and representation of data. I describe the data according to the data collection instruments I used. I report on the Herrmann Brain Dominance Instrument (HBDI), where quantitative and qualitative methods were used. The interviews conducted during the mentoring sessions which constituted a qualitative approach are also analysed. The reflections done through action research by me and the participants are explored and the findings from the qualitative and quantitative methods used are also presented. I finally conducted a text analysis of the raw data contained in the reflective journals compiled by the beginner teachers.

## 4.2 The Respondents

The participating beginner teachers are known as mentees. All the respondents are teachers at Afrikaans primary schools in Pretoria. The beginner teacher manual (Appendix L) of this mentoring programme as well as the interviews conducted were in Afrikaans. This is the participants' first

language.  They are briefly introduced in the following table, in terms of gender, age, years in education, the grade and subject they teach and their reasons for deciding to become a teacher.

| | Gender | Age | Number of years in education | Grade and subject | Reason for studying teaching |
|---|---|---|---|---|---|
| **Researcher/mentor** | Female | 26 | 4 | Gr. 5-7 Arts and Culture | *It's a passion and calling.* |
| **Mentee 1** | Female | 28 | 1 | Gr. 1-3 Physical Education | *Wanted something where I was able to do everything I liked.* |
| **Mentee 2** | Male | 22 | 1 | Gr. 5 Mathematics | *Have a passion to work with children.  I also love sport.* |
| **Mentee 3** | Female | 24 | 2 | Gr. 4 English | *I love the outdoors and working with children.* |
| **Mentee 4** | Female | 25 | 3 | Gr. 2 Class teacher | *Wanted to care for and help children.* |
| **Mentee 5** | Male | 26 | 3 | Gr. 7 Mathematics | *Passionate about sport and have goals for my career in education.* |

Table 4:  The respondents

The beginner teachers and I, the researcher or peer mentor, studied at three different higher education institutions in South Africa.

### 4.3 Herrmann Brain Dominance Instrument

### 4.3.1 Quantitative analysis

As stated in Chapter 3, all the participants and I, the mentor, completed the HBDI.  I explain each participant's profile as described in the analysis done by the Ned Herrmann Group.  It provided the participants with a visual plot of their thinking style preferences.

### 4.3.1.1 Peer mentor

My profile is triple dominant with the three most preferred quadrants occurring in the Lower Left B, Lower Right C and the Upper Right D quadrant. A person with this profile is characterised by a fair amount of balance between the organised and structured processing modes of the Lower Left C quadrant, coupled with the interpersonal and emotional modes of the Lower Right C and finally the Upper Right D aspects of holistic, synthesising and creative modes of processing. The lack of preference or even avoidance of the logical, rational and analytical processes of the Upper Left A would also typify this profile. The tertiary quadrant expressed in the Upper Left A tends to strengthen and make the other three primaries more visible.
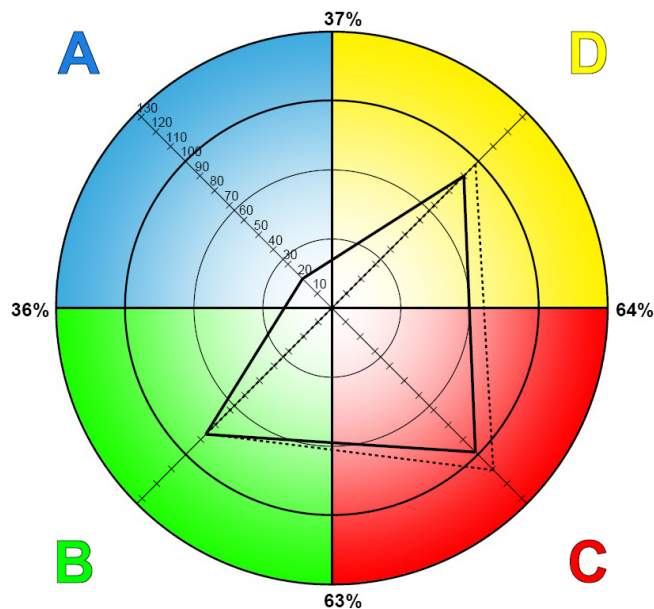


Figure 8:  HBDI profile of peer mentor

### 4.3.1.2 Mentee 1

Mentee 1's profile is double dominant, with the two primaries falling in the Lower Left B and Lower Right C quadrants. It is characterised by very strong inclinations in conservative thinking and controlled behaviour with a desire for organisation and structure as well as detail and accuracy. The primary in the C quadrant would equally show itself by interpersonal skills and sensitivity to feelings. It may indicate emotion, and perhaps an interest in music and sense of spirituality. Mentee 1 is also likely to demonstrate sensory intuition or "gut feelings". The lower two primaries represent an important duality for the person

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to resolve within themselves. The opposing qualities of control and structure, contrasting with the emotional and interpersonal aspects can cause internal conflict. The clear secondary preferences of the upper modes, both Upper Left A and Upper Right D, are also characteristic of this profile, with logical and analytical processing in the Upper Left A quadrant and holistic and creative thinking in the Upper Right D quadrant.
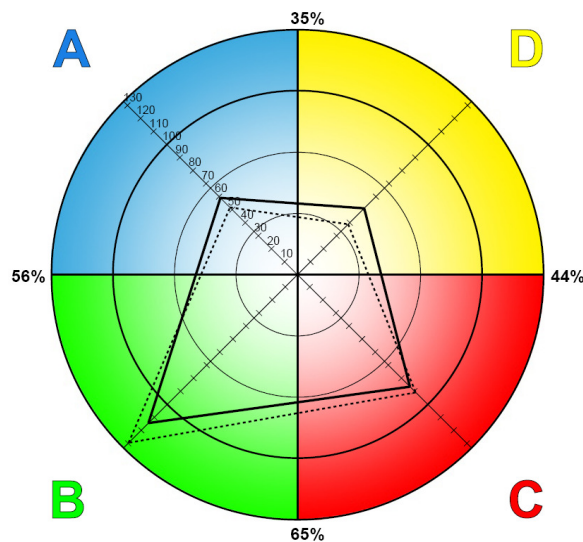


Figure 9: HBDI profile of Mentee 1


### 4.3.1.3 Mentee 2

Mentee 2 has a triple dominant profile. He has access to a certain thinking flexibility that comes from the multi-dominant nature of the thinking process. This allows him to move through the three dominant modes seamlessly, looking at all of the perspectives before making a decision. This profile has two primaries in the right mode, Lower Right C and Upper Right D quadrants and the third in Lower Left B. It is characterised by its multi-dominant and generalised nature, fairly balanced amount of understanding and ease of using the three primary quadrants. The preferred processing modes are creative and holistic (Upper Right D), interpersonal and feeling (Lower Right C), planning and organising (Lower Left B). The Upper Left A quadrant is least preferred, but is still typically quite functional in the use of the logical and analytical aspects of this quadrant.
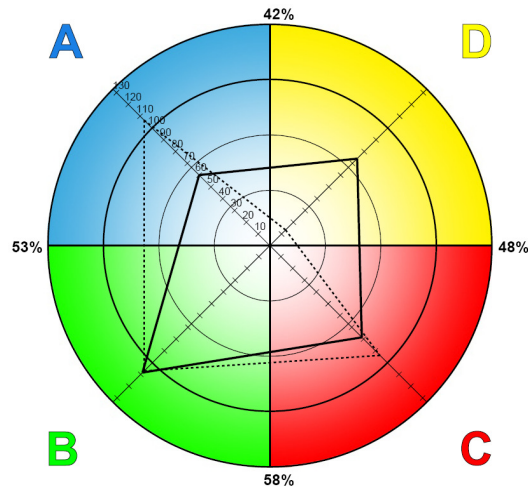
Figure 10:  HBDI profile of Mentee 2

### 4.3.1.4    Mentee 3

Mentee 3's profile is also triple dominant, with two primaries in the left mode, both Upper Left A and Lower Left B, and the third primary is in the Upper Right D quadrant.  The secondary, or less preferred mode, occurs in the Lower Right C quadrant, the more interpersonal, spiritual and emotional mode.  This profile is characterised by its multi-dominance, yet in a relative sense, it lacks a level of "personal touch" that would be present if the lower Right C quadrant was also primary.  Descriptors for this profile are logical, analytical and rational in the Upper Left A quadrant.  The more conservative, safe-keeping preference of the Lower Left B would be contrasted with the primary in the Upper Right D quadrant which is characterised as conceptual, holistic, creative and "risk-orientated" in this mode.
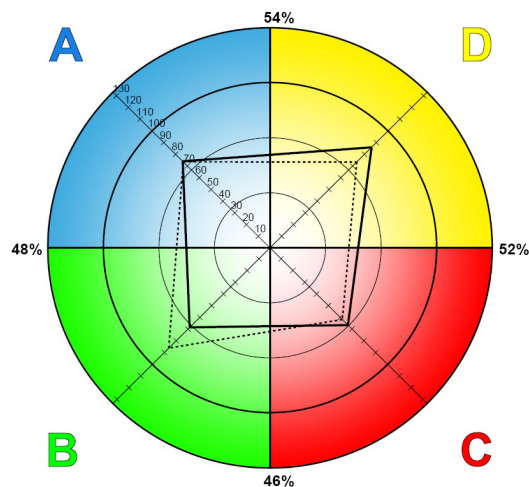


Figure 11:  HBDI profile of Mentee 3

### 4.3.1.5 Mentee 4

The profile of Mentee 4 is double dominant. It features two primaries in the right mode, quadrants C and D, and two secondaries in the left mode, quadrants A and B. It characterises the ability to be creative, holistic and synthesising in the Upper Right D quadrant and interpersonal, emotional and spiritual in the Lower Right C quadrant. The left mode secondaries in the Upper Left A have logical, analytical and mathematical thinking styles. The organisation, planning and structural characteristics are from the Lower Left B, in being functional, yet secondary to the preferred right modes of thinking.
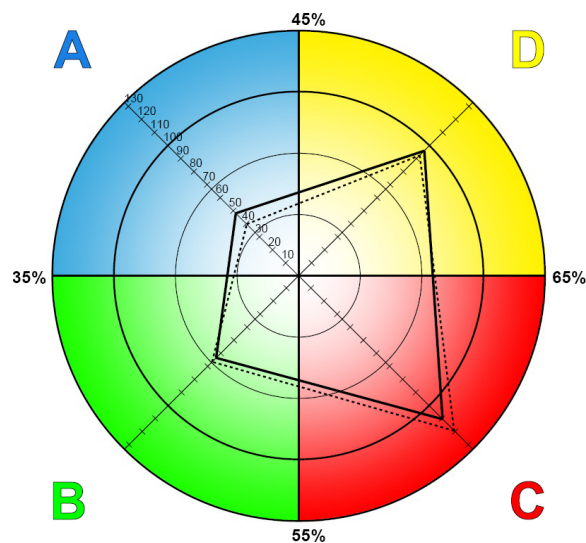


Figure 12:  HBDI profile of Mentee 4

### 4.3.1.6 Mentee 5

Mentee 5 has a double dominant profile with the two most preferred modes of processing occurring in the Upper Left A and Lower Left B quadrants. The characteristics of this profile are logical, analytical and rational in Upper Left A. It is also controlled, conservative and organised in the Lower Left B. The secondary of this profile is in the Upper Right D quadrant, in which the characteristics of the Lower Right C quadrant, emotional, interpersonal and spiritual, would be visibly lacking or even avoided as this is expressed as a tertiary. The distinct secondary/tertiary position of the two right quadrants would reinforce the strength and preference of the left modes and this person would clearly be seen as logical, rational, controlled and organised.
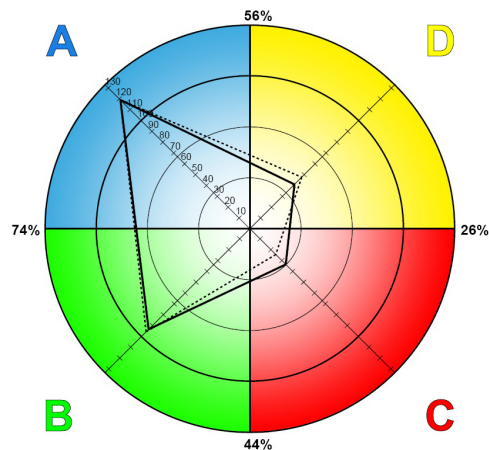
Figure 13:  HBDI profile of Mentee 5.

### 4.3.2  Qualitative analysis

Mentee 1 was surprised that her secondary quadrant was C; she did not realise that her interpersonal characteristics were so compelling.  Mentee 2 found it interesting that the HBDI portrayed that he has effective organising skills, as he did not consider his teaching practice organised.  He later, however, realised that he liked organising events at school and wanted his things in e.g. his learners' books very neat and structured.

Mentee 3 stated that she consider her profile not ideal for a Grade 4 teacher, as she is not fond of getting hugs from her learners.  She was therefore concerned about quadrant C being secondary.  She expressed the following about her HBDI profile:  *Jy hoop dalk dit is nie so nie, jy weet mos.  Jy sien jouself nie altyd so nie.  [You hope it is not the case, you know.  You do not always see yourself in that way.]*  She was, however, glad she did the HBDI as she understood herself better.  In the last mentoring session, she highlighted the importance of this instrument for the professional development of beginner teachers.

Mentee 4 agreed about her profile, as she is not very organised and not too particular about the precision of her Grade 2 learners' books.  Her primary was quadrant C and the reason why she decided to study education was also mainly emotional, as she had been taught by a teacher, who did not care about the learners and she was therefore determined to be different.  *So dit is alles*

*emosioneel hoekom ek onderwys geswot het. [The reason I studied education, was an emotional decision.]*

Mentee 5 is a Mathematics teacher, who concurred that he saw himself exactly as described in his profile. He is mainly organised and analytical. He admitted that he sometimes struggles to get along with his colleagues. After doing the HBDI he realised why other people were sometimes in disagreement with him.

## 4.4    Interviews

In this mentoring programme four group sessions were conducted, with one individual session for the mentee who was unable to attend the first three sessions. The first and last gatherings were sessions during which group interviews were conducted and the participants shared their opinions, values and ideas. The second and third sessions were facilitated by me, the mentor, and the theme was the use of Whole Brain Teaching© and action research.

The following themes were identified in these semi-structured interviews: Beginning teacher uncertainties, mentoring, professional development, Whole Brain Teaching© and action research. A qualitative approach was used. The outcomes of the data sets appear in the qualitative data analysis in 4.4.2. The questionnaires completed during three of the sessions in order to review their own professional development and learning environment were a quanitative approach that is also explained.

### 4.4.1   Quantitative analysis
### 4.4.1.1        Mentees' reflections
Quantitative analysis was done through the personal reflection questionnaires regarding professional development, teacher change and Whole Brain Teaching©. The beginner teachers reflected on these aspects as they progressed through the programme. The information contributed to the qualitative data obtained through the interviews. The teacher change and Whole Brain Teaching© aspects were reflected upon in the third and last sessions, as soon as they had already implemented Whole Brain Teaching© and were busy or done conducting action research. They had almost

completed the mentoring programme at that stage.  Professional development was contemplated on in the first, third and final sessions.  The following tables illustrate the progression detected throughout the mentoring programme:

■ Teacher change

The following figure was shown and the mentees had to consider their position on the model illustrating the process of teacher change.
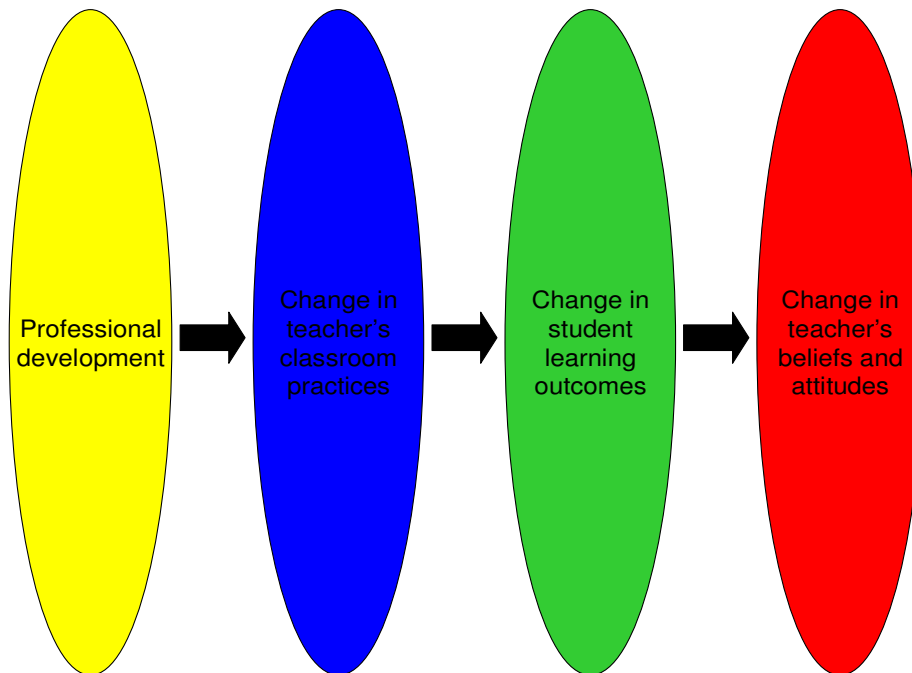


Figure 2:  A model of teacher change (Guskey, 2002:383)

| Mentee | Reflection 1 | Reflection 2 |
| --- | --- | --- |
| 1 | Change in teacher's beliefs and attitudes | Change in student learning outcomes |
| 2 | Change in student's learning outcomes | Change in teacher's beliefs and attitudes |
| 3 | Change in teacher's classroom practices | Change in teacher's beliefs and attitudes |
| 4 | Change in teacher's beliefs and attitudes | Change in teacher's beliefs and attitudes |
| 5 | Change in teacher's beliefs and attitudes | Change in teacher's classroom practices |

Table 5:  Reflections on teacher change

It is apparent from the feedback that three of the mentees considered that their beliefs and attitudes had changed by the end of the programme. Mentee 1 observed that she noticed a change in herself during the first reflection. She then detected new concerns that she wanted to address in her classroom. During the second reflection she was able to observe a change in her learners' learning after addressing those problems. Mentee 5's regression was different and he also sensed like that there were other things he needed to change in his practice, for example, involving all the learners in his learning environment.

■ Whole Brain Teaching©

| Mentee | Reflection 1 | Reflection 2 |
| --- | --- | --- |
| 1 | I like it a lot | I like it a lot |
| 2 | I like it | I like it |
| 3 | I like it a lot | I like it a lot |
| 4 | I like it a lot | I like it a lot |
| 5 | I do not like it | I do not like it |

Table 6:  Reflections on Whole Brain Teaching©

Only mentee 5 did not like the Whole Brain Teaching© approach. He indicated this sentiment from the beginning of the mentoring programme. All the other mentees liked it and wanted to use it in their teaching practice.

■ Professional development

| Mentee | Reflection 1 | Reflection 2 | Reflection 3 |
| --- | --- | --- | --- |
| 1 | Average | Good | Good |
| 2 | Average | Good | Good |
| 3 | Average | Good | Good |
| 4 | Average | Excellent | Excellent |
| 5 | Good | Good | Good |

Table 7:  Reflections on own professional development

The four mentees who commenced and progressed through the programme in the way it was planned, indicated an improvement in their professional development.  Only Mentee 5, who received the handouts and manual at the

same time as the others, but was only able to attend the last mentoring session, noticed no progression in his professional development.

The following self-reflective questions were asked in the final mentoring session with regards to the influence Whole Brain Teaching©, action research and the mentoring programme had had on each beginner teacher.  They also considered the seven educator roles according to the Department of Education's *Norms and Standards for Educators* (2000).  They detected improvement since the beginning of the programme.  Their responses regarding the roles are tabled below:

| Mentee | Did my practice improve after using Whole Brain Teaching© and action research? | Educator roles where I improved after starting with this programme: | Did this mentoring programme have an influence on my professional development? |
|---|---|---|---|
| 1 | *Yes* | ● *Learning  mediator*<br>● *Interpreter and developer of learning programmes*<br>● *Leader* | *Very much* |
| 2 | *Yes* | ●  *Administrator and manager*<br>● *Researcher and lifelong learner* | *Very much* |
| 3 | *Yes* | ● *Researcher and lifelong learner*<br>● *Administrator and manager* | *Very much* |
| 4 | *Yes (definitely)* | ● *Leader*<br>● *Researcher and lifelong learner* | *Very much* |
| 5 | *Both (yes and no)* | ● *Administrator and manager* | *Reasonably* |

Table 8:  Final reflections


### 4.4.2  Qualitative analysis

The following themes were identified in the semi-structured interviews I conducted during the mentoring sessions:   Beginner teacher uncertainties, mentoring, professional development, Whole Brain Teaching© and the mentees' future plans for their career in education.
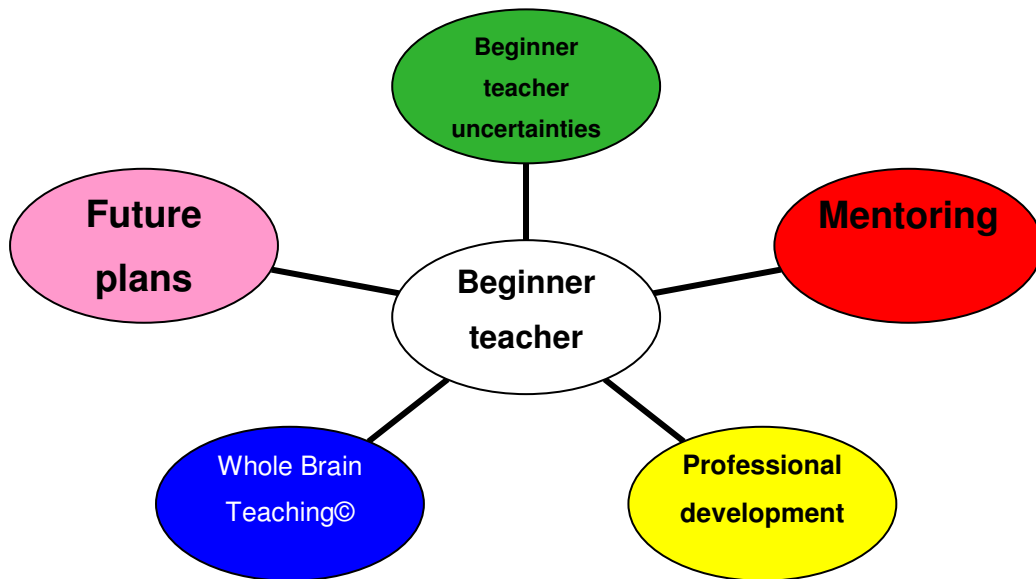
Figure 14:  Themes identified during interviews


**4.4.2.1        Beginner teacher uncertainties**

The participants experienced the same difficulties, even though they were positioned at different schools and were teaching various different subjects and grades.  One problem they did not expect to have or were prepared for, before they were in this profession, was the dynamics of the relationships between the staff members.  They thought that those with more experience would help them, but they did not.  They struggled to find their place on the staff as there were so many groups.  Mentee 3 stated:  *Niemand leer jou hoe om politiek te hanteer in die skole nie. [No one teaches you how to handle the politics in schools.]*

Another problem identified was the parents.  The novice teachers detected that some parents were of the opinion that they were not experienced enough. Mentee 3 had the following said to her by a parent:  *Ek is ouer as jy, wat weet jy? [I am older than you, what do you know?]*  Mentee 4 was told that she does not know anything as she does not have children of her own.

Mentee 2 did not like the term *beginner teacher*; as he believed someone is placed in a box and everyone thinks you do not know anything.  Mentee 3 felt

that teachers are also just seen as children at the school: *Ek was al by verskeie skole, jy is net nog 'n kind by die skool, hoe jonger jy is, is hoe jy hanteer word.  Party is nou al so lank in die onderwys en kan nie meer onderskeid tref tussen 'n kind en volwassene nie.  [Novice teachers are just like children at the school.   Some people cannot distinguish between a child and an adult, as they have been teaching for too long.]*

Another problem identified by especially Mentee 5, was the constant adaptation to new changes in our profession.  *Dit is moeilik, hulle sê net daar is die lêers van laasjaar, ek moes dan self dinge beplan, die tweede jaar moes ek dit dan weer verander.  [It is difficult, they just tell you there are the files from last year, I then had to plan everything and change it again the next year.]*

The mentees acknowledged that they had to do things again and again, as they did not know about something which had to be handed in or they did not receive support.  Mentee 2 stated that he was not told if he did something right or wrong, he would have wanted some guidance.  The other participants did not want to ask anyone, as they did not want to bother them or show their own incompetence.  Mentee 3 affirmed her uncertainty when going to another teacher for help: *Ek voel sleg, ek is jammer ek is alweer hier, maar ek weet nie wat om te doen nie!  [I feel awful, I am sorry for bothering you again, but I do not know what to do!]*   The negative approaches many teachers have towards the mentoring of student teachers influence how they treat beginner teachers.  Many teachers are not enthusiastic about students in their classrooms.  These things affected the participants, as they did not want to ask staff members for help.  Mentee 3 stated: *Jy is nie meer 'n student nie, maar jy het steeds die gevoel van ek wil nie 'n irritasie wees nie, ek wil nie in iemand se pad wees nie. Dit is hoekom jy nie vra nie.  [You are not a student anymore, but you still have the feeling that you do not want to be an irritation, that is why you do not ask.]*

Mentee 1 had worked at various different schools during her studies.  She stated that she did not have a problem with getting support from anyone at her school and feels confident to ask for help.  While identifying the reason, she reckoned that it is because of her personality, that she is at that age where she

does not have problems with people. The rest of the group contemplated that she has more confidence because of her previous working experience.

Different viewpoints were established regarding the more experienced staff at school. Mentee 1 and 2 address most staff members as Sir or Madam. Mentee 2 strongly stated: *Ek sal haar Juffrou tot ek daar weggaan, ek het soveel respek vir haar, sy is my senior. [I will call her Madam until I leave the school. I have so much respect for her, she is my senior.]* Mentee 4 declared that she will greet someone, consider how the person introduces him- or herself and that is how she will address the individual. The whole group acknowledged their respect for senior staff members. Mentee 1 declared why she regarded this aspect as very important: *Ek is grootgemaak om respek te hê vir ouer mense. [I was brought up to have respect for older people.]* Three of the five participants' parents are teachers and they affirmed that it had an influence on their motivation to be interested in the education profession. They also believe that it had an impact on their work ethics.

However, these novice teachers learn from senior staff, but acknowledged that they do look at things in a new way. Mentee 1 confirmed: *Ons het nog steeds respek en (sic) die goeie goed van die ou-generasie, want ons is so grootgemaak. Maar, ons kyk met nuwe oë na goed. [We have respect and (sic) the good things from the older-generation, but we look at things in a different way].* One of the immense problems they experienced was that senior staff was not always honest - they would rather speak about someone, than speak directly to that person. Mentee 3 uttered her frustration: *Dit gee jou daai onsekerheid, jy weet nie wat kom nou by die hoof uit nie. Niks word vir jou gesê nie. [It makes you uncertain; you do not know what is said to the principal. They do not tell you anything.]*

Mentee 5 who has been teaching for three years, considered how he treated new beginner teachers at his school. He confessed that he felt threatened, but at the same time thought he was better than new staff members. The group testified that other teachers only see beginner teachers as someone who would do the things they do not want to do.

### 4.4.2.2 Mentoring

Two of the participants have mentors allocated to them; three participants do not have anyone they look up to as a mentor. Everyone exclaimed that the mentoring relationship should be comfortable. Mentee 2 had a positive relationship with his head of department and described what he experienced when he started at the school: *Sy was een van die eerste onderwysers wat my actually embrace (sic) het, wat gewys het jy is actually (sic) welkom hier. [She was one of the first teachers who actually (sic) embraced me; she showed me that I was actually (sic) welcome.]*

Mentees 3 and 4 stated that they would rather express their difficulties and ask for advice from another beginner teacher. When asked if that person would be able to help them, they replied: *Nee, sy gaan nie, maar sy gaan meer simpatie hê. [No, she will not, but she will have more empathy.]* They were also dissatisfied that some mentors think the beginner teacher is only there to help them with odd jobs.

The group pronounced that a beginner teacher will probably need two different mentors. Mentee 1 confirmed: *Ek dink nie jou emosionele mentor en jou vakmentor kan dieselfde persoon wees nie. [I do not think that your support-mentor and your subject-mentor should be the same person.]* They were of the opinion that a beginner teacher needs a mentor that will show them when something is wrong. Mentee 2 maintained the following: *Ek dink ons almal is tot 'n mate nog soos 'n kind, jy wil aan die bek geruk word. [We are all in some way still like a child, you want to be told when you did something wrong.]*

Everyone in the mentoring group wanted to have mentors they could choose. They proposed that principals use HBDI profiles of the senior staff and consider who would work best with each beginner teacher. The principal should give two to three options and the beginner teacher should then have the choice where they want to go to for help. The workload is divided between the different mentors and the novice teacher will be able to work effectively with anyone of them. Beginner teachers will not feel like a burden when asking for

help and they can go to one person for subject support and to another for emotional support whenever they might need it.

Most of the participants stressed the need for and importance of a mentor. Only mentee 5, who was in his third year of teaching, felt that he did not need a mentor: *Ek weet nie, ek hou nie eintlik daarvan nie, ek hou nie van iemand wat voel hulle "spy" (sic) nou heeltyd op my nie, nee, ek sou eerder op my eie aan sukkel. [I do not know, I do not really like it, I do not want to feel someone is spying (sic) on me, I would rather struggle on my own.]* This reaction is characteristic of his brain profile which indicated a low preference for the C quadrant. He did, however, agree that mentoring sessions will work and help beginner teachers. He proposed that principals should initiate the programme and that the importance of it be emphasised in schools. He believed that beginner teachers should be empowered to attend such sessions.

The mentoring programme had a big effect on mentees 1, 2 and 4 as they realised they were not the only teachers who felt the way they did. Mentee 1 said that she was calmer, her planning had improved and the programme helped her to handle problems more adequately. Mentee 2 stated: *Dit is nie soos die ouer onderwysers wat vir jou sê as jy so voel, moet jy dit eerder los nie. [It is not like the older teachers telling you that if you feel like this, you should rather leave.]* He also pronounced that it helped him develop as a teacher. He testified to the following: *Ek tree baie meer professioneel op as wat ek gedoen het, ek het nou die ander dag 'n oproep met 'n moeilike ouer oor 'n situasie wat in die klas gebeur het, gehad. Toe ek van die telefoon afklim was daar 'n paar onderwyseresse wat dit gehoor het en hulle het gesê ek het dit baie goed hanteer. Dankie! [I am much more professional than I was. I received a phone call from a difficult parent the other day. When I was finished, a few teachers who heard the conversation congratulated me on how I handled it. Thank you!]* Mentee 4 was positive about the programme and felt it should have been done at university already.

When they were asked about the most appropriate time to do this mentoring programme, different viewpoints were given. As stated earlier, two mentees

were in their first year of teaching, one in her second year and two in their third year. Three of the mentees reckoned that the first year would be the best. Mentee 4 would not have felt alone and would have probably cried less. With regards to the use of Whole Brain Teaching© and action research, she considered that the earlier the better, as a habit becomes routine and then you do not want to make changes anymore. Mentees 2 and 5 also considered the first year as the most appropriate but Mentees 1 and 3 felt that their first year of teaching was very difficult as they had to adjust to everything at their schools. They suspected that a mentoring programme would have been too much to handle. They suggested that it be done in the second year of teaching.

When asked how they thought beginner teachers should be empowered, they considered the HBDI as significant. Mentee 2 struggled with assessment and would want a part of the programme allocated to address this aspect. He gained from this programme because he can now, for example, handle criticism from other people better. He summarised the need for a mentoring programme as follows: *Yes, definitely it makes you secure in your insecurity*. Mentee 5 also considered this programme as valuable, since it helps beginner teachers to become mature professionals.

Mentee 3 described her experience before the mentoring sessions as follows: *Jy is 'n emosionele wrak, jy bel jou ma, soek jou universiteitsgelde terug. Dan leer jy eers in jou tweede jaar, dit is okay (sic). Niemand leer dit vir jou nie. [I was emotional in my first year; I would call my mom and wanted a refund for my class fees from university. But now, I learned that it is okay, nobody teaches you that.]*

They admitted that the most appropriate and adequate gathering time to have mentoring sessions is a factor. We as a group had trouble getting everyone together for the sessions. The mentees gave the following ideas on how they think the programme should be employed in the future: They suggested that principals should be more involved in making sure beginner teachers have time available to attend sessions. Mentee 5 confirmed that there should be a

mentor at these sessions and that it should be done in conjunction with various schools.

### 4.4.2.3 Professional development

The mentees's opinions regarding the effect of these mentoring sessions were mixed. Four of the participants felt the sessions had improved their professional development. Mentee 3 affirmed the following: *Ek was op 'n selfmoordmissie. Met die mentorskapprogram het ek verstaan oor hoekom ons hier is en op die einde van die dag is dit waaroor dit gaan. [I was on a suicide mission, but with this mentoring programme, I realised why we are here and at the end of the day, that is what it is about.]*

Mentee 5 did not complete the mentoring programme in the same way as the other participants. He attended one individual session with me the mentor, where Whole Brain Teaching© and action research were explained. He was only available to attend the last group session. It was clear during that session that he did not feel part of the group with regards to the relationships which had been formed in the previous sessions. I therefore understood why he considered the programme only having a reasonable effect on his professional development.

One of the participants considered the effect this programme had on their professional development at the end of session four as excellent, three deemed it good and one as reasonable. The mentees highlighted that further studies and more experience as factors that would improve their own professional development further. Most of the participants want to continue to conduct action research in order to enhance their classroom practice.

### 4.4.2.4 Whole Brain Teaching©

Three of the participants liked this teaching method a great deal. One liked it and one did not like it. It is surprising that all the participants who indicated in their professional development questionnaires they liked it a great deal were female teachers. I presume that it is because more women struggle with, for example, classroom management than men. Four of the beginner teachers

pronounced that Whole Brain Teaching© and action research improved their teaching practice.  Mentee 5 was unsure if it had had an effect on his practice.

The participants implemented Whole Brain Teaching© during different time periods.  Mentees 1, 2 and 4 introduced it for four to five weeks; mentee 3 had implemented parts but not the entire programme for more than a year.  Mentee 5 used it in his practice for two weeks and also indicated that the reason why he did not like it was that it was too noisy, as he prefers a quiet classroom.  He also supposed that it was because he was a Mathematics teacher.  He indicated the following:  *In sekere gevalle was dit vir my maklik en op 'n ander manier dink ek, ek wil eerder voortgaan soos dit was.  [It was easy for me in certain respects but I think I would rather go on as usual.]*  He was also sceptical that this teaching method can be used by a teacher in their first year of teaching.  He was concerned that the learners would think they could take chances and that the learners were only going to have fun in such a learning environment.

Mentee 2, also a Mathematics teacher, admitted that he felt the same as Mentee 5 about Whole Brain Teaching© in the beginning of this programme.  In the last session he testified:  *Ek hou ook baie daarvan, dit is nie meer net soos nou praat ek en hulle sit daar nie.  [I like it a lot, it is not like they just sit there and I do all the talking.]*  He observed that his learners were motivated on many levels and that there was also participation in the classroom.  Mentee 4 agreed that Whole Brain Teaching© changed her classroom practice completely and she was excited to go to school in the morning.  Most participants agreed that their learners pleaded with them not to stop with this teaching method.  Mentee 3, the English teacher, who had implemented this programme for the longest time had the following to say about the effect it had:  *Ja, vandat ek dit doen, was ek nog nie een keer ingeroep deur die hoof nie.  My kinders het verbeter, akademies, ja, ook met spelling. [Yes, since I started using it, I have not been called to the principal's office once.  My learners have improved academically and with spelling.]*

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Mentees 1 and 2 were asked by fellow teachers at their schools to facilitate the use of Whole Brain Teaching© in their classrooms.  Mentee 1 had already helped teachers to implement it and they have used this approach in their learning environments.  As a first year teacher mentee 1 declared the following: *As jou klasbestuur reg is, is al die ander dinge, soos administrasie, werkverhoudings, ens. makliker om te hanteer.  [When the classroom management is in order, all the other things, like administration, relationships, etc. are easier to handle.]*  She therefore considered this teaching approach as essential in achieving whole brain learning and handling other responsibilities in the classroom.

### 4.4.2.5　　　　Future plans of mentees

In the second session, the following questions were asked, the mentees' responses to these questions are tabled below:

● Question 1: Is there a future for me in education?

● Question 2:  Where do I see myself in ten years' time in education?

● Question 3:  Is teaching as I dreamed it would be?

● Question 4:  Reason for the answer in question 3:

| Mentee | Questions | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| **1** | *Yes* | *A netball organiser, teaching Grade 1 or 2.* | *Yes* | *Working with children and seeing how blessed I am is worth the sacrifice.* |
| **2** | *Yes* | *A respected teacher, perhaps a head of department or sport organiser* | *No* | *Discipline is a problem.* |
| **3** | *Yes* | *Head of department or having my own remedial school* | *Yes* | *Grew up in a house with teachers as parents.* |
| **4** | *Yes* | *Head of department* | *No* | *It is a more degrading profession than I imagined.* |
| **5** | *Yes* | *Deputy principal or headmaster* | *Both* | *Some things are happening fast and other things take too long.* |

Table 9:  Educational reflections

During the last mentoring session the following questions were asked with regards to the beginner teachers' future plans in education. The responses are tabled below:

| Mentee | Would you stay in education? | Your future plans? |
|:---:|:---:|:---|
| 1 | Yes | *I wish to be able to have my own classroom, in order to really implement Whole Brain Teaching©. I aspire to do my honours degree and dream of being the netball organiser.* |
| 2 | Yes | *I want to do my honours in education management in two years' time. I then desire to be the head of department, then the deputy principal and finally become a principal. I need to obtain more experience.* |
| 3 | Yes | *I yearn to do more action research, have my own remedial class and study further. I have already applied for my honours in inclusive education for next year.* |
| 4 | Yes | *I want to use Whole Brain Teaching© in more ways and do more action research. I dream of studying further. I want it to signify something to someone, just as this programme has meant something to me. I wish to become a lecturer.* |
| 5 | *Yes, every job has good and bad things, you have to learn to adjust.* | *I want to think before I speak. In the classroom I have to concentrate on stimulating all the learners in my classroom. I dream of becoming deputy principal in the next three years and then principal.* |

Table 10: Future plans of mentees

## 4.5 Action Research

The action research design was used throughout the course of the study by me, the mentor and by all the participants. It was conducted as follows: During the primary spiral of my action research project, mentoring sessions were held where the mentees considered their own professional development and decided to improve their practice deliberately. These sessions were facilitated by me, the researcher and peer mentor. I conducted semi-structured interviews and discussions as explained in 4.1. I reflected on the sessions I facilitated through observation sheets, video recordings and the evaluation questionnaires completed by the participants.

In the secondary spiral the mentees simultaneously implemented Whole Brain Teaching© in their learning environment where they acted with a view to improving their practice. The primary and secondary spirals progressed in conjunction with each other in order to observe the effect this would have on

the beginner teachers' professional development and their teaching practice. They observed the outcomes of the new actions and reflected on the change process. They made use of critical reflection forms while observing the video recording they had made of one learning opportunity where Whole Brain Teaching© was implemented. Learner feedback questionnaires and journal writings were also used in order to reflect on their own practice and professional development.

### 4.5.1   Action research spiral 1

While conducting this research study I held interviews and discussions with the mentees. The purpose of the study was clearly explained to the participants in the consent forms (Appendix A). All the participants have a B.Ed qualification. Mentee 5 has an honours degree. Two participants have a B.Ed (Foundation Phase) qualification and three of the respondents have a B.Ed (Intermediate Phase) degree. One of the mentees studied part-time and the rest of the group were full-time students. Everyone is beginner teachers at Afrikaans-medium schools in Pretoria and their headmasters gave consent for their participation in this study (Appendix B).

Four mentoring sessions were conducted during the primary action research spiral. My role was that of facilitator, researcher and peer mentor. The purpose was to consider the effect the application of the Whole Brain Teaching© approach and action research through peer mentoring would have on the professional development of these beginner teachers.

### 4.5.1.1      Mentoring session 1

I conducted four mentoring sessions. The first session was an introductory session in which the results from the Herrmann Brain Dominance Instruments (HBDI) were discussed and the experiences of beginner teachers considered. I reflected on the following during the first mentoring session: Questioning, mentoring, the interview structure and how whole brain interviewing was used.

As the interviewer I pondered on the type of questions I asked and used a variety which focused on the beginner teachers' experiences, opinions, feelings

and values.  I found that during this first session I mostly focused on their opinions as beginner teachers.  As interviewer and peer mentor I wanted to get to know the mentees and I wanted them to realise that they were in the group to learn from one another and to be candid in relying on the group for support. According to Bloom's Taxonomy I employed the levels of knowledge, analysis and evaluation.

Reflecting on how I performed as a peer mentor I realised that I had considered career enhancing and psycho-social functions.  I was focused on their beginner teachers' experiences.  Through the career-enhancing functions on my observation sheet, I considered how information was shared, career strategising addressed as well as job-related aspects and challenges experienced.

During the mentoring sessions I deliberated on the following psycho-social functions I as peer mentor had to employ:  Confirmation, emotional support, personal feedback, friendship and mutuality, which was necessary for us as a group, as we had a joint focus of developing professionally.  The beginner teachers mostly shared information and spoke about job-related aspects.  All psycho-social functions were addressed, since I wanted to ensure that the introduction was an effective foundation for the rest of the mentoring programme.  It ensured openness and honesty from me, the mentor, as well as from all the mentees.  We shared experiences and also supported one another.

In order to consider the structure of the interview I looked at the following important features:  Funnelling, confirmation, encouragement, verbal communication and staying concentrated on the purpose of the programme and the discussions.  I used probes for clarification and elaboration purposes. According to the observation sheets I used for reflection, I ensured our discussions were directed towards the purpose of the study.  I used verbal communication as a means of making the participants comfortable with the feedback, but also ensured I did not influence their responses.  I confirmed their responses in order to understand how and what they were saying.  During the probes I wanted them to elaborate on certain aspects.

Funnelling is a concept used during interviews which describes the process of beginning at a general focus and then proceeding to the core aspect. It was not necessary in this group session as they mostly addressed the core aspect being discussed early on.

The idea of whole brain interviewing is based on whole brain learning principles. I wanted to understand how my interviewing was structured with regards to addressing whole brain thinking and reasoning. Mostly the A and C quadrants were stimulated and the B and D quadrants were slightly enthused. This session did not require total organised thinking and it was also not focused on their intuitive competence, as they mainly shared information or interacted with the group.

### 4.5.1.2 Mentoring session 2

During the second session I introduced the beginner teachers to Whole Brain Teaching©. I facilitated the group and afterwards pondered on my use of the activities, Whole Brain Teaching©, educational technology and questioning.

The activities were completed by me and the mentees. It addressed whole brain learning where quadrants C and D were specifically stimulated; the interactions between the group members were the main reason for this. The types of activities used were demonstrations, some were text-based and others discussions. The mentees worked in the group or on their own. Nothing was done in pairs and no games were played.

The Whole Brain Teaching© presentation was done towards the end of this session when both the mentees and I were involved. Whole brain learning was addressed as all the quadrants in the brain were activated. All the principles, games and classroom organisation functions were explained. They did not play or do the most of the aspects of Whole Brain Teaching© themselves, as the time-limit was a factor, I consider that as a shortcoming. I believe the mentees should have been more involved, as they had to utilise this teaching method in their own practice afterwards.

Videos, text, PowerPoint and posters were the educational technology I used in this session. This ensured that whole brain learning was addressed and the variety of media facilitated all the levels of Bloom's taxonomy.

During this mentoring session I asked most of the questions in order to receive feedback on what they thought about the Whole Brain Teaching© approach. All the learning styles and the levels of Bloom's Taxonomy were addressed.

### 4.5.1.3 Mentoring session 3

This session was conducted after the beginner teachers had introduced Whole Brain Teaching© in their classrooms. It was conducted in order to familiarise them with action research. The mentees gave feedback about their experience of utilising Whole Brain Teaching© in their classes. In this session I contemplated the following aspects during my own reflection: Mentoring, psycho-social functions, whole brain interviewing, the structure of the interview, activities, educational technology and questioning.

Mentoring is a main focus of this study; both the mentees and I shared information. In respect of the career-enhancing functions it was mainly focused on job-related aspects. I believe that I should have used a more challenging approach for the mentees to think about the transformative advantage action research can offer their practice.

As stated, I also wanted to monitor their progress and their experience of Whole Brain Teaching©. This resulted in a broad occurrence of the psycho-social functions. The characteristics most visible were those of personal feedback and confirmation.

Through my observation of the video evidence it was clear that the activities in this 70 minute session addressed all four quadrants. Both the participants and I were involved and demonstrations were given. They also worked with text. We had discussions directed towards the beginner teachers' individual experience in their classroom. I gave them a challenge or quest in which they had to reflect on their own learning opportunity by means of action research.

The education technology used varied from PowerPoint, and text to video. It initiated whole brain thinking and four levels of Bloom's Taxonomy were dealt with.

A part of the session was dedicated to discussions structured around interviews. It was predominantly planned around the purpose of the challenge they received, where they had to conduct action research in their practice. I spontaneously used verbal communication. During this arranged session funnelling and the seeking of confirmation were observed. Probes were also applied for clarification and elaboration purposes. Whole brain interviewing was conducted during this session and the A, B, C and D quadrants were stimulated.

The questions during the facilitation part of the mentoring session were essentially asked by me, the peer mentor. All the quadrants in the brain and most levels of Bloom's Taxonomy were addressed. The questions asked for interview purposes focused on their experience, opinions and feelings. The value-based facet was not persistent, as this session was not the same as the first session, where they had to focus on their personal and beginner teacher judgements and experiences only.

### 4.5.1.4    Mentoring session 4

The final session was established by me and the mentees as the last group mentoring session but not regarded as the end of their professional development. In order to answer my research questions and to consider what effect the use of Whole Brain Teaching© and action research had on their professional development, this session was a semi-structured group interview.

The questions I asked were used to uncover their experiences, opinions, feelings and values based on the mentoring programme. All the questions were directed towards whole brain interviewing.

PowerPoint presentations, two video clips and reflective questionnaires were used.  Bloom's taxonomy was considered while using the educational technology in the classroom.

The structure of the interview was organised by me, the researcher and peer mentor, to determine the effect of this programme on their professional development.  Therefore essentially funnelling and confirmation techniques were used, although encouragement and verbal communication were still important.  Probes were applied throughout this session.

During this interview the mentees mainly gave feedback on career-enhancing functions.  They shared information and spoke about their career strategising, job-related aspects and challenges.  With regards to the psycho-social functions, personal feedback was the focal point of the discussions.  The other facets of confirmation, emotional support, friendship and mutuality were secondary concerns.

The participants completed two evaluation questionnaires about the mentoring programme and my facilitation of the group sessions.  They had to indicate the regularity and use of the following aspects:  Discussions, use of educational technology, activities, attention to their personal goals, consideration of their professionalism and how mentoring was conducted.  The following numbers signified the subsequent ratings:

1 - Almost never
2 - A few times
3 - Regularly
4 - Almost always

The following graph specifies the participants' experiences in the mentoring sessions according to the above features.
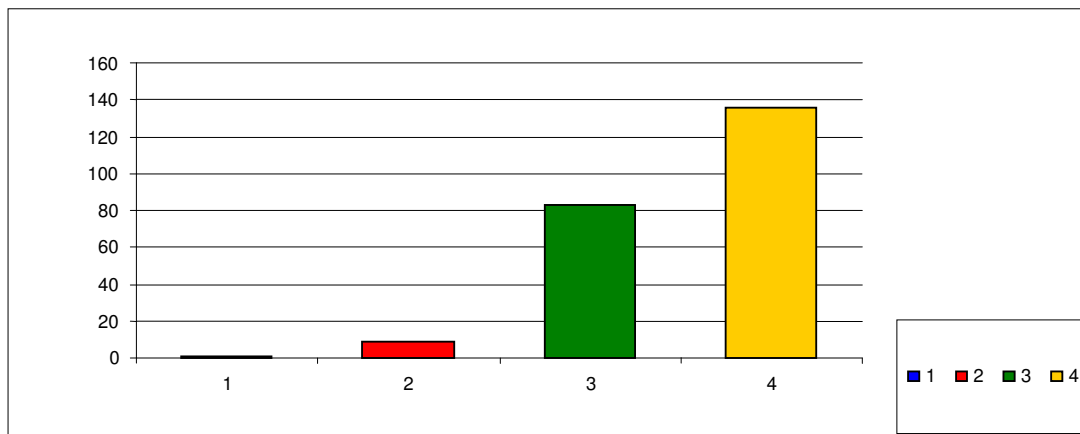
Figure 15: Evaluation of mentoring programme

From the evaluations it is clear that the majority of the mentees had a very positive experience during the mentoring programme and facilitation sessions.

### 4.5.2 Action research spiral 2

The primary and secondary action research spirals were conducted simultaneously. I, the peer mentor, administered the primary spiral in the mentoring session with the beginner teacher participants as described in 4.5.1. These mentees conducted action research in their own practice through the secondary spiral. They had to reflect on their learning opportunity through the use of a video recording, questionnaires and observation sheets.

### 4.5.2.1 Mentee 1



This participant is a physical education teacher in the Foundation Phase. Her teaching practice is not in a classroom, as is the case with the other beginner teachers. She mainly facilitates while on the sports fields and utilises this teaching approach in her own specific situation. The activities and questions conducted in this learning opportunity activated quadrants A, B, C and D. She played a game with the learners, did a demonstration and

conducted revision. They worked in groups and in class-format. All the levels of Bloom's taxonomy were applied. With regards to Whole Brain Teaching© she only used the "Class-Yes" principle and the rules. Whole brain learning in this Grade 3-class was activated.





She usually employs specific physical education equipment in every learning opportunity. Whole brain learning was kindled and all of the levels of Bloom's taxonomy are detectable with regards to educational technology used.

During the first and last mentoring sessions the mentees did reflection on their own teaching practice with regards to the discussions, educational technology, activities, professionalism, assessment and whole brain learning done. The following chart is mentee 1's reflection of the effect the use of action research and Whole Brain Teaching© had on her practice.
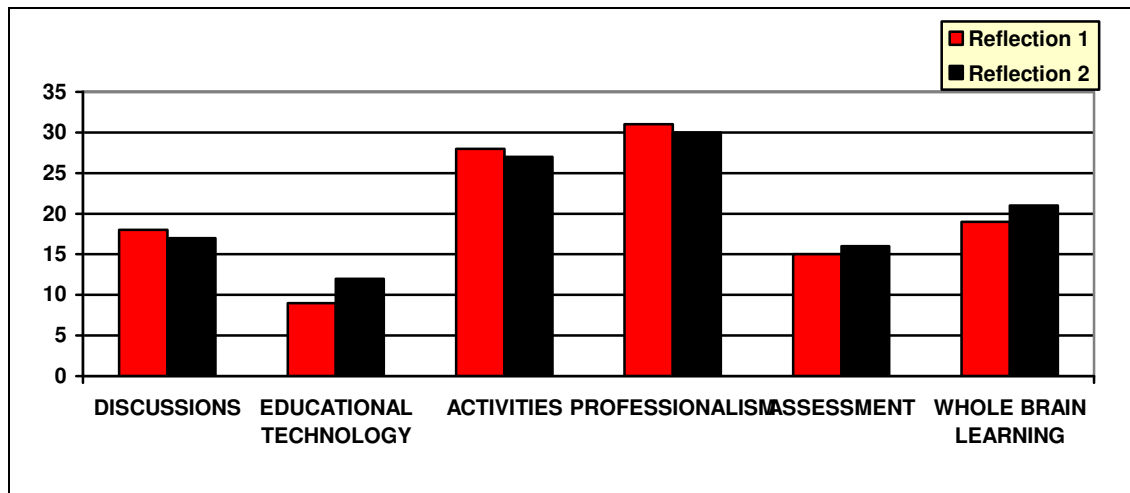
Figure 16:  Reflection chart:  Mentee 1

The graph indicates that Mentee 1 improved with regards to her use of educational technology, assessment and whole brain learning.  There was however a slight decrease in feeling content with regards to the discussions and activities utilised in the learning opportunities.  Her reflection indicated a slight decrease with regards to the analysis of her professionalism.

### 4.5.2.2 Mentee 2

It is this mentee's first year as a teacher.  He conducted action research once before as a student.  He is a Mathematics teacher for Grade 5 learners.  The activities he did in his learning opportunity enhanced the B, C and D quadrants of his learners' brains.  The learners worked individually only.  They did revision, had a demonstration, investigation and worked with text.

During his observation of his use of questioning in this learning opportunity he saw that it invigorated whole brain learning.  The first three levels of Bloom's Taxonomy were addressed.



He used the following Whole Brain Teaching© principles:  "Class-Yes", "Teach-OK", gestures and the "Scoreboard".  No games were played and the rules, "Countdown-method" and "Volume meter" were managed in this learning opportunity.   He presumed that the B, C and D quadrant were enhanced.

He did two reflections of his own teaching practice during the mentoring programme.  In the following graph his first and last reflections are compared. In his teaching practice he advanced in his use of discussions, assessment and educational technology.  His perception of the use of activities, his professionalism and employment of whole brain learning was unaltered.
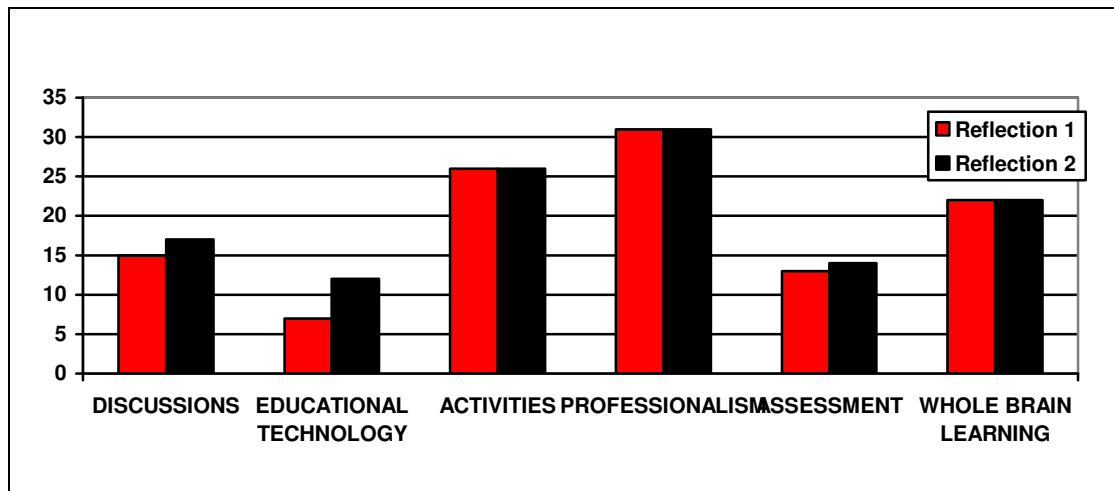
Figure 17: Reflection chart: Mentee 2

### 4.5.2.3    Mentee 3

This beginner teacher is a Grade 4, English teacher.  She has used parts of Whole Brain Teaching© for almost a year.



The learners completed most of the activities during the learning opportunity and all the quadrants of whole brain thinking were specifically stimulated.  They worked in pairs and on their own.  Demonstrations and a quest, in which they had to search for answers to assignment questions, were conducted in the classroom.

She did not use all the Whole Brain Teaching© approaches in the learning opportunity she employed for observation purposes. The A, B, C and D quadrants were considered. The "Class-Yes", "Teach-OK" and "countdown method" were employed.



This teacher made use of an over-head projector as an educational technology tool. This activated the A and B quadrants of the learners' brains. The lower levels of Bloom's taxonomy were portrayed.

During personal reflection done in the format of a questionnaire, the following was concluded with regards to this mentee's first and last reflections:
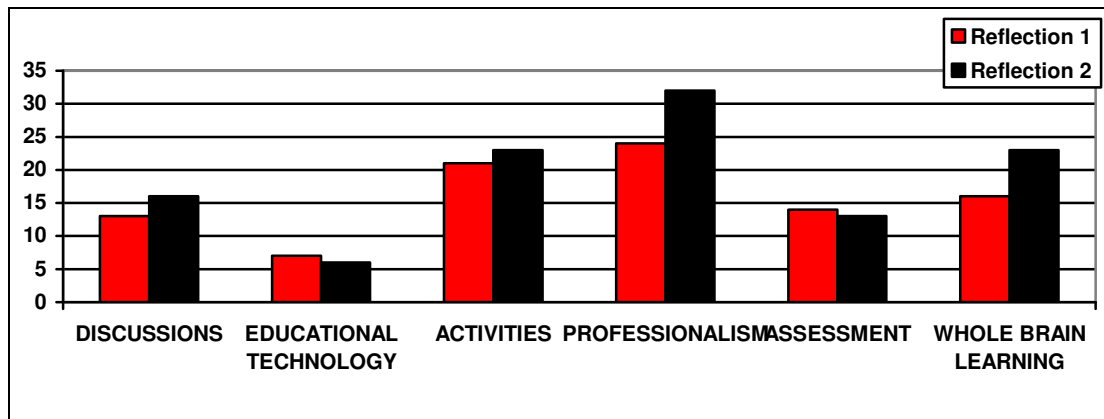
Figure 18:  Reflection chart: Mentee 3

Most of the aspects indicated an improvement, especially with regards to her professionalism and the stimulation of whole brain learning in her practice.  The aspects of assessment and educational technology showed a slight decline. The reason for this is that the second reflection was done after she had conducted action research in her own practice and she then distinguished it as features she could improve on.

**4.5.2.4       Mentee 4**

Mentee 4 involved her Grade 2 learners in this learning opportunity.  All the learning styles were established through the activities completed.  The learners worked on their own, in pairs and also did class activities.  They did revision, worked with text and there were demonstrations.  In her comments, she wrote: *Ek moet leerders meer betrokke maak by die les. [I need to make learners more participative during the lesson].*
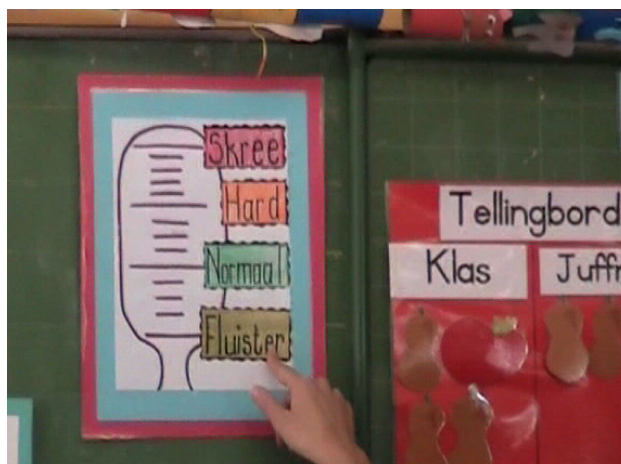
Mentee 4 used questions in an effective way and ensured the application of all the whole brain quadrants.

The following Whole Brain Teaching© methods were observed: "Class-Yes", gestures, "Eyes and Ears" and the "Scoreboard". The "Super Speed Reading" game was played. For the objective of effective classroom management she used the "Volume meter", "Guff counter" and the rules. She indicated that she wants to become more comfortable with the games and would like to play them with the learners. Whole brain learning was activated.



The following education technologies were employed: Word cards and posters. She commented that a teacher could never use too many forms of media. The use of these media utilised whole brain thinking and most of the levels of Bloom's Taxonomy were perceived.



This mentee indicated during her reflection that she had advanced with regards to the implementation of whole brain learning, the use of activities and her professionalism. No change was noticed in classroom discussions, educational technology and assessment. It is visible in the following figure:
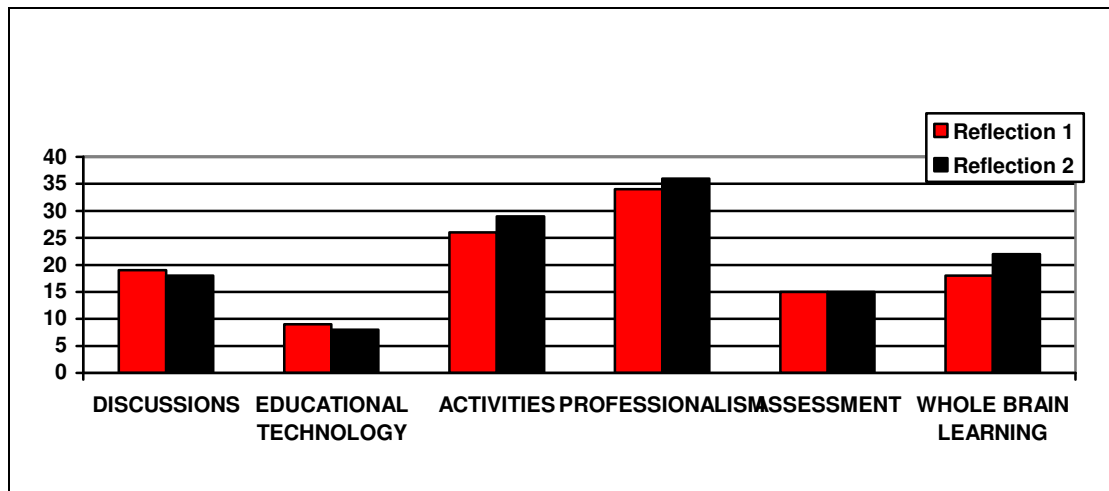
Figure 19: Reflection chart: Mentee 4

### 4.5.2.5 Mentee 5

This mentee conducted action research in his Mathematics classroom. In this learning opportunity the activities he planned, stimulated only the A and B quadrants of the brain. The learners worked individually and in class-format. The type of activities varied from a demonstration, revision, a text-based activity to an investigation.

This mentee's use of questions stimulated the A and B quadrants. The first four levels of Bloom's taxonomy were activated. The following Whole Brain Teaching© concepts were identified in this learning opportunity: The use of "Class-Yes", gestures and the "Scoreboard". No games were played and the rules and "Countdown methods" were not used. Only the A and B quadrants were activated.

He used the following educational technology: The black board, paper, triangles, 3D shapes and mathematical instruments. The A, B and C quadrants were activated.
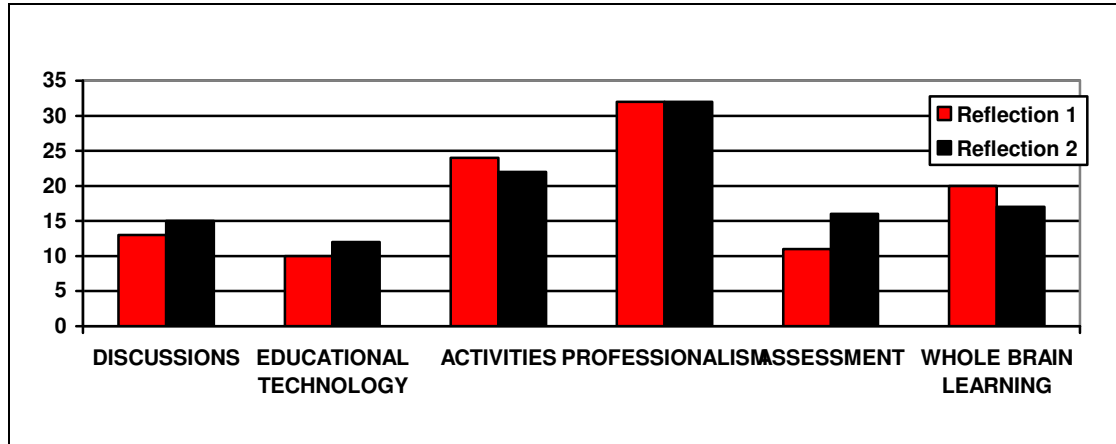


Figure 20: Reflection chart: Mentee 5

This mentee was able to attend the last mentoring session only because of personal circumstances. The following aspects were addressed in his professional development, when considering the first and last reflections he did: His use of discussions, educational technology and assessment improved according to him. His professionalism was unchanged but whole brain learning and his viewpoint on the use of activities declined according to his reflections.

### 4.5.2.6    Feedback from questionnaires

The following chart is a summary of all five mentees' reflections. It was provided to them to reflect on their own teaching practice.
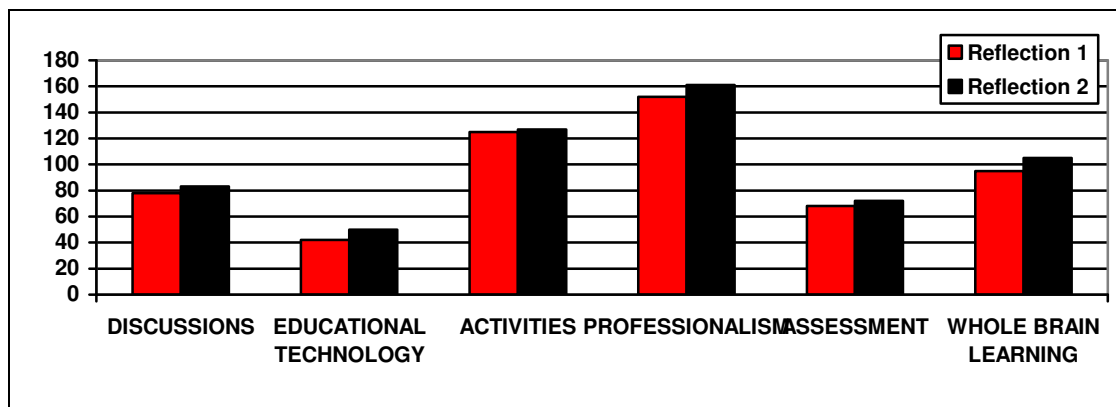


Figure 21: Chart: Beginner teachers' reflection

The mentees' perceptions indicate an increase in all six aspects they evaluated in their classroom practice. I can therefore conclude that their perceptions regarding their classroom practice had changed from the first reflection done during the introduction in session one towards the final session completed at the end of the mentoring programme.

The following is a summary of the learner feedback with regards to Whole Brain Teaching© received from the questionnaires the learners completed in each participant's context.
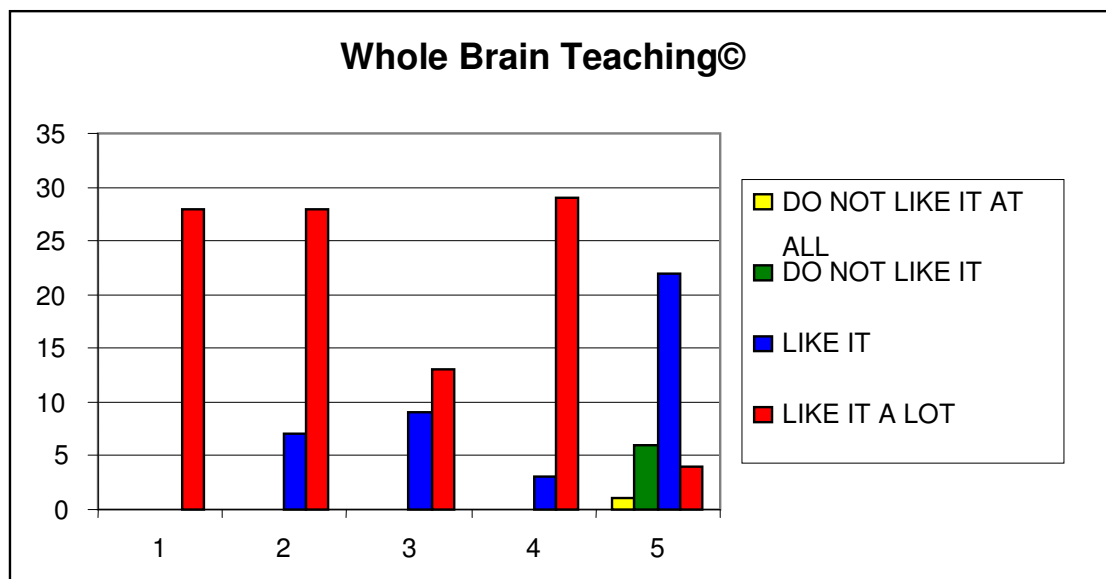


Figure 22: Whole Brain Teaching©: Feedback from learners

The learners in the learning environments of mentees 1, 2 3, and 4 liked Whole Brain Teaching© a great deal. In mentee 5's Grade 7 classroom the learners had various opinions. The majority liked it and others had diverse feelings. He was the only mentee that indicated in his personal reflection that he did not like this teaching method. I therefore sense that the sentiment of a teacher can affect the feelings of learners. However, it is clear from the quantitative data that although he is not in favour of Whole Brain Teaching©, the majority of the learners have a different perception as the liked it.

## 4.6    Text Analysis

The beginner teachers kept a journal during this programme.  It was done in order to reflect on their experience of the mentoring programme and related aspects.

The following aspects were addressed by the mentees:  The difficulties they experience as beginner teachers, Whole Brain Teaching© and the mentoring programme.

### 4.6.1   The difficulties experienced

Three of the mentees wrote about the difficulties they experience as beginner teachers:  Mentee 2 stated that one obstacle in his teaching practice was discipline.   Mentee 3 recorded the following:  *As jy nie sukkel met dissipline nie, is daar 'n ouer wat vir jou wag by die hoof.  [If you do not struggle with discipline, a parent is waiting for you at the principal's office.]  Dit is maklik om fokus te verloor op dit wat die belangrikste is:  Die leerders.  [It is easy to lose sight of what is important:  The learners.]*  Mentee 4 wanted to leave education, as she felt tired and ill-treated before the mentoring programme started.

### 4.6.2   Whole Brain Teaching©

The mentees' experiences differed with regards to this teaching approach:  Mentee 1 felt that the information she received about Whole Brain Teaching© opened new opportunities to her with regards to classroom discipline.  She is calmer and her learners enjoy it.    Mentee 2 encountered that with Whole Brain Teaching© the learners were involved and that this made discipline much better.  Mentee 3 noted that Whole Brain Teaching© took her back to the classroom and directed her focus to her learners.  Discipline is now a problem of the past and enthusiasm is at the centre of her learning environment.  Mentee 5 was not so positive and addressed his feelings about Whole Brain Teaching© as follows:  *Toe ek aanvanklik die Whole Brain Teaching© benadering gesien het, het ek niks daarvan gehou nie omdat ek nie 'n "loud"(sic) persoon is nie en hou nie van baie beweging en klanke in my klas nie.  [When I first saw Whole Brain Teaching©, I did not like it at all, because I am not a loud person and do not like movement and sounds in my classroom.]*

*Dit het aanvanklik goed gegaan in die eerste paar dae, maar daarna het die leerders al hoe meer belangstelling verloor. Kinders was stadig om te reageer op "Klas" en net so op reëls. Net die "Rekord" om in die klas te kom was nog "fun"(sic). [It initially went well the first few days, but the learners lost interest. They were slow to respond on "Class-Yes" and the rules. Only the countdown when coming into the class, was still fun.]* His feeling after implementing this approach was that it could work in many classrooms, but personally he did not like it and would rather use his original approach.

Mentee 4 declared that she was sceptical when she started with Whole Brain Teaching©. She believed that nothing could rescue her and her learners so late in the year. *Dit was 'n wonderwerk, binne twee weke het alles verander. Die leerders wat stout of verveeld was, word nou gestimuleer en werk mooi saam. Ek is positief en lus vir die dag. [It was a miracle, within two weeks everything changed. The learners, who were naughty or bored, are now being stimulated and are giving their co-operation. I am positive and motivated for each day.]* She firmly believes that all teachers should use Whole Brain Teaching© in their classrooms. She stated: *Leerders verander en ons as onderwysers moet verander om by hulle aan te pas. [Learners are changing and we as teachers should also change to be able to adjust to them.]*

### 4.6.3 The mentoring programme

Mentee 1 developed as a person and this had an impact on the way she works with her learners. She shared her new knowledge with other teachers at her school: *Dit het hulle ook bietjie anders na my laat kyk. [They started to see me in a different way.]* She felt that she got more respect from certain people.

Mentee 2, who is a first year teacher, indicated that the great advantage of this programme was that he could communicate with other beginner teachers. He stated that it was good to share what they experience and what makes them unhappy. He also found the facilitated sessions have given him new perspectives about his professionalism. Mentee 3 believes the following with regards to mentoring: *Ek sien mentorskap op skole as 'n ideaal. Iemand wat jou hand vashou en stap vir stap wys waar, hoe en hoekom. Maar, ek weet*

*ook dat dit nie eintlik in werklikheid kan plaasvind nie. Elkeen by die skool is besig en onder druk, so ek kan verstaan dat mens nie tyd en lus het om iemand te leer loop (sic) by die skool nie. [I see mentoring in school as an ideal. It is someone who can take your hand, walk with you and show you why, how and where. I know it is not possible in reality. Everyone is under pressure, so I understand that people do not have time or enthusiasm to teach someone how to walk at school.]*

Mentee 3 was very motivated and it made her enthusiastic. She said that she would compare it to "extreme makeovers". With regards to her future plans the following was communicated: *Sedert die projek begin het, sien ek meer kans vir dit wat vir my voorlê in die onderwys, nuwe uitdagings en ek het sommer ingeskryf vir 'n Honneurs graad. [Since the project began, I have wanted to seize the opportunity, take on new challenges and I have applied for an honours degree. The project taught me that there is no better time than now!]*

Mentee 4 declared that she had had a life-changing experience. At the end of her journal inscription she wrote a short letter to me, the peer mentor: *Baie dankie, vir die wonderlike geleentheid wat jy my gegee het, jy het my as mens en onderwyser verander. [Thank you for the great opportunity you gave me, you have changed me as a human being and as a teacher.]*

**CHAPTER 5**

**CONCLUSION AND RECOMMENDATIONS**

## 5.1    Introduction

This chapter presents a summary of the main findings of the research study. The summary is dealt with according to the sub-research questions that emerged from the problem statement discussed in Chapter 1.  In the following section the limitations of the study are outlined.  Finally certain recommendations are made, regarding future research as well as teaching and mentoring practices.

## 5.2    Summary of Findings

The purpose of this section is to highlight the main findings of the research in relation to the problem statement as discussed in Chapter 1, the literature review presented in Chapter 2 and the analysis of data conducted in Chapter 4.

The key research question was formulated in Chapter 1 as follows:  *Is beginner teachers' professional development influenced when applying the principles of action research and whole brain learning through peer mentoring?*  After an analysis of the research problem, the following sub-problems were identified: The improvement of a beginner's practice through the use of action research and whole brain learning, the learning styles of me, the peer mentor, as well as those of my peers and the role of peer mentoring in the professional development of beginner teachers.

In order to answer the research questions, I conducted practical mentoring sessions with beginner teachers and the effect of the programme was evaluated both quantitatively and qualitatively.   The following information gathered, analysed and interpreted is provided:

### 5.2.1  Sub-question 1:  Can a beginner teacher's practice be improved through the use of action research and whole brain learning?

The problem identified was that no organised mentoring support is given to beginner teachers in order to address the difficulties they experience. The five beginner teachers implemented Whole Brain Teaching© in their contexts to consider its effect on whole brain learning.  Action research was used by the participants to observe and reflect on their teaching practice.  They used video recordings, questionnaires and observation sheets.

I, the peer mentor and researcher, also used action research in my own mentoring practice.  Through discussions, interviews, questionnaires, observations and video recordings I considered how I used mentoring to support the improvement of the participants' practice.

The following qualitative and quantitative data collection methods were used: Interviews with the beginner teachers, practice-focused and personal reflection forms.  A journal, observation sheets and questionnaires were also used.

The semi-structured interviews identified the following uncertainties these beginner teachers experience in the profession and in their teaching practice:
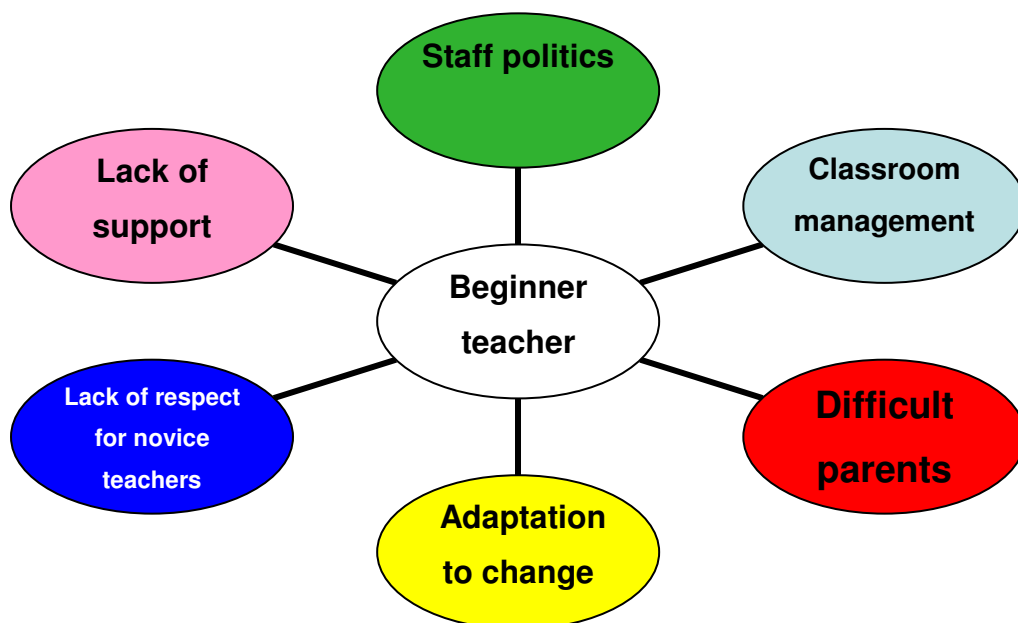


Figure 23:  Beginner teacher uncertainties

Two of the participants indicated that education was as they thought it would be, two reflected that it was not as they dreamt it would be and for one participant some aspects were as he thought it might be. Similar problems were perceived by these participants as is found in the literature. As stated in Chapter 1, the following study by Meister and Melnick (2003) documents the experience of 273 first and second year teachers across the United States of America. In examining new teachers' perceptions as they transitioned from pre-service to in-service training, three major concerns emerged in their research: Managing the behaviour and diverse needs of learners, time constraints, workload and conflict with parents and other adults.

In the interviews mainly individual and personal beginner teacher uncertainties and problems were identified. It should be stated that due to the small sample, the findings cannot be generalised. The purpose of my action research study was monitoring the professional development of the beginner teacher participants. The identification of these problems or uncertainties was only done to ensure that this be taken into consideration for the mentoring programme and some of these individual uncertainties could have had an impact on the professional development of the mentoring group.

Reflection forms and journal writings indicated that the beginner teachers' perceptions of their practice proved to be more positive with regards to the following aspects of their teaching practice: Discussions, the use of educational technology, activities, their professionalism and assessment conducted as well as the implementation of whole brain learning.

The questionnaires completed by the learners in the beginner teachers' contexts indicated the following with regard to the Whole Brain Teaching© approach: Most of the learners enjoyed this approach and are keen on the use of it in their learning environment with regards to the effect it has on whole brain learning.

### 5.2.2 Sub-question 2: What is my own and my peers' learning styles?

The Herrmann Brain Dominance Instrument (HBDI) is an assessment tool that profiles a person's mental preferences or specific thinking modes. It was done to support the beginner teachers in understanding their own, the other mentees' and indirectly their learners' thinking styles. In order for them to address their own professional development, the HBDI was considered valuable.

Three of the mentoring group's profiles, including mine as the mentor, are double dominant and three are triple dominant. Four of the group's single primary modes are the C quadrant. Two mentees' primary modes are the A quadrant. The use of the HBDI impacted on the structure and function of the group and the participants indicated the value of this instrument for their professional development. No parallel was drawn between the participants' thinking profile and their sentiments about action research and Whole Brain Teaching©. It was, however, apparent throughout the mentoring programme that the HBDI assisted the participants in recognising their own preferences. They were also able to understand their own thinking and reasoning more adequately. This had an impact on their teaching practice as they attempted to consider each learner's learning style.

### 5.2.3 Sub-question 3: What is the role of peer mentoring in the professional development of beginner teachers?

The problem identified in this study regarding this sub-question is that if beginner teachers are not given organised support, schools and districts will have to bear the consequences. The mentoring programme designed by me, the peer mentor and researcher, focused on the professional development of the participating mentees. Two participants did have mentors allocated to them at their school; the other mentees did not. Everyone indicated the importance of a mentor for beginner teachers, but was not satisfied with the structure of these programmes. They pronounced during discussions the need for two different mentors in a school setting: An emotional and subject mentor. They were of the opinion that the mentors are chosen with regards to HBDI-profiles done by all the staff members.

The need for a peer mentoring programme which focuses on whole brain learning and action research was stressed. Three of the participants indicated that the first year of teaching would be the most appropriate time to complete such a programme. Two would rather want it to be done in the second year of teaching. The needs of such a specific beginner teacher group should be assessed beforehand so that support can be given. The role of the principal in the success of this programme was emphasised. They agreed that various schools in the same district should form a beginner teacher group, as was the case in this study.

The progression of the mentees' professional development was favourable. One of the participants did not show any progression during the mentoring programme. The rest of the group indicated during personal reflection advancement in their own professional development.

After the completion of the study I the peer mentor and two of the mentees presented a paper on this study at a national education conference. I reported on my mentoring practice with the beginner teachers. The two mentees described the effect whole brain learning and action research had on their teaching practice. The outcome of the whole experience, which included the preparation of the paper and then presenting it at the conference, had an immense effect on the beginner teacher's professional development.

## 5.3    Conclusion

In order to draw a conclusion of the research study, the problem will briefly be reviewed:   No organised support is given to beginner teachers in order to address the difficulties they experience.   Because no mentoring assistance is given, many do not address their own professional development.  If beginner teachers are not given organised support, schools and districts will have to bear the consequences.

The problems listed have resulted in the need for mentoring programmes in assisting beginner teachers' development.

The problem was addressed by developing a peer mentoring programme. In the first instance action research was used by the beginner teachers to consider their own teaching practice, while Whole Brain Teaching© was implemented as an innovative idea to consider its effect on whole brain learning and classroom management. The Herrmann Brain Dominance Instrument (HBDI) was utilised to focus the beginner teachers' professional development towards the principles of whole brain learning.

The peer mentoring programme contributed successfully to the professional development of the beginner teachers. The use of the HBDI, action research and Whole Brain Teaching© assisted in addressing the research questions.

## 5.4    Limitations of the study

Difficulties with regards to time-constraints were experienced. Owing to organisational factors in the school and the school calendar, the programme had to be adapted. The participants' responsibilities at their schools had an influence on their participation in the programme. Some beginners did not finish the action research on time. The participants sometimes had to cancel for a session, at the last minute. One participant was able to attend one session only and I believe that a one hundred percent attendance by all the participants would have affected the results.

The lack of involvement by the principals of the participating schools with regards to the importance of the programme for the beginner teachers was also noticed. I suppose that this would have had a more positive effect on the programme, as the mentees would have been given the time and opportunity to regard their professional development as essential. The principals gave permission for the action research to be conducted in the beginners' teaching practice. I suppose that I should have paid more attention to the cooperation between myself as the mentor and the principals.

## 5.5    Recommendations

In terms of further study it is recommended that this study be taken a step further by investigating the more extensive use of this programme in, for

example, a school district or cluster.  The effect of the programme has to be considered by using various mentoring groups in primary and secondary schools.  In the South African education context attention should be paid to the implementation of the programme in the lower performing schools in this country.  Whole Brain Teaching© is a teaching approach which originated in the United States of America where educationists also have a problem with beginner teachers leaving the profession.   It is recommended that similar studies be done in that country as well.

The second recommendation is that attention should be given to the professional development of mentors in schools.  The question about how to prepare mentors for the implementation of the mentoring programme needs to be addressed.

Another recommendation is that attention be given to the mentoring of student teachers in schools.  The reality of the education profession needs to be emphasised for beginner teachers to be adequately equipped for a career in teaching.  Furthermore it is recommended that mentoring as career path should be investigated and introduced to schools.

An action research study could be conducted to consider Whole Brain Teaching©'s effect on Higher Education students and then with specific relation to their own personal brain profile.

I suggest that more action research be conducted in my own mentoring practice and in the teaching practice of the beginner teachers who participated in this study.  I regard the use of action research and the development of our professionalism as an ongoing process.  The impact of this programme on the participants' professional development can be researched at a later stage in their careers.  It could consider the impact it had on their careers and practice and their involvement in mentoring other teachers.

**CHAPTER 6**

**META-REFLECTION**

**6.1     Introduction**

In this chapter I document a personal reflection with regards to my experiences during the two years of studying for a Masters degree in professional development.  I subdivide this chapter into the following sections:  I contemplate the course work I had done during the first year and then reflect on the research study I administered during the second year with beginner teachers.  Finally I critically consider my own professional development.

**6.2     The Course Work**

As an intermediate phase teacher, the Master's degree in professional development attracted my attention.  I regarded my own professional development as fairly good.  I have always believed that an educator is a leader and role model and my own professionalism has always been a priority.

But, I was astonished about my progress during the course work done in the first year.  I could never have guessed what effect this would have had on my personal and professional development.  It took hard work, total commitment and an open mindset to be able to transform my teaching practice and educational approach.  This programme made me pursue excellence in every aspect of my life and career.  I realised that I could not help other teachers or my learners if I were not open to change myself.

In that year the problems in our South African school system started to trouble me immensely.  As an educator I was accustomed to teaching and have tried to make a difference.  But during this course I realised the undeniable influence I had on my learners.  I watched the movie "Freedom Writers" before I started with the programme and it was motivational.  But when I saw it again, the influence it had on me was overwhelming!  I saw myself as Ms. Erin Gruwell and each learner in my classroom as the one that might need me to consider and help change their circumstances.  The importance of the teaching

profession has had an impact on my whole life, as I knew I had an influence on the community. I am not the teacher that complains about parents, difficult learners, the Department of Education or colleagues anymore. It is a waste of time, because I see myself as the change that is needed. Another consideration that made me ponder the real life drama of that film was that the teacher, Erin, was a beginner teacher. I was in my third year of teaching at the time and sometimes thought that I did not have the ability to bring about change, as senior staff did not always take me seriously.

In my second teaching year I struggled with discipline. I discovered Whole Brain Teaching© as an alternative teaching approach that incorporated the whole class in taking responsibility for their learning. I decided to implement it and am very satisfied with my decision taken three years ago. It helped me in many regards and became a component of my research study. I have been able to conduct workshops on the principles and advantages of the Whole Brain Teaching© approach all over the country. This is significant in terms of a holistic perspective on professional development beyond the classroom.

The composition of the course work plan was remarkable. Important aspects such as assessment, whole brain learning, holism, learning styles, multiple intelligences and cooperative learning were included. Learning facilitation in my learning environment changed rapidly. I had to reflect critically on my practice through the use of action research.

It was not my goal, but these new professional approaches in my classroom influenced my learners and other teachers. I believe that it was due to the change I wanted to achieve in myself.

The year I completed the course work of the Master's degree was a difficult year to start on such a journey. But on looking back at a year filled with tears and laughter, I now know that I would not have changed a thing. Every aspect contributed to the transformation I experienced.

## 6.3    The Research Process

I conducted a small scale action research during the course work part of my studies.  I presented a paper on it at a national education conference and this prompted my curiosity in the world of research and specifically action research.  The investigation on the effect Whole Brain Teaching© had on my own practice motivated me to conduct a research study to support other teachers.

I believe that a research topic should be something you are passionate about.  It was clear that the research I wanted to conduct was important in our current education situation.  There are no formal mentoring programmes in our schools, while beginner teachers are struggling and subsequently leave the profession.

The process of defending the research proposal and meeting the ethical requirements were daunting and intimidating to me as I had never done it before.  I learned greatly throughout the process.  The HBDI evaluations the beginner teachers and I conducted were exciting and enlightening.  My brain profile confirms my enjoyment of working with people.  The most fulfilling part of the research study was therefore the relationships I established with the mentees.  I heard their stories and concerns but also enjoyed their triumphs.

The first mentoring session commenced with enthusiasm as we received our HBDI profiles.  It was interesting to observe the different preferences we had. We had wonderful dimension in our group.  When the discussions commenced I thought the mentees would be reserved, but they were spontaneous and shared their feelings.  After the first session I was very excited and agreed with the beginner teachers who commented that they felt content.

The mentoring sessions were conducted in the afternoons or evenings.  The most difficult aspect for me was to get the whole group together.  It was frustrating, as participants sometimes cancelled at the last minute.  During the second and third sessions, when I facilitated the introduction to Whole Brain Teaching© and action research, the beginners were eager to experiment with a new teaching approach.  I agree with Poulou (2005) that teachers' prior beliefs

have a significant impact on their approaches to teaching decisions. I was fortunate that the beginner teachers were susceptible to new ideas, but I told them to remain critical and consider the initiatives in their own practice. Beginner teachers are more receptive to change than their more experienced colleagues. Certain methods become routine to a teacher and these are always difficult to alter.

I am an organised person and got frustrated when things did not happen according to plan. The most difficult part of the research study came towards the end of the mentoring programme. Some beginners were busy at school and did not finalise their action research as specified. I realised that this was part of the process and that my own professionalism was being assessed.

The following are some reflections on how the process of the research might have been constructed. With hindsight I might have designed the facilitation sessions differently; I should have involved the mentees more. The mentoring programme was well-planned and organised, but I believe that more ideas from the mentees were needed. This would have given them ownership of the programme and would have promoted constructivist professional learning.

As indicated earlier, I conducted action research in my own teaching practice in the first year of my studies. It was, however, very different when I had to do it during the mentoring sessions I had with the beginner teachers. I am comfortable in the classroom with my learners but I have never been a peer mentor. I was challenged to apply the principles of adult learning. I decided to take a distinct perspective on this as I felt the mentees had to see me as a critical, intuitive and supportive friend and colleague. I believe that this approach worked perfectly.

At the end of the programme it was satisfying to see what they did in their teaching practice, how the mentees developed professionally and how we as a group progressed. It was a learning process for me from the beginning and even though I do not compare my contribution to the body of knowledge to that what Erin Gruwell from the movie "Freedom Writers" achieved, I believe that

changing yourself and addressing your professional development can have an impact!

## 6.4 My Professional Development

I commenced this research as a beginner teacher without much experience. Today I consider myself as a critical, functional and unique classroom facilitator. I no longer view my practice as just a learning opportunity where I facilitate others, but I see it as a means to teach myself. I believe that learning is an active process of engagement and that the responsibility is shared between the learner and the educator.

Senge (1995:18-21) considers learning as happening either in a single or double loop. He is of the opinion that behaviour is changed the first time around a loop. The second time around the loop it is necessary to change values and attitudes. Thus to ultimately change and sustain behaviour an individual must learn not only new behaviour but also change attitudes and values. This was a very important principle throughout this process and also during the mentoring of the beginner teachers. I suppose that the discovery of new methods, the enjoyment of the experience and reflection on your own practice are essential to the learning and the professional development of an individual.

The whole process changed my attitude and beliefs about education. The reflective activities I conducted in my teaching and mentoring practices prompted challenging questions and critical assessment of personal beliefs. It also activated my interest in various topics and problems. The progression of my own professional development will therefore proceed through various loops, as I consider it as never ending.

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UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

FACULTY OF EDUCATION

26 July 2010

Dear _____

**MEd STUDIES:  PARTICIPANT CONSENT**

I am presently enrolled for M.Ed-studies at the University of Pretoria in the Faculty of Education.  I am conducting a research study on beginning teachers' professional development.  I will use peer mentoring to facilitate professional learning regarding the use of Action Research and "Whole Brain Teaching".  All participants will complete the Herrmann Brain Dominance Instrument (HBDI) which will illustrate their thinking profiles.  We will have mentoring group sessions during which we will use the principles of peer-mentoring and action research to consider the mentoring approach we will undertake.

I am hereby inviting you to participate in this study.  You have indicated an interest in developing professionally and using the principles of "Whole Brain Teaching" in your practice.  You are also a teacher in your first five years of teaching and are therefore considered as a beginner teacher.  Your participation is voluntarily and you may withdraw from the research at any time.  You will also be fully informed about the research process and purposes of the study, as it is progressing.  I will strive to protect your privacy at all times and guarantee that I will attempt to ensure that your inputs will be handled confidentially.  I will adhere to the ethical principles of the University of Pretoria when conducting this research study.

The research process will be as follows:  We will meet at an unbiased location that is suitable for all five participants and it will be done after school, when everyone is available.  The interviews will be conducted in the group by me the peer mentor.  It will be a dual commitment where you will be able to improve your own practice and subsequently mentor other peers.  Quantitative data will be collected by means of the Herrmann Brain Dominance Instrument to identify the thinking preference profile of each individual.   The HBDI is an assessment tool that profiles a person's mental preferences or specific thinking modes.  Appropriate use of this instrument will include a better understanding of the self and others, enhanced communication, productivity through teamwork, better management, building composite learning groups, a work climate for creativity and enhanced training and learning (Herrmann, 1990: 340-341).  The Instrument will be completed by each individual through the use of the internet and the feedback will be given in the group by a registered HBDI practitioner.

Apart from the interviews, other opportunities for professional learning will be created.  In this way you will be offered opportunities to learn from other novice teachers. We will have group discussions before the commencement of the mentoring programme – once prior to presenting your lesson and once after the lesson, when the results of the HBDI are known and when the peer mentoring process is completed.  What will be discussed in the group is fully confidential. Your anonymity beyond the mentoring group is guaranteed with regards to my research and any other aspects.  You will also present a lesson that will be videotaped for the purpose of your own reflection.

I am hereby requesting your voluntarily participation in this study.  My contact details is 071 67 60606.

Your consideration of the aforementioned request will be highly appreciated.

_____                    _____
MISS. T. DE JAGER                                   DR. P.H. DU TOIT
M.ED STUDENT/RESEARCHER                 SUPERVISOR

_____

I, _____,
hereby give my consent to voluntarily participate in this research.  I understand that the group discussions are confidential.  I also realise that my participation will be anonymous for the use of this study.

_____
PARTICIPANT

**Appendix B**

FACULTY OF EDUCATION

26 July 2010

Dear Headmaster

**MEd STUDIES: SPECIAL REQUEST**

I am presently enrolled for M.Ed.-studies at the University of Pretoria in the Faculty of Education. I am conducting a research study on beginning teachers' professional development. I will use peer mentoring to facilitate beginner teachers' professional learning regarding the use of Action Research and "Whole Brain Teaching". All participants will complete the Herrmann Brain Dominance Instrument (HBDI) to illustrate their thinking profiles. We will have mentoring group sessions during which we will use the principles of peer-mentoring and Action Research to consider the mentoring approach we will undertake. Some beginner teachers at your school have indicated their interest in Whole Brain Teaching© and to develop professionally.

Participating teachers need to be in their first five years of teaching and are therefore considered beginner teachers. Their participation is voluntarily and they may withdraw from the research at any time. They will also be informed about the research process and purposes as the research process is progressing. I will strive to protect their privacy at all times and guarantee that I will attempt to ensure that their inputs be handled confidentially. I will adhere to the ethical principles of the University of Pretoria when conducting this research study.

The research process will be as follows: We will meet at an unbiased location that is suitable for all five participants, after school, when everyone is available. The interviews will be conducted in a group-format by me the peer mentor. It will be a dual commitment where they will be able to improve their own practice and subsequently mentor other peers. Quantitative data will be collected by means of the HBDI to identify the thinking preference profile of each individual. The HBDI is an assessment tool that profiles a person's mental preferences or specific thinking modes. Appropriate use of this instrument will include a better understanding of the self and others, enhanced communication, productivity through teamwork, better management, building composite learning groups, a work climate for creativity and enhanced training and learning (Herrmann, 1990: 340-341). The Instrument will be completed by each individual through the use of the internet and the feedback will be given in the group by a registered HBDI practitioner.
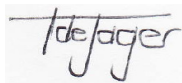
Apart from the interviews, other opportunities for professional learning will be created. In this way the beginner teachers will be offered opportunities to learn from other novice teachers. We will have group discussions before the commencement of the mentoring programme – once prior to presenting their lesson and once after the lesson, when the results of the HBDI are known and when the peer mentoring process is completed. They will present a lesson that will be videotaped for the purpose of their own reflection.

Permission is hereby requested from you for the participation of the beginner teacher, _____, at your school.

I am hereby kindly requesting a contribution of R500 for the use of Herrmann Brain Dominance Instrument that will be done by each participating beginner teacher. The fee includes a professional feedback session facilitated by a registered HBDI practitioner.

Your consideration of the aforementioned request will be highly appreciated.


_____          _____
MISS. T. DE JAGER                                        DR. PH DU TOIT
M.ED STUDENT/RESEARCHER                   SUPERVISOR

---

**RECOMMENDATIONS**

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_____

_____

_____

_____

HEADMASTER

UMnyango WezeMfundo
Department of Education

Lefapha la **Thuto**
**Departement van Onderwys**

Enquiries: Nomvula Ubisi (011)3550488

| Date: | 16 July 2010 |
|---|---|
| Name of Researcher: | De Jager Tanya |
| Address of Researcher: | 263 Von Willigstreet |
| | Die Hoewes |
| | Centurion |
| Telephone Number: | 0716760606 |
| Fax Number: | 0126541182 |
| Research Topic: | Beginning Teacher Professional Development: An Action Research and Whole Brain Teaching Approach to Peer- Mentoring |
| Number and type of schools: | 3 Primary Schools |
| District/s/HO | Tshwane South |

## Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

Permission has been granted to proceed with the above study subject to the conditions listed below being met, and may be withdrawn should any of these conditions be flouted:

1. *The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.*
2. *The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.*
3. *A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.*

4. *A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.*

5. *The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.*

6. *Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*

7. *Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year.*

8. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*

9. *It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.*

10. *The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.*

11. *The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.*

12. *On completion of the study the researcher must supply the Director: Knowledge Management & Research with one Hard Cover bound and one Ring bound copy of the final, approved research report. The researcher would also provide the said manager with an electronic copy of the research abstract/summary and/or annotation.*

13. *The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.*

14. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

2a July 2010

Shadrack Phele MIRMSA
[Member of the Institute of Risk Management South Africa]
CHIEF EDUCATION SPECIALIST: RESEARCH COORDINATION

| The contents of this letter has been read and understood by the researcher. | |
|---|---|
| *Signature of Researcher:* | Todger |
| *Date:* | 2 August 2010 |

Appendix D

# Reël 1



# Volg instruksies vinnig!

# Reël 2



# Steek jou hand op vir toestemming om te praat

# Reël 3



# Steek jou hand op vir toestemming om op te staan

# Reël 4
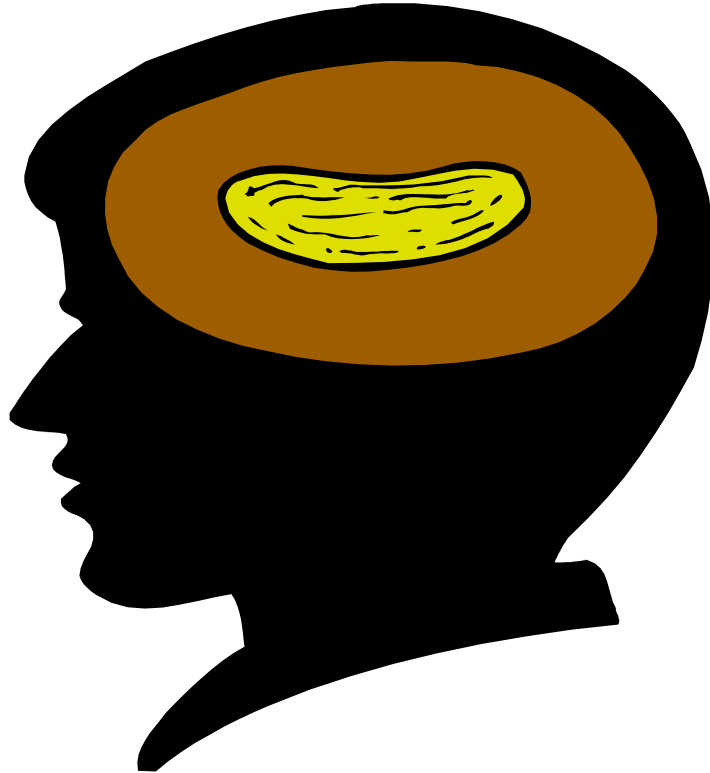


# Neem wyse besluite!

# Reël 5



# Hou jou onderwyser en jou naaste gelukkig!

# Die Ooreenkoms-brug Spel



| Hello | Probleem |
|---|---|
| Spelers groet mekaar. Praat oor enigiets, behalwe die probleem wat julle verdeel. | Beskryf die probleem van jou kant af. |
| **Ruil** | **Slim** |
| Beskryf die probleem van die ander speler se kant af. | Watter wyse besluite kan jy neem in terme van die probleem? |
| **Dwaas** | **Verander** |
| Watter dwase besluite kan jy neem in terme van die probleem? | Beskryf wat jy bereid is om te doen om te verander en die probleem op te los? |

# **Appendix G**

## "**WHOLE BRAIN TEACHING**"
## **VRAELYS**

**Vul die vraelys asseblief na die beste van jou vermoë in:**

### **1: PERSOONLIKE BESONDERHEDE**
Lees die onderstaande vrae en omkring die toepaslike.
1.1. Geslag:

| | |
|---|---|
| | |

1.2. Ouderdom:

| 7 | 8 | 9 | 10 |
|---|---|---|---|

1.3. Huistaal

| AFRIKAANS | ENGELS | ANDER……………………. |
|---|---|---|

### **2: LEERDER-ERVARING**
Lees die onderstaande vrae en omkring die toepaslike:

2.1. Wat dink jy van die nuwe dinge wat Juffrou in die klas doen?

| | | |
|---|---|---|
| | | |

### **As jy daarvan hou: Hoekom?**

| DIT IS PRET | EK NEEM DEEL | DIT LAAT MY GOED VOEL | EK KONSENTREER | EK WERK SAAM IN DIE KLAS |
|---|---|---|---|---|

2.2. Hoe voel jy as Juffrou Oë en Ore sê?

| | | |
|---|---|---|
| | | |

2.3. Geniet jy dit in Juffrou se klas?

| JA | NEE |
|---|---|

2.4 Hou jy van die punte wat julle kan kry?

| JA | NEE |
|---|---|

2.5.  Verstaan en onthou jy wat Juffrou sê makliker?

| JA | NEE |
|----|-----|

2.6. Hoe voel jy as jy jou maatjie leer of jou maatjie jou leer?



2.7. Hou jy van die klasreëls, "Guff-meter en Volume meter?

| JA | NEE |
|----|-----|

2.8. Hoeveel klasmaats dink jy is betrokke as ons "Whole Brain Teaching" doen?

| NIEMAND | MIN | BAIE | ALMAL |
|---------|-----|------|-------|

2.9.  Hoe voel jy as Juffrou aftel om in of uit te pak?



2.10  Hoe is die nuwe dinge wat Juffrou doen?

| BAIE MOEILIK | MOEILIK | MAKLIK | BAIE MAKLIK |
|--------------|---------|--------|-------------|

## Appendix H

### "WHOLE BRAIN TEACHING"
### VRAELYS

**Met die vraelys word leerders se mening oor die bogenoemde metode gevra. Vul die vraelys asseblief na die beste van jou vermoë in:**

### 1: PERSOONLIKE BESONDERHEDE
Lees die onderstaande vrae en omkring die toepaslike.
1.1. Geslag:

| MANLIK | VROULIK |
|---|---|

1.2. Ouderdom:

| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|

1.3. Huistaal

| AFRIKAANS | ENGELS | ANDER…………………… |
|---|---|---|

### 2: LEERDER-ERVARING
Lees die onderstaande vrae en merk die toepaslike deur dit te omkring:

2.1. Wat dink jy van die manier waarop julle deur middel van "Whole Brain Teaching" onderrig word?

| 1 - EK HOU GLAD NIE DAARVAN NIE | 2 - EK HOU NIE DAARVAN NIE | 3 - EK HOU DAARVAN | 4 - EK HOU BAIE DAARVAN |
|---|---|---|---|

**Indien 3 of 4** – Merk enige van die volgende redes: (Meer as een rede kan gemerk word)

| DIT IS PRET | EK IS BETROKKE BY DIE LES WAT AANGEBIED WORD | DIT BOU MY SELFVERTOUE | EK KONSENTREER BETER IN DIE KLAS | DIT IS VIR MY MAKLIK OM MY SAMEWERKING TE GEE |
|---|---|---|---|---|

2.2. Merk die woorde wat beskryf wat jy ervaar wanneer "Oë en Ore" gesê word?

| OPGEWONDENHEID | KONSENTRASIE | AFWAGTING | VERVELING | ONSEKERHEID |
|---|---|---|---|---|

2.4. Hoe sal jy die klaskamer atmosfeer beskryf sedert ons 'Whole Brain Teaching" doen? (Merk die toepaslike blokkies)

| ENERGIEK | VERVELIG | PRETTIG | GOEIE LEERATMOSFEER | SWAK LEERATMOSFEER |
|---|---|---|---|---|

2.5. Die manier van hoe Juffrou/Meneer dinge in die klas hanteer is: (Meer as een blokkie kan gemerk word)

| GEORGANISEERD | DEURMEKAAR | BEPLAN | ONBEPLAN |
|---|---|---|---|

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2.6. Wat ervaar jy wanner die klas dit wat Juffrou/Meneer doen naboots?
(Bv. Handeklap, geluide maak of gebare naboots.)

| OPGEWONDENHEID | ANGS | AANDAG BY OPVOEDER EN BY WAT VOLGENDE GAAN GEBEUR | SAMEWERKING IN DIE KLAS | ORDE | WANORDE |
|---|---|---|---|---|---|
| | | | | | |

2.6 Dien die tellingbord as motivering om saam en harder te werk in die klas?

| JA | NEE |
|---|---|
| | |

 INDIEN JA:  (Merk die toepaslike redes)

| ONS KAN 'N BELONING ONTVANG | DIT IS 'N KOMPETISIE TUSSEN VERSKILLENDE KLASSE | EK WIL TER WILLE VAN MY KLAS SAAMWERK | DIT IS 'N MAKLIKE MANIER OM PUNTE VIR MY KLAS TE VERDIEN | DIE MANIER WAAROP ONS ONSSELF GEDRA BEPAAL DIE PUNTE WAT ONS VERDIEN |
|---|---|---|---|---|
| | | | | |

2.7.  Verstaan en onthou jy die werk wat in die klas gedoen word beter?

| JA | NEE |
|---|---|
| | |

INDIEN JA:  Merk die toepaslike redes

| EK HOOR DIE WERK MEER AS EEN KEER(BY OPVOEDER EN MY MAAT) | EK KONSENTREER TERWYL DIE WERK VERDUIDELIK WORD | EK MOET DIE WERK VERDUIDELIK AAN MY MAAT OF AAN DIE KLAS | EK GEBRUIK GEBARE OM DIE WERK TE VERDUIDELIK | EK IS  HEELTYD BETROKKE BY DIE LES |
|---|---|---|---|---|
| | | | | |

2.8. Merk dit wat op jou van toepassing is, wanneer jy jou maat leer of jou maat jou leer?

| DIT VERBETER MY SELFVERTROUE | EK VERSTAAN DIE WERK MAKLIKER | EK HELP MY MAAT OM DIE WERK BETER TE VERSTAAN | EK LEER OP 'N LEKKER MANIER | EK ONTHOU DIE WERK BETER VIR BV. 'N TOETS |
|---|---|---|---|---|
| | | | | |

2.9. Waarvoor dink jy help die volgende:  Die vyf klasreëls, "aftel-metode", "Guff-meter" en
"Volume meter"? (Meer as een blokkie kan gemerk word)

| BETER DISSIPLINE | GOEIE SAMEWERKING IN DIE KLAS | MOTIVERING TUSSEN KLASMAATS | DAT ONS BETER KAN KONSENTREER EN LEER | OM MY OPVOEDER EN MAATS TE RESPEKTEER |
|---|---|---|---|---|
| | | | | |

2.10. Hoeveel klasmaats dink jy is betrokke as ons "Whole Brain Teaching" doen?

| GEEN | MIN | BAIE | ALMAL |
|---|---|---|---|
| | | | |

2.11.  Sal jy daarvan hou as meer van jou onderwysers op die manier klasgee?

| JA | NEE |
|---|---|
| | |

## 3: LEERDER-AANDEEL

Lees die onderstaande vrae en merk die toepaslike deur dit te omkring: (Meer as een blokkie kan omkring word):

3.1. Wat kan jy doen om van "Whole Brain Teaching" 'n groter sukses te maak? Merk die toepaslike blokkies:

| OPLET IN DIE KLAS | SAAMWERK | MY MAATS MOTIVEER | MY MAAT LANGS MY LEER | ENERGIEK WEES |
|---|---|---|---|---|
| | | | | |

3.2. Is dit vir jou maklik om "Whole Brain Teaching" te doen?

| DIT IS BAIE MOEILIK | DIT MOEILIK | DIT IS MAKLIK | DIT IS BAIE MAKLIK |
|---|---|---|---|
| | | | |

3.3. Hoe kan jy jou maat langs jou beter leer?  (Merk die toepaslike blokkies)

| BETER OPLET WANNEER 'N OPSOMMING VAN DIE WERK GEGEE WORD | AAN MY MAAT VERDUIDELIK DEUR GEBARE OF GELUIDE TE GEBRUIK | EK GAAN SEKER MAAK MY MAAT LUISTER EN VERSTAAN DIE WERK |
|---|---|---|
| | | |

3.4. Hoe kan jy beter by jou maat leer? (Merk die toepaslike blokkies)

| LUISTER WANNEER MY MAAT DIE WERK VERDUIDELIK | MY MAAT HELP AS HY OF SY NIE DIE WERK KAN ONTHOU NIE | DIE GEBARE OF GELUIDE SAAM MET MY MAAT DOEN |
|---|---|---|
| | | |

3.5 Enige verdere kommentaar in verband met "Whole Brain Teaching"?

_____

_____

_____

_____

Baie dankie!

# Appendix I

## REFLEKSIE

Naam en van: _____

Beantwoord die volgende vrae ten opsigte van jou eie onderrigpraktyk:

**Beskryf die gereeldheid van jou prosedures deur in die toepaslike tabel te merk.**

| 1 – Omtrent nooit | 2 – Min | 3 – Gereeld | 4 – Amper altyd |
|---|---|---|---|

## 1. BESPREKINGS

Ek:

|  |  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 1.1 | Bevorder fasiliteerder-deelnemer besprekings(in plaas van slegs terugvoer op vrae) | | | | |
| 1.2 | Vind maniere om my leerders te help om hul vrae te beantwoord | | | | |
| 1.3 | Motiveer leerders om hulself openlik uit te druk | | | | |
| 1.4 | Spoor leerders aan om aanmerkings te maak | | | | |
| 1.5 | Demonstreer koöperatiewe leer | | | | |

## 2. OPVOEDKUNDIGE TEGNOLOGIE

Ek:

|  |  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 2.1 | Verskaf gebruiker-vriendelike leerdermateriaal | | | | |
| 2.2 | Gebruik 'n verskeidenheid media suksesvol | | | | |
| 2.3 | Gebruik media wat toepaslik is vir die leergeleenthede wat ek aanbied | | | | |

## 3. AKTIWITEITE

Ek:

|  |  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 3.1 | Verskaf 'n leergeleentheid wat lewendig is en my leerders motiveer | | | | |
| 3.2 | Beklemtoon hoe die tema in die struktuur van die leerarea inhoud pas | | | | |
| 3.3. | Stimuleer hul intellektuele vermoë | | | | |
| 3.4 | Verbind die leermateriaal met die werklike lewe | | | | |
| 3.5 | Voorsien leerstyl-buigsaamheid gedurende die leergeleentheid in die: | | | | |
| | 3.5.1  A kwadrant | | | | |
| | 3.5.2  B kwadrant | | | | |
| | 3.5.3  C kwadrant | | | | |
| | 3.5.4  D kwadrant | | | | |

## 4. PROFESSIONALITEIT

Ek:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 4.1 | Wys my entoesiasme oor die leearea inhoud | | | | |
| 4.2 | Verander my benadering om aan te pas by nuwe situasies | | | | |
| 4.3 | Praat met 'n veranderde stemtoon en uitdrukking | | | | |
| 4.4 | Beklemtoon die belangrikheid van die leerarea inhoud | | | | |
| 4.5 | Ontwikkel 'n klimaat bevorderlik vir leer | | | | |
| 4.6 | Stel stimulerende idees voor | | | | |
| 4.7 | Bevorder kritiese denke | | | | |
| 4.8 | Hanteer deelnemers regverdig | | | | |
| 4.9 | Demonstreer 'n toeganklike geaardheid | | | | |

## 5. ASSESSERING

Ek:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 5.1 | Bied assessering-vrae wat duidelik uiteengesit is | | | | |
| 5.2 | Verskaf assessering geleenthede wat hoë orde denke stimuleer | | | | |
| 5.3 | Dui die uitkomstes of doelwitte van 'n leergeleentheid duidelik aan | | | | |
| 5.4 | Gee aktiwiteite of take wat die gegewe uitkomste komplementeer | | | | |

## 6. HEELBREINLEER

Ek:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 6.1 | Stimuleer hoë orde denke | | | | |
| 6.2 | Vertoon effektiewe klaskamerbestuur | | | | |
| 6.3 | Verskaf heelbreinleer | | | | |
| 6.4 | Ontwikkel 'n gemotiveerde klaskamer omgewing | | | | |
| 6.5 | Verskaf 'n energiewe leergeleentheid | | | | |
| 6.6 | Motiveer alle leerders om deel te neem | | | | |

**Appendix J**

**EVALUERING**

Naam en van: _____

Beantwoord die volgende vrae na aanleiding van die aanbieding en
mentorskapsessies:

**Beskryf die gereeldheid van die aanbieder se prosedures deur in die toepaslike
tabel te merk.**

| **1 – Omtrent nooit** | **2 – Min** | **3 – Gereeld** | **4 – Amper altyd** |
|---|---|---|---|

## 1. BESPREKINGS

Die aanbieder:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 1.1 | Bevorder fasiliteerder-deelnemer besprekings(in plaas van slegs terugvoer op vrae) | | | | |
| 1.2 | Vind maniere om ons te help om vrae te beantwoord | | | | |
| 1.3 | Motiveer deelnemers om hulself openlik uit te druk | | | | |
| 1.4 | Spoor my aan om aanmerkings te maak | | | | |
| 1.5 | Demonstreer koöperatiewe leer | | | | |

## 2. OPVOEDKUNDIGE TEGNOLOGIE

Die aanbieder:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 2.1 | Verskaf 'n gebruiker-vriendelike handleiding | | | | |
| 2.2 | Gebruik 'n verskeidenheid van media suksesvol | | | | |
| 2.3 | Gebruik media wat toepaslik is vir die aanbieding | | | | |

## 3. AKTIWITEITE

Die aanbieder:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 3.1 | Verskaf 'n aanbieding wat my motiveer en as lewendig beskou kan word | | | | |
| 3.2 | Verduidelik hoe die tema in die stuktuur van die mentorskapprogram pas | | | | |
| 3.3. | Stimuleer my intellektuele vermoë | | | | |
| 3.4 | Verbind die aanbieding met die werklikheid | | | | |
| 3.5 | Voorsien leerstyl-buigsaamheid gedurende die aanbieding in die: | | | | |
| | 3.5.1 A kwadrant | | | | |
| | 3.5.2 B kwadrant | | | | |
| | 3.5.3 C kwadrant | | | | |
| | 3.5.4 D kwadrant | | | | |

## 4. PROFESSIONALITEIT

Die aanbieder:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 4.1 | Is entoesiasties oor die onderwerp | | | | |
| 4.2 | Verander haar benadering om aan te pas by nuwe situasies | | | | |
| 4.3 | Praat met veranderde stemtoon en uitdrukking | | | | |
| 4.4 | Beklemtoon die belangrikheid van die onderwerp | | | | |
| 4.5 | Ontwikkel 'n klimaat bevorderlik vir groei | | | | |
| 4.6 | Stel stimulerende idees voor | | | | |
| 4.7 | Bevorder kritiese denke | | | | |
| 4.8 | Hanteer deelnemers regverdig | | | | |
| 4.9 | Demonstreer 'n toeganklike geaardheid | | | | |

## 5. DOELWITTE

Die aanbieder:

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 5.1 | Beklemtoon doelwitte wat duidelik uiteengesit is | | | | |
| 5.2 | Fokus op my onderrigpraktyk | | | | |
| 5.3 | Poog om doelwitte te stel wat my professionele ontwikkeling sal bevorder | | | | |

## 6. MENTORSKAP

My "eweknie-mentor":

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 6.1 | Stimuleer my hoë orde denke | | | | |
| 6.2 | Stel my bloot aan nuwe metodes | | | | |
| 6.3 | Verskaf uitdagings | | | | |
| 6.4 | Deel praktykverwante inligting | | | | |
| 6.5 | Beklemtoon ons groep se gemeenskaplike groei | | | | |
| 6.6 | Is 'n goeie luisteraar | | | | |
| 6.7 | Erken die druk-punte wat 'n beginner-onderwyser kan ervaar | | | | |
| 6.8 | Verskaf geleentheid vir refleksie | | | | |
| 6.9 | Is inskiklik | | | | |

**Algemene kommentaar:** _____

_____

## EVALUERING 2

Naam en van: _____

<u>Beantwoord die volgende vrae na aanleiding van die mentorskapsessies:</u>

**Beskryf die gereeldheid van die mentor se prosedures deur in die toepaslike tabel te merk.**

| 1 – Omtrent nooit | 2 – Min | 3 – Gereeld | 4 – Amper altyd |
|---|---|---|---|

## 1. BESPREKINGS

My "eweknie-mentor":

|  |  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 1.1 | Bevorder fasiliteerder-deelnemer besprekings(in plaas van slegs terugvoer op vrae) |  |  |  |  |
| 1.2 | Vind maniere om ons te help om vrae te beantwoord |  |  |  |  |
| 1.3 | Motiveer deelnemers om hulself openlik uit te druk |  |  |  |  |
| 1.4 | Spoor my aan om aanmerkings te maak |  |  |  |  |

## 2. OPVOEDKUNDIGE TEGNOLOGIE

My "eweknie-mentor":

|  |  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 2.1 | Verskaf 'n gebruiker-vriendelike handleiding |  |  |  |  |
| 2.2 | Gebruik 'n verskeidenheid van media suksesvol |  |  |  |  |
| 2.3 | Gebruik media wat toepaslik is vir die aanbieding |  |  |  |  |

## 3. AKTIWITEITE

My "eweknie-mentor":

|  |  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 3.1 | Verskaf aanbiedings(Whole Brain Teaching en Aksienavorsing) wat my motiveer en as lewendig beskou kan word |  |  |  |  |
| 3.2 | Verduidelik hoe die verskillende aspekte in die stuktuur van die mentorskapprogram pas |  |  |  |  |
| 3.3. | Stimuleer my intellektuele vermoë |  |  |  |  |
| 3.4 | Verbind die aanbieding met die werklikheid |  |  |  |  |
| 3.5 | Voorsien leerstyl-buigsaamheid gedurende die sessies in die: |  |  |  |  |
|  | 3.5.1  A kwadrant |  |  |  |  |
|  | 3.5.2  B kwadrant |  |  |  |  |
|  | 3.5.3  C kwadrant |  |  |  |  |
|  | 3.5.4  D kwadrant |  |  |  |  |

## 4. PROFESSIONALITEIT

My "eweknie-mentor":

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 4.1 | Is entoesiasties oor die onderwerp | | | | |
| 4.2 | Verander haar benadering om aan te pas by nuwe situasies | | | | |
| 4.3 | Praat met veranderde stemtoon en uitdrukkings | | | | |
| 4.4 | Beklemtoon die belangrikheid van die onderwerp | | | | |
| 4.5 | Ontwikkel 'n klimaat bevorderlik vir groei | | | | |
| 4.6 | Stel stimulerende idees voor | | | | |
| 4.7 | Bevorder kritiese denke | | | | |

## 5. DOELWITTE

My "eweknie-mentor":

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 5.1 | Beklemtoon doelwitte wat duidelik uiteengesit is | | | | |
| 5.2 | Fokus op my onderrigpraktyk | | | | |
| 5.3 | Poog om doelwitte te stel wat my professionele ontwikkeling sal bevorder | | | | |

## 6. MENTORSKAP

My "eweknie-mentor":

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 6.1 | Stimuleer my hoë orde denke | | | | |
| 6.2 | Toon belangstelling in my beroep-strategie | | | | |
| 6.3 | Verskaf werksverwante uitdagings | | | | |
| 6.4 | Deel praktykverwante inligting | | | | |
| 6.5 | Beklemtoon my persoonlike groei | | | | |
| 6.6 | Is 'n goeie luisteraar | | | | |
| 6.7 | Erken die druk-punte wat 'n beginner-onderwyser kan ervaar | | | | |
| 6.8 | Verskaf geleentheid vir refleksie | | | | |
| 6.9 | Openbaar vriendskaps-eienskappe | | | | |
| 6.10 | Is inskiklik | | | | |

**Algemene kommentaar:** _____

_____

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# Appendix K

</div>

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Augustus 2010

Geagte ouer/voog

**M.ED:  NAVORSING-STUDIE**

As 'n (Professionele Ontwikkeling) Meesters-graad student by die Universiteit van Pretoria is ek besig met navorsing waarby u kind se opvoeder betrokke is.  Die studie word gedoen aangaande 'n onderrigmetode genaamd Whole Brain Teaching©.  Aksie Navorsing word gebruik om daarop te reflekteer.  Die titel van die studie is:  "Beginner Onderwyser Professionele Ontwikkeling:  'n Aksienavorsing benadering tot mentorskap."

U leerder se onderwyser is een van vyf opvoeders wat aan 'n studie deelneem wat gefokus is om hul professionele ontwikkeling deur die gebruik van bogenoemde aspekte in hul praktyk toe te pas.  Om dit te kan doen is u kind se klas gekies om deel te neem aan 'n video opname, waartydens hul opvoeder 'n leergeleentheid gaan aanbied.  Tydens die les sal "Whole Brain Teaching" in die klassituasie gebruik word.  Die video opname word deur u leerder se opvoeder gebruik om oor hul praktyk te kan reflekteer.  Dit sal vir geen ander rede gebruik word nie.

Hiermee vra ek u toestemming tot bostaande, dit sal bydra tot die sukses van die studieprojek en die verbetering van onderrig.  Voltooi asseblief die onderstaande afskeurstrokie en stuur dit saam met u kind terug skool toe.

Baie dankie vir u hulp om van die projek 'n sukses te maak!


_____            _____
Me. Tanya de Jager                                       Skoolhoof
Navorser/M.Ed student


_____
Onderwyser

## **AFSKEURSTROKIE**

Hiermee gee ek _____
(naam en van) ouer/voog van _____
toestemming dat my kind aan die studie mag deelneem.
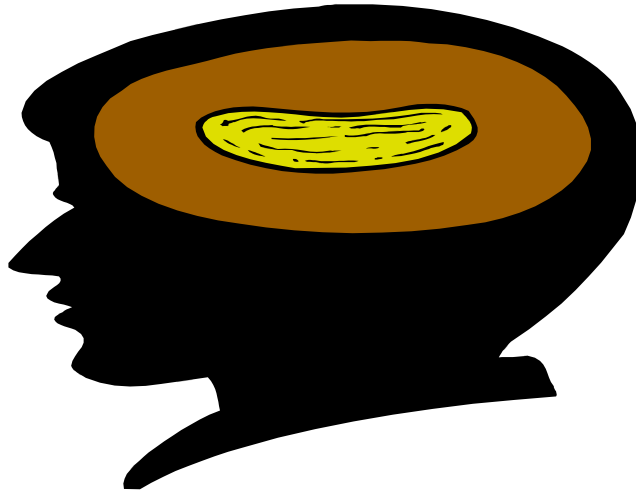

_____            _____
**HANDTEKENING VAN OUER/VOOG**              **DATUM**

# Beginneronderwyser



# Mentorskapprogram
# Handleiding



Me. Tanya de Jager

tanyadejager@hotmail.com

## 1. Verwelkoming

Kollega

Hartlik welkom by die Mentorskap-navorsingprojek wat fokus op u professionele ontwikkeling en onderrigpraktyk.  Baie dankie dat u ingewillig het om hieraan deel te neem.  Mag dit vir u 'n verreikende ervaring wees!

## 2. Doel:  Mentorskapprogram

Die groep-mentorskapprogram nooi u uit om:
- U volle potensiaal te ontwikkel as opvoeder en onafhanklike lewenslange leerder.
- U eie professionele ontwikkeling te monitor.
- Probleme aan te spreek wat u as beginneronderwyser ervaar.
- 'n Positiewe gesindheid teenoor leer en u praktyk te bou.
- U leeromgewing te oordink.
- Deel te neem aan 'n mentorskap-proses deur u ervaring en idees met ander te deel.
- By te dra tot kennisuitbreiding.

## 3. Mentorskap vir beginneronderwysers

Daar word in artikels verwys na beginneronderwysers as persone in hul eerste vyf jaar van onderrig (Mitchell et al., 2009).  Die onderwys is in die meeste gevalle 'n praktykskok vir beginners.  Hulle besef dat "die kennis wat hulle het, hulle soms nie help om sekere probleme te kan hanteer nie" (Ezer en Sabar, 1992).

Aksienavorsing en "Whole Brain Teaching" sal gebruik word in die mentorskapprogram.  Die fokus is om "die behoeftes van beginneronderwysers aan te spreek en om hul kennis en insig te ontwikkel oor wat nodig is om leerderprestasie in die klaskamer te verbeter" (Gimbert en Fultz, 2009).

'n Groep-mentorskapbenadering gaan gevolg word.  Ritchie en Genoni (1999:221) definieer dit soos volg:  "It brings together a number of individuals under the guidance of one or more experienced group leaders or facilitators for a particular purpose.  It is intended that the individuals, who are at a similar stage of learning or have related learning needs will form a supportive group.  The leader or facilitator role consciously incorporates a mentoring function."

Elke persoon in die groep gaan die Herrmann Breindominansie Instrument voltooi.  Dit word gedoen om te poog, dat elkeen beter kan verstaan hoe hy/sy dink en redeneer.  Dit kan die groep bemagtig om mekaar beter te verstaan en te waardeer.  Oor 'n tydperk kan ons waarde vind in mekaar se idees en ondersteuning.

## 4. Professionele ontwikkeling

*"Professional development is a special challenge for novice teachers, who may focus more on coping with a new role, and developing and consolidating their instructional skills than on growth and new approaches* (Mitchell et al., 2009).

Die volgende figuur illustreer dat opvoeders glo iets sal werk (bv. "Whole Brain Teaching"), omdat hulle gesien het hoe dit werk.  Daardie ervaring sal hul gesindheid vorm.
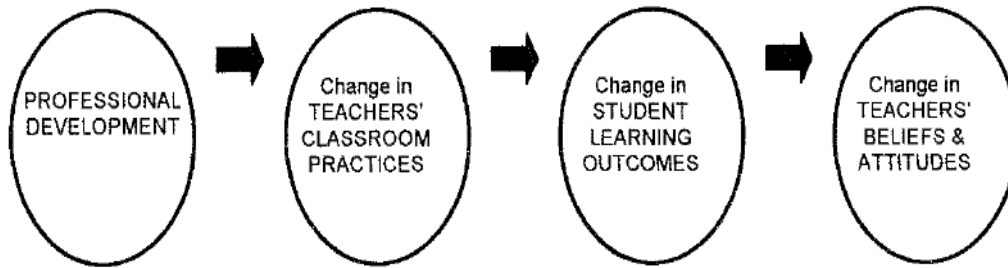
Figuur 1: 'n Model vir Onderwyserverandering (Guskey, 2002: 383)

Dit is duidelik dat om suksesvol te wees, professionele ontwikkeling as 'n proses en nie as 'n gebeurtenis gesien moet word nie.

## 5. HBDI (Herrmann Breindominansie Instrument)

'n Leerstyl is volgens Kolb (1984) die verkose manier waarop 'n individu met sekere inligting te werk gaan en hoe hy/sy iets verstaan.

Herrmann is van mening dat die mens se breindominansie waargeneem word in die manier waarop 'n persoon leer, verstaan, probleme oplos en hom-/haarself uitdruk. As fasiliteerders van leer moet ons al die leerstyle van ons leerders tydens die leerproses kan akkommodeer.

"Future teachers need to become expert learners themselves and be able to conceptualize how expertise is developed. If teachers are not able to understand how they learn and make use of their knowledge, they are unlikely to be able to truly support their pupils" (Poulou, 2005).

*Die mentorskapprogram het dus ten doel om beginneronderwysers te ondersteun as opvoeders en lewenslange leerders* (Löfström en Eisenschmidt, 2008).

Die Herrmann Heelbreinmodel word soos volg gedefinieer: "Four interconnected clusters of specialised mental processing modes, that function together situational and iteratively, making up a whole brain in which one or more parts become naturally dominant" (Herrmann, 1996:14).

### *Linkerbreinmodaliteite*                    *Regterbreinmodaliteite*

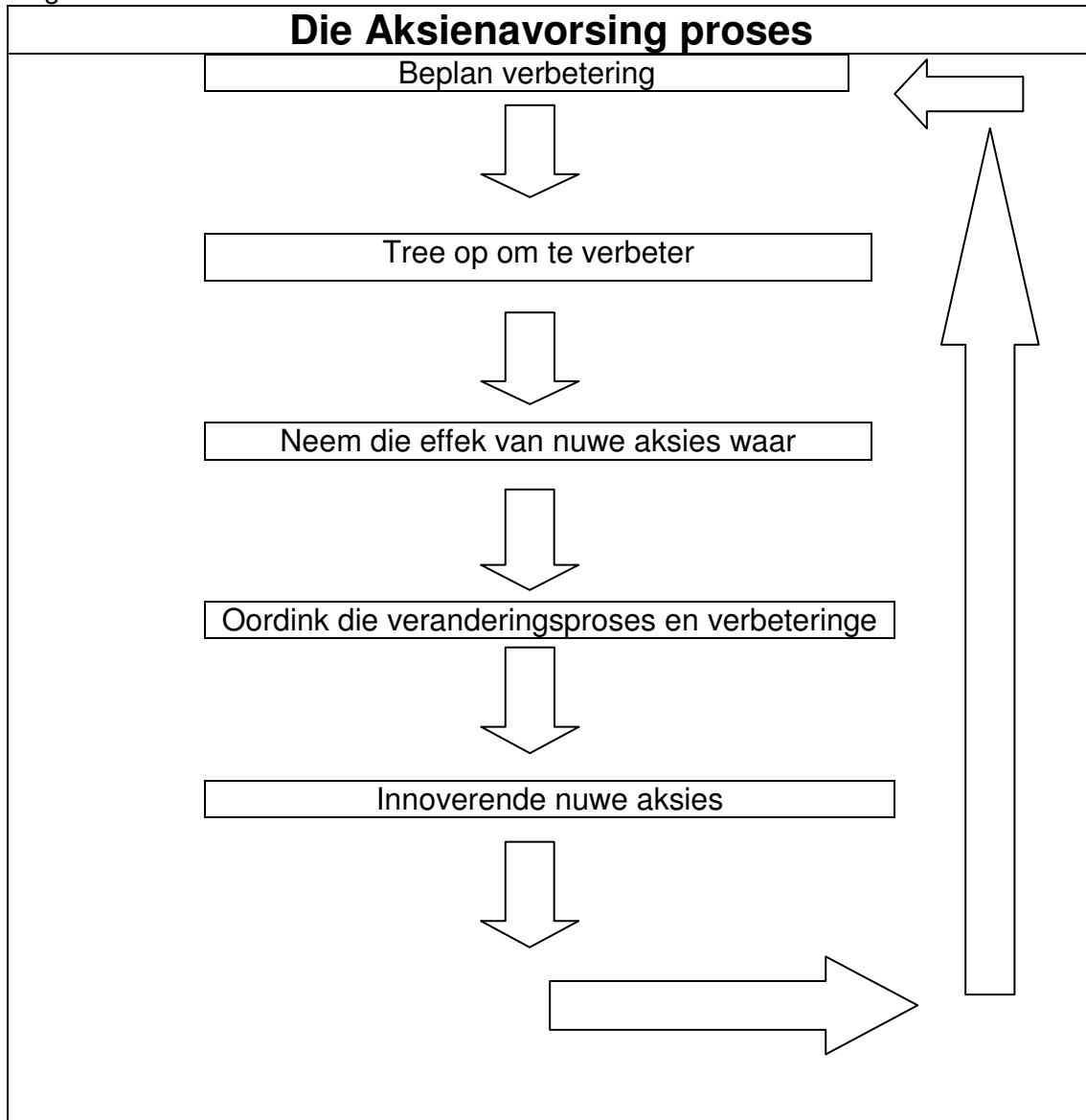| A: SEREBRAAL - LINKS | D: SEREBRAAL – REGS |
|---|---|
| Logika | Holisties |
| Analities | Intuïtief |
| Feitegebaseer | Geïntegreerd |
| Kwantitatief | Sintese |
| B: LIMBIES - LINKS | C: LIMBIES – REGS |
| Georganiseerd | Interpersoonlik |
| Georden | Gebaseer op gevoelens |
| Beplan | Kinestetika |
| Aandag | Emosioneel |

Tabel 1: Herrmann se heelbreinmodel (Herrmann 1996:13)

Die model verskaf inligting oor hoe mense leer en dink. Dit waardeer ook diversiteit.

## 6. Aksienavorsing

Die volgende model vir aksienavorsing kan deur opvoeders gebruik word:

Figuur 2:



**Die Aksienavorsing proses**

Beplan verbetering → Tree op om te verbeter → Neem die effek van nuwe aksies waar → Oordink die veranderingsproses en verbeteringe → Innoverende nuwe aksies

Fase 1:  Beplan verbetering
'n Opvoeder besluit om sy/haar huidige praktyk te verbeter.

Fase 2:  Handel om te verbeter
Beplan en implementeer 'n innoverende onderrigpraktyk.

Fase 3:  Neem die effek van nuwe aksies waar
Doen persoonlik waarneming in die leeromgewing.

Fase 4:  Oordink die veranderingsproses en verbeteringe
Oordink die leeromgewing deur selfassessering

Fase 5:  Innoverende nuwe aksies
Die opvoeder verander sy/haar onderrigpraktyk deur nuwe oorspronklike idees.

**Ode to Action Research**

What is action research? We asked at the start.
Find something to improve and pick it apart.

What do you want to change?  You need to start small.
A focused concern is no trouble at all.

You then need to think of alternative ways.
To approach your pursuit, it takes many days.

Brainstoriming ideas – it's important to think
Which changes may float and which may sink.

Now, with your studens, alter your class.
What happens next? Do your practice pass?

Whether or not you meet with success,
To a critical friend you must go and confess.

What are your thoughts?  You need to reflect.
This collaboration needs mutual respect.

Open and honest, real sharing too.
It's important to hear an alternative view.

Of course this whole process should be written down.
A focused reflection, your thoughts will abound.

Keep trying new actions and route to your goal.
Don't give up now – you're on a real roll.

This process continues until you call an end.
It can be hard to close once this project's opened.

Your final report deserves a gold star.
It contains all your work and your learning thus far.

Do some questions remain?  Have new ones come through?
Why, you're in luck! Action research is for you.

**By Lara Smith**

*Wickman(2001) indicates that action research is proposed as a means of enabling teachers to meet the diverse needs of learners.*

"Aksieleer word gebruik in die aanvanklike en aanhoudende professionele ontwikkeling van opvoeders en ander professionele persone" (McNiff en Whitehead, 2005). Aksienavorsing kan gebruik word deur opvoeders, skoolhoofde, administrateurs en departementshoofde.  Aksienavorsing word gereken as waardevol, omdat dit gedoen word deur mense wat hulself en hul werk bestudeer.

*Onderwysers kan aksienavorsing vir dieselfde rede as Melanie Walker gebruik, wat in haar boek "Images of Professional Development" (1996) aandui:  "My primary commitment was for good practice in my own teaching and in my classroom."*

## 7.  "Whole Brain Teaching"

"Whole Brain Teaching" is in 1999 deur drie Kalifornië opvoeders ontwikkel.  Hulle is: Prof Chris Biffle, Jay Vanderfin en Chris Rekstad.  Die program word gebruik om ondersteuning in klasbestuur-strategieë te verskaf en ook om die leerproses suksesvol te fasiliteer.  Volgens Herrmann kom die kreatiewe krag van die brein na vore wanneer aksie en interaksie gestimuleer word.

Die onderrigmetode was voorheen bekend as "Power Teaching", maar die naam is Julie 2009 verander na "Whole Brain Teaching".  Dit is een van die vinnigste groeiende onderwysbewegings in die Verenigde State van Amerika.  Dit is 'n onderrigstyl wat die hele klas betrek, terwyl gebare en klanke gebruik word om 'n leerder te stimuleer om te konsentreer en te leer.  Dit kombineer unieke beginsels, speletjies en klasbestuur metodes.

'n Belangrike voordeel van die metode is dat dit leerders se motivering, deelname en leer verbeter deur effektiewe opvoeder-leerder en leerder-leerder kommunikasie. Dit veroorsaak 'n energieke leeratmosfeer, met algehele deelname.  Goeie klasbestuur word gehandhaaf, omdat die moeilike leerder produktief beheer word.  Die eindelose "tot orde roep" en "maan tot aandag" is grootliks iets van die verlede.  Die naboots van klap, geluide en gebare laat leerders luister en konsentreer.  Terselfdertyd vind hulle dit prettig.  Daar is ook 'n uitstekende vaslegging van leermateriaal, wat leerder konsentrasie verbeter.  Die program kan in enige graad asook in enige leearea gebruik word.

## 7.1 Die ses beginsels
*(Maak verskillende prettige geluide tydens die gebruik van die aandagtrekker en die heelbrein-aktiveerder)*

| Die "Whole Brain Teaching"-aktiveerders | Die beginsel | Verduideliking van beginsel |
|---|---|---|
| DIE AANDAGTREKKER | KLAS…..JA, (Juffrou/Meneer!) | Dit word in enige situasie gebruik, wanneer die klas se aandag gekry moet word. |
| DIE HEELBREIN-AKTIVEERDER | LEER…. JA, (Juffrou/Meneer!) *(Dit veroorsaak dat leerders self die verantwoordelikheid van hul onderrig neem.)* | Dit word gebruik om te toets of werk vasgelê en verstaan is. Leerders moet aan maat herhaal wat deur opvoeder aan die klas deurgegee is. Wanneer "switch" gesê word, ruil die rolle en moet die leerder nou luister wanneer werk deur die maat verduidelik word. Die kritiese-denke beginsel kan gebruik word deur 'n vraag te stel soos bv: "Noem die verskillende maniere hoe die probleem opgelos kan word?" Opvolg: "Vertel jou maat en leer!" Gebare moet by al die metodes deur leerders gebruik word om die werk te verduidelik. |
| DIE MOTIVEERDER | TELLINGBORD | Punte word gegee vir die energieke, effektiewe en ordelike uitvoering van beginsels, opdragte en goeie gedrag. Punte kan ook afgetrek word. Dit is 'n wonderlike motiveerder in enige klas. 'n Prys kan aan 'n wenklas gegee word. |
| | GEBARE | Leerders boots die opvoeder se bewegings na, terwyl die werk verduidelik word. "Gebare" word aangekondig en die klas moet dit dan saam met die opvoeder uitvoer. Dit werk goed wanneer leerders verveeld raak. |
| DIE FOKUS | Oë EN ORE | Wanneer die beginsel aangekondig word, moet leerders konsentreer en dit wat onderrig word onthou. Hulle kan gevra word om dit aan die klas te verduidelik of hulle moet dit vir hulle maat "leer". |

| DIE BETROKKENE | INHOUD TOETS | Dit word gebruik wanneer werk verduidelik word en inhoud getoets wil word. Een leerder word deur die opvoeder gevra om die werk aan die klas te herhaal.  Indien hy of sy dit nie kan doen nie, reageer die klas met: "Dis okay".  Wanneer hy/sy korrek is, wys die klas na die persoon en reageer met 'n "10 vinger whoooo" of as dit uitstekend was met 'n "10 vinger rol". |
|---|---|---|
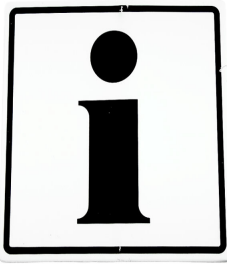
"Let's have orderly fun!  That is teacher heaven!"

## 7.2 Wenke vir klaskamerbestuur

| **Beginsel** | **Verduideliking** | **Uitvoering** |
|---|---|---|
| Reëls<br>1) Volg instruksies vinnig.<br>2) Steek jou hand op vir toestemming om te praat.<br>3) Steek jou hand op vir toestemming om uit jou sitplek op te staan.<br>4) Neem wyse besluite!<br>5) Hou jou onderwyser en jou naaste gelukkig! | Dit verseker dat klasreëls effektief toegepas en onthou word.  Dit verhinder dat onderrig herhaaldelik onderbreek word om te raas oor swak dissipline.  Die reëls is sigbaar in die klas. | Elke reël het spesifieke gebare.  Wanneer dit verbreek of nie uitgevoer word nie, kondig opvoeder slegs bv. "reël 2" aan en die klas reageer deur dit te sê met die gebare. |
| Die Guff-meter | "Guff" beskryf iets wat ons nie in ons klaskamer wil hê nie.  Dit is bv. lelike opmerkings teenoor maats of 'n onderwyser. | Wanneer "Guff" voorkom, reageer die opvoeder deur te sê: "Dit was 'n groot Guff".  Hy/sy loop na die tellingbord en gee onder die "Onderwyser" kolom 'n punt.  Hy/sy wys na die klas, wat op 'n neutrale manier teenoor die leerder wat "geguff" het reageer, met 'n: "Hou asb op".<br><br>Indien 'n dag of periode verby gegaan het en daar geen "Guff" voorgekom het nie, ontvang die klas 'n punt.  Hulle reageer met 'n: "O, ja!" |

| | | |
|---|---|---|
| Die Aftel-metode | Dit word gebruik om gewone alledaagse take vinnig en prettig te laat plaasvind.  Dit is bv. vir wanneer leerders hulle tasse uitpak as hulle in die klas kom, inpak na 'n periode, hul huiswerkboeke uitkry, in rye gaan staan en ook wanneer papiere uitgedeel word. | Die opvoeder kondig aan wat gedoen moet word, bv. "rye" of "papiere" en begin dan te tel, totdat die hele klas klaar is en almal se hande in die lug is.  Indien dit vinnig en ordelik was, kry die klas 'n punt op die tellingbord. Indien dit nie die geval was nie, word geen punt toegeken nie.<br><br>Die volgende is 'n prettige aktiwiteit vir wanneer die interkom afgaan, iets belangriks gesê word of as daar vinnig orde gekry moet word:  Die klas moet stop, stilbly en wag wanneer "vries" aangekondig word. Hulle gaan weer voort met waarmee hulle besig was, as "smelt" gesê is. |
| Die Volume-meter | Die opvoeder skep 'n Volume-meter om in die klas op te sit.  Dit word gebruik tydens groepwerk-aktiwiteite. | Die Volume-meter vlakke: "Skree, Hard, Normaal en Fluister". Wanneer leerders besig is met groepwerk en hulle te hard praat, kondig die opvoeder "volume" aan en wys na een van die vlakke op die meter. Leerders maak dan 'n gepaste geluid en verander hul volume volgens die vlak waarna die opvoeder wys.  Die leerders bly op 'n spesifieke volume soos die opvoeder aangedui het deur twee keer na daardie vlak te wys.  Leerders moet daardie volume in hul groepe behou. |

## 7.3  Speletjies om dissipline te verbeter

### 7.3.1  Die Kolskoot-spel
Dit is een van "Whole Brain Teaching" se beste maniere om uitdagende leerders te hanteer.  Dit is ontwerp vir leerders wat immuun is teen straf.  Die basiese idee is eenvoudig:  In 'n vinnige een tot een sessie(leerder en opvoeder) gee albei 'n punt vir die leerder se gedrag op die spesifieke dag of periode.  Hulle moet nie mekaar se punte sien nie en gedrag word bepunt volgens 'n skaal van 1 tot 5(vyf is die hoogste). Indien die opvoeder en leerder se gradering ooreenstem kry die klas 'n punt.   Punte kan bymekaar gemaak word oor 'n tydperk vir 'n klein belonging.  Leerders sien hul gedrag deur die oë van die opvoeder en word daarvoor beloon.  Bv. Kobus het 'n slegte dag gehad, hy weet dit en gee vir homself 'n een.  Die opvoeder stem saam en gee ook 'n een.  Kobus wen!  Hy wen omdat hy objektief sy eie gedrag kon evalueer. Die spel vat slegs 'n minuut om te speel.  Die opvoeder en leerder kry die geleentheid om die gedrag te bespreek en dit te oordink.

### 7.3.2  Die Ooreenkomsbrug-spel

Dit is 'n probleemoplossing-spel vir opvoeders en hul uitdagende leerders.   Probleme wat aangespreek kan word sluit bv. in:  Konflik met opvoeder of ander leerlinge, sosiale vaardighede, woede uitbarstings, sukkelende akademiese prestasie, nie-konstante skoolbywoning en ongewensde klaskamergedrag.  Enige oplossing vir 'n skoolprobleem wat nie hanteer is deur die leerder te betrek nie, sal  moontlik misluk. Die klem is nie om probleemkinders te straf nie, maar om hulle die lewensvaardighede aan te leer wat hulle sal kan help.  Die spel word gebruik om 'n oplossing vir 'n probleem te vind, wat beide die opvoeder en die leerder gelukkig sal maak. Lewensvaardighede soos om te kan onderhandel en tot 'n ooreenkoms te kom word aangespreek.  Die spel kan gespeel word in vyf tot tien minute sessies.

Benodigdhede:
- 'n Liniaal
- Twee merkers
- Twee kopieë van die Ooreenkomsbrug-spel
- 'n Ooreenkomsbrug-kontrak

Doel van die spel:  Dit is om twee spelers(leerder/opvoeder of leerder/leerder) te laat deelneem aan 'n gestruktueerde bespreking wat die probleem sal oplos deur 'n ooreenkoms te bereik.

Die metode:
Twee spelers sit aan weerskante van 'n tafel met 'n liniaal tussen hulle.  Een merker word op die liniaal geplaas wat een speler voorstel en die ander merker word op die teenoorgestelde kant van die liniaal gesit om die ander speler voor te stel.  Elke leerder het 'n kopie van die "Ooreenkomsbrug-bordspel" en hulle bespreek die afdelings daarop.  Na elke bespreking is, het albei spelers die keuse om hul merkers nader aan mekaar te skuif, as hul voel die afstand tussen hulle het verklein.  Die spel eindig, as die merkers van albei spelers die middel van die liniaal bereik het.  Dit simboliseer dat hulle tot 'n ooreenkoms gekom het en hulle is dan reg om die kontrak te voltooi.

### 7.4  Speletjies vir lees en Wiskunde
### 7.4.1  Superspoed-lees
- Leerders lees dieselfde leesstuk in pare.
- Hulle ontvang een minuut om afwisselend saam met hul maat te lees.  Die tyd kan aangepas word n.a.v. die tipe werk wat gelees word.
- Die leerder mikpunt: Hy/sy en die maat moet elke keer probeer om hulle persoonlike beste te verbeter.
- Die spel kan in enige leerarea gebruik word om leesvaardighede te oefen.

### 7.4.2 Die "Mal Professor" leesspel

1) Die opvoeder skep opwinding deur vir die leerders te vra of hulle die "Mal Professor" spel wil speel.

2) Leerders lees in pare 'n leesstuk dramaties. Die een leerder lees en die ander moet in die boek of leesstuk volg. Wanneer "switch" gesê word, ruil hulle rolle.

3) Die stuk word weer dramaties gelees en nou gebruik leerders gebare om te demonstreer wat hulle lees. Die gebare moet pas by dit wat gelees word. "Switch" word weer gebruik om aan te dui wanneer leerders moet ruil.

4) Laastens kry elke leerder die geleentheid om die "Mal Professor" te wees. Een leerder is die "Professor" wat 'n opsomming van die werk gee en die maat is die "Gretige Leerder" wat die vrae vra.
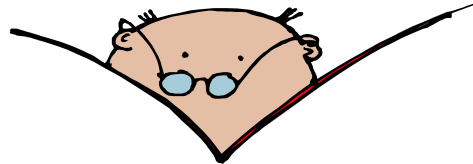


### 7.4.3 Superspoed-wiskunde

Dit is 'n energieke, prettige spel wat ontwikkel is om leerders van enige ouderdom te onderrig in Wiskunde se plus-, minus-, maal- en deel-funksies. Wonderlike resultate kan waargeneem word deur leerders die spel vir slegs 'n paar minute, 'n paar keer 'n week te laat speel. Hulle geniet dit so baie, dat onderwysers dit kan gebruik as 'n belonging vir goeie gedrag. Die doelwit is om rekords op te stel en te breek vir die hoeveelheid Wiskunde probleme wat binne 'n minuut opgelos word. Geen merkwerk word verlang nie.

Die metode:

- Dit word in 60 sekonde intervalle gespeel. Leerders werk in pare. Hulle word ingedeel, deur maats van verskillende vermoëns saam te plaas. Die een leerder neem monderlings die toets af, terwyl die ander leerder die antwoorde kontroleer en merk.
- Die doelwit vir elke leerder is om soveel as moontlik probleme op te los in die gegewe tyd. Hulle moet persoonlike rekords opstel en verbreek.
- Indien 'n leerder nie 'n antwoord ken nie, maak sy/haar maat 'n klein merkie op die antwoordblad.
- Belangrike beginsels om in gedagte te hou:
    1) Voordat leerders speel moet hulle persoonlike doelwit aandui word.
    2) Indien leerders hulle persoonlike rekords verbeter het, kan hulle dit aanteken in hulle persoonlike rekordsterblad.
    3) Leerders neem nie teen mekaar deel nie, maar streef na hulle beste poging.
- Aanpassings vir leerders met verskillende vermoëns:
    Die leerders wat meer met Wiskunde sukkel, gaan moontlik meer persoonlike rekords kan verbeter. Hulle gaan dus die meeste keer wenners kan wees! Vir die leerders wat goed in Wiskunde presteer, word gevra word om een punt van hul telling af te trek vir elke probleem wat verkeerd is.
- Wiskundige 'fiksheid' kan behaal word deur die optel-, aftrek-, maal-, deel- en "gnarlies" (probleme vir getalle 6,7,8) werkblaaie afwisselend elke dag van die week te doen.

### 7.5  Spel vir hersiening

### 7.5.1  Breinsokker

Dit word gebruik vir die hersiening van enige leermateriaal.

Die doel is om doele vir jou span aan te teken.

Punte word behaal deur vinnig vrae te beantwoord wat deur die skeidsregter (onderwyser) gevra word.

Die enigste reël is dat die skeidsregter(opvoeder) gelukkig gehou moet word!

Die geheim is om dit spannend en opwindend te maak!

Die metode:

- Verdeel die klas in twee spanne.
- Die spanne kies mekaar se kapteine.
- Kapteine beantwoord die eerste vraag, soos in 'n TV spel-formaat, die eerste korrekte antwoord se kaptein wen die loting.
- Doen hersiening deur een kind op 'n slag 'n vraag te vra.  Indien die antwoord korrek, duidelik, vinnig en met 'n energieke gebaar gedoen is, tel dit as 'n harde skop. Indien nie, is dit 'n sagte skop!
- Indien 'n span verkeerd antwoord, word die bal vir die ander span gegee.
- Die skeidsregter kan die rigting van die bal verander, deur "steel" te skree en die balbesit aan die ander span te gee.
- Indien 'n span nie hulself gedra nie, kan die volgende gedoen word:
- Die bal word aan die opponente gegee.
- 'n Strafskop word toegeken.

Wanneer die klok lui is die wedstryd verby.

## 8. Beplanning: Mentorskap program

| Onderhoud | Plek en tydsduur | Struktuur |
|---|---|---|
| 1 (Voordat mentorskap begin) | Onbevooroordeelde lokaal<br><br>60 minute sessie | Groep sessie |
| 2 (Herrmann Brein Dominansie Instrument voltooi) | Dit word op die internet voltooi.<br><br>35 minute | Individueel |
| 3 (Terugvoer met betrekking tot HBDI instrument) | Onbevooroordeelde lokaal<br><br>45 minute sessie | Groep sessie |
| 4 (Voordat 'n leergeleentheid aangebied word) | Onbevooroordeelde lokaal<br><br>120 minute sessie | Groep sessie |
| 5 (Nadat 'n leergeleentheid aangebied is) | Onbevooroordeelde lokaal<br><br>120 minute sessie | Groep sessie |
| 6 (Wanneer die mentorskap proses voltooi is) | Onbevooroordeelde lokaal<br><br>60 minute sessie | Groep sessie |

*"Educators are the key contributors to the transformation of education in South Africa"*
(Engelbrecht and Harding, 2008).

## 9. Bronnelys

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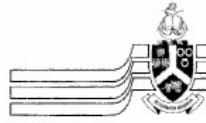
UNIVERSITY OF PRETORIA

FACULTY OF EDUCATION

RESEARCH ETHICS COMMITTEE

| | | |
|---|---|---|
| **CLEARANCE CERTIFICATE** | **CLEARANCE NUMBER :** | HS 10/06/01 |
| **DEGREE AND PROJECT** | MEd: Professional Development | |
| **INVESTIGATOR(S)** | Tanya de Jager | |
| **DEPARTMENT** | Department of Humanities | |
| **DATE CONSIDERED** | 8 April 2011 | |
| **DECISION OF THE COMMITTEE** | APPROVED | |

Please note:

*For Masters applications, ethical clearance is valid for 2 years*

*For PhD applications, ethical clearnace is valid for 3 years.*

| | |
|---|---|
| **CHAIRPERSON OF ETHICS COMMITTEE** | Prof L Ebersohn |
| **DATE** | 8 April 2011 |
| **CC** | Dr P.H. du Toit<br>Ms Jeannie Beukes |

This ethical clearance certificate is issued subject to the following conditions:

1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application for ethical clearance must be submitted
3. It remains the students' responsibility to ensure that all the necessary forms for informed consent are kept for future queries.

Please quote the clearance number in all enquiries.