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An Investigation into Facilitating Learning via the Whole Brain Model in the Study Unit of Toothmorphology

by

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Submitted in partial fulfilment of the degree
Magister Educationis (Curriculum and Instructional Design and Development)

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in the
Faculty of Education
University of Pretoria

October 2001

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ACKNOWLEDGEMENTS

My sincere thanks are due to the following people whose assistance made this dissertation possible and the learning experience a meaningful one:

1. God, my Saviour for His mercy, love and the abilities given to me.
2. My best friend, Adèle, for her wonderful love and understanding during the past four years, and for her encouragement that helped me to make a success of this project.
3. My wonderful children Marlé and Ronen; I was often occupied with my studies when they needed me.
4. My supervisor, professor Ann-Louise de Boer for her commitment, support and professional guidance and for being an excellent role model.
5. My co-supervisor, Dr Pieter du Toit, for his valuable input and quality guidance.
6. Rina Owen, from the Department of Research Support, for the statistical analysis of the research data.
7. The previous Vice-Chancellor of the University of Pretoria, Professor Johan van Zyl, the Dean of the School of Dentistry, Professor At Ligthelm, and the head of my Department, Professor Len Becker for their support and interest in this project.
8. My friends Johann Kok and Lex Heyns for valued support and commitment.
9. Each individual student in the BChD III class for the learning opportunities they provided and without which this project would not have been possible.

SUMMARY

**An Investigation into Facilitating Learning via the Whole Brain
Model in the Study Unit of Toothmorphology**

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In the future, the educational approach favoured by dental schools will play an important role in stimulating the full development of the dentists of the future. The demands of the workplace are becoming more and more diverse and should academic programmes in dentistry integrate the necessary knowledge, skills and attitudes learners will need to be a successful oral health practitioner.

Currently new legislation is reforming and restructuring education and training in South Africa. These changes are being implemented with a view to raising the quality of education in the country and enabling it to become a bigger international economic role-player. In accordance with the new demands on education and training the School of Dentistry at the University of Pretoria has developed a new curriculum that integrates and includes the new paradigm of teaching and learning in higher education. Key concepts in the new curriculum include critical thinking, problem-solving, co-operative learning (small group learning), learner-centred and outcomes-based learning. In the new paradigm the role of the student changes from a receiver of new information to an active, independent and self-motivated learner, while the lecturer becomes a facilitator of learning that plans, implements and develops learning interventions in order to manage the learning processes of the learners.

During the twentieth century a considerable amount of research concerning learning styles, which emphasizes the fact that individual learners have different approaches to learning. This phenomenon must be taken into consideration when planning meaningful learning interventions for groups of learners with diverse approaches to learning.

The aim of this research is to identify a suitable teaching and learning model that integrates the principles of learning styles while at the same time accommodating the new teaching and learning paradigm in South Africa. The Whole Brain Model of Herrmann that integrates the research of Sperry (Split Brain Theory) and MacLean (Triune Brain Theory) and divides the human brain into four modes of thinking or thinking styles was selected for the purpose of this study.

The study was conducted with a third year group of learners in dentistry. For the purpose of this study the thinking style preferences of the individuals and the group were measured with the HBDI instrument. The facilitator of learning implemented the principles of the model to accommodate the thinking style

diversity of the group as well as to stimulate development of the full potential of the learners. The results of this study indicate a significant improvement in learners' retention, participation and attitudes towards the content, towards learning as well as towards group interaction and problem solving.

This study proposes enhancement of the quality of the learning outcome when integrating the Whole Brain Teaching and Learning Model as part of the educational strategy in facilitating learning in the study-unit of Toothmorphology.

Key terms: Toothmorphology; dentistry; whole brain thinking; outcomes-based education; diversity; left brain and right brain; limbic system; Whole Brain Teaching and Learning Model; Whole Brain Model; facilitating learning.