

4. CONCLUSION: IMPLICATIONS FOR CLINICAL PRACTICE AND FURTHER RESEARCH

The *aim* of this study was to describe the thinking style preferences in communication pathology. The results presented and discussed have shown that the aims of the study have unequivocally been achieved. There are a number of important conclusions that can be drawn from the present study, and these conclusions will be discussed under the proposed sub-aims.

4.1 Implications

- *To determine the thinking style preference of the subjects in the study using the Herrmann Brain Dominance Instrument and establish possible patterns of brain dominance pertaining to the three groups that participated in the study.*

The *numerical* results obtained regarding the thinking style preferences of the subjects in the study ($N = 91$) clearly indicated that the majority thinking style preference was quadrant C. The next *numerical* thinking style preference, for which an intermediate to strong preference was indicated, was quadrant B. Quadrant D followed next, also with an intermediate to strong preference for using this quadrant. The *numerical* results of this study indicated that all of the subjects' least preferred thinking styles were in quadrant A. When using the four-digit numerical code, a 2-1-1-1 was obtained. The communication pathologist therefore has a balanced amount of understanding and ability to use the three primary quadrants and is quite functional in the least preferred quadrant.

The implications of these results are that the communication pathologist will be able to comply with the ever-growing demands of an expanding and increasingly technical and specialised profession (Oratio 1977; Campbell & Taylor 1992). The results indicated that the communication pathologist will be functional in the least preferred quadrant (quadrant A), but it is important to note that "functional" might not be enough. The increasingly technical practice (Craig & Sleight 1989), the navigation of reimbursement systems, understanding of the complexities of the

healthcare system (<http://www.asha.org/students/changing/htm>) and skills needed for cost containment (Ashby 1995) accentuate the need for the development of skills associated with quadrant A. The aspect of “africanization” (Hugo 1998) also has important implications when considering thinking style preferences. In order to adapt to the new challenges, the communication pathologist needs to develop skills associated with quadrant B. According to the results of the study the communication pathologist is quite capable of functioning in this quadrant, but this topic needs to be discussed thoroughly in the tertiary institution since the student in communication pathology needs to be prepared to give health-education, counselling, community-based services and rehabilitation and preventative services (Hugo 1998) when qualified.

- *To determine if there is any differences in the patterns of brain dominance of the speech-language pathologist, the audiologist, and the speech-language pathologist and audiologist.*

The average results obtained for subjects who considered themselves exclusively speech-language pathologists indicated that the quadrant of greatest preference was quadrant C, followed closely by B. Quadrant D followed in the third place as an intermediate to strong preference and quadrant A was considered the least preferred thinking style.

The average audiologist also showed a preference for quadrant C, followed respectively by quadrants B, D and A. An interesting aspect that should be noted is the sharp increase in the values obtained for quadrant D when compared with the average speech-language pathologist (60,2 to 76,9). This implies that audiologists have a greater preference for using quadrant D than do speech-language pathologists.

The subjects who considered themselves both speech-language pathologists *and* audiologists showed a preference for using quadrant C. This was followed by

quadrants B, D and then A. The value obtained for quadrant D again showed an increase compared to the value for quadrant D for speech-language pathologists.

The results for the three groups (speech-language pathologists, audiologists and speech-language pathologists *and* audiologists) indicated that quadrant A was generally the least preferred thinking style.

Herrmann (1995) suggests that the nature of any work is largely dependent on mental processes and this implies that the highest productivity will be achieved when there is a positive correlation between the chosen profession and the preferred mental modes. Knowledge regarding mental preferences is therefore essential for choosing the right job within a certain career. The results of this study imply that a certain type of person with a particular thinking style preference will be successful in these different professions, namely: speech-language pathologists, audiologists and speech-language pathologists *and* audiologists. When an individual is selected to the undergraduate course, proposals can be made regarding the choice between the different professions.

- *To determine learning and teaching strategies relevant to the brain dominance of the subjects.*

The results obtained indicate that learning strategies and methods should be used which are relevant to the characteristics of quadrant C. It is crucial however that characteristics and skills of the other three quadrants be developed in order to become “whole-brained”. It is implicated that the lecturer should use diversity in teaching strategies in order to develop fully effective professionals.

The development of new curricula should also consider the thinking style preferences of the communication pathologist as well as the learning and teaching strategies associated with these thinking style preferences. Emphasis could be placed on aspects that are in need of further development in order to prepare the student for successful practice as a communication pathologist. This knowledge

regarding thinking style preferences and the associated learning and teaching strategies also has implications for the evaluation of students in tests, assignments and during examinations. Questions or assignments should be constructed in such a way that all the preferences of the student are considered. Since more emphasis is placed on community-based rehabilitation and intervention, this approach to the education of the community should also be followed. Although no information is available regarding the specific thinking style preferences of a particular community, use of a diversity of methods when training and educating them should be sufficient.

4.2 Evaluation of the research methodology

As is the case in any research, the methodology followed in this study has certain limitations.

The **first limitation** of this study was that a limited number of subjects were used. Although in total 91 is not considered a small sample, when divided up as has been done in this study, the resulting sub-samples may be a small number of subjects and the study then of less value.

The **second limitation** concerns the geographical area from which the subjects were selected. Since a convenience, non-probability sample was used, only subjects in the researcher's immediate environment were included in the study. The thinking style preferences of students in communication pathology and graduate communication pathologists in other provinces and from other universities were not included in this study.

A **third limitation** of the study was that the Herrmann Brain Dominance Instrument is only available in English. Although a list is provided to explain certain word used in the questionnaire it could still have influenced the results obtained.

Advantages of this study include:

The results obtained in this study improve the understanding of oneself and of the mental diversity that exists in individuals. This could then improve communication and interaction between communication pathologists as well as the understanding of colleagues, bosses and lecturers. Knowledge regarding the different learning and teaching styles and how they affect personal learning has been made available and the student and the lecturer will have greater insight into individual differences. The results obtained by the HBDI will therefore enhance creativity and innovation of students and lecturers alike (<http://www.ozemail.com.au/~hrmint/hbdi.htm>).

A further **advantage** is that research is now available regarding the thinking style preferences of the communication pathologist. The determination of thinking style preferences using the HBDI is a relatively new concept in South Africa and research on this subject is essential to update the available database regarding thinking style preferences using the HBDI.

4.3 Recommendations

- It is recommended that further research on the subject of thinking style preferences of the communication pathologist be done on a larger sample. This sample should include subjects from different provinces and universities.
- Although not a sub-aim of the present study, it was noted that development in certain quadrants had taken place over time when comparing the first-year students, final-year students and graduate professionals. Further research regarding the development in quadrants or thinking styles is therefore required.
- Research should also be undertaken on the present curricula of tertiary institutions and the thinking style preferences of students registered at each specific institution.

- Further research should also be done on the use of the Herrmann Brain Dominance Instrument as a selection instrument for the course B. Communication Pathology.

4.4 Concluding remarks

As discussed above, society places expectations on us to enjoy our chosen professions and to experience satisfaction and fulfilment in the workplace. Ideally, one's personality and the choice of occupation should be congruent (Edison 1994). The rationale of this study was an attempt to describe the thinking style preferences in communication pathology in order to determine if the subject's personality and chosen profession was congruent. The results obtained emphasise the importance of the different thinking style preferences of the communication pathologist and the essential development of certain characteristics in order to become fully effective professionals.

“One of the saddest experiences which can come to a human being is to awaken, gray-haired and wrinkled, near the close of an unproductive career, to the fact that all through the years he has been using only a small part of himself.”

(V.W. Burrows in *The Creative Brain*, Herrmann 1995).