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LEARNING STYLES OF URBAN AND RURAL BLACK SOUTH AFRICAN CHILDREN

GABRIELLE MEYEROWITZ

JOHANNESBURG

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LEARNING STYLES OF URBAN AND RURAL

BLACK SOUTH AFRICAN CHILDREN

GABRIELLE MEYEROWITZ

RESEARCH SUBMITTED TO THE FACULTY OF EDUCATION UNIVERSITY OF THE WITWATERSRAND, IN PART FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION (EDUCATIONAL PSYCHOLOGY)

JOHANNESBURG

1999

DECLARATION

I hereby declare that this research report is my own work. It is being submitted for the degree of Master of Education (Educational Psychology) in the Division of Specialised Education, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

GABRIELLE MEYEROWITZ

JOHANNESBURG

DATE:

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ABSTRACT

The learning styles of 30 urban and 30 rural black children were rated by their teachers, using the Learning Style Identification Inventory. The results obtained from the teachers of the rural sample were found to be inaccurate. It was therefore not possible to make comparisons with previous findings. The results of the urban sample suggest that, on the Abstract-Concrete dimension their learning styles tended towards the Concrete end of the dimension, and on the Verbal-Imaginal dimension, their ratings tended towards the Imaginal end of the dimension.

An analysis of variance and Bonferroni *t* test indicated that these children were rated significantly more Imaginal than Verbal and significantly more Concrete than Abstract. These findings are in contrast with previous research in other countries and tentatively suggest that urban children in South Africa are functioning in a manner more consistent with findings regarding learning styles of rural children in other countries. This has implications for teachers and the teaching styles of teachers in urban schools.

Key words: - Learning Styles, urban, rural, South Africa, teaching styles

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1. CHAPTER ONE: BACKGROUND TO STUDY

1.1 INTRODUCTION

This study examines the Learning Styles of 30 Urban and 30 Rural Children within South Africa using the Learning Style Inventory of Arthur More. The term Learning Styles has been defined in various ways, and this study limits its definition to that of More (1997) who defines Learning Styles as ways of learning in which the student has a strength and is more competent. His work, however, is located within the context of Learning Style literature and the various concepts of Learning Style are explored.

More conceptualises Learning Styles along four continua, namely global-analytic; verbal-imaginal; concrete-abstract; trial and feedback-reflective. This study follows More's work with First Nation American children and Westernised children. It was hypothesised that urban children strengths would lean towards the analytic, verbal, abstract, trial and feedback ends of the Learning Style dimensions. In contrast, the rural pupils' results would show strengths towards the global, imaginal, reflective and concrete ends of the continuum. Teachers of Orange Grove Primary School in Johannesburg and Nonnashoek Farm School in Bethlehem completed Learning Style Profiles about the children. The Inventories were examined statistically and the two samples were compared. Within-group differences were also explored and suggestions for further research were made.

1.2. The Concept of Learning Styles

According to DeBello (1989) Learning Style Research has been "the most vital development in American education". He continues and says "it is incumbent upon those who would be educational leaders to become knowledgeable about current research in learning styles" (page 5).

The concept of learning styles has its bases in individual differences and in cognitive psychology. As educators and researchers attempted to understand the tremendous range of individual differences between children, they began to search for the sources of individual differences. One such source was learning style (More, 1987). DeBello (1989) recognises that there are as many definitions of learning style as there are theorists. The most encompassing definition that seems to have emerged is the definition by Dr James Keefe, Director of the National Association of Secondary School Principals' NASSP Learning Styles Task Force: "Learning Styles are characteristic cognitive, affective and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment" (page 5).

The term therefore customarily refers to the usual cognitive processes by which a learner perceives, organises and remembers. Learning styles are usually observed by observing the person's overt behaviour. Learning style is a consistent way of functioning that reflects the underlying causes of learning behaviour. The term as understood by Keefe (1979) examines both nature and nurture. Adaptation to the environment occurs through the genetic coding system and through the environment and culture. Styles are hypothetical constructs that help explain the learning (and teaching) process. They refer to qualities in the behaviour of the individual

learner, which persist regardless of the teaching methods or content experienced.

The term has not changed much from its essential definition over time, but it seems as if greater emphasis has been placed on the individual characteristics that influence learning styles. Thus, according to Dunn et al (1989) Learning style is a "biologically and developmentally imposed set of personal characteristics that make the same teaching method effective for some and ineffective for others" (page 50). Research has examined the internal cognitive processes of the individual, using terms such as "global/analytic", "verbal/nonverbal" to describe the manner in which the student codes, organises and processes information.

On the other hand, many studies limit the term Learning Style to type of sensory input and attempt to assess the relative effectiveness of learning through hearing, seeing or touching. Other studies broaden this to include general perceptual abilities. Other studies focus on Learning Style as the physical characteristics of the setting in which the learning takes place.

1.3. Learning Style and Cognitive Style

According to Keefe (1987) Learning style and cognitive style have often been used synonymously in the literature, although they are not the same concept. Learning style refers to the broader term and includes cognitive as well as physiological styles. In contrast, the term "cognitive style" was coined by Allport in 1937 and refers to quality of living influenced by distinctive personality types. Specific research on cognitive styles expanded after World War II and much work was placed on the bi-polar trait of "field dependence-independence", which initially focused on the ability of a person to identify a figure against a background field.

According to Morgan (1997) "field independent and field dependent cognitive styles have received more attention from scholars in education and psychology than any other cognitive styles" (page61).

These two styles have been frequently paired for discussion because they represent an individual information-processing mode along a bipolar plane- at either end of a continuum. A continuum in this sense means that there are persons with variations of these traits at different points between two extremes, on each side of a central point. From a psychological perspective Witkin, Dyk, Faterson, Goodenough & Karp (1974) cited in Morgan (1997, p35) describe these domains as following:

"The person with a more field independent way of perceiving tends to experience his surroundings analytically, with objects experienced as discrete from their backgrounds. The person with a more field dependent way of perceiving tends to experience his surroundings in a relatively global fashion, passively conforming to the influence of the prevailing field or context." In general, individuals who are more field independent are able to delineate details that might obscure them from view. For example, field independent persons are more capable of identifying fruit on a vine or tree even though the colours might not be very different from the leaves and branches. On the other hand, field dependent learners are less likely to view things separate from the overall environment and would have greater difficulty viewing a single piece of fruit as standing apart from the tree or surrounding foliage (Morgan, 1997).

Various measures have been designed to assess field dependence-independence, such as the Rod-

and -Frame Test (RFT) and the Body Adjustment Test (BAT). In the former, the individual is asked to bring a strongly tilted luminous rod, inside a tilted luminous square frame, to an upright position in a darkened room that bars the use of other contextual cues. In the Body Adjustment Test, people sit in a tilted chair in a tilted small room and are requested to bring themselves to an upright position as they experience this position.

Research in different cultural groups showed significant differences between the groups in the average level of their members' field independence. Individuals from agriculture-based, subsistence level societies tended to be relatively field dependent, a relationship that seemed to be mediated by the apparent emphasis on conformity to authority in such societies. Research by Castaneda (1974) and Laosa and De Avila (1979), cited in Shipman & Shipman (1985) also suggested that cognitive styles would change as a result of acculturation.

The consideration of cognitive style widened from an examination of field dependent/ independent to include selection strategies (scanning and focusing), memory and retention styles, risk taking versus cautiousness, and comparisons of sensory modality preferences (kinesthetic, visual, and auditory). Messick (1976) summarised the type of work being conducted in this field with his definition of cognitive styles as "information processing habits representing the learner's typical mode of perceiving, thinking, problem solving, and remembering" (cited in Keefe 1987, page 7).

1.4. Research in South Africa on Field Dependence-Field Independence

Previous research in South Africa has focused on a specific dimension of Cognitive Styles, namely field-dependent/ field-independent trait.

Engelbrecht and Natzel (1997) decided to use this measure as they contend that the most influential conceptualisation of cognitive style has been the dimension of field dependence-independence. These authors follow Berry et al.'s (1992) definition of these terms:

Field independence refers to people who rely on bodily cues within themselves and are generally less oriented toward social engagement with others/
Field-dependent people rely more on external visual cues, but are more socially oriented and competent (page 156).

Engelbrecht and Natzel (1997) place these constructs in relation to the ecocultural framework. An ecocultural approach is one which examines both the individual's and group's behaviour as adaptive to the context within which the person finds themselves. Berry's model attempts to comprehend the relationships among ecological, cultural and behavioural variables. He proposes two levels relative to the model, the first being ecological (interactions between human organisms and their environment) and the other being acculturational (changes introduced through culture contact with technologically advanced societies that operate through sociopolitical institutions such as education and wage employment).

According to Berry, family and child-rearing practices lead to a variation in cognitive styles. He assumes that in social settings characterised by insistence on adherence to authority both in society and the family that field-dependence will occur. He seems to follow the research by Witkin & Berry (1975) which suggests that individuals from agriculture-based, subsistence-level societies tend to be relatively field dependent, a relationship that seems to be mediated by the emphasis on conformity to authority in such societies. According to Berry (1992) the use of strict socialisation practices to enforce conformity by tight social organisation, can influence and limit differentiation and therefore result in a field-dependent cognitive style. In contrast, a field independent cognitive style is likely to be prevalent in social settings which are more encouraging of autonomous functioning, and are more lenient in child-rearing practices and are loose in their social organisation.

Engelbrecht and Natzel (1997)'s cross- cultural study used the Children's Embedded Figures Test (CEFT) and examined the cognitive style of 100 Black South African males and females and 100 African American males and females in Grades 4 and 5. The results were significant and suggest that African Americans are more likely to use a learning style characterised by field independence and Black South African children are more likely to use a learning style characterised by field dependence.

These findings suggest that environmental variables such as socio-economic background, educational level and familial influences are critical in determining levels of cognitive development and learning styles. Shade (1986), cited in Engelbrecht and Natzel (1997) explains that African American culture has a strong kinship system and multigenerational network

consisting of relatives, friends and neighbours. This is hypothesised to promote a co-operative style where individuals are more likely to engage in relational rather than analytic thinking. Thus, African Americans more readily read facial cues, engage in nonverbal communication, rely on external referents and prefer closer social contact with other African Americans (field –independent style). In the South African context ecological variables such as poor living conditions, lack of parental care of the children due to economic realities that demand both parents work and the children are left to their own devices, high household density, lack of opportunity for exploratory behaviour and play materials and educational disadvantage all have had an effect on cognitive functioning. In addition, the transition from a traditional rural life to a western way of life has impacted on the family and norms that governed traditional rural society may no longer seem appropriate. This may result in the erosion of the parents' authority and this may respond with inflexibility and with an authoritative attitude. In the absence of mediation by parents, or in the presence of inappropriate mediation by parents, children may respond by adopting a more external focus and field dependent style of interaction.

Engelbrecht and Natzel's (1997) research suggests that acculturation appears to have made an impact, particularly on the African American group through the influences of western schooling, availability of wage employment and degree of urbanisation. The present research indicates a shift to field independence through acculturation for the African American group.

While these constructs have been the focus of research into learning styles in South Africa, More (1990) finds two significant problems with the use of the field independence-dependence continuum with the Native American cultural groups. The first problem for More is the

confusion between the underlying construct and its measure. While the construct purports to be the degree of psychological differentiation across perception, higher level cognitive, social interaction and affect it is usually only measured in field-independence, field-dependence research with a perceptual task. The second problem is that while the construct discriminates between agricultural and industrial societies, it does not discriminate in a useful manner between industrial and hunter-gatherer societies. This therefore limits its usefulness in understanding cultural differences between Native American and European cultures. For these reasons, More does not include these constructs in his Learning Styles questionnaire.

It would seem, however, that the global/analytic continuum might to a large degree include the field independence-dependence constructs. As Schmeck (1988) says, "I feel that all cognitive styles can be encompassed by one broad, inclusive dimension of individual difference, labelled *"global versus analytic"* by Kirby, *"holistic versus serialist"* by Pask, and *"right versus left-brained"* by Torrace and Rockenstein. *"Field-dependent versus field independent"* is a related dimension studied at length by Witkin and his colleagues. He therefore argues that all of these terms at some level of abstraction, are reflections of a single dimension. (page 327).

1.5. Research conducted into Learning Styles

Initial research investigated correlations or connections between individual preferences and other influences on learning; for example: relationships between learning style and hemisphericity, instructional environments, perceptual preferences. Later research focused on improving the immediate and long-term results of teaching and learning episodes. Another focus of learning

style research has been in the area of professional education. Investigators have applied learning style concepts to a number of issues in various professional areas. For example, medical school admissions, training programmes. The rationale for such studies was that the quality of the learning style used by students is likely to determine what is learned, and this can act as an outcome to compare various curricular approaches (Hickcox, cited in Sims & Sims 1995).

The majority of learning style research has continued in the face of significant difficulties with respect to learning style conceptualisations. A key difficulty is the confusion of definitions surrounding learning style concepts and the resulting wide variation in scale or scope of behaviour claimed to be predicted by various models. As Curry (1990) states "The first issue is the bewildering array of definitions surrounding learning style conceptualisations. There is a wide variation in the scale and the scope of learning, in school achievement, and in other behaviour predicted by the various learning style concepts" (page 50).

Research nonetheless, has continued with a different emphasis, on the relationship between culture and learning style, and the work of More (1987) (1990) has been of this genre. According to Guild (1994) this approach stems from the imperative that it is necessary to understand the culture and learning styles of the student in order to give a child the chance to succeed in school. This premise recognises that a relationship exists between the culture the child lives in and their preferred ways of learning. This relationship is directly related to academic, social, and emotional success in school.

Attempts have been made to understand different cultures and ways of learning, each with a

specific learning style model. Guild (1994) outlines three approaches to obtaining information about culture and learning styles.

a) The first is a set of observation-based descriptions of cultural groups of learners. This consists of descriptions of two groups of people by people familiar with each group to sensitise people outside the culture to the experiences of children in that culture. In so doing, researchers have identified typical learning patterns among African Americans and Native Americans.

b) The second approach to determining links between culture and learning style is through data-based descriptions of specific groups. In this type of inquiry, learning style instruments are administered to produce a profile of a cultural group and this is compared with another previously studied group. The formal assessment instruments used in this approach purport to measure learning style differences in two different ways:

- Instruments may examine style preferences, usually through self-report instruments that explore favoured approaches to learning (e.g. The Myers-Briggs Type Indicator)
-Instruments may examine style strengths, or the ability to do tasks with a certain approach. (For example, the assessments that distinguish between field dependence- independence and More's approach)

c) The third approach in which the relationship between learning and culture is explored is through direct discussion with individual learners.

1.6. More's understanding of the term Learning Style

More (1984) through a series of structures interviews and workshops with teachers, found that most teachers and parents understand "Learning Style" more broadly than merely referring to "sensory mode" and "physical setting". According to More (1987) for teachers, the term Learning styles also refers to the broad range of learning conditions surrounding the learner, type of instruction and teacher/learner relationships as well as thinking processes.

More (1990) also explains that the connotation of the term "style" is inconsistent throughout the literature and is used operationally in at least four different ways:

The usual (or characteristic) cognitive or learning process

The preferred (as stated by subject) process

The strongest process

A specific cognitive or learning process (page 2).

The term "style" is therefore particularly confusing as there is often an implicit assumption that the process for which an individual states a preference is the same as the individual's usual process and is the same as the strongest process. However, conceptually the meanings are different.

Thus, More (1987) defines the term "learning style" as the *"characteristic or usual strategies of acquiring knowledge, skills and understanding by an individual"* (page 19). More initially

employs this definition as he suggests that this definition allows for a number of Leaning Styles to simultaneously be present. This definition according to More also allows one to refer to "stronger" and "weaker" Learning Styles. He emphasises the cognitive processes whereby the student learns, particularly the internal cognitive processes rather than sensory mode (hearing, seeing, touching) or physical environment (heat, time of day, light).

In More's (1997) definition of Learning Styles, he moves away from focusing on the usual strategies of Learning and redefines the term Learning Styles as ways of learning in which the student has a strength, and is more competent. To explore this understanding of Learning Styles he uses primarily a data-based description and his learning style inventory is the product of his work in this regard.

More distinguishes the term Learning Styles from Ways of Learning, which refers to the mental processes and instructional settings, which the student uses while learning. Mental processes include organising, perceiving, coding, remembering and reasoning. Instructional settings include formal or informal, warm or impersonal, cooperative or competitive. According to More (1997) "each student with special needs has a profile of relative strengths and relative weaknesses in *ways of learning*" (page 2). Thus, More seems to view Ways of Learning as a broader term than the term Learning Styles. Indeed, the Learning Style strengths of the individual form only part of the dimensions that comprise "Ways of Learning". To have a complete understanding of the "ways of learning" one would need to explore the Learning content for example whether the content is contextualised or decontextualised, the instructional setting (e.g. is it co-operative or competitive, formal or informal) and the physical setting (e.g.

desk arrangement).

1.7. Culture and Learning Style.

More (1997) seems to strongly focus on the concept of learning styles within the framework of culture. According to More, it is impossible to understand a learning style without considering the cultural framework of the individual. Furthermore, it is important to recognise that there are diverse cultures and to consider the impact that cultural diversity will have on classrooms throughout the world. Indeed, he maintains that teachers need to *"better understand the significance of cultural background learning"* (page one) as classrooms are increasingly likely to contain students of varied cultural origins within one classroom. More (1997) maintains that an understanding of cultural diversity is even more important when the cultural basis of the curriculum differs significantly from the culture of the student (for example among aboriginal communities in Australia).

Moreover, More (1990) suggests that failure to understand the cultural background of the student contributes to low achievement and high drop out rates of minority students. While More (1990) recognises that bias, discrimination and economic factors also influence achievement difficulties of minority students in the education system. However, his work focuses on cultural aspects. For More (1996), culture refers to the learning styles and ways of learning learned from the people that are important to us (primary caregivers).

More (1997) argues that students from cultural minorities, as well as students with special educational needs are at a disadvantage because what is taught (content) and the way it is taught

(pedagogy) may be quite inappropriate due to the cultural inappropriateness of the assessments and interventions.

In an effort to address and overcome these perceived difficulties More (1997) developed his learning styles approach with the goal of helping the teacher to identify and build on strengths related to the cultural background of the learner.

1.8. More's Model of Learning Styles

Learning styles consist of many dimensions, but More focuses on four dimensions as a measure of cultural differences. Within the four dimensions, there are two poles at each end of the dimension:

Global ..... Analytic

Verbal ..... Imaginal

Concrete ..... Abstract

Trial & Feedback..... Reflective

These are defined as follows:

Global- a learning process which emphasises a gestalt-like holistic approach to integrating many components or stimuli of a learning task. In contrast, on the other end of the continuum, the

individual uses an analytic process, a learning process which emphasises learning the individual components or stimuli of a learning task.

Imaginal- a learning process, which emphasises the manipulation and coding of, images (concrete or abstract, and related to any of the senses, not only the visual). On the other end of the spectrum learners may primarily have strengths in verbal explanations- a learning process which emphasises the manipulation and coding of words in any form.

Concrete- a learning process which emphasises particular instances which can be directly perceived by one or more of the senses. In contrast, other students may learn better when concepts are presented first in its abstract form- a learning process, which emphasises the concepts, principles or thoughts, separate from their concrete instances.

Trial and Feedback (T&F)- a learning process, which emphasises an initial response (trial), followed by feedback which is used to refine the learning. This differs from impulsive responses which may not incorporate feedback, and which may not result in learning. At the other end of the continuum is Reflective learning, a learning process which emphasises thinking about (reflecting upon) the new learning before using it.

Findings on the Global-Analytic Dimension

Much light has been shed on this continuum by Das, Kirby & Jarman (1982). In their work, the "global/analytic" continuum is referred to as "simultaneous/sequential" cognitive processing. "Simultaneous processing" is defined as a synthesis of separate elements into a group, or perceiving as a whole. The term "sequential processing" refers to processing information in a serial or sequential order- an analytic, ordered process (Das et al., 1979). Krywaniuk (1974), cited in More (1990) tested low achieving, grade three Native Indian and white children and

found that even though their general ability scores were equivalent, the Native Indian students scored higher on simultaneous measures than the white students. Additional measures by McShane & Plas (1982) with a group of Ojibwa and Sioux children examined WISC-R scores for these children and also found that Spatial scores were higher than Sequential scores. Kaufman and Kaufman (1983) using the K-ABC reported that Simultaneous scores were greater than Sequential scores for Navajo children but not with a group of more assimilated Sioux children. More's (1988) work with Native Americans also suggests a tendency toward global style strength over sequential/analytic processing for Native Americans compared to non-Natives.

Findings on the Verbal-Imaginal Dimension

More (1990) citing the work of Tafoya (1982) and John (1972) as well as informal interviews with Native Americans suggests that the use of imagery as a tool for understanding highly complex concepts is an important part of learning in many traditional Native American cultures. Systems of legends are considered to be a prime example of such usage. More (1987) quotes other researches such as Bryant (1986), Karlebach (1986) as well as his own work -More (1984)- which have also shown that Native students tend to use imagery coding while non-native students use verbal coding. The use of images is not just visual and includes aural and olfactory images.

Findings on the Reflective-Trial /Error/Feedback Dimension

The one study conducted by More (1984) cited in More (1990) fails to find significant differences between Native American and Non Native children on this dimension. However,

More (1987) suggests that teachers and parents report differences between Indian and non-Indian students during classroom question-and-answer sessions. This has resulted in a continuum, which he calls the trial-and-error/watch-then-do continuum. He regards this dimension as similar to the impulsive/reflective continuum. According to More (1987), learning in traditional Indian cultures can often be described as watch-then-do (e.g. learning to make a fishnet) or listen-then-do (e.g. learning values through legends taught by an elder). This is different from the trial- and- error learning encouraged in the classroom. Trial-and-error learning means that the student 'attempts' an answer verbally and successively refines the answer after feedback on errors from the teacher or fellow students. More (1987) maintains that the contrast between traditional Learning Styles for Native Indian students and contemporary classroom practice has been raised frequently enough to warrant further study.

Findings on the Concrete/Abstract Dimension

According to More (1984) cited in More (1987) teacher interviews have indicated that Indian students learn more frequently and more effectively using concrete rather than abstract processing. However, no further research has been conducted to corroborate these findings. While no formal research has been conducted into Learning Styles along this dimension in South Africa, work has been performed to explore the performance of urban and rural children on Piagetian tasks. The acquisition of Piagetian concepts may reflect a movement from concrete thinking to greater abstract thought. It is generally held that urbanisation has an effect on the acquisition of Piagetian concepts. Bam (1982) conducted a study of 120 urban and rural Basutho children in Lesotho. The children aged 7 to 12 years were tested on conservation of mass, weight, liquid and number. The urban subjects outperformed the rural

subjects on all four examined concepts. Mwamwenda and Mwamwenda (1986) compared Batswana rural and urban subjects on the concepts conservation of quantity, transitive inference and class inclusion. Urban children performed better on all three concepts.

In Natal, Page (1973) examined the concepts of distance and length among 133 Zulu youths aged 11 to 20 years drawn from both urban and rural areas. The sample consisted of both educated and uneducated subjects. It was found that the subjects from rural areas did not perform as well as those from urban areas. However, when the subjects were matched on age and education, there was no difference in performance between the two groups, suggesting that schooling has an equalising effect.

Education also seemed to play a role in the findings of Miller and Meltzer (1978) who reported no difference in performance on classification, conservation of quantity and seriation between uneducated rural and urban children. Uneducated rural children performed better than uneducated urban children on conservation of number.

In summary, the research results described above suggest that among Canadian native people, there is:

- higher frequency and relative strength in global processing on both verbal and non-verbal tasks;
- higher frequency and relative strength among Indian students in using imagery for coding and understanding;
- reflective more than impulsive (or watch-then-do rather than trial-and-error)

- possibly greater concrete than abstract processing

Thus, the Learning Style of First Nations students in Canada are more likely to be towards the global, imaginal, reflective and concrete ends of the dimensions discussed above. The more traditional the community, the more likely the child will show this profile. In contrast, Western, middle-class children are more likely to have learning style strengths towards the analytic, verbal, abstract and Trial and Feedback ends of the learning style dimensions (More, 1996). In South Africa, urban children's performance on Piagetian tasks appears to be superior to that of rural children. However, level of schooling and number of years of education also play a part in performance.

More (1990, page 11) conceptualises the application of learning styles in education to be part of a four step model, namely,

1. Identifying learning styles of individuals.
2. Matching teaching styles to stronger learning styles for difficult, important learning tasks.
3. Strengthening weaker learning styles, since some tasks require a particular style.
4. Helping students to select appropriate learning styles (which would depend on both the learner and the task)

1.9. The relationship between culture and learning style- a critical analysis

Proponents of the need to examine the relationship between culture and learning style advocate that in order to provide a child with the ability to succeed in school; it is necessary to have a full understanding of culture and learning styles. Indeed, effective educational decisions are seen to emanate from the ways in which individuals learn. It is therefore deemed essential to know the student's culture in order to structure the learning for the students. Guild (1994) claims that there are at least five points that those who study culture and learning styles agree upon and seem to form theoretical underpinnings to the work in this field. These five points are as follows:

(1) Educators concur that students' age influences the way the student learns. Thus, age influences learning style and individual differences in cognitive, affective, and behavioural dimensions.

(2) Learning styles are a function of both nature and nurture. Thus, an innate predisposition seems to be inborn and the successful development of that type of learning can be greatly assisted or hindered by the environment.

(3) Most researchers believe that learning styles are neutral. Each learning style approach can be used successfully, but can also become a hindrance if applied inappropriately or overused.

(4) Within a group, the variations among individuals are as great as their commonalities. One should therefore not automatically attribute a particular learning style to all individuals within a group.

(5) Many authors acknowledge that a cultural conflict exists between some students and the typical learning experiences in school. A child that is socialised in ways that are inconsistent

with school expectations and patterns, needs to make difficult daily adjustments to the culture of the school and the teacher.

While areas of consensus exist in the literature regarding knowledge about culture and learning styles, debates also exist about applying theory on culture and learning styles. According to Guild (1994) differences of opinion exist regarding the following:

Differences in opinion exist as to whether educators should acquire more explicit knowledge about particular cultural values and expectations. Proponents (such as More) argue that such knowledge would enable educators to be more sensitive and effective with students of particular cultures. However, other authors argue that describing cultures has resulted in more stereotyping and labelling rather than the identification of educationally meaningful differences among individuals.

Authors also debate the proper response to research that suggests that the culture-learning styles relationship affects student achievement. While authors such as More suggest that the low performance of culturally different "minority group" students are determined by pursuing questions of behavioural style, other authors such as Bennett (1986) cited in Guild (1994, page 20) suggest that accommodating learning styles will not solve all problems. "We must be careful ...not to view learning styles as the panacea that will eliminate failure in schools. To address learning styles is often a necessary, but never sufficient, condition of teaching"

Another unresolved issue is how teachers working from their own cultures and teaching styles

can successfully reach diverse populations. More (1997) assumes that students from cultural minorities are at a disadvantage because *"what is taught (content) and the way it is taught (pedagogy) may be quite inappropriate"* (page one). However, Frisby (1993) considers this approach to be derogatory and suggests that it assumes that "Black learners are incapable of manifesting any behaviour that is different from behaviours dictated by their identified cultural learning style" (page 547). Rather, learners are capable of using learning styles other than their identified cultural learning styles by using their individual strengths and preferences.

Guild (1994) argues that there is a danger of using learning styles as a way to identify and remediate deficiencies, rather than using the approach to identify and develop strengths. More (1997) seems to concur with this approach and emphasises the need to use the strengths of the learner and states, " learning styles are ways of learning in which the student has a strength, and is more competent" (page 2).

1.10. Learning Style research in South Africa-The Application of More's Model

South African society currently, faces many challenges of development. According to Donald, Lazarus and Lolwana (1997) reconstructing education to a system that brings equity to the education of all children is one of the most urgent of these challenges. To achieve equity, it is important to address the quality of education the children of South Africa receive.

The main problems in South Africa's education system are undoubtedly related to the troubled past, and in particular the policy of apartheid and its consequences. One of these consequences was the influx control laws which led to migrant labour, which have directly contributed to

marital and family break-up among black families (Burman & Reynolds 1986). With urbanisation there has been a breakdown of traditional culture and approaches, and a transition from traditional beliefs, values and customs to a Western orientation, without the substitution of an integrated alternative.

In the present, this has created challenges encompassing the full extent of social reconstruction, including tackling issues of poverty, housing and health which all have significant effects on the development of children.

In South Africa's progress towards a democratic society, major policy documents on education have reflected an urgent need for educational reconstruction and structural changes in the education system. This has included bring 18 different education departments under one ministry with one policy; redressing the differences in resources and access to education, qualification structures, support services. Theses structural changes are fundamental and necessary to the process of educational reconstruction. However, as Donald et al (1997) state "on their own, these changes will not be enough" (page 16).

Certainly, up until 1994 with the implementation of the transitional government, it could be argued that Black people were the minority group in the sense that they were disempowered. It is also suggested that these structural changes may not be sufficient as Black students may continue to be the minority group currently, in that the cultural basis of the curriculum continues to differ significantly from the culture of other majority students.

According to More (1997) a student from a cultural minority is at a disadvantage because what is taught (content) and the way it is taught (pedagogy) may be inappropriate. An understanding of the learning styles of the students may assist the teacher in adapting his/her teaching style to best meet the needs of the pupil and therefore help to break this cycle.

Furthermore, an understanding of learning styles may help bring about a measure of understanding of the learning process and in that way may help people to examine their beliefs and facilitate the necessary changes within the South African context. The purpose of this research is therefore to explore the Learning Styles of urban and rural communities. The findings of More suggest that differences in Learning style develop in relation to the degree of urbanisation, across Native Indian populations. The purpose of this research is to determine if there are significant differences between these communities within the South African context.

2. CHAPTER TWO: THE STUDY

2.1. The Rationale

More's concept of Learning Styles has been found to be useful, particularly among indigenous nations of Canada. More has shown that traditional native Indian cultures show Learning Style strengths towards the global, imaginal, reflective and concrete ends of the dimensions. His findings suggest that Westernised populations have profiles with learning style strengths towards the analytic, verbal, abstract and trial-and-feedback ends of the learning style dimensions. His Learning Style model may therefore prove to be useful in the South African context given that South Africa is a multicultural society and contains varied communities, both rural and urban. In South Africa, urban black children tend to perform relatively well on abstract tasks, a finding which appears to be mediated by level of education. Urban children might also be expected to be relatively verbally adept, given their relatively complex and rich environments and language opportunities.

2.2 Aims

This study aimed to explore the respective Learning Style strengths of an urban and a rural community. In so doing, the perceptions of teachers of their pupils' learning styles were explored. This can lay the foundation for establishing suitable teaching methods within a multicultural society.

2.3. Hypotheses:

The Learning Style questionnaires were administered to explore the learning style strengths of learners in an urban and rural community without any specific predictions being made in this regard.

2.4.The Method

2.4.1. The sample

The sample comprised 30 children attending Orange Grove Primary School, a primary school situated in central Johannesburg and 30 children attending Nonnashoek farm school in Bethlehem, in the Free State Province. For the purposes of this study, the children of Orange Grove School constitute the urban sample, and the children of Nonnashoek School constitute the rural sample.



Three teachers each completed ten Learning Style Questionnaires for each of 10 children at Nonnashoek School. At Orange Grove School, six teachers filled out five Learning Style Questionnaires each for each of five children. The teachers all completed the Learning Style Questionnaires in English.

The children of Nonnashoek School were children of farm-workers who constitute lower-income earners. The majority of children at Orange Grove Primary school have one parent who works in the nearby suburbs as a domestic worker.

2.4.2. Procedure

Teachers completed Learning Style Inventories for children at each of the schools. These

2.4.2. Procedure

Teachers completed Learning Style Inventories for children at each of the schools. These inventories were then scored according to More's scoring method and were analysed statistically to determine if the differences found were significant.

Orange Grove Primary School was approached first in order to constitute the urban sample. The researcher was working at the school as an intern psychologist, specifically with the children of grades one to three. A good rapport therefore had been formed with the teachers of the children within the age-group required for the sample. Permission was obtained from the headmistress of the school to ask the teachers to complete the Learning Style Inventories. Initially, the researcher requested that ten forms be completed by each teacher of the junior standards, in order to obtain as large a sample size as possible. The teachers initially refused to comply with the researcher's request as they found the Learning Style Inventory too long and cumbersome. The teachers were however, prepared to complete five Learning Style Inventories per junior class. The researcher was available at the school when questions arose, when teachers found items on the Learning Style questionnaire difficult to understand. The forms were completed within a month of distribution.

In contrast, the researcher did not initially have direct contact with the teachers at Nonnashoek School. Rather, inquiries about completion of the Learning Style questionnaires were initially made through a third party. This led to the researcher making contact with an ex-principal of Nonnashoek Farm School (Mr Makobo). A sample Learning Style questionnaire was sent to Mr Makobo and a time was set up for two weeks later to meet with the teachers concerned. The

researcher requested that 30 Learning Style Inventories be completed, within the 6-9 year old age group. The three Junior Primary teachers of Nonnashoek School were therefore approached by Mr Makobo and each teacher completed ten Learning Style Inventories, as opposed to six teachers in the urban sample completing five Learning Style Inventories. The Learning Style questionnaires were completed before the initial meeting of the researcher with the teachers.

2.4.3. Measures

The measure used to determine Learning Style Profile strengths was More's Learning Style Identification Inventory (More, 1996). This forms part of his *Ways of Learning, Learning Styles and Multicultural Classroom: Teacher's Resource.* This is published through the Department of Educational Psychology and Special Education at the University of British Columbia, Vancouver, Canada. His Learning Style Identification Inventory is an exploratory instrument and no formal studies have been conducted to assess its reliability and validity.

The Learning Style Identification Inventory consists of 32 items. The teacher reads the item and determines to what degree the student complies with the description. Each item forms part of the four Learning Style dimensions, namely: global-analytic, verbal-imaginal, concrete-abstract, trial and feedback-reflective. In determining the validity of the description, the teacher has a choice of deciding between "almost always", "usually", "sometimes", "seldom" and "almost never". Each response is scored as follows: "Almost Always" obtains a score of 5, "Usually" obtains a score of 4, " Sometimes" obtains a score of 3, "Seldom" obtains a score of 2, "Almost never" obtains a score of 1. The total for each dimension is determined by adding the values comprising that dimension. One then compares the scores across the dimensions, for example

Global and Analytic, to determine the student's stronger versus weaker learning style on each of the dimensions. The teachers' ratings were on the basis of their knowledge of the child and teachers were not asked to observe the child beforehand.

2.4.4. Statistical Design

A comparison was made between the ratings of the rural and urban samples on the Learning Style Identification Inventory. To test the hypotheses that (a) rural pupils would obtain results towards the global, imaginal, reflective and concrete ends of the dimensions, (b) urban pupils would obtain profiles with learning style strengths towards the analytic, verbal, abstract and trial and-feedback ends of the learning style dimensions, a t-test was performed to compare the mean scores of the two groups on the poles of each of these dimensions.

An in-depth analysis of the two samples was also performed to assess the validity of the ratings for each of the two samples. In this regard Spearman Correlation Coefficients were obtained in order to determine whether correlations were in a positive or negative direction. Frequency Distributions of the data were performed in order to determine if data was skewed in any direction by the manner in which respondents completed Learning Style Identification Inventories.

Finally, Analyses of Variance (ANOVAS) were performed to determine whether differences between the two poles of each of the dimensions were statistically significant. Bonferroni confidence Intervals were performed across the dimensions, in order to determine on which of these the difference between their polar opposites were significant.

3. CHAPTER THREE: RESULTS

3.1. INTRODUCTION

A t-test was conducted to determine whether the mean scores for the urban and rural samples were significantly different. Following this, the scores of the rural sample were compared for the abstract and concrete poles of the dimensions. The frequency of scores for the concrete and for the abstract poles of the dimensions were examined. These findings were then graphically illustrated.

The findings yielded from the urban sample were then explored. Spearman Correlation Coefficients were obtained for the urban sample. An analysis of the scores of the urban sample for the abstract and concrete poles of the dimensions, was then conducted. The frequency of scores for the abstract and concrete poles were tabulated and illustrated diagrammatically.

A One Way Analysis of Variance (ANOVA) and then a Bonferroni *t*-test was performed for the urban sample to determine whether there were any differences between the two poles of each of the dimensions.

3.2. Comparison of Mean urban and rural Sample

A t-test was conducted to determine whether the means of the urban and rural samples were statistically different. Table 1 contains the results of this analysis

Table 1: Means and t-values of learning style inventory for the urban and rural samples

Dimension		Mean Urban	Mean Rural	*t*-test
1	Global	13.50	16.70	5.12**
	Analytic	12.90	15.90	4.25**
2	Verbal	9.30	14.47	6.60**
	Imaginal	12.70	14.20	2.75*
3	Concrete	14.70	13.93	-1.10
	Abstract	9.24	14.31	8.93**
4	Trial & Feedback	12.86	13.00	0.20
	Reflective	12.17	13.43	1.53

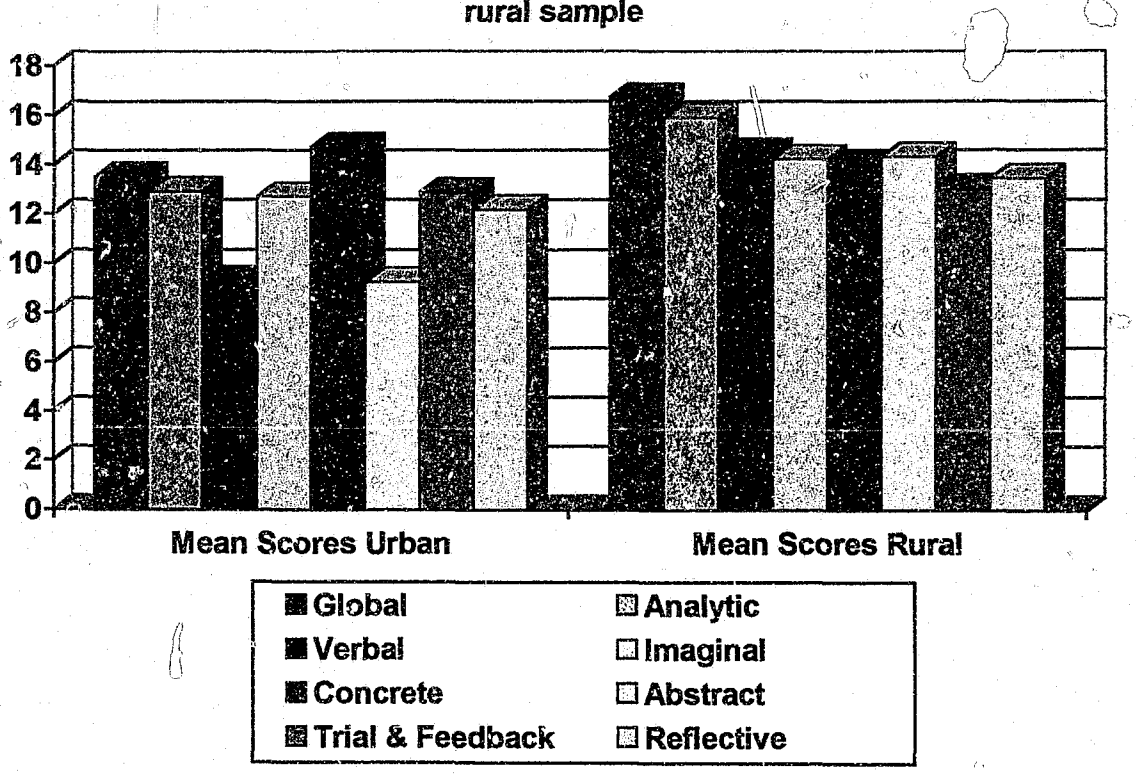
* $p < .01$

** $p < .001$

It is evident from Table 1 that with the exception of the Concrete pole of the Concrete-Abstract dimension, the mean scores of the rural sample were higher in all areas than the urban sample. The differences were significant in five out of eight areas. For the rural sample, there was no differentiation in their results on the two poles of each dimension, and both sides were equally high. This lack of differentiation, suggests that the teachers' ratings for the rural sample may have been invalid. Alternatively, the results may be quite accurate perceptions by the teachers of the learning styles of their students.

Figure 1 below highlights the lack of differentiation for the rural sample, and the presence of some differentiation for the urban sample on the Verbal-Imaginal and Concrete-Abstract dimensions.

Figure 1: Diagrammatic representation of mean scores of urban and rural sample



These results were investigated in more detail for each of the samples.

3.3. Findings yielded from the rural sample

Support for the lack of differentiation on the various dimensions by the teachers is also evident from two sources: the Bonferroni-*t*-Test and an in-depth analysis for each of the dimensions, of the ratings on the Learning Style Identification Inventory of each individual in the sample. The scores are obtained by assigning a numerical value of 5 "Almost Always", 4 " Usually", 3 "Sometimes", 2 "Seldom" 1 " Almost Never , according to the response of the teacher on the Learning Styles Questionnaire. The items constituting that dimension are added up and a possible maximum score of 20 can be obtained for the four items in the Learning Style scale. The lack of differentiation across the poles of the dimensions is demonstrated through an examination of the raw data across the Abstract/Concrete dimensions. The scores obtained on these two dimensions are presented in Table 2.

Table 2: Scoring of rural sample across abstract/concrete dimensions

STUDENT NUMBER	*TOTAL SCORE-CONCRETE*	*TOTAL SCORE-ABSTRACT*
Student 1	19	18
Student 2	18	16
Student 3	15	20
Student 4	11	14
Student 5	16	16
Student 6	17	17
Student 7	17	17
Student 8	6	10
Student 9	7	13
Student 10	15	14
Student 11	14	17
Student 12	9	10
Student 13	16	12
Student 14	11	10
Student 15	15	10
Student 16	12	14
Student 17	20	17
Student 18	15	13
Student 19	10	11
Student 20	14	14
Student 21	13	12
Student 22	17	16
Student 23	14	16
Student 24	12	13
Student 25	12	15
Student 26	17	17
Student 27	16	14
Student 28	10	10
Student 29	14	15
Student 30	15	15

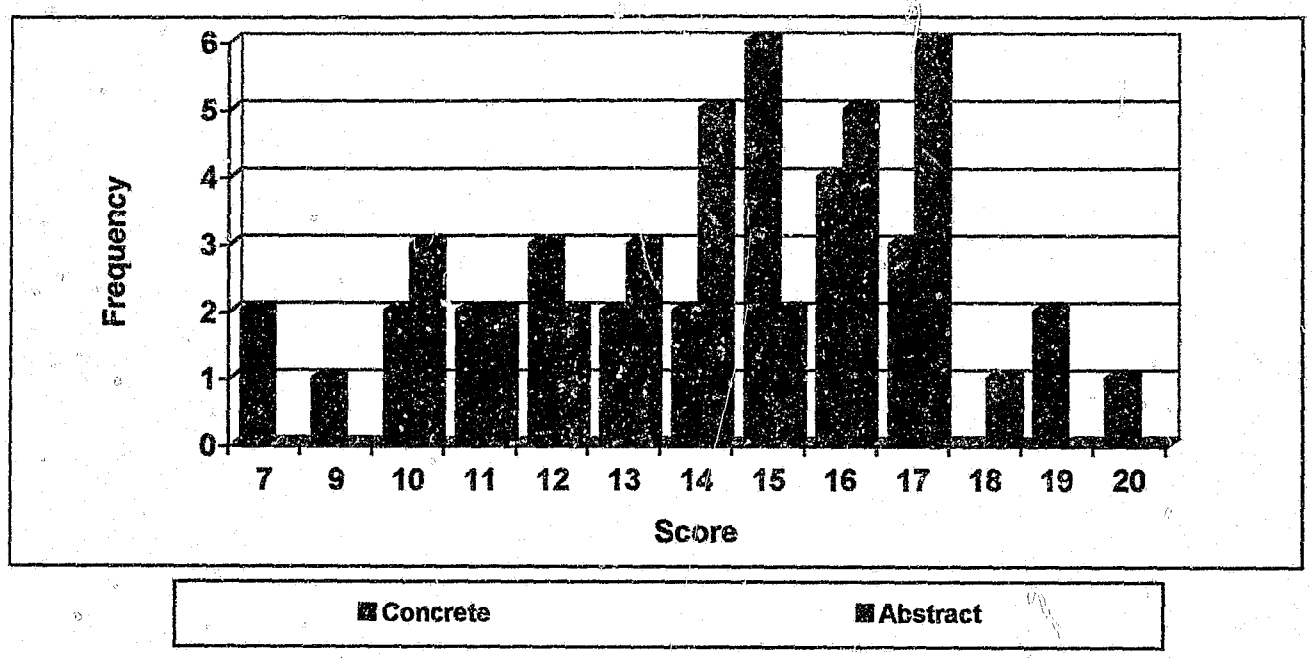
The scores in Table 2 illustrate that the respondents scored the items comprising the various dimensions at a similar level, resulting in similar scores for the two dimensions. This provides further evidence that the raters (teachers) were unable to differentiate between the constructs. This gives additional support for the contention that the data yielded invalid information for the rural sample.

Table 3 below shows the frequency of scores across the concrete and abstract dimensions. The scores for the Concrete Dimension for the rural sample fall within the range 7-20, for the Abstract Dimension the scores fall within the range 10-18. This is illustrated diagrammatically in figure 2.

Table 3: Scores of students on the concrete and abstract dimensions for the rural sample

Score		Frequency		Cumulative Frequency		Cumulative Percent	
Concrete	Abstract	Concrete	Abstract	Concrete	Abstract	Concrete	Abstract
7		2		2		6.7	
9		1		3		10	
10	10	2	3	5	3	16.7	10.3
11	11	2	2	7	5	23.3	17.2
12	12	3	2	10	7	33.3	24.1
13	13	2	3	12	10	40	34.5
14	14	2	5	14	15	46.7	51.7
15	15	6	2	20	17	67.7	58.6
16	16	4	5	24	22	80	75.9
17	17	3	6	27	28	90	96.6
	18		1		29		100
19		2		29		96.7	
20		1		30		100	

Figure 2: Frequency of Concrete and Abstract Scores for Rural Sample



It is evident from Table 3 and figure 2 that the range of scores on the abstract dimension is similar to that on the concrete dimension and suggests invalid scoring by the raters.

Further evidence for the lack of validity of the rural sample can be obtained if one examines the results of a One way Anova for the rural sample. The confidence value for the One way Anova was statistically significant PR>F (0.0001), suggesting that along all the possible comparisons, significant differences exist in the mean scores. However, the Bonferroni *t*-test did not yield any statistically significant results between the poles of the dimensions relevant to the Learning Style Identification Inventory. This suggests that the respondents did not differentiate between the poles of the different dimensions, e.g. global-analytic.

3.4. FINDINGS YIELDED FROM THE URBAN SAMPLE

An analysis of the mean scores of the urban sample in Table 1 suggest that the urban sample obtained higher mean scores on the Global pole as compared to the Analytic pole, on the Imaginal versus the Verbal, the Concrete versus the Abstract, and Trial and Feedback versus the Reflective poles of the dimensions.

Spearman Correlation Coefficients were examined in Table 4, in order to examine the consistency of performance of the subjects across the poles of the dimensions.

Table 4: Spearman correlation coefficients for the urban sample

	GLOBAL	VERBAL	CONCRETE	TRIAL & FEEDBACK
ANALYTIC	0.24743			
IMAGINAL		0.67073*		
ABSTRACT			0.01956	
REFLECTIVE				0.15997

* $p < .001$

The only statistically significant correlation was between the imaginal and verbal dimensions. This suggests that there was a consistent tendency for the raters to view a relationship between the poles of the two dimensions. Thus, pupils that were seen as more imaginal, were also viewed as having a consistent increase in their verbal ability. The other correlations were non-significant, and low to negligible.

The lowest positive correlation obtained was on the concrete/abstract dimension, suggesting that the respondents did not perceive a consistent relationship between the poles of these dimensions. The poles of this dimension were understood as separate dimensions and are shown in Table 5 below.

Table 5: Scoring of urban sample across abstract/concrete dimension

STUDENT NUMBER	*TOTAL SCORE-CONCRETE*	*TOTAL SCORE-ABSTRACT*
Student 1	14	12
Student 2	15	10
Student 3	15	8
Student 4	16	10
Student 5	16	8
Student 6	12	7
Student 7	13	9
Student 8	14	10
Student 9	13	Value missing
Student 10	13	11
Student 11	15	10
Student 12	15	8
Student 13	16	9
Student 14	9	10
Student 15	17	6
Student 16	15	11
Student 17	14	11
Student 18	14	7
Student 19	12	5
Student 20	15	5
Student 21	15	12
Student 22	15	14
Student 23	15	10
Student 24	15	10
Student 25	14	9
Student 26	17	6
Student 27	17	10
Student 28	18	10
Student 29	17	10
Student 30	17	11

The scoring system of More's therefore suggests that the teachers of the urban sample responding to the Learning Style questionnaire, viewed the pupils to be more Concrete rather than Abstract. To determine the actual spread of the scores, it is necessary to examine the frequency of the scores in greater detail. This is shown in tabular form in Table 6, and diagrammatically in Figure 3.

Table 6: Scores of students on the concrete and abstract dimensions for the urban sample

Score		Frequency		Cumulative Frequency		Cumulative Percent	
Concrete	Abstract	Concrete	Abstract	Concrete	Abstract	Concrete	Abstract
	5		1		1		3.4
	6		2		3		10.3
	7		2		5		17.2
	8		4		9		31
9	9	1	5	1	14	3.3	48.3
	10		8		22		75.9
	11		4		26		89.7
12	12	2	3	3	29	10.0	100.0
13		4		7		23.3	
14		5		12		40.0	
15		9		21		70.0	
16		3		24		80.0	
17		5		29		96.7	
18		1		30		100.0	

Figure 3: Frequency of Concrete and Abstract Scores for Urban Sample

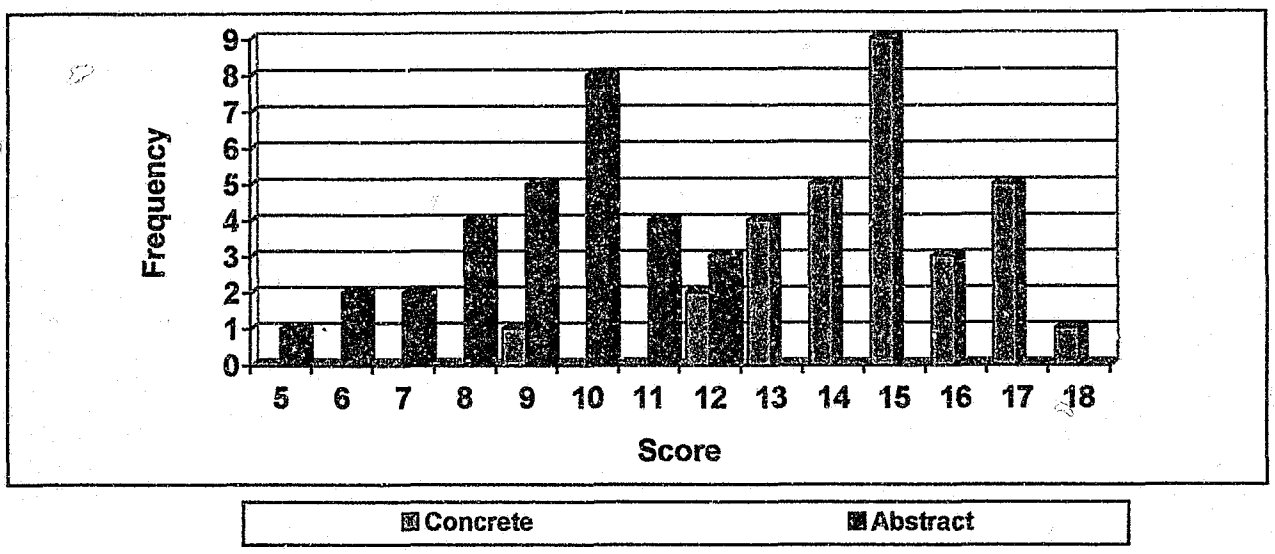


Table 6 and Figure 3 suggest the relative lack of overlap between the frequency of Concrete versus Abstract ratings, and the marked tendency to rate the students as higher in Concrete as opposed to Abstract Learning Style. Thus, 60 percent of the sample obtained scores for the Concrete style of 15 or more (out of a possible 20 maximum score). No scores below 9 were obtained, and 40 percent of pupils obtained a score of 14. In contrast, no pupils on the Abstract style obtained a score above 12; 76% of pupils obtained 10 and below. Thus, the majority of pupils obtained high ratings on the Concrete dimension and this was not influenced by one or two extreme pupil ratings on either extreme of the continuum. Almost all the subjects on the Concrete style (97%) obtained scores of 12 or above out of 20, while only 10% of subjects on

the Abstract style obtained scores of 12. The modal score for the Concrete style was 15 as opposed to 10 for the Abstract style.

These results suggest that the raters (teachers) have differentiated between the different dimensions. The results further suggest that the urban sample results appear to be more valid. Respondents do not however seem to view all the entities as direct polar opposites.

To explore whether differences for the urban sample between the poles of the dimensions were significant, a One–Way-Anova was performed.

Table 7: One way anova for urban sample

Dependent Variable: SCORE

Source	DF	Sum of Squares	Mean Square	F Value
Model	7	778.343	111.192	13.62*
Error	228	1861.534	8.165	
Corrected Total	235	2639.877		

* $p < .0001$

The results of the ANOVA indicate that there was a significant difference among the mean scores for the sample. To determine where the differences lay a Bonferroni *t*-Test was performed. This is shown in Table 8 .

Table 8: Bonferroni *t*-test for the urban sample

STYLE Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
Global-Analytic	-1.7831	0.5690	2.9211
Verbal-Imaginal	1.0346	3.3667	5.6988*
Concrete-Abstract	3.1065	5.4586	7.8107*
Reflective-Trial & Feedback	-3.0638	-0.6905	1.6829

* $p < .05$

As Table 8 indicates, the two dimensions that showed significant differences between their respective poles were the Verbal-Imaginal dimensions and the Concrete-Abstract dimensions. The differences between the poles on the other two dimensions were not significant. The urban sample scored significantly higher on the Imaginal and Concrete poles of the dimensions as compared to the Verbal and Abstract poles of the two dimensions.

In summary, the hypothesis that pupils in a rural setting would obtain results towards the global, imaginal, reflective and concrete ends of the dimensions, was not supported and the results for the rural sample appear to be invalid. Secondly, the hypothesis that urban pupils would obtain profiles with learning style strengths towards the analytic, verbal, abstract, trial-and-feedback ends of the learning style dimensions was also not supported. Rather, urban pupils were found to have learning style strengths towards the Imaginal and Concrete ends of the continuum. In addition the statistically significant positive correlation between Imaginal and Verbal dimensions, suggests that raters perceived there to be a consistent relationship between the two dimensions (i.e. that pupils that were more imaginal were also more verbal).

No significant differences between the poles of Global versus Analytic and Reflective versus Trial-and-Feedback were found for the urban sample.

4. CHAPTER FOUR: DISCUSSION

4.1 Interpretation of the Findings

As demonstrated, the results for the rural sample were inaccurate and it is therefore not possible to make comparisons with previous findings in this regard. However, the results from the urban sample suggest that teachers perceive the learning styles of urban children to be towards the concrete and imaginal ends of the dimensions, as opposed to abstract and verbal ends of the continuum. This is in contrast to the findings of Tafoya (1982) and John (1972) as well as More's work with Native Americans. The findings of the urban sample that suggest that students' Learning styles are concrete, is also contrary to More's (1984, 1987) research. The results suggesting that urban children fall within the concrete dimension versus the abstract dimension, are also contrary to superior performance accorded to urban children in previous South African studies on their grasp of Piagetian concepts.

The lack of statistical significance of the findings on the reflective- trial /error feedback dimensions, and the slight difference attributed to pupils on mean scores across these dimensions, suggests that pupils may employ both these learning styles and may alternate between them. While More's (1990) findings indicate non-significant differences between native and non-native children, the findings in this study suggest that within group differences on this dimension may also be slight.

The urban sample also did not show any statistical significance in favour of the analytic dimension. A comparison of the mean scores for the children, however, suggested slightly higher mean scores in favour of the global dimension. This again would be in keeping with

expectations for a rural sample. The lack of statistical difference between these two dimensions is in contrast to the work of Kaufman and Kaufman (1983), Das et al (1982) and More (1988).

4.2. General Implications of Findings

The findings suggest that black children attending schools in an urban environment may function in a manner more consistent with the Learning Style associated with rural children. This has implications for the teaching styles of teachers in urban schools. For instance, teachers may benefit from the use of concrete examples in order to explain concepts to pupils.

This description of student Learning Style behaviour, may well be an accurate description of Urban Learning Styles within South Africa, as many pupils who attend Urban schools in South Africa may have originally spent their formative years within a Rural setting. The system of migratory labourers, necessitated that young children be left in the care of grandparents in a rural setting, while the parents obtained a living within an urban environment. However, parents may perceive the quality of education to be better within the urban areas, and may therefore arrange for their children to attend urban schools when their children approach school-going age.

Teachers faced with children with poor initial school-going preparation, or with a type of mediation that is different from Urban culture, may tend to interpret the children's experience as "lacking" or describe the children as particularly "CONCRETE". This, most notably was the highest mean score of the urban children's ratings.

Indeed, the perceived concrete functioning of the urban sample by the teachers may well be a function of the inadequate mediation by the parents of the school children. Fataar (1997), cited in Kallaway, Kruss, Donn & Fataar (1997) explains that the chaotic urbanisation of Africans in the 1940s led to a violent youth sub-culture emerging in black townships. Urban schooling for Black South Africans was proposed as a means of controlling the youth, rather than providing adequate mediation. This resulted in poor mediation experiences by members of that generation. Indeed, Fataar (1997) goes on to argue that even with expanded provision of funding in the 1980s for schooling, this did not translate into quality schooling and literacy rates for example, remained poor. This again suggests that mediation for this generation was poor and may impact on the quality of mediation received by Black South African children currently.

The higher ratings of teachers of pupils on the Imaginal pole of the Imaginal-Verbal dimension, may be suggestive of the difficulties teachers are experiencing in teaching pupils in a second (or non-dominant) language. In an urban school such as Orange Grove school-teaching is conducted in English, while many pupils are only introduced to English at pre-school or upon commencing schooling at the school. This creates a language barrier between the teacher/mediator and the child and may hamper effective learning from taking place. As Westley, cited in Mwamwenda (1995) explains "mother tongue education in the primary years...offers the best introduction to literacy that eventually is an aid to English acquisition' (page 170).

The current teaching practice via the English medium (a second language) forms part of a subtractive model of language acquisition. Thus, effectively no emphasis is placed on the mother tongue and emphasis is placed on the new language. This is in contrast to an additive approach where the learning of the mother tongue is accommodated. According to Danesi (1988) cited in Mwamwenda (1995) "the subtractive model is doomed to fail in those cases where the child starts school with little or no knowledge of the majority language" (page 170). The statistically significant positive Spearman Rho Correlation between the Imaginal and Verbal dimensions suggests that raters considered those pupils that were more Imaginal to also be more Verbal. The consistent relationship indicated by the positive correlation coefficient indicates that the pupils are not language impaired per se, but are experiencing difficulty learning in a second language. Pupils may therefore benefit from the use of symbolism and imagery to give assistance to their lower second language verbal skills.



While not statistically significant, the findings also tentatively suggest that teachers could benefit from embracing a global, holistic overview of concepts before attempting to analyse the parts of the whole. The results also suggest a movement towards the use of trial and feedback learning by pupils. However, teachers may also need to recognise that pupils may equally employ a "watch-then-do" approach. Thus, teachers may need to be direct and illustrate the task in its entirety, before pupils may be able to attempt the task.

The results therefore suggest that teachers within an urban setting may need to adjust their teaching styles in order to deal with learning styles that are consistent with those of rural pupils. Teachers at a school such as Orange Grove Primary school indeed express great

difficulty coping with the pupils within the classroom. More's framework of Learning Styles provides a possible explanation for these difficulties and suggests that urbanised teachers may have difficulties conveying concepts successfully to pupils whose learning styles may be different from their teaching styles.

4.3 Shortcomings and Limitations:4.3.1. Halo Effect by the Respondents

The finding that the rural sample obtained statistically significant scores on all dimensions, suggests that the rural sample scored all items in the same way. This may indicate that the respondents wanted their pupils/learners to be perceived positively, and suggests a halo effect on the part of the respondents. A halo effect may be defined as "the tendency, in making an estimate or rating of one characteristic of a person, to be influenced by another characteristic or by one's general impression of that person" (Moursund, 1973:43). This may point to a defect of the scale, which lacks reserve questions to prevent such an occurrence. It may be that the Inventory was not sensitive to differences and needs improvements and adaptations to the situation in which it was used. It may also suggest that the teachers wanted their students to give a good impression through the results and this affected their judgements of their students.

4.3.2. Selection of the Sample:

The inaccuracy obtained on the Learning Style Identification Inventories' from the rural sample may have been due to the fact that there was insufficient consultation and access to the researcher while the forms were being completed. This may have possibly contributed to poor motivation by the respondents who may not have understood the purpose of the study until after the Learning Style inventories had been completed. Respondents may not have understood the terms used in the questionnaire and may have lacked the necessary English to complete the

inventories. This may explain the lack of heterogeneity of response or differentiation between the dimensions.

4.3.3. Length of the Style Identification Inventory

The inaccuracy of the responses may also partly be due to the length of the Learning Style Identification Inventory. The length of the inventory influenced the number of inventories respondents were prepared to complete and this made it difficult to obtain a large sample size.

4.4. Suggestions for Further Research:

Given the inaccurate way in which the rural sample completed the Learning Style questionnaires, it is suggested that the any future research should be conducted with a questionnaire translated into the vernacular of the respondents. It is imperative that the researcher is available in the area in order to simplify questions, if the Inventory is used in future research in its present form. It must be noted that even teachers whose first language was English found the language of the questionnaire difficult to understand and confusing. The length of the questionnaire was also an obstacle in that many teachers were resistant to completing the questionnaire because of the number of items contained in it. Future researchers may therefore wish to adapt the questionnaire with these considerations in mind.

Future research may indeed wish to take the questionnaire a step further and examine the teaching styles of the teachers involved, in order to assist teachers to further their self-knowledge about their teaching styles. This may assist the exploration of teaching strategies that are consistent with the learning styles of their pupils. The process may indeed improve teacher

motivation to complete the forms as it provides teachers with a way of using the information gleaned from the Learning Style Identification Inventory.

4.5 Conclusions

The rural sample's results yielded were invalid both possibly due to the halo effect and lack of differentiation. In contrast to More's findings, the urban sample yielded results that were generally in keeping with findings for a rural sample. This has implications for teachers in an urban setting, who may need to adapt their teaching style to use concrete examples and imagery in their approach to teaching urban children in the South African context.

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APPENDIX

LEARNING STYLE IDENTIFICATION INVENTORY

Arthur J. More
University of British Columbia

This inventory determines the student's stronger and weaker ways of learning. As you complete the Inventory, think of the student learning in a variety of situations, especially learning difficult concepts and skills.

NAME OF STUDENT _____

When this student is learning a difficult concept, skill or task, he or she:

	Almost always	Usually	Some times	Seldom	Almost never
1. learns best if the teacher begins with a good overview before working on the individual components of the concept or skill					
2. learns best if the teacher begins with the individual components of the concept or skill before working on the overall concept					
3. learns best if asked to think carefully about the answer before replying to teacher questions					
4. attempts the task, expecting to learn from feedback about how (s)he did					
5. does better when the EXAMPLES are given first, then the RULES					
6. understands better when abstract concepts or principles are given first					
7. does better when pictures, diagrams or charts are used					
8. does better when "hands on" activities are used					
9. answers impulsively, but makes use of information on the correctness or incorrectness of his or her answer					
10. does better if the concept or task is understood before dealing with specific concrete examples					
11. does better by using mental images to help understanding					
12. understands better by developing his or her own written explanation					
13. does not need many examples to understand the concept or task, in fact the examples may even be confusing					

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When this student is learning a difficult concept, skill or task, he or she:

	Almost always	Usually	Some times	Seldom	Almost never
14. needs many examples to understand the concept					
15. uses lengthy, detailed explanations					
16. learns much more effectively when the correctness or incorrectness of answers are explained					
17. use names or labels effectively as a way of understanding and remembering					
18.does better when each PART of the concept is dealt with before the general concept is dealt with					
19. does better when (s)he draws pictures or diagrams to aid in understanding					
20. does better when the general concept is dealt with before each PART of the general concept is dealt with.					
21. finds that definitions like those in dictionaries are very helpful, provided definitions are at an appropiate level					
22. takes some time to think about answers before responding					
23.does better when the concept is presented first using concrete examples					
24. does better when symbols or diagrams, rather than actual pictures, are used					
25. does better when the teacher uses metaphors and similes (e.g. "it is like.....")					
26. does better at learning relationships between one concept and another					
27. does better when the task is broken down into parts and the parts are learned in sequence					
28.puts up his or her hand right away, even when unsure of the answer					
29. reflects on each question to make sure the answer is given correctly the first time					
30. prefers first to try to understand, rather than depend on the teacher for correction					
31. begins by breaking the task into smaller parts					
32. does better if the concept is presented in a meaningful context					

Scoring instructions on next page

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LEARNING STYLE IDENTIFICATION INVENTORY

DIRECTIONS FOR SCORING

1. Go back to the questions. Score each response as follows:

"Almost always"	= 5	"Seldom"	= 2
"Usually"	= 4	"Almost never"	= 1
"Sometimes"	= 3		

2. Write the score for question 1 in the blank space for item 1 below. Do the same for question 2, and so on through the remaining questions.

3. Calculate your Total Global score by adding the Global scores. Write this score in the space provided. Calculate your remaining scores in the same manner.

4. Compare the Global and Analytic scores. A difference of more than 2 is meaningful. Similarly compare your Verbal and Imaginal scores, Concrete and Abstract scores, T&F and Reflective scores.

5. What are the stronger and weaker learning styles of this student? How do they compare with other students' learning style profiles? Are there relative strengths and weaknesses that will help you work more effectively with this student?

SCORING FORM

Style	Item	Score	Total	Style	Item	Score	Total
GLOBAL	1			ANALYTIC	2		
	20				18		
	26				27		
	32		Total____		31		Total____
VERBAL	12			IMAGINAL	7		
	15				11		
	17				19		
	21		Total____		25		Total____
CONCRETE	5			ABSTRACT	6		
	8				10		
	14				13		
	23		Total____		24		Total____
TRIAL AND FEEDBACK	4			REFLECTIVE	3		
	9				22		
	16				29		
	28		Total____		30		Total____

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