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THE EFFECTS OF AN ENRICHMENT PROGRAMME

ON THE SELF-CONCEPT OF 'TALENTED' AND 'AVERAGE'

DISADVANTAGED CHILDREN

RESEARCH REPORT SUBMITTED TO THE FACULTY OF EDUCATION, UNIVERSITY OF THE WITWATERSRAND, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATIONAL PSYCHOLOGY.

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ABSTRACT

Numerous research reports cover the need for educational programmes that address the social, intellectual, emotional and creative aspects of the development of gifted disadvantaged children (Rosenbaum, 1989). This study focuses on assessing the effectiveness of an enrichment programme designed to enhance the self-concept of both identified 'talented' students and their 'average' peers. The term 'talented' was chosen in an attempt to move away from 'gifted' with its limited definition and biased connotations. Both the talented and average groups of children were participated in an enrichment programme which challenged their performance, attitudes and interpersonal skills. Various aspects of the programme were evaluated: the extent to which such a programme can achieve its objectives; identifying the programme's strengths and weaknesses and; developing a realistic, alternative course of action for curriculum modification. Support was found for the belief that the self-concept of all children can be enhanced from an enrichment programme. Although the identified children initially functioned at higher levels on all the scales the individual results differed. On the Renzulli Rating Scale all children were seen to benefit, with greater improvements in the 'average' group, equalizing the two groups. Post-test results of the Renzulli Rating Scale - measuring task commitment, creativity and motivation - and the Torrance measure of creativity indicated that both groups benefited significantly from the enrichment programme. On the scale of self-awareness the identified group showed greater benefits.

It was concluded that a multi-dimensional approach to assessing and understanding children's abilities is useful and recommended. In addition, talent must be understood as a dynamic concept that exists in varying degrees in different individuals and one that is capable of change at any stage of development. Evaluation of this programme can provide educators with an incentive and opportunity for planning, developing and improving educational programmes that have a broader range of emphasis than the current school curriculum. The relevance of this study for educators and possible directions for future research are discussed.

DECLARATION

I hereby declare that this dissertation is my own work. It is being submitted for the degree of Master of Educational Psychology in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.

RAINE BRENNER-COHEN

**" Every Child is a Gifted Child,
Only the Gifts are Different. "**

" What a teacher should 'see' is a group of individuals unique unto themselves. Not until the differences are 'seen' is the teacher ready to teach because learning must precede teaching the child. "

E.A. Betts

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CHAPTER 1

1. INTRODUCTION

1.1. BACKGROUND AND RATIONALE FOR THE STUDY

Equal educational opportunity for all children implies the right of each child to receive help in learning to the limits of his/her capacity. This applies whether a child's capacity is inferior or exceptional. For "Indian" children whose education lies largely in the hands of the House of Delegates, these needs have not been adequately met. In previous studies it has been noted that the House of Delegates is becoming more aware of "special" children and their needs, as well as the impact of neglect on such children, (Rajoo, 1992; Chagan, 1990). In general, talented children are identified on the basis of intellectual ability and programmes introduced are limited to serving students with high academic ability. As a consequence, programmes focusing on creativity, the arts and leadership have received limited attention (Parke, 1989; Frasier, 1987; Renzulli, 1984).

There are several ways in which such needs can be addressed. Some schools of thought endorse separation of high achieving children from their "average" peers (Vaughn, 1991; Van Tassel-Baska, 1989). However, in disadvantaged communities such facilities are not readily available and all children cannot benefit from such enrichment programmes. Hence, it seems important that the long-term focus of any study on enrichment of children's potential and life-skills should consider alternative approaches to enrichment and should be designed in a manner that allows all children to have access to, and derive some benefit from the programme (Karnes, 1990; Bourque, 1987).

1.2. SELF-CONCEPT

1.2.1. TOWARDS A DEFINITION OF SELF-CONCEPT

Self-concept refers to a descriptive collection of beliefs about oneself, "the sum total of an individual's mental and physical characteristics and his/her evaluation of them" (Lawrence, 1987). Lawrence (1988), sees self-concept as an umbrella term that includes self-image (what the person is), ideal self (what the person would like to be) and self-esteem (what the person feels about the discrepancy between what s/he is and what s/he would like to be). Self esteem is the qualitative evaluation of specific traits, that is, how a person feels about the discrepancy between what he/she is and what he/she would like to be (Rosenbaum,

1989). Thus children assign values, both negative and positive, to their inventory of attributes (Mussen, Conger, Kagan & Huston, 1984).

The construct of self-concept has received increased interest and concentration in recent years in the fields of both psychology and education (Coopersmith, 1967; Purkey, 1970; Rogers, 1961). Coopersmith (1967) identified four predominant areas of self-concept. They are: cognitive - good at schoolwork, remembers things easily; social - have lots of friends, most children like me; physical - do well at sports, first chosen for games and; general self-worth - sure of myself, happy the way I am. This definition covers a broad area and provides one with both a specific and an overall picture of self-perception.

Generally it has been found that how a child judges her/his past and present performance determines how s/he perceives her/himself, that is his/her self concept. Every positive, meaningful and worthwhile experience to which the child is exposed provides her/him with a positive attitude towards her/his self and her/his abilities (Santrock, 1986; Lawrence, 1987). It has also been found that self-perception varies from situation to situation - home, school, etcetera - and for different areas of behaviour - sports, academic or artistic areas - depending on the child's perception of his/her prowess in that area (Santrock, 1986; Mussen, Conger, Kagan & Huston 1984).

1.2.2. THE DEVELOPMENT OF SELF-CONCEPT

As children develop, physically, emotionally and cognitively, so do they form identities and concepts about themselves. During middle and late childhood several important changes in self-concept occur. Children develop an increased ability to understand how others perceive them. They become more aware of how their behaviour impacts on others and what reactions their behaviour will trigger from those around them. They can monitor their actions and vary their behaviour according to the particular circumstances and that aspect of the "social-self" which they wish to portray. Children at this stage are cautious about what they expose of themselves and to whom they expose it. Children also develop a more differentiated and individuated view of themselves. They develop a distinct view of themselves as unique, with specific abilities and emotions. With increasing cognitive ability children are capable of integrating incoming information and are able to form a more stable concept of who they are (Santrock, 1986).

In summary, interpersonal relationships, initially within the family and later, the school environment, influence a child's self-concept, that is, her/his awareness of who s/he is and

what s/he can do. For the population used in this study, self-concept is predominantly influenced by significant people in each child's life, usually parents, teachers and peers, as well as the broader sociopolitical context in which they find themselves.

1.2.3. MEASURING SELF-CONCEPT IN CHILDREN

There are some inherent difficulties in measuring self-concept that need to be mentioned. Children may not want to admit to having qualities which they perceive as undesirable. Thus children may respond in a way that portrays what they believe the tester wishes to see rather than who they really are. Research has found that how one views oneself also varies according to the specific situation. For example a child who excels at sport may have a positive self-concept on the sporting field, however in the classroom, where his grades are below average, his self concept may be poor. (Maruyama, Rubin & Kingsbury, 1981; Hoge, 1991; Santrock, 1986; Mussen, Conger, Kagan & Huston 1984 &; Coopersmith, 1967)

1.2.4. ADJUSTING SELF-CONCEPT IN CHILDREN

According to research done by Purkey (1970) self-concept can be adjusted. Enhancing self-concept is associated with a variety of changes in the individual's overall personality structure and attitude toward self and others. Some of these changes include: a developing sense of independence; the ability to assert one's own rights, to be more willing to explore and question their environment; the emergence of a strong inner locus of control; the ability to confront tasks with confidence and perseverance; and the conviction to express self-trust, self-respect and self-acceptance (Burns, 1982; Rosenbaum, 1989). By challenging an individual's perception of him/herself one can facilitate self-exploration, motivating the individual to challenge his perceptions of self.

Theorists such as Maslow (1970), Rotter (1966) and, Rogers (1957), maintain that a favourable combination of qualities, such as those mentioned previously by Burns (1982) and Rosenbaum (1989), is necessary for the realization of personal fulfillment and effective functioning. It is thus vital that all children experience enriching programmes that provide them with a wider range of educational opportunities and services that fall outside their regular school syllabus. This broader and more holistic approach can facilitate the development of a wide range of skills as well as a sense of competence that will encourage children to deal more creatively and innovatively with any obstacles that may arise.

1.2.5. SELF-CONCEPT AND ACADEMIC PERFORMANCE

Self-concept is often associated with academic achievement however, a contentious issue in this relationship is that regarding the direction of causality. Findings by Maruyama, Rubin & Kingsbury (1981), suggest that self-esteem is generally a consequence, rather than a cause, of school achievement. This is in agreement with Hoge's (1991) research where the major contributors to self-concept were found to be social and scholastic competence and physical appearance. A child's experiences therefore have a significant impact on his/her self-concept. The importance of achievement is highlighted by Van Boxtel and Monks' (1992) findings with gifted underachieving students where self-concept was shown to be modified by academic success. In connection with this is the significant impact which teacher attitudes and teaching methods have on the way children feel about themselves (Atherley, 1990) as well as on their development, motivation and performance (Whistler, 1991).

Mussen, Conger, Kagan and, Huston (1984), found a higher correlation between a child's perception of his/her cognitive abilities and academic tasks than between positive self-concept and school performance. This is confirmed by Lyon and Macdonald (1990) who found that a child's perception of his/her academic ability is significantly correlated with the grades he/she is given by the teacher and through other standardized measures of achievement, rather than with his/her general self-concept or locus of control. The domain-specific nature of self-concept is believed to explain such findings. Hence, a child's belief in his abilities plays an important role in his ability to apply himself and to achieve to the best of his abilities. Lyon and Macdonald (1990) emphasize a child's academic self-concept, which is strongly influenced by teacher attitude, as a useful predictor of achievement.

An additional feature which impacts on the minority group of children is investigated by Clark (1955), who states that, "as minority group (children) learn the inferior status to which they are assigned and observe that they are segregated and isolated from the more privileged members of their society, they react with feelings of inferiority and with a sense of personal humiliation." Because children are struggling with this sense of "differentness" they encounter difficulties in developing a positive self-concept. As a result children tend to lose their motivation, underachieve, refuse to participate in classroom activities and often withdraw from school (Karnes & Johnson, 1987). Atherley (1990) also found that children in low socio-economic groups who showed limited academic ability tended to have a poor self-concept. Underachievement is often associated with a poor self-concept, limited motivation to succeed and an external locus of control. Hence, a variety of situations -

namely, school, home and poor academic performance - and relationships within them all serve to reinforce a poor self-concept.

Other researchers have also found a relationship between the view of self, achievement and the extent to which one can fulfill one's potential (Clark, 1983; Mulcahy, 1991; Schneider, 1987; Kulik & Kulik, 1984). The child's self-concept (perception of self) provides him/her with a range of expectations about how s/he will perform academically, on the sports field and, in other extra-curricular events, as well as in how s/he expects others to respond to her/him. However, although there is an interactional relationship between internal and external factors, there is no clear direction of causality. Some studies suggest the direction to be from achievement to self-concept, others from self-concept to achievement and still others suggest reciprocal causality.

1.3. "TALENT"

1.3.1. DEFINING "TALENTED"

Definitions of giftedness range from Terman's definition that only includes those children with exceptionally high scores on intelligence tests to Calvin Taylor's multiple talent definition that assumes that most children possess special skills and talents (Raoch & Bell, 1986). Renzulli (1978), defines giftedness as incorporating "an interaction of three basic clusters of human traits, that is, above-average general abilities, high levels of task commitment and high levels of creativity." He emphasizes, as central to the definition of gifted children, the interaction between motivation and dedication. "Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance" (Gallagher, 1985).

What is especially valuable is Renzulli's (1978) belief that giftedness is not an abstract or an inherited aspect of one's personality. He maintains that giftedness in children can be both acquired and extended. This is in accordance with Clark (1983) who views giftedness as "a potential trait, the actualization of which depends on the opportunities provided by the environment and the child's dynamic, interactive relationship with it." Milgram (1990) sees talent and creativity as an important aspect of life in that it enhances the quality of solutions to problems experienced in everyday life. Although much emphasis is placed on talent at a school level, he sees talent as having an important impact on how one approaches and copes with issues in both personal, academic and later, vocational fields. Milgram (1990) sees giftedness as presenting itself in different degrees (mild, moderate and profound) between children as well as within the same child in different areas. He maintains that a child can be

gifted in one area and not in another. He identifies four criteria and describes them in detail. *General intellectual ability* is described as the ability to think abstractly and solve problems logically and systematically. *Specific intellectual ability* can often be observed in performance that is highly competent, for example performing well in math's Olympiads, history quiz's etcetera. He emphasizes that this does not have to be particularly creative. *Creative* or *productive thinking* refers to the process of generating solutions that are unusual, imaginative, surprising, clever and of high quality. The last criteria that he defines is *specific creative talent.* Here he limits creative ability to a specific area, for example, science, mathematics art, social leadership, etcetera.

Renzulli (1978), and Gallagher (1979) emphasize the interdependent nature of the categories and so challenge separate identification methods. For the purposes of this study, Renzulli's perception of giftedness is chosen as an operational definition for this research study. It is particularly suitable as the target population comprises of Junior School pupils and includes a complex medley of attributes. This is an attempt to move away from narrow and limited definitions of giftedness in the literature. Hence the term 'talented' provides us with an inclusive rather than exclusive definition. The following definition of talented, based on Marland's (1970) and Renzulli's (1978) emphasis on multiple attributes, is used. The definition includes those children whom teachers have identified as achieving in any of the following areas:

- General Intellectual Ability.
- Specific Academic Ability.
- Creative or Productive Thinking.
- Leadership Ability.
- Visual and Performing Arts.
- Psychomotor Ability.

1.3.2. DEVELOPING "TALENT" IN CHILDREN

Developing one's giftedness, talent and creativity is an active and dynamic process (Renzulli, 1978) where both temperamental factors as well as external opportunities and the dynamic interaction between them determines the extent to which talent, giftedness and creativity are expressed (Clark, 1983). Such 'broad-based' definitions that use 'multi-dimensional selection criteria,' emphasize the interactional nature of the human personality and hint at the increased potential available to a child exposed to enrichment programmes which aim to enhance skills such as creative thinking, leadership and problem solving abilities.

Although Milgram's notion of degrees of giftedness is not in agreement with Renzulli and Gallagher's interdependent view of creativity, they have similar implications when considering academic programmes. The uniqueness of the individual child has been recognized and educational programmes and services are expanded beyond those normally provided by the regular programme in order for every child to realize his/her potential and his/her contribution to self and society (Gallagher, 1985).

I.3.4. "TALENT" AND SELF-CONCEPT

In a two year study comparing gifted, average and learning disabled children, Mulcahy et al. (1991), found that perceived competence and (academic) self-concept were higher for gifted students and adequate for the other two groups. Studies done by Tannenbaum (1983) and Gallagher (1985), confirm these results, finding adequate social adjustment and healthy, positive self-concepts in gifted children.

However, researchers such as Roedell (1986) and Tannenbaum (1983), found that the greater the degree of giftedness, the greater the potential for social difficulties and unhappiness resulting in lower self-concept in identified gifted children in comparison to their average peers. Trotter (1971) explains this in terms of expectations placed on them by themselves and by their environment. This is especially true where children display specific areas of strength and adult expectations are that of overall accelerated development (Roedell, 1986). As a consequence, parents and teachers often fail to give appropriate recognition and praise and this can be another contributing factor to self-doubt experienced by children (Clark, 1983). Whitmore (1986) found that poor self-concept is often the consequence of the gifted child's tendency towards perfectionism, superior intellectual achievement and social leadership. This results in unrealistically high goals, hypersensitivity to criticism, failure or rejection and feelings of inadequacy.

According to Janos, Fung and Robinson (1985), gifted children who perceive themselves as different from their average peers tend to have difficulties in social adjustment. Clark (1983) suggested that gifted children find their peers less stimulating, find solitary activities more rewarding and engage in aggressive dominance in social situations. These features contribute to alienating him/her from his/her peers, social conflict and poor social skills. Enrichment programmes need to heighten self-awareness and increase acceptance of both the self and others as well as to impart basic social skills such as sharing, risk-taking and recognition of

limitations. In summary, research shows a number of divergent opinions regarding self-concept in gifted children. Although gifted children excel in particular areas, unrealistic

expectations of parents, teachers, peers and other significant people impact on how the child perceives him/herself in various aspects of life. Often gifted children tend to be emotionally immature and lack social skills due to their limited contact with peers.

1.3.5. TALENT AND DISADVANTAGED COMMUNITIES

1.3.5.1. DEFINING DISADVANTAGED

Because 'disadvantaged' is a term used in the definition of the population group in this study, it is necessary to explain the term as clearly as possible, that is, on all levels that are relevant to this population group. This creates some difficulties because the term itself is prejudiced and this often limits one's perspectives and expectations of a particular group. The various literature reviewed reveals that although this term is used frequently, an adequate definition is not forthcoming (Provence & Naylor, 1983; Schochet, 1986). The term disadvantaged tends to be clarified by a broad range of criteria. These different, yet interrelated criteria include social, cultural, economic, emotional and, educational levels and are discussed below.

Socio-cultural disadvantage is often the consequence of racism, an undermining of the minority group's cultural norms as well as limited access to the dominant culture (Skuy, Mentis, Nkwe, Arnott & Hickson, 1990). Feuerstein (1979; 1980) holds that limited functioning in socio-culturally disadvantaged communities is a consequence of functions that are not absent but which are "underdeveloped, poorly developed or impaired" (Passow, 1972). Megwary (1990), confirms these results arguing that when people differ in colour, expression of culture or gender, etcetera, these differences heighten. Racial identity issues have implications for perception of self and social communication and interaction. These factors are especially relevant in the South African context where apartheid laws made integration of the different cultural groups impossible and where the split between groups-specifically on racial grounds - was reinforced politically. Although political changes in South Africa are resulting in some redistribution of educational resources - there still remain many disparities in resources available to the different educational institutions, in the case of Indian children, the House of Delegates.

In South Africa, the majority of the country's population falls within the category of socio-culturally disadvantaged. These members of the population have basic needs which are not

being met and hence are exposed to restriction of psychological freedom thus frustrating Maslow's strivings for creativity and self-actualization and Roger's psychological freedom and safety. For this population, issues that tend to take precedence are the fight against poverty, shattered family structures and other constraining and detrimental influences. An individual's self-concept is heavily affected and reinforced by the prevailing negative attitude of the dominant culture. Racism inhibits the process of the development of self-respect and a positive self-concept.

The population selected for this study is not representative of the entire Indian community in South Africa. The children come from a particular geographic area in the community and tend to come from families in the lower socio-economic strata. The biographical questionnaire confirms the population's position and, reflects that families are generally in the lower income group where one or more adults in the family are unemployed. Another important factor is the high incidence of single parent households. These factors all tend to contribute to limited enriching experiences to which the children are exposed as well as limited availability of resources, both financially and emotionally.

1.3.5.2. TALENT IN DISADVANTAGED COMMUNITIES

Although talent is a universal concept, manifestations of and criteria used to identify talented children are culturally specific. Diverse skills are required for success and adaptation in different cultures and it is understandable that different skills define talent in cultures that have different requirements for success. Children are more likely to benefit from specific methods of teaching which focus on their specific interests and abilities (Deschamp et al, 1984). Tannenbaum, in his section on underprivileged minority groups, asserts that there is a "disparity in readiness, motivation and support systems at home," that make identification difficult. In conclusion, research suggests that talent is a concept that cannot easily be generalized and that must be interpreted in terms of a child's unique culture and circumstances. Racial and cultural factors are integral components in the definition of talent. (Mussen, 1984; Howells, 1992; Lindstrom, 1986). It is important to remember that "talent" exists in all racial/ethnic groups and that the realization of such potential begins with understanding and appreciating this potential.

Areas that are valuable in identifying cognitive and behavioural strengths in culturally disadvantaged children have been outlined by Howells (1992). These include non-verbal fluency, leadership abilities, learning through doing, demonstrating creativity in the visual and dramatic arts, showing skill at solving practical concrete problems, the ability to express feelings and emotions as well as demonstrating a sense of humour. Some of these criteria are

included in the Renzulli Creative Talent Checklist that was chosen as a means of helping decide which children might benefit the most from an enrichment programme.

Moreover, research seems to indicate that talented, disadvantaged children are often prevented from realizing their potential by various obstacles including, "poverty, lack of early enrichment experiences, developmental delays and differences in language and/or culture" (John, Starnes, Gregory & Baylock, 1985). The specific problems which a community faces has an impact on early child rearing practices, the amount of contact which a parent has with his/her child and/or the type of formal education which a child receives. Teachers and parents play an important role in the communication of skills which are valued and which need to be developed, thus facilitating socially acceptable patterns of behaviour, styles of thinking and interests.

1.4. ENRICHMENT PROGRAMMES

1.4.1. ENRICHMENT PROGRAMMES IN GENERAL

Enrichment programmes are designed to facilitate in-depth interventions in areas in which a child presents a specific interest - whether it is related to school work or not. This can be done in the form of projects, outings and specialized speakers. Integration of perceptual abilities, communication, learning, research and cognitive skills are facilitated. Enrichment programmes which suggest excluding exceptional children from regular school classes or from the general curriculum have been suggested as a means of ensuring that such children receive the best possible education.

According to Clandening and Davies (1983) an educational programme should enhance performance and facilitate fulfillment of each child's potential. Such a programme needs to integrate four important aspects: i) viable programme goals; ii) curriculum content; iii) teaching strategies and; iv) learning projects. The curriculum should include acceleration; enrichment and integration. Acceleration -pitching the specific subject matter at a higher level thus challenging children who are talented in a particular area - encouraging development of specific skills with extra-mural activities -example: math's Olympiad, art competitions, sports events, etcetera. Acceleration, if designed at a level and pace appropriate to a child's readiness level to learn a new task, will facilitate learning and retention of that information. This applies to both short- and long-term memory. Feldhusen (1989) found that learning will be transferred to other related learning tasks. Hence, a programme's objective should be "towards effective independent learning, where any content area...relevant beyond the classroom walls... can be pursued if the need arises," and where

children become self-reliant and creative. Such a programme can provide children with disadvantages in background and early experience an opportunity to reach the highest level achievement within their capacity (Eriksson, 1984; Ferguson, 1984). The strategies employed should be designed to "maximize human development and obtain the greatest benefits from the creative, intellectual, and leadership resources" of those involved (Clandening and Davies, 1983).

1.4.3. MAINSTREAMING versus EXCLUSIVE PROGRAMMES

Gallagher places a limitation on who has access to such programmes by asserting that it is "gifted and talented children..... who require differentiated educational programmes and services beyond those normally provided by the regular programme in order to realize their contribution to self and society." This is often the view of educators and, as a consequence, enrichment programmes tend to exist on a restrictionary and exclusive basis where only those children already possessing skills can participate and benefit from them.

In Table 1, Eriksson (1984), outlines the advantages and disadvantages of separating "gifted" children from their "average" peers. The potential benefits gained from mixed ability classrooms versus specialized education opportunities presents an ongoing argument. Research shows that exclusive programmes in gifted education allow children to work on independent areas of study in an environment that encourages independent, critical thinking, creativity and challenge. Programmes have significant positive effects in these areas (Vaughn, 1991; VanTassel-Baska, 1989, Kollof, 1984, Eriksson, 1990) with no significant impact on self-concept. Other studies however, have shown additional positive gains on self-concept for children who participated in creative enrichment, exclusive programmes (Feldhusen, 1990; Kollof, 1989).

Exclusive programmes do present difficulties, such as those mentioned in Table 1, leading to many questions regarding the satisfaction of all children's needs in the classroom. As outlined above, there are many different kinds and levels of talent in children. "Curriculum materials and instruction strategies must be designed to meet the needs and characteristics of each group of learners" (Milgram, 1990). Wallace (1986) has emphasized the use of the classroom setting to promote creativity. Research seems to indicate that in such an open and supportive environment, children can be given the opportunity to communicate and share what they have learnt and experienced with the rest of their peers.

***Table 1:** The Effects of Separating Talented Children from Average Peers*

ADVANTAGES	DISADVANTAGES
• can provide appropriate pace of learning	• labeling and unrealistic expectations
• can group children with similar interests	• isolation socially from peers
• opportunity to exchange ideas at a high level of conceptualization	• talented children can provide a way of maintaining high standards in the regular classroom
• normalize feelings of being different because of level of thinking	• talented children generate enthusiasm and interest for learning in the regular classroom
• evaluate themselves in relation to other talented children	• talented children can aid slower pupils
• productively occupied time usually wasted in the regular classroom	• talented children usually take leadership roles
	• talented children learn to appreciate others' efforts

In some situations, providing separate educational opportunities is not a viable alternative and this, together with the belief that all children's skills should be stimulated and developed to their greatest suggests alternative curriculum styles. A qualitatively different and flexible curriculum, as well as a change in teacher attitude, will provide each child with specific opportunities that enable him/her to reach those levels of excellence within his/her grasp (Brandwein, 1981).

1.4.3. THE INTER-RELATIONSHIP BETWEEN INTERNAL AND EXTERNAL FACTORS IN HUMAN DEVELOPMENT

It is clear from the literature that the way in which a child experiences and copes with life events is a consequence of innate capabilities, past and present knowledge and experience, his/her level of motivation and interest and self-concept. A child's temperament, his/her

cognitive abilities as well as his/her external environment are interdependent and together contribute to how a child experiences and acts in his world (Rosenbaum, 1989).

Milgram (1990) asserts that "the realization of potential abilities is dependent on the complex interaction of environmental opportunities with cognitive abilities and personal-social characteristics." Clark (1983) and Kersch (1987) maintain that an integrated approach (at home, in the community and at school) is vital "in order to optimize the development of all individuals, that they might truly reach their potential and discover their authentic selves." Each area has the potential to provide every child with the optimal level of support and encouragement. In the school the child's education needs to be tailored to meet his/her specific needs. In the family parents need to stimulate the child and, to guide and promote his/her talents. The community plays an important role in that it has the ability to provide specific opportunities and experiences that will be in both the child's and the community's best interests. This integrated approach stresses the growth of the *whole* child - cognitive, social, emotional, physical and intuitive development.

Clark (1983) emphasizes the development of right and left hemispheric functioning so that the functions of each can be developed and integrated to form a truly well rounded individual. Hemispheric specialization is divided into cognitive/physical and affective/intuitive. That is, the left hemisphere deals with logical, analytical and linear thought, including language, while the right hemisphere deals with a spatial, holistic more intuitive style of functioning (Edwards, 1979). Vaughn (1982) sees creativity as an interactive process of personal and social factors. Hence, he argues that in developing a child's creative thinking skills and enhancing his/her self-concept, both factors need attention.

This is confirmed by Cranfield and Wells (1976) who hold that "a child's reactions to learning, to school failure and success, and to the physical, social and emotional climate of the classroom will be determined by her/his beliefs and attributes s/he has about her/himself." In light of this, Burns (1982) advocated that education needs to aim at educating the whole individual, not limiting it to specific abilities. The emphasis needs to be on supportive, holistic educational programmes that encompass social-emotional development, and strive towards enchancing the child's total development.

1.4.4. THE DESIRABILITY OF PROVIDING ENRICHMENT IRRESPECTIVE OF ABILITY

Feldhusen (1986) asserts that motivation, self-concept and creativity should be goals of enrichment programmes rather than criteria of identification and inclusion on such programmes. It is important to see the development of a child's abilities as an active and dynamic process. Innate giftedness, irrespective of the initial level of achievement, can be enhanced, given optimum levels of stimulation, motivation and perseverance and appropriate delivery of material, (Renzulli, 1978). The complexity involved in identifying gifted students make providing the "correct" population with enrichment opportunities difficult. This is especially true in identifying talent among children from poverty and minority backgrounds (Baldwin, 1987; Feldhusen, 1989), among young children (Hollinger and Kosek, 1985) and among those who are underachievers in school. Burns (1982) found that poor academic achievement, inadequate motivation, misbehaviour and academic indifference are traits that are characteristic of the underachiever, the early school-leaver, the culturally disadvantaged and the delinquent. He suggests that they are in part a consequence of negative attitudes and perceptions of the self. His opinion further stresses the need for enrichment programmes that aim to enhance self-awareness, self-concept, creative thinking and problem solving skills.

CHAPTER 2

2. THE PILOT STUDY

2.1. RATIONALE FOR THE PRESENT STUDY

One of the many instructional concerns relating to children that demands attention is that of self concept. A child's ability to cope with his/her life experiences is a consequence of the complex interaction between: innate potential, accumulated knowledge, exposure to various and diverse experiences, the level of motivation and interest, distribution of skills and abilities and, self-esteem (Clemes and Bean, 1988; Lawrence, 1987; Purkey, 1970). Some understanding of the child's social, economic and cultural background needs to be included. Hence, a holistic approach to *all* children's development is emphasized.

Over the years however, intervention programmes have been advanced to enhance the cognitive skills of gifted children who are disadvantaged. The promotion of emotional development and the important impact which such programmes could have on children's self-concept, seems to have been somewhat neglected. Children tend to be identified on the basis of largely academic and/or intellectual criteria and programmes are run by trained personnel on an exclusive basis. As a result, only those children who have direct access to it can benefit from such programmes. The design, accessibility and focus of enrichment programmes tend to be limited and inflexible. The educational and emotional needs of the majority of disadvantaged children are not acknowledged and hence, not met. Enrichment programmes need to include all pupils by creating conditions that are not restrictive in nature. This is especially important when working with children in their formative years - the years in which their talents are still being developed (Chhagan, 1990).

2.2. AIMS

In accordance with the rationale developed thus far, it was decided to conduct a pilot study which highlight the advantages of enrichment programmes for all children. This research is designed to serve as an integratory study which will simultaneously examine self-concept in identified talented and average children over time.

The aims of the project include:

1. Examine the criteria used to identify talented children in a primary school setting.
2. The development and implementation of a suitable programme - that is, one that will enhance cognitive skills as well as self-concept.
3. An evaluation of the benefits of such an integrated programme for the 'talented' and the 'average' groups of children.

An additional aim is that this study will provide teachers with both the motivation and a means of integrating special programmes into their regular school syllabus, thus broadening their perspectives on education.

2.3. HYPOTHESIS

On the basis of the preceding information the following hypotheses are put forward. In broad terms, it is hypothesized that the intervention programme will benefit all children Specifically, it is hypothesized that the intervention programme designed will significantly enhance children's abilities in the areas of creative thinking, problem-solving, leadership-skills, self-awareness, as well as the children's self-concept. It is further hypothesized that there will be no significant difference between the benefits gained by identified talented children and their average peers.

2.4. SUBJECTS AND SAMPLING:

The target group selected for the programme consisted of twenty-four children from four standard 2 classes. The Renzulli Scale was used by all four teachers to evaluate the children. Twelve children were randomly selected from those identified by the teachers as 'gifted', based on the Renzulli Scale. Twelve additional children were then randomly selected from those not identified as being 'talented'. The children selected were assumed to be of similar socio-economic status, cultural and educational experience. That is, pupils were selected from an Indian, English medium school that falls under the jurisdiction of the Department of Education and Culture. Their ages ranged from nine to eleven years, with the majority of children being ten years old. They were evenly distributed in terms of sex, half being male and the other half being female.

2.5. MEASURES:

Four measures were used to evaluate the variables mentioned previously. The difference between the pre-test and the post-test measures will be an indication of:

- children's capacity for enrichment in terms of the specific skills outlined
- the impact of such a programme on children's self-concept and
- the correlation between the increase in these skills and the increase in children's self-concept.

2.5.1. THE RENZULLI RATING SCALE (RRS)

The Renzulli scale was chosen as a measure by which teachers could adequately select talented children. The (RRS) is based on an interactional definition of talent. It consists of three categories: Intellectual; Creativity and; Task Commitment (see Appendix 2). The rater has to assess aspects of each category on a 4 point scale. 1: You have seldom or never observed this characteristic; 2: you have observed this characteristic occasionally; 3: you have observed this characteristic to a considerable degree and; 4: you have observed this characteristic almost all of the time. On the basis of these descriptions it is suggested that a rating of 3 indicates above-average ability while a rating of 4 indicates superior ability. Because there are 28 items the minimum score possible is 28 while the maximum is 112. An important factor which makes the RRS preferable to IQ scores as a means of identifying talented children is that evaluation occurs on various levels of the child's overall functioning, including classroom-observation and behaviour outside the school environment, as well as

educational privileges accessible to the child (Boehm, 1985; Howells, 1992; Weinberg, 1989). An additional factor in favour of the RRS as opposed to IQ tests, is the unfairness of the latter as a means of assessing the capabilities of disadvantaged children as well as predicting potential in culturally different children. Skuy, Kernel and Tzuriel (1988) found that identification systems for gifted children tend to be culture-bound and, as a consequence, "discriminate against minority and low socio-economic status (SES) populations."

Previous studies have found the RRS to be a reliable and valid instrument for identification of gifted children (Karnes and Johnson, 1986; Renzulli, Hartman, Callahan, 1971; Chhagan, 1990). Scores from the RRS were obtained prior to the programme of intervention as a means of selecting children who were identified as gifted as well as after the programme to evaluate gains in those areas.

2.5.2. DRAW A PERSON SELF-CONCEPT SCALE (DAP S-CS) (BODWIN AND BRUCK, 1960)

This test was administered as a measure of self-concept. It is a non-verbal, projective technique that is a considered to measure an individual's perception of him/herself (Kamano, 1960; Koppitz, 1968; Ogden, 1978; Anastasi, 1968). This test is valuable to the present study as it is believed to be a culture-fair test and is not based on a child's fluency and familiarity with English. Bodwin and Bruck (1960) developed and validated the Draw-A-Person Self-Concept Scale (DAP S-CS) This scale has been used in South Africa to assess the correlation between self-concept, temperament and school performance of disadvantaged groups (Skuy and Westaway, 1985), and self-concept of gifted disadvantaged children (Rosenbaum, 1989). Thirteen items were outlined by Bodwin and Bruck and four additional items were included by Rosenbaum (1989). The items were scored according to the presence or absence of the characteristics and rated on a five point scale where 1 point denotes markedly present and 5 points denote markedly absent (Refer to Appendix 4 for further detail).

Because of the subjective nature of the test discussion groups were held where consensus could be reached between the raters on marking criteria. It was hoped that this would minimized rater bias. The DAP S-C S was used to obtain a score on Self-Concept for each child before and after the intervention programme.

2.5.3. TORRANCE CREATIVITY TEST

On the Torrance Creativity test, the circles subtest was used to measure the children's creative talent. The tasks are unstructured in a way that they capture the child's imagination and are challenging. This test is regarded as a reliable and valid measure of creative thinking (Torrance, 1963, 1968, 1972; Khatena, 1982, 1982). Concurrent and content validity have been evaluated and found to be present. Predictive validity has been shown at a co-efficient of around .51 (Khatena, 1971; Torrance 1972). Construct validity has not been confirmed although some studies have supported it (Khatena, 1982). Reliability co-efficient range from the .70's to .90's with indices for the verbal tests being higher than for the non-verbal tests (Khatena, 1982). Nonetheless, non-verbal tests were used in this project due to language difficulties.

The circles test requires the child to manipulate the circles, which are pre-drawn on a sheet, to make as many new, exciting, interesting and, novel uses as possible. They are given 5 minutes to complete the test. Scoring is done according to three criteria of creativity,

fluency, flexibility and originality. A composite score is then calculated. Torrance provides detailed explanations for each these aspects.

- Fluency — This looks at the extent to which a child is able to produce relevant ideas for a given task, A score is given for each idea that the child produces.
- Originality — This refers to the child's ability to produce ideas that are unusual, infrequent and clever. Torrance provides a list of common responses and a point is given for each response that does not fall on that list. Additional points are given for combining circles.
- Abstractness — Points are given based on the extent to which the title captures the essence of the picture/story rather than being merely descriptive.
- Elaboration — This refers to the detail that is added to the original stimulus assuming the basic response is meaningful.

Scores on creativity were obtained before the programme as well as after the programme to evaluate the children's creative skills.

2.5.4. SELF-AWARENESS T-SHIRT EXERCISE

WHAT I KNOW ABOUT MYSELF!
WHAT OTHERS KNOW ABOUT ME!

This test is a measure of self-awareness. It looks at self-awareness in terms of how one perceives oneself - that is, one's own abilities and talents, as well as looking at how one believes others perceive him/her. The measure was used both qualitatively and quantitatively. This exercise allowed the tester to obtain a measure of self-awareness both before and after the programme.

2.5.5. BIOGRAPHICAL DATA QUESTIONNAIRE

This information was expected to provide the testers with a more comprehensive picture of the children being assessed. Valuable information in terms of parental background was obtained as well as position in their family, socioeconomic status and religious orientation.

2.6. PROCEDURE:

Twelve workshops were conducted with four sessions concentrating on the following areas: self-awareness, creative thinking, problem solving skills and leadership ability. The areas are however interdependent and tended to be addressed concurrently, for example problem solving skills are an important aspect of creativity. Hence, input tended to be a combination of relevant aspects of the various areas addressed. The outline of the various programmes covered are included in Appendix 6. For research purposes the programme was limited to bi-weekly sessions that were run over approximately five months, from April to August, 1993. Due to two incidences of teacher strikes - "chalk-downs" - the period of the intervention had to be extended. The group met for the last time in the first week of November.

The measures evaluating talent, self-awareness, self-c t and creativity were administered to the subjects in a group setting prior to initiation of the programme. This administration recorded a pre-test measure. Once all children had participated in the enrichment programmes the same test was re-administered to the subjects. This provided a post-test measure at the end of intervention.

2.7. PROGRAMME OF INTERVENTION

The enrichment programme was designed to develop both the cognitive, as well as the affective domain of each child. It was the authors intention to develop self-awareness, self-direction, self-discipline and leadership qualities as well as a sensitivity to and awareness of the needs of others. Content tended to be personally meaningful and stimulating. Also, adequate resources, time, thinking skills and interaction were provided so that each child had experiences in brainstorming, imaginative and divergent thinking and, an opportunity to utilize resources in his/her environment. Hence, the emphasis was on providing each child with a positive learning experience where risk-taking, free exploration and imaginative learning was encouraged.

Goals of the programme thus included: heightened awareness of abilities, self-directedness and independent thinking, enhanced leadership abilities and acceptance of responsibility and, experience in searching for alternative solutions - lateral and divergent thinking. By including both groups of children in the "pull-out" class an attempt was made to provide them with opportunities to develop those skills which are not part of the regular school curriculum in an environment that was supportive, facilitative and growth promoting. In the Saturday

programme, where special projects and activities were offered (for example drama and art), children were able to take an active and independent role in their own learning.

It was anticipated that such experiences would stimulate the children to utilize their previously unidentified potential and provide them with experiences of both personal and academic success that would in turn develop their confidence and belief in their own ideas, dreams and abilities. Further details of the programme are available in Appendix 6.

2.8. EXPERIMENTAL DESIGN AND STATISTICAL TECHNIQUE

The design used in the present study is a between-group, pre-post test, control group design. The study used a correlational approach to assess reliability. Pearson's Product Moment Correlation Coefficient was used to assess inter-rater reliability. An analysis of variance was used to compare the groups on each measure. Details are discussed in the following chapter.

A parametric technique was chosen because it was felt that the necessary assumptions could be met. Firstly, the population from which the sample was drawn was assumed to be normally distributed. Secondly, homogeneity of variance was assumed, that is, the variances within the group were similar for each group. The third assumption required data to be at least interval in nature. While some of the subscales on the test could arguably be considered ordinal, the fact that all of these tests have been widely used and have been standardized on acceptable validation samples (Karnes and Johnson, 1986; Renzulli, Hartman, Callahan, 1971; Chhagan, 1990; Torrance, 1963; 1968; 1972; Khatena, 1982; Bodwin and Bruck, 1960), was used as justification to treat the data that they yielded as parametric in nature. This procedure finds support in Kerlinger's (1986) method for treatment of Likert-type data where he argues that summated rating scales may be used to provide a composite score for each measure.

There were two groups, the experimental group and the control group, (identified talented and randomly selected average peers, respectively), who participated in the programme. They were tested before the programme on a number of measures assessing creativity and Self-Concept and again after the programme. Therefore comparisons were being made at two time periods yielding pre- and post-test data.

Because there were two factors to consider (time and group) a factorial design was implemented. This allowed one to look at changes occurring within each group over time as well as changes occurring between the two groups. A mixed design was used. The between group factor was control versus experimental group and the within (repeated measures)

factor was time because the same subjects participated both times. Therefore the design was a between group pre-test post-test design. A technique suitable for this type of data would be an analysis of variance (ANOVA). The ANOVA is a statistical procedure that assesses the likelihood that the means of the groups are equal to a common population mean by comparing an estimate of the population variance determined between the two groups, with an estimate of the same population variance determined within the groups and expressed in the form of the F-ratio (McCall, 1986). Repeated measure designs allow for the removal of as much systematic variance (due to individual differences) from the within group variance as possible. The reduced error variance results in a higher F-ratio than in a design that does not partition error variance. In Keppel's (1973) notation, an A x (B x S) design was used and this was carried out using the SAS PROC ANOVA procedure with a 'repeated' statement (Cody and Smith, 1979).

CHAPTER 3

3. RESULTS

In this chapter the results of the four measures used will be presented and discussed. Inter-rater reliability is presented first, followed by the ANOVA's that were computed for each measure. These findings will each be presented separately below. An ANOCOVA was also computed and yielded comparable results. However, this method partitions out the time factor so that only the two groups are being compared. Hence it could not answer the research question.

3.1. INTER-RATER RELIABILITY

Pearson Correlation coefficients for the Torrance pre- and post-test results as well as for the Draw-A-Person Renzulli Rating Scale are presented in Table 2 below. The raters are designated by the numbers 1 and 2.

***Table 2:** Inter-Rater Reliability*

Torrance Pre 1&2	r = 0,97	p < 0,0001
Torrance Post 1&2	r = 0,99	p < 0,0001
DAP S-CS Pre 1&2	r = 0,73	p < 0,0001
DAP S-CS Post 1&2	r = 0,60	p < 0,0002

Inter-rater reliability between Torrance pretest 1 and Torrance pretest 2 was high, ($r = 0,97$; $p < 0,0001$). Similarly the correlation between Torrance posttest 1 and Torrance posttest 2 was high ($r = 0,99$; $p < 0,0001$). The DAP S-CS revealed significant, albeit it lower correlations. When the DAP S-CS pretest 1 was correlated with pretest 2 there was a moderate correlation ($r = 0,73$; $p < 0,0001$), a finding consistent with the correlation between DAP S-CS posttest 1 and posttest 2, ($r = 0,60$; $p < 0,0002$). The drop in correlation may have been due to the subjective nature of this projective technique. However, because the inter-rater reliability was significant for the Torrance as well as for the DAP S-CS it was concluded that the raters were reliable and that the data could be interpreted with confidence.

3.2. RENZULLI RATING SCALE

***Table 3:** Mean Differences of the Two Groups on the Renzulli Rating Scale - Pre- and Post-Test Results*

	Control	Experimental
Pre-test	43,8 (SD = 11,19)	71,0 (SD = 11,78)
Post-test	48,4 (SD = 15,55)	83,4 (SD = 11,27)

The means for each group on the pre-test and the post-test may be seen above in Table 3 and are presented graphically in Figure 1. The ANOVA yielded a highly significant between group difference ($F(1;22) = 40,9$; $p < 0,0001$). The experimental group scored significantly higher than the control group. This confirmed the selection procedure because the RRS was used as a means of identifying children who showed specific skills in the area of talent. Renzulli pre-test versus Renzulli post-test for both the experimental and control groups was also significant ($F(1;22) = 26,24$; $p < 0,0001$). This showed an improvement for both groups between the two test times (Refer to Table 3.). However, both main effects were qualified by a significant interaction that indicated the source to be a significantly greater improvement for the experimental group than the control group. This was confirmed by a Newman Keuls test on the between group differences and simple main effects analyses on the repeated measures factor. (see Appendix 7 for details).



1 represents Pre-Test and 2 represents Post-Test scores
Control Group - Experimental Group +
***Figure 1:** Mean Pre-Test and Post-Test Scores on the Renzulli*

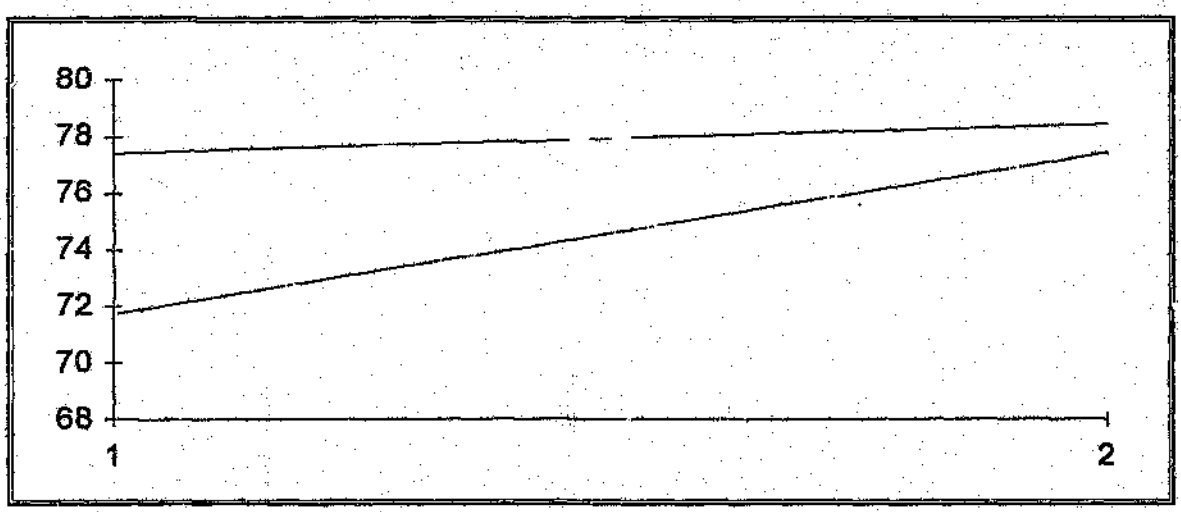
This can be taken to indicate that although both groups benefited from the programme, the experimental group (that is, the identified gifted group) gained more benefits. This can be seen more clearly in figure 1.

3.3. DRAW-A-PERSON SELF-CONCEPT SCALE

***Table 5:** Mean Differences of the Two Groups on the DAPS-CS - Pre- and Post-Test Results.*

	Control	Experimental
Pre-test	71,75 (SD = 4,75)	77,42 (SD = 3,05)
Post-test	77,42 (SD = 3,33)	78,43 (SD = 3,38)

The means for each group on the pre-test and the post-test may be seen above in Table 5 and presented graphically in Figure 2 below. The ANOVA yielded a significant between group difference ($F(1;22) = 10,87$; $p < 0,0033$). The experimental group yielded a higher self -concept than the control group at pre-test. Pre-test versus post-test was also significant for both groups ($F(1;22) = 12,82$; $p < 0,0017$). This showed an improvement between the two test times (Refer to Table 5.). However, both main effects were qualified by a significant interaction that indicated the source to be a significant difference in the pre-test ($F(1;22) = 14,66$; $p < 0,0009$), but not the post-test ($p > 0,4$) that showed significantly greater improvement for the control group from pre- to post- test than for the experimental group. This was confirmed by a Newman Keuls test on the between group differences (see Appendix 7 for details).



1 represents Pre-Test and 2 represents Post-Test scores

Control Group - Experimental Group +

***Figure 2:** Mean Pre-Test and Post-Test Scores on the DAP S-C S*

Figure 2 indicates that although both the experimental and control groups benefited from the intervention programme, the control group showed higher gains in levels of self-concept.

3.4. TORRANCE CREATIVITY TEST

***Table 4:** Mean Differences of the Two Groups on the Torrance Creativity Test - Pre- and Post-Test Results.*

	Control	Experimental
Pre-test	6,79 (SD = 4,48)	9,34 (SD = 6,16)
Post-test	14,71 (SD = 9,9)	17,34 (SD = 5,89)

The means for each group on the pre-test and the post-test may be seen above in Table 4 and are presented graphically in Figure 2. Although the experimental group appeared to be slightly more creative than the control group at pre-test, ($p > 0,3$) this difference was not significant. Pretest versus posttest was significant for the control and experimental groups ($F(1:22) = 40,54$; $p < 0,0001$). This showed an improvement for both groups between the two test times (Refer to Table 4.). The Newman Keuls test on between group differences and simple main effects analyses on the repeated measure did not reach significance (see Appendix 7 for details).



1 represents Pre-Test and 2 represents Post-Test scores

Control Group - ***Experimental Group*** +

***Figure 3:** Mean Pre-Test and Post-Test Scores on the Torrance Creativity Test*

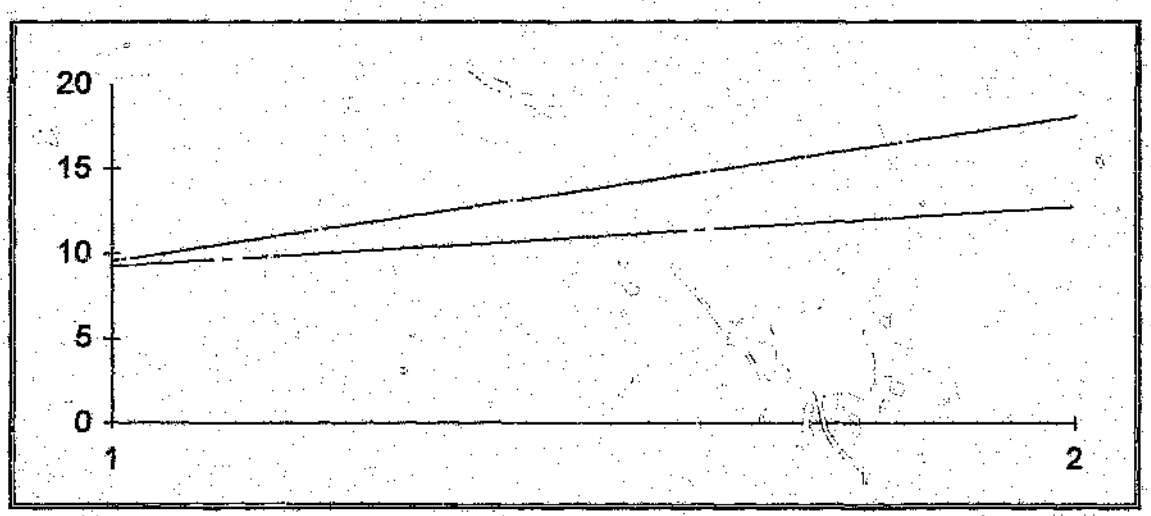
Figure 3. shows how both groups benefited equally from the programme, with the gifted group scoring at consistently higher levels.

3.5. SELF-AWARENESS T-SHIRT TEST

***Table 6:** Mean Differences of the Two Groups on the Self-Awareness T-shirt Test - Pre- and Post-Test Results.*

	Control	Experimental
Pre-test	9,25 (SD = 2,34)	9,58 (SD = 4,85)
Post-test	12,67 (SD = 3,89)	18,08 (SD = 5,48)

The means for each group on the pre-test and the post-test may be seen above in Table 6 and presented graphically in Figure 4. The between group difference on the ANOVA approached significance ($F(1;22) = 4,16$; $p < 0,0536$). At the pretest, the experimental group showed slightly higher scores in the area of self-awareness than the control group. The pre-test versus post-test difference was significant ($F(1;22) = 32,10$; $p < 0,0001$). This result reflected an improvement for both groups over the two time periods (Refer to Table 6.). However, both main effects were qualified by a significant interaction that indicated the source of these differences to be a significant improvement for the experimental group ($F(1;22) = 7,78$; $p < 0,0107$) but not the control group ($p > 0,8$). (See Appendix 7 for details).



1 represents Pre-Test and 2 represents Post-Test scores
Control Group - *Experimental Group* +
***Figure 4:** Mean Pre-Test and Post-Test Scores on the T-shirt Test*

Figure 4. depicts that although both the experimental and control groups benefited from the intervention programme, only the experimental group showed significantly higher gains in levels of self-awareness.

3.6. SUMMARY

In summary, these results have shown inter-rater reliability on both the Torrance test of creativity as well as on the Draw-A-Person Renzulli Rating Scale. On the RRS results indicated that although both groups benefited from the programme, the experimental group benefited more. On the Draw-A-Person Self-Concept Scale, results indicated that although both the experimental and control groups showed improvements in this area, the control group showed more gains in levels of self-concept. On the Torrance Test of Creativity results indicated that both groups benefited equally from the programme. The identified talented group performed at consistently higher levels on all the tests administered. Results of the Self Awareness Test identified heightened levels of self-awareness in both the experimental and control groups. However, only the experimental group improved significantly in levels of self-awareness.

CHAPTER 4

4. DISCUSSION

4.1. INTERPRETATION OF FINDINGS

The results will be discussed in terms of the aims as they were presented in Chapter 2.

1. Aim 1. Examine the criteria used to identify talented children in a primary school setting.

On the whole the Renzulli Rating Scale provided an adequate means of identifying talented children. This was confirmed by the consistently higher levels of performance in the identified talented group. However, there were individual cases in the average group where children scored at a significantly higher level than their peers. This seemed to suggest that the Renzulli Rating Scale provides one with an adequate measure when looking at children who are already achieving on a higher level than their peers. However, some talented children, who are under achieving, may not be identified when using this tool. This has implications in terms of teachers' expectations of achievement in their pupils, methods of teaching, as well as who has access to such enrichment programmes. The inclusiveness or exclusiveness of enrichment programmes becomes an issue.

Aim 2. The development and implementation of a suitable programme - that is, one that will enhance cognitive skills as well as self-concept.

Results of the ANOVA performed on the identified talented group (experimental group) and average group (control group) who participated in the intervention programme, showed overall improvements in their ratings on the Renzulli Rating Scale, on the Torrance creativity test, and on the Self-Awareness scale. On the Draw-A-Person Self-Concept Scale both groups showed improvements, however, only the average group showed a significant improvement. Hence, the broad-based nature of the enrichment programme shows benefits on both cognitive as well as emotional levels of development,. This reflects that programmes can have far-reaching and beneficial consequences for all those involved.

Aim 3. An evaluation of the benefits of such an integrated programme for the 'talented' and the 'average' groups of children.

On the Renzulli Rating Scale, results indicated that although both groups benefited from the programme, the identified talented group showed more gains than their average peers. It is important to look at the various skills that each group of children brought into the programme. The higher levels of ability as well as the greater benefits gained are consistent with expectations of other research studies (Vaughn, 1991; Van Tassel-Baska, 1989; Kollof 1984 & Eriksson, 1990). In other words the talented group of children seemed more able to maximize its potential in terms of cognitive skills.

Based on the personal observations of one of the experimenters, several children were noted to be more confident, were open to new and varied situations, were more willing to explore their environment and, to take risks. Those children who maximized their benefits were later identified as those who participated and interacted more confidently and freely within the group. These children tended to come predominantly from the identified talented group. In retrospect, these children tended to be more inquisitive, intuitive, asked more questions and, were more expressive, both emotionally and intellectually. It is believed that these characteristics contributed to their significant gains. However, whether these are a consequence or a characteristic of being talented remains open to discussion.

On the Draw-A-Person Self-Concept Scale results reflected non-significant differences between the two groups. This lack of significant difference confirms Loeb's (1987) findings. However, both groups benefited from the intervention programme with the average group showing greater increases in self-concept. This corroborates with Burn's (1982) and Purkey's (1970) assertions that self-concept can be adjusted. In order to understand these results one needs to consider those factors which influence self-concept. According to Feldhussen (1990) and, Kollof (1984) these results are expected in a programme that focuses on creative enrichment and enhances the child's sense of uniqueness and ability. The difference in improvement may be related to the constant approval and recognition that talented children tend to receive. In this study the experience may have been significantly different and encouraging for the average group of students, providing them with a unique experience and leaving them with a sense of competence and an enhanced sense of self (Mussen, Conger, Kagan and, Huston, 1984; Maruyama, Rubin & Kingsbury, 1981; Hoge, 1991). In attempting to improve children's self-concepts, one needs to be aware that although self-concept can be adjusted, it is human nature to want to maintain self-consistency. This is especially true of people with poor self-concepts. Risk-taking is extremely threatening and this creates blocks to learning new skills and/or being a "different"

person. If one can create situations where children can feel competent and successful, one can help them maintain an overall positive self-concept.

On the Torrance test of creativity results indicated that both groups benefited equally from the programme although the identified talented group performed at consistently higher levels. This confirms findings on the Renzulli where teachers rated both groups more highly on the post-tests. The significant difference in improvement may be attributed to teacher attitude, the enrichment programme itself, as well as the secure and comfortable environment which was facilitated by the attitude of those running the groups. This attitude was necessary because the focus was to provide all of the children with an environment where they could explore their own ideas and where they could take risks without being laughed at or rejected. Hence the attitude of the experimenters was warm, affirming, supportive and encouraging. There was no prior knowledge of how the group was divided and hence, all children were treated equally and expectations were for all group members to benefit. This situation is extremely different from the classroom setting where teachers are syllabus bound and where the focus is on getting all the necessary work completed. It is understandable in such situations that the focus would be on children who are more cooperative, who understand the work at a generally quicker rate and who provide results and therefore compensate them for their efforts. Hence teacher attitudes and her/his approach to education is an important determinant in how s/he perceives and relates to the children and, as a consequence, how children perceive themselves (Scott, Scherman & Phillips, 1992).

On the Self Awareness test it was found that although both the groups were shown to benefit from the intervention programme the identified talented group showed higher gains in levels of self-awareness. It is important to bear in mind the community from which this sample was drawn. Awareness of self and expression of feelings, strengths and weaknesses are not encouraged. This was evident in the concrete manner in which the children responded to the stimulus in the pretest situation. The significant improvement in self-awareness for both groups can be explained on several different levels: the instructors' attitudes of encouragement and acceptance of both negative and positive attributes; the degree of peer acceptance and support, which became more and more obvious to the instructors with time; the promotion of greater awareness of self and of each child's areas of strength and weakness and; the experience of relating on an emotional level. The significant increase in the level of self awareness of the talented group can perhaps be explained by the higher levels of confidence, cognitive and verbal abilities that they tended to manifest throughout the programme. Future research can focus on this self-awareness as a variable and hence, provide greater insight into this difference.

Aim 4. The study will provide teachers with both the motivation and a means of integrating special programmes into their regular school syllabus, thus broadening their perspectives on education.

Based on the benefits gained by both the talented and average children, it can be assumed that exposing children to more positive classroom experiences may have an advantageous impact on all children. The nature of human development suggests that a warm, supportive environment that encourages each child to reach his/her potential and values each individual's unique contribution will enhance self-esteem and self-concept. Hence there will be a spillover effect where each individual is valued for what s/he can contribute to self and society. Purkey's (1970) words seem relevant here. He states that, "the overwhelming body of contemporary research points insistently to the relationship between self-esteem and academic achievement and suggests strongly that self-concept can no longer be ignored by parents and teachers." Hence, programmes designed should not be static, but should aim at enhancing each child's unique potential. They should take cognisance of the impact of the inter-relation between external and internal factors on human development and hence be broad-based including all areas of human development.

Although this aim could not be attained in the limited scope of this paper, findings related to the attitude and approach of teachers and the impact which this has on children were encouraging. Based on the results of the study and the importance attributed to the attitude and approach of those involved in the programme, it may be assumed that the way in which a child is treated will have an effect on his perception of himself. A child's temperament and perceived teachability have been shown to be important factors in mediating interactions between children and their teachers (Metlitzky, 1986). Teachers tended to have more favourable attitudes towards the identified talented children. They were more interested in the brighter children and put more effort into helping them reach their potential. So, on the one hand the child's personality has an impact on the teacher while on the other hand, teacher perceptions and evaluations clearly appear to influence their behaviour towards, expectations of and decisions made in regard to their pupils.

4.2. LIMITATIONS OF STUDY

Projective testing formed the basis of the assessment tools used in this study. That is, they tended to be unstructured and ambiguous, allowing various interpretations of the same situation (Taljaard, 1979). The two measures falling into this categories are the Torrance creativity test and the Draw-A-Person Renzulli Rating Scale. Difficulties with projective techniques include the problem of devising a standardized scoring procedure that is objective

and clear. This is also an issue where the test material and rating system used were subjective. As a consequence of using such techniques rater reliability presents a problem (Anastasi, 1976; Taljaard, 1979. In an attempt to control this nuisance variable two raters scored the above tests. Discussions were held on two discrete occasions on the different variables, subsequent to which the raters scored the tests independently. Inter-rater reliability proved to be significant on both subjective measures used and one can therefore conclude that the raters were reliable and this allowed the data to be interpreted with greater confidence.

The type of study done in this project is called a field experiment. That is, advantage was taken of a population in its natural setting. A disadvantage when using a method of this nature is that one cannot control all nuisance variables in a field setting and there is the risk of uncontrolled events occurring that complicate the task of interpreting what happened and the extent of the programme's impact on the participants. Some examples of uncontrolled events included teacher strikes, often lasting for two weeks, religious holidays, public holidays as well as school breaks and exams. On the whole however, regular contact with the children was maintained - for example holiday workshops. Another concern is that of sample size. Although the sample size was not that large the groups were randomly selected in a systematic manner to avoid the impact of nuisance variables - for example socio-economic, educational, domestic experiences. Hence differences between the two groups can to a large extent be interpreted with confidence.

4.3. IMPLICATIONS OF THE STUDY

The results of the study indicated that the enrichment programme had an impact on the self-concept of the children identified as potentially talented as well as those who were not identified as such. This has a number of far-reaching implications for all those involved in education.

It is the author's opinion that all children possess some strengths or talents. By having teachers focus on identifying the strengths of children and then programming for these strengths may improve both the teachers' attitudes towards the children, as well as the children's attitude towards themselves. Hence, changes in the attitude of teachers is a very important element of the process. Each educator's own unique potential needs to be tapped and enhanced so that s/he can benefit more and enrich others' lives. Changes need to occur within the classroom as well as in providing a larger number and broader range of extra-curriculum activities. In order for all children to take advantages of such resources teacher training programmes need to be revised, providing them with greater opportunities to

develop their areas of talent so that they can make the classroom a more interesting, exciting and challenging place. On the other hand, assessment strategies need to be utilized and developed so that teachers are more able to identify the strengths of their pupils and hence provide them with the most enriching experience. Milgram (1990) describes creativity as a "continuing and dynamic process of 'becoming.'" It is neither static or limited.

It is often suggested that schools make children less creative by applying strict and limited experiences and stifling their individuality. This also tends to leave them with a sense of inadequacy and poor self-concept. Results of the study give credence to the belief that the degree or type of talent varies in different children. Hence, all children could benefit from an enrichment programme that will: i) focus on their strengths; ii) provide them with enriching experiences where higher order thinking skills are practiced and reinforced; iii) where the emphasis is not syllabus oriented but oriented toward individual growth and; iv) where children are encouraged to value and strengthen their unique potential. This will require changes in curriculum materials, in instructional strategies and in teacher attitudes. By introducing the enrichment programmes into the school syllabus one can ensure that the majority of children will benefit. Hence, programmes should not be limited to identified "gifted" children.

4.4 SUGGESTIONS FOR FUTURE RESEARCH IN THE SOUTH AFRICAN CONTEXT

This discussion has been limited to the classroom situation and to benefits which can be gained by children in a school setting. Findings in the study suggest that attitude (specifically of teachers) has an important impact on self-concept. This has extreme implications in the South African context where children from culturally disadvantaged communities tend to feel less adequate and have poorer self-concepts than those from the predominantly white advantaged culture. Although race is one important issue there are other situations in the South African context where children who are perceived as different by others or who themselves feel different (for example, mentally retarded and learning disabled children) have poorer self-concepts (Megwary, 1990; Rosenbaum, 1989).

An area of concern and one which may provide additional options for future study is that of definitions used for this study. This is especially important in the definition of disadvantaged children. For the purposes of the study a specific definition of "disadvantaged" was considered. This definition included those children who came from political, economic, cultural and, educationally disadvantaged backgrounds. However the term disadvantaged is broad and should include areas such as, emotionally disadvantaged - where emotional,

physical and sexual abuse are considered. Another area of disadvantage includes children with learning disabilities. Such difficulties often result in limited academic and social skills and as a consequence, repeated experiences, both in childhood and later in adulthood of struggles, limited success or failure. According to Scott, Scherman and Phillips (1992) parents and teachers have a very important role to play in boosting the self-esteem of children with dyslexia and enabling them to enjoy and take advantage of "success" experiences. Early identification, encouragement and a focus on talents, hobbies assist in promoting positive self-concepts. Positive family relations that act as a support system for the child facilitate her/his active search for 'self-worth' (Bur, Murphy, Richtsmeier &, Komar, 1992). This is reinforced by Lawrence (1987), who claims that self-esteem can be boosted by focusing on strengths and building these rather than focusing on weaknesses.

In addition to changes in attitude and focus, one needs to evaluate whether children who have suffered some form of deprivation or another need mediation in terms of basic skills before they can benefit from a higher level of learning. Cognitive processes that focus on developing such skills may be extremely beneficial, for example, Feuersteins Mediated Learning. The interactional nature of the human development suggests that once a child has basic cognitive operations these can be built on and developed in a way that the child's creativity, learning potential and general skills can be enhanced.

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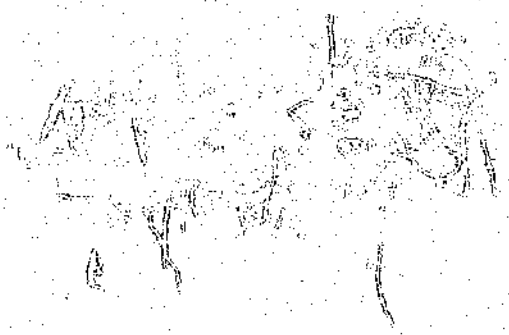
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APPENDIX 1

CREATIVE TALENT CHECKLIST - JUNIOR PRIMARY

RATING KEY :

1 = You have seldom or never observed this characteristic.

2 = You have observed this characteristic occasionally.

3 = You have observed this characteristic to a considerable degree.

4 = You have observed this characteristic almost all of the time.

NAME OF CHILD:.....

CL/STD: .....' SCHOOL: .....

01. Is highly inquisitive, often examining things closely or asking many questions.....	1	2	3	4
02. Has a keen sense of humor.....	1	2	3	4
03. Is often busily involved in work of great interest to him/her.....	1	2	3	4
04. Demonstrates a high energy level through high productivity or interest in many different things.....	1	2	3	4
05. Often does things in his/her own way (independent, non-conforming).....	1	2	3	4
06. Is highly imaginative in art work, play, use of materials or ideas.....	1	2	3	4
07. Often has many ideas for a given situation.....	1	2	3	4
08. Is able to attack a problem or use material in more than one way (flexibility).....	1	2	3	4
09. Often has original ideas or makes original products.....	1	2	3	4
10. Elaborates in great detail in art work, play, or, conversation.....	1	2	3	4

COLUMN TOTALS.....

TORRINGTON TAG PROGRAM - INTELLECTUAL TALENT

The Child:

11. Is highly alert and observant.....	1	2	3	4
12. Demonstrates exceptional retention of material presented.....	1	2	3	4
13. Is very curious about a great variety of things.....	1	2	3	4
14. Is often absorbed in activity.....	1	2	3	4
15. Learns easily and readily.....	1	2	3	4
16. Conveys ideas exceptionally well.....	1	2	3	4
17. Demonstrates advanced ability to apply knowledge to practical situations.....	1	2	3	4
18. Knows about many things of which other children his/her age are unaware.....	1	2	3	4
19. Demonstrates advanced understanding of abstract relationships(eg. cause & effect)...	1	2	3	4
20. Demonstrate exceptional ability to solve problems.....	1	2	3	4

COLUMN TOTALS.....

TASK COMMITMENT RATING SCALE

RATING KEY :

1 = You have seldom or never observed this characteristic.

2 = You have observed this characteristic occasionally.

3 = You have observed this characteristic to a considerable degree.

4 = You have observed this characteristic almost all of the time.

The Child :

21. Becomes absorbed and truly involved in certain topics or problems; is persistant in seeking task completion. (It is sometimes difficult to get him to move on to another topic). May appear easily bored with routine tasks or drills.....	1	2	3	4
22. Excels in one or more activities in or out of school.....	1	2	3	4
23. Needs little external motivation to follow through in work that initially excites him and can concentrate for long periods of time.....	1	2	3	4
24. Strives toward perfection; is self-critical; is not easily satisfied with his own speed or products.....	1	2	3	4
25. Generally does more than required and expected in or out of school.....	1	2	3	4
26. Prefers to work independently; requires little direction from the teacher.....	1	2	3	4
27. Has a special hobby or interest that he/she spends a lot of time on.....	1	2	3	4
28. Likes to organize and bring structure to things,people, and situations.....	1	2	3	4

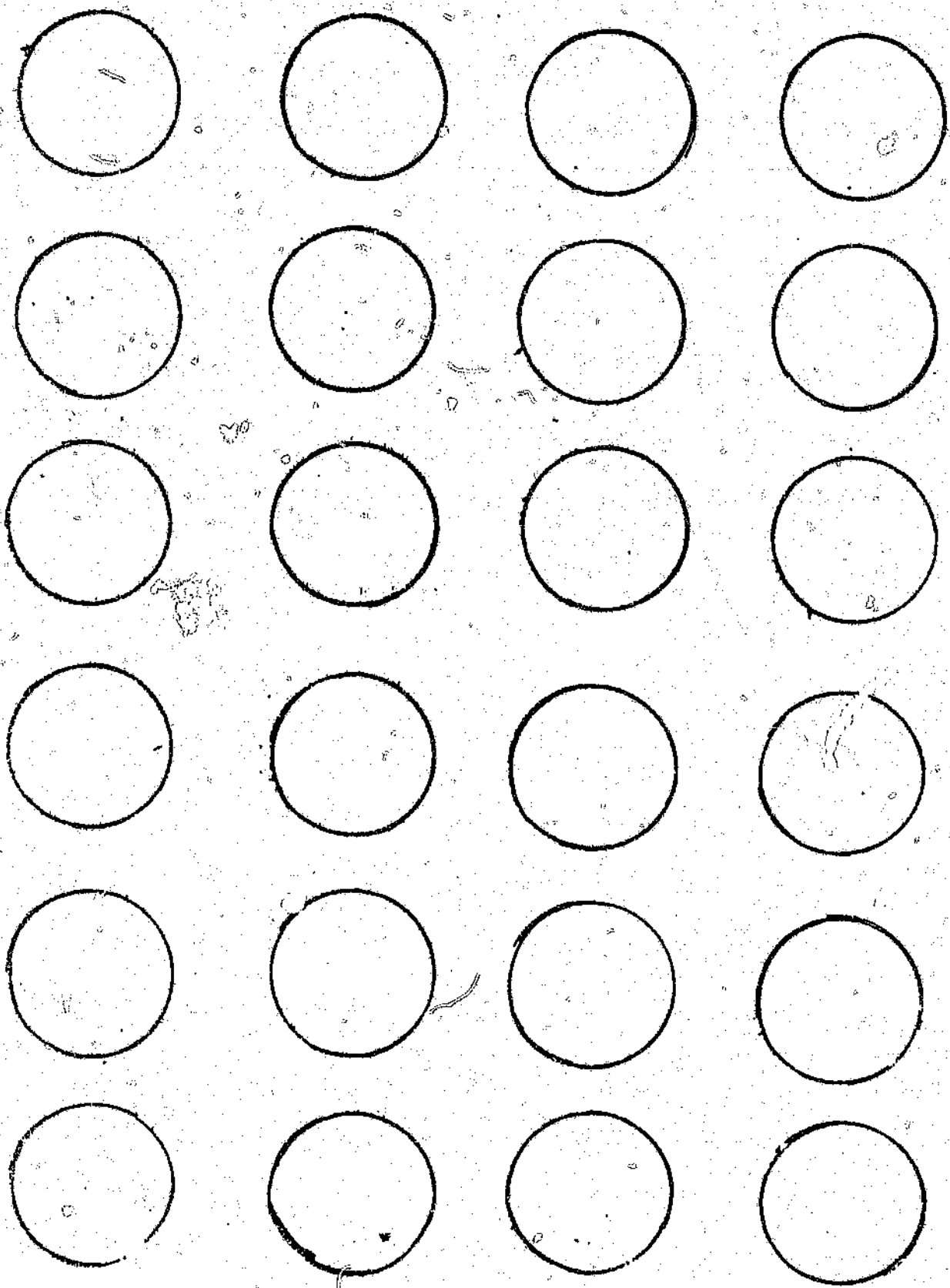
COLUMN TOTALS.....

APPENDIX 2: MATERIAL USED FOR CIRCLES/NONVERBAL TEST

NAME: _____ DATE: _____ St. No. _____

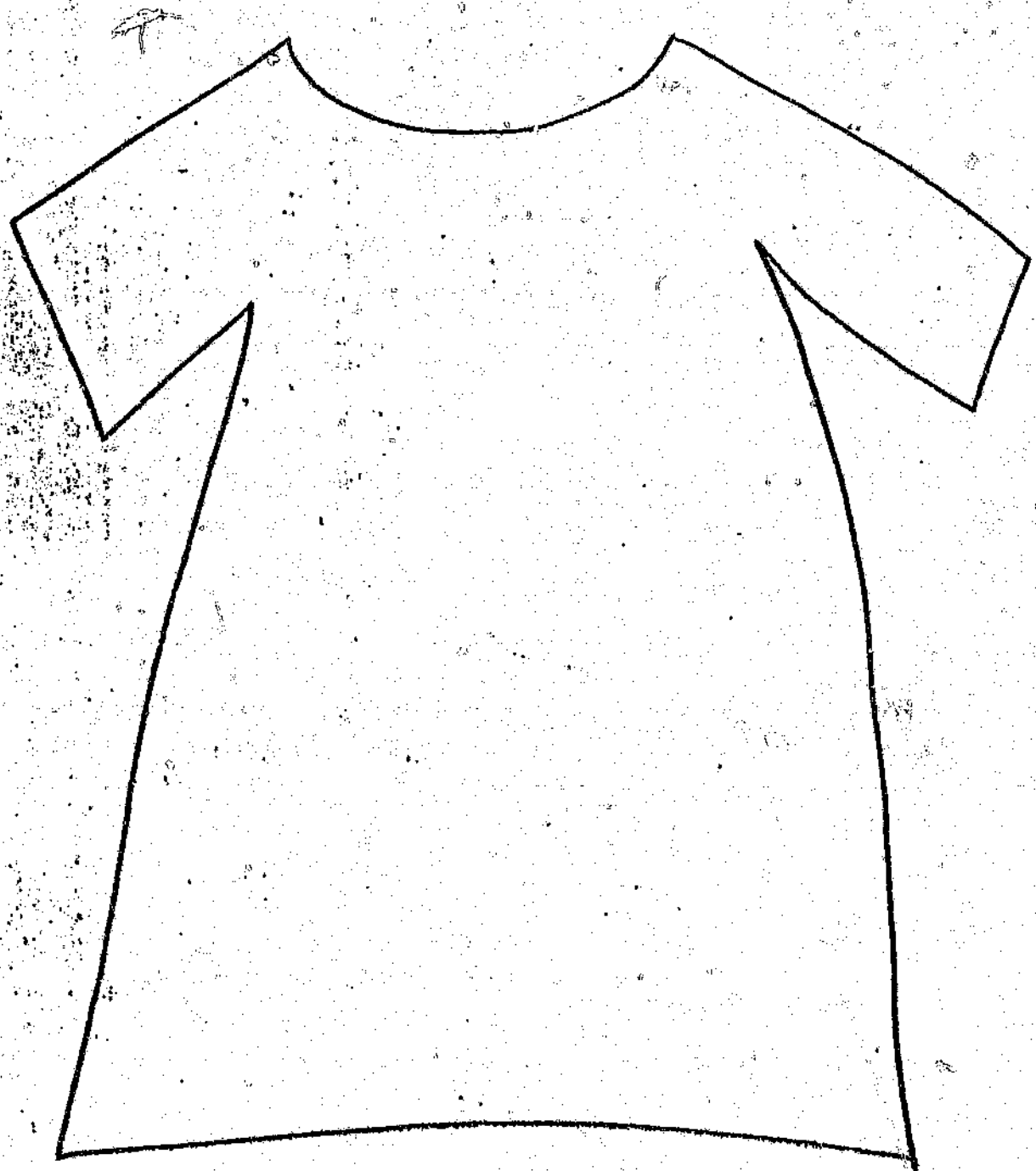
CIRCLES TEST

Make as many new, exciting, interesting, different things with these circles as you can think of.



APPENDIX 3

Name:



APPENDIX 4

THE DRAW-A-PERSON SELF-CONCEPT SCALE
DEVISED AND VALIDATED BY BODWIN AND BRUCK (1960)

1. Shading: Light, dim, subtle, uncertain lines that conceal accent particular parts of the figure. Patterned or stylized shading.

2. Reinforcement: Shading of boundaries - clothing or the figure. Heavy, dark lines or parts of the drawing which are retraced to emphasize that region.

3. Erasures: Erasures are evident in an attempt to modify or perfect all or a part of the drawing.

4. Detail in Figure: The addition of unessential features or details to figure or the background of the drawing.

5. Sketchy Lines: Broken, blurred, vague or light lines are used to define parts of the body, particularly the outline.

6. Transparency: Where the body of the figure is completely transparent or inadequately clothed allowing parts of the body which are usually covered to be shown.

7. Asymmetry: Where the arrangement of the body is lopsided or imbalanced. This refers to the size, shape or position on opposite sides of the figure.

8. Distortion: Where any unnaturalness or irregularity of form and/or non-human aspects of the figure are drawn. This often illustrated in inappropriate size proportion.

9. Incompleteness: Figure lacks significant body parts and/or clothing, that is, in some way is incomplete.

10. Mixed Age: Physiological maturation of the various body parts is not consistent, for example breasts or muscles emphasized in an otherwise childish body.

11. Opposite Sex Identification: Sex of the figure drawn is opposite to that of the child or, if the same sex, child has include opposite sex characteristics.

APPENDIX 4 (CONTINUED)

THE DRAW-A-PERSON SELF-CONCEPT SCALE (CONTINUED)

12. Primitiveness: The overall picture is crudely and roughly drawn. Specific areas of concern are confusion of full and profile view of the head, mouth emphasis, incomplete trunk, omission of neck and, disorganized body representation.

13. Immaturity: Drawing is marked by midline emphasis - Adam's apple, buttons, tie, buckle, zip on trousers/skirt. Emphasis of mouth and/or breasts is also included in this point.

14. Fantasy Figures: Clown, monster, witch, etc. - scores 1.
Character figures - scores 3.
Ordinary figures - scores 5.

15. Size of Drawing: Between: 6 - 22cm - scores 5.
22.1 - 24cm OR 4.5 - 5.9cm - scores 4.
24.1 - 26cm OR 3.0 - 4.4cm - scores 3.
26.1 - 28cm OR 1.5 - 2.9cm - scores 2.
28 +cm OR 0 - 1.4cm - scores 1.

16. Perspective: Full Frontal View - scores 5.
Partial Frontal View (either body or head is drawn in frontal view) - scores 3.
Head and body are drawn in profile view - scores 1.

17. Placement on Page:

1	2	2	2	1
2	3	4	3	2
2	4	5	4	2
2	3	4	3	2
1	2	2	2	2

APPENDIX 5

BIOGRAPHICAL QUESTIONNAIRE:
NAME:

AGE:

SEX:

DATE OF BIRTH:

CLASS:

TEACHER:

NUMBER OF SIBLINGS:

AGES AND EDUCATIONAL STATUS:

POSITION IN FAMILY OF ORIGIN (1st,2nd,etc):

RELIGION:

HOME LANGUAGE:

SOCIOECONOMIC STATUS OF PARENTS:
HIGH
MEDIUM
LOW

EDUCATIONAL STATUS OF PARENTS:
MOTHER
FATHER

OCCUPATION OF PARENTS:

APPENDIX 6

WORKSHOP 1 - SELF AWARENESS -

1. Introduction and Establishing Rapport

Children sat in a big circle and were requested to introduce themselves with an adjective beginning with the same initial as their name. This adjective was supposed to describe some aspect of themselves.

2. Paper Bag Exercise.

Children were split into groups and given magazines and paper packets. The packets were explained as being representative of the part of themselves they show to the outside world (the outside) and the part of themselves that only they know and that they do not share (the inside). They were requested to cut out picture from the magazines that represented these two aspects of themselves and then place them in or on their packets. The groups were thus involved in an important exercise of sharing not only the magazines, glue scissors etcetera, but also parts of themselves.

3. Animal Comparison

Children were requested to think of themselves as an animal. It was important that the animal remind them of some parts of themselves. These animals and the reasons were shared with the group and children were encouraged to discuss how they saw each other - looking at whether they agreed with the choice or had thought of another animal. This exercise encouraged the children to be more aware of themselves and how they saw themselves as well as to begin to consider how other saw them.

APPENDIX 6 (CONTINUED)

WORKSHOP 2 - CREATIVE THINKING -

1. Fluency

This refers to the ability to produce and consider a greater number of alternatives that is then more likely to provide viable solutions, and ultimately improving the possibility of success in solving problems. (See exercise ...)

The aim of the exercise was to provide the children with an opportunity in which they could be as imaginative as possible. The children were split into three groups and were encouraged to verbalize all their ideas, regardless of whether they thought them foolish or unimportant. The children themselves then chose the best two options and fed them back to the group. The concept of brainstorming was introduced and the children were then encouraged to link how they could use their new skills in their own environment. Various suggestions were forthcoming and the children were able to make clear and constructive links.

2. Originality

Originality generally refers to how rare and novel an idea or alternative is. In this section blocks to originality were considered important and so cognizance was taken of these factors throughout the four week sessions on creative thinking.

These include: i) habits, convention and conformity - Habits often limit us to certain conventional, established ways of looking at and dealing with issues and/or events. Unique, novel and unusual ways of perceiving a problem are often not expressed as we conform to our own and others' expectations. ii) rejection - where ideas are rejected before they are developed on, or expressed verbally, on the basis of their not being imaginative enough or important enough. Often rejection comes from external sources as well, for example peers or teachers.

iii) anxiety about ideas - anxiety about being ridiculed or appearing foolish often prevents us from expressing and often even considering ideas.

iv) judgment too soon - Sometimes even outrageous notions need to be expanded on and often provide valuable and creative means of solving otherwise complicated problems. the accent in producing new ideas should be on imagination, originality and inspiration rather than on judgment.

APPENDIX 6 (CONTINUED)

Efforts to enhance originality were facilitated throughout the four workshops and the specific exercise given in this section was for the children to think about themes and how they could be carried through. Examples were given of: "Children's Week" and "Year of the Family" and children were encouraged to imagine that they could choose any theme for the following year. These ideas were shared and children were asked to participate and elaborate on each others' ideas. This was followed through with the children making posters representing their themes.

3. Highlighting the Essence.

An important element of working through and finding creative solutions to complex problems is the ability to focus on the essential or core aspects... the "aha experience." This process includes identifying the most pertinent information, discarding that which is not essential, and working towards the single most promising solution or idea.

The exercises given to enhance these skills were cartoon pictures where children were encouraged to identify the most salient features of the picture and then to make up a title for that picture. Another exercise involved a "Sherlock Holmes" type adventure where the children were given an exercise with clues and were asked to unravel a mystery.

4. Elaboration.

This refers to the ability to develop on one's "aha experience," to implement solutions or ideas. Elaboration includes adding on to original ideas, experimenting and allowing one thing to develop spontaneously from another.

After each section the children were encouraged, in the group context to think of ways in which they could apply this information to their everyday life. Links were made and the children seemed able to understand the connection between the workshops and both school and home activities.

APPENDIX 6 (CONTINUED)

WORKSHOP 3- PROBLEM SOLVING SKILLS -

The workshop looked at five basic steps in problem solving. although they were presented and practiced in a formal setting, that is, as a separate workshop, these skills were introduced and being used in the course of the previous workshops.

1. Attitude:

A relaxed attitude is the first step in confronting a problem. Children were guided through a relaxation exercise (guided fantasy as well as breathing exercises) and encouraged to use whichever technique was comfortable for them. Discussions were held around accepting that problem situations are part of everyday life, looking at how they affect how we behave, how we feel about ourselves and how we behave towards others. We then emphasized that believing in oneself, in one's ability to cope with and, to solve one's own problems, is a very important element.

2. Investigating the Problem Situation.

Here we looked at identifying the problem and breaking it down into various aspects and trying to understand it. We looked at 5 different aspects of the Problem Situation.

What is the problem?
Why is it a problem?
For whom is it a problem?
Who else is affected?
Can the problem be ignored?

3. Generation of Alternative Solutions.

The first step is to identify what you want, that is, identifying possible needs, goals and, outcomes. The second step is to brainstorm as many as possible alternative ways of getting there. This was done in two ways: as a group exercise and as an individual exercise. The following rules were provided. All ideas were welcome - children were encouraged to contribute whatever thoughts came into their minds and, at this stage, not to evaluate them. This required a safe and trusting environment and children were encouraged to be supportive of all ideas volunteered. Quantity was thus the focus and children were then motivated to combine ideas, expand on them and improve them in a group context.

APPENDIX 6 (CONTINUED)

4. Choosing a Preferred Solution.
There were 6 aspects to this step:
i) Consider all suggested solutions
ii) Decide on criteria for evaluating - monetary cost; time; energy; positive and negative side effects.
iv) Consider side-effects - long-term and short-term for oneself and others
v) Select a solution
vi) Motivate one's selection
vii) Provide reasons for rejecting other solutions

This again was done in a group setting where the facilitator as well as other members of the group acted as sounding boards, assisted in evaluations, gave opinions and, pointed out issues not recognized by a particular member.

5. Planning the Implementation of a Solution.
Here children were encouraged to start implementing their chosen solution immediately. They would begin with the easier tasks and tackle the difficult ones at a later stage. Feedback would occur in the following session.

6. Evaluating one's Decision.
In this workshop we evaluated whether the alternative chosen was the right one. This was done on the basis of the following criteria.
Is the problem solved?
Are you happy with the outcome?
Can you make any improvements on the situation?

If the answer to the first question is No, that is, the problem has not been solved, then the following criteria were used. Was your plan effective - what went wrong and, how can your plan be improved?

APPENDIX 6 (CONTINUED)

If your plan could not be improved then you need to go back to Step 4 and reconsider your alternatives. Choose your second best alternative, plan its implementation, implement it and then evaluate your results.

The children worked through the above steps in a group situation, assisted by a facilitator to encourage and work through confusing and complex areas. In the last workshop on this topic children were given a page titled "My Decision Tree." They used this format to work through a personal problem in private. Assistance was offered where necessary.

APPENDIX 7

STATISTICAL DATA

RENZULLI RATING SCALE

	DF	F	P	SIGNIFICANCE
RENPRE	1;22	33.50	<.0001	S
RENPOST	1;22	39.87	<.0001	S
BETWEEN SUBJECTS	1;22	40.90	<.0001	S
WITHINSUBJS				
TIME	1;22	26.24	<.0001	S
TIME & GROU		5.57	<.3275	S

NEWMAN KEULS	SNK GRP	MEAN	N	GROUP	SIGNIFICANCE
PRE	A	71.0	12	G	S
	B	43.0	12	C	S
POST	A	83.417	12	G	S
	B	48.417	12	C	S

TORRANCE CREATIVITY TEST

	DF	F	P	SIGNIFICANCE
TORPRE	1;22	1.35	<.2571	NS
TORPOST	1;22	.62	<.4379	NS
BETWEEN SUBJECTS	1;22	1.05	<.3161	NS
WITHINSUBJ				
TIME	1;22	40.45	<.0001	S
TIME&GROUP		.00	<.9737	NS

APPENDIX 7 (CONTINUED)

TORRANCE CREATIVITY TEST (CONTINUED)

NEWMAN KEULS	SNK GRP	MEAN	N	GROUP	SIGNIFI-CANCE
PRE	A	9.333	12	G	NS
	A	6.792	12	C	NS
POST	A	17.333	12	G	NS
	A	14.708	12	C	NS

DRAW A PERSON SELF-CONCEPT SCALE

	DF	F	P	SIGNIFICANCE
DAPPRE	1;22	14.66	<.0009	S
DAPPOST	1;22	.56	<.4611	NS
GROUP BETW SUBJ	1;22	10.87	<.0033	S
WITHIN SUBJ TIME TIME & GRP	1;22	17.82	<.0017 <.0169	S S

NEWMAN KEULS	SNK GROUI	MEAN	N	GROUP	SIGNIFI-CANCE
PRE	A	77.417	12	G	S
	B	71.75	12	C	S
POST	A	78.333	12	G	NS
	A	77.417	12	C	NS

APPENDIX 7 (CONTINUED)

SELF AWARENESS T-SHIRT TEST

	DF	F	P	SIGNIFICANCE
SELFPRE	1;22	0.05	<.8322	NS
SELFPOST	1;22	7.78	<.0107	S
GROUP BETW SUBJ	1;22	4.16	<.0536	APPROACHING S
WITHIN SUBJ				
TIME	1;22	32.10	<.0001	S
TIME & GRP			<.0244	S

NEWMAN KEULS	SNK GROUP	MEAN	N	GROUP	SIGNIFI-CANCE
PRE	A	9.583	12	G	NS
	A	9.250	12	C	NS
POST	A	18.083	12	G	S
	B	12.667	12	C	S

Author: Brenner-Cohen R
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