THE EFFECT OF GOAL STRUCTURES ON INTERGROUP RELATIONS IN THE CLASSROOM.
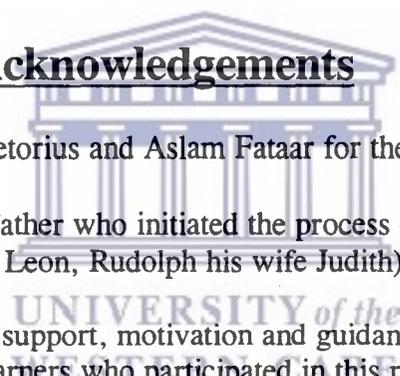
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Submitted in partial fulfilment of the requirements for the degree of Doctor of Education in the Department of Educational Psychology, University of the Western Cape.

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Promoter: Professor Tyrone Pretorius
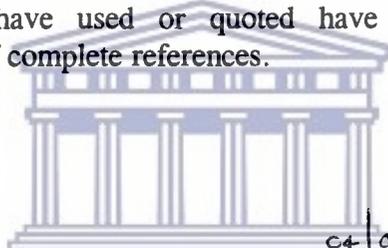Joint-Promoter: Professor Aslam Fataar

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- To my brothers (Hadley, Leon, Rudolph his wife Judith) for their support and motivation.
- To my wife Ruth for her support, motivation and guidance.
- To the Educators and Learners who participated in this research.

DECLARATION:

I declare that **THE EFFECT OF GOAL STRUCTURES ON INTERGROUP RELATIONS IN THE CLASSROOM** is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

Ronald S. Cornelissen

04|09|2002

Date

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ABSTRACT

This thesis investigated the effectiveness of cooperative learning, individualistic learning, competitive learning and traditional learning (control group) in promoting more positive intergroup relations in the classroom. The literature and past research supporting the theoretical framework, namely the Contact Hypothesis and Social Identity Theory of Allport and Tajfel were explained.

This investigation took place at a high school in the Western Cape. Six grade nine classes were selected. Each class was co-educational and heterogeneous (based on ethnicity). The researcher taught each class.

Three questionnaires were used in the research. The Sociometric questionnaire was used to examine intergroup relations. The Attitude questionnaires (Acceptance of Others and Acceptability to Others) were used to measure the acceptance of others by the learner and acceptability to others in the classroom. The Goal Structure questionnaire was used to ensure appropriate use of the various teaching methods by the researcher.

Descriptive statistics and chi-square analyses were used to test examine whether there were any differences between cross-gender versus same-gender choices and same-ethnic versus cross-ethnic choices in the various groups. These statistics indicated that differences between pre-test and post-test were a result of the influence and exposure to treatment.

To minimise the dangers of pre-test sensitisation and possible threats to validity a modified Solomon four-group design was used. This design had six groups and allows for the testing of four design requirements (random assignment, effect of pre-test on treatment and effect of pre-test on the post-test results) and, interaction between pre-test and treatment. Two of the design requirements were met namely random assignment and no interaction between pre-test and treatment.
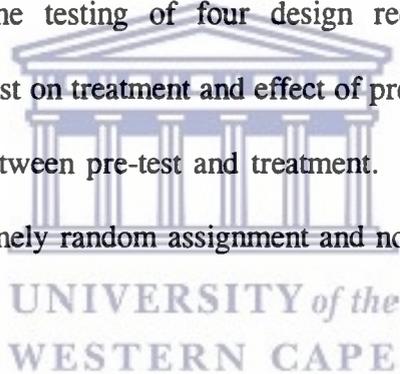
A one-way Analysis of Variance (ANOVA) using gain scores indicated significant differences between the various groups in terms of the least-liked question, acceptance of others and acceptability to others. A post-hoc analysis indicated that cooperative learning had a lower mean score than competitive and individualistic learning on the least-liked question.

In terms of the attitude questionnaires, (Acceptance of Others and Acceptability to Others) cooperative learning promoted more acceptance of others and more acceptability to others than individualistic learning. None of the other learning groups differed significantly.

The researcher also considered the weaknesses and implications of this thesis as well as giving some recommendations for future investigations.

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Chapter One

Introduction

As learner and educator, I have seen the lives of friends, learners and colleagues destroyed by police brutality, racism and apartheid education. Learner uprisings in the 1970s and 1980s led to the total disruption of education in black schools (government schools set aside for black learners during the apartheid years). By 1990 (Mboya, 1993) Model C schools (former white only schools who changed their learner admission policy by decision of the parent body) were established and opened their doors to black, coloured and Indian learners. In these schools the various black learners, even those in the classes I taught became "academic squatters" (Mboya, 1993, p. 61) [Black learners had no sense of belonging in the classroom]. These learners felt alienated, rejected by their peers as being different, weak and receiving special attention by their educators because of their educational "backwardness".

This thesis is a reflection of my struggle to improve intergroup relations between black, coloured and Indian learners in the classroom. This research is new and was not conceptualised by books or through academic exercise but by my experiences of ethnic tensions within the classroom.

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In South Africa schooling has played a unique role in the political and cultural life of its people. The ethnic diversity of South Africa demands that the existence of ethnic groups be taken seriously. In any school in South Africa learners are obsessed with competition, but there are learners who cooperate with one another. In school learners are constantly pitted against one another in a contest for attention, approval and achievement. This arrangement does not give learners the chance to learn the skills of working together or of reducing ethnic tension, but usually exacerbates the detrimental and negative effects of discrimination (Du Plooy, 1993; Johnson et al., 1983, 1985; Johnson & Johnson, 1996; Taylor, 1991). This thesis is a sincere effort for the field of education where learners and educators who believe in improving intergroup relations must become actively involved. To be silent, would give approval to ethnic tensions in the classroom, allowing racism to remain durable in educational and social life.

With the introduction of Curriculum 2005 and Outcomes Based Education (OBE) in 1998, the classroom set-up or arrangement was supposed to change. Although a cooperative learning setting is being advocated elements of competition would still exist.

Another aspect is that family life in South Africa is influencing the social development of children. The extended family and neighbourhood support systems are diminishing. In South Africa today married couples are having fewer children, there are more single parent families, families are increasingly transient (the divorce rate in South Africa is high) and children are finding more acceptance in gangs and cliques. Children who in the past would have mastered communication, negotiation and cooperation skills at home from family members, no longer have as much opportunity to do so because of the effects of television and other societal problems (alcoholism, spousal and child abuse, etc.). Consequently, more of the responsibility for teaching interpersonal skills in children falls to day-care centres and schools.
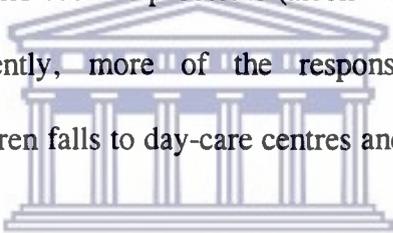
1.1 Relationships and Conflicts

Before I undertook this research I spoke to many educators at different schools who reported that there were continuous tensions between black and coloured as well as male and female learners at their schools. Many factors contributed to this tension. Some of these factors are academic standing in class ("weak, average or clever" learner), educational "backwardness" related to the primary school from which the grade eight learner was accepted, language (related to how well the learner communicates with their fellow learners) and socio-

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economic status within the community.

As Deputy Principal and educator I observed many causes of conflict between learners in the classroom. The "childish nature" of male learners in class e.g. throwing chalk or papers, placing drawing pins on the seat of the desk, stealing lunch, or just irritating the female learners. Female learners were criticised for being "snobbish", because of their hairstyles, painted nails or being complainers ("squealers", sic.). These conflicts were also carried over to their work tasks in class. For example, learners would not work together with those who were "lazy", academically weak, or "smelly". These learners were marginalized, rejected or neglected in the class.
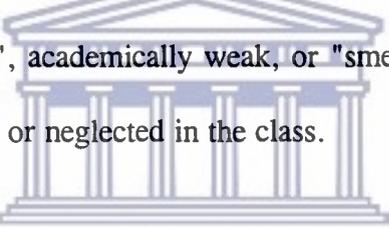
1.2 *Aims and Objectives*

The primary aim and objective of this research was to test how classroom educators can improve learner intergroup relations in their classrooms, specifically between black and coloured learners. This was researched by using specific goal structures, namely cooperative learning, competitive learning, individualistic learning and traditional learning [control group]. A goal structure specifies the type of interactions among learners as they strive to achieve their instructional objectives (Johnson, 1979). A Social Preference

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Sociogram was used to provide data on intergroup relations. An attitude questionnaire was also given to learners to determine acceptability to others and acceptance of others in the classroom. The essential research objective is a comparison of various goal structures in terms of their effectiveness in improving intergroup relations in the classroom.

1.3 *Theoretical Perspectives*

Because this research took into account the relationship between learners and learner groups in the classroom, I opted for a more socially based approach to the study of intergroup relations; hence the choice of Tajfel's Social Identity Theory (1978b, 1982a), further elucidated by Brown (1995), Hewstone and Brown (1986) and Turner and Giles (1995), and Allport's Contact Hypothesis revised by Cook (1978), and further elucidated by Brewer and Miller (1996) and Hewstone and Brown (1986).

1.3.1 Tajfel's Social Identity Theory

This theory holds that an individual's personal identity is highly differentiated and based in part on membership in significant social categories, along with the value and emotional significance attached to that membership. It is important to note that social identity theory incorporates both perceptual and

motivational components (Brewer, 1979). This theory also provides a connection between psychological and societal explanations for prejudice and discrimination. According to Tajfel (1978b), the basic conditions for extreme forms of category-based social identity lie in the existence of various forms of intergroup tension at the societal level and in the belief that relevant social boundaries between categories are "sharply drawn and constant" (p. 51).

Tajfel's theory of social identity rests on three main assumptions:

i.   Individuals define and evaluate themselves in terms of their social groups. Social groups provide a social identity for their members.

ii.   An individual's social identity is positive or negative according to the subjective status of the groups,

iii.   Other groups in the social environment constitute the frame of reference for evaluating a group's status (e.g. wealth, power, abilities, etc.).

Since Social Identity Theory deals with the reciprocal relationship between structural features of the social environment, and perceptions and motivations at the individual level, this theory provides a useful integrative framework for the study of intergroup contact and its effects.   Other theorists elucidating Social Identity Theory were Hewstone and Brown (1986), Brown (1995), and

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Turner and Giles (1995).

1.3.2 <u>Allport's Contact Hypothesis</u>

This theory is based on the premise that contact results in familiarity and attraction, which is the cornerstone of the Contact Hypothesis elucidated by Allport (1954), and revised by Cook (1978), and further elucidated by Hewstone and Brown (1986) and Brewer and Miller (1996). The underlying assumption of this approach is that groups, which are isolated or segregated from each other, will display avoidance and develop stereotypical views of one another. This model emphasizes that contact between members of different ethnic groups would produce acceptance and reduce stereotyping (Foster & Louw-Potgieter, 1991; Sharan, 1990). Other characteristics that will affect the nature and quality of interpersonal interaction include: (1) equal status within the situation, (2) opportunities to disconfirm prevailing stereotypes about outgroup characteristics, (3) mutual interdependence such as cooperation in achievement of joint goals, (4) promotion of intimate interpersonal associations, and (5) presence of egalitarian social norms (Brewer & Miller, 1984).

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In conclusion, Tajfel's Social Identity Theory criticizes individualism while Allport's Contact Hypothesis focuses primarily on the individual. A detailed elucidation of these theories will be given in Chapter 3.

1.4 *Methodology*

1.4.1 Criteria

This research is important since apartheid policies in South Africa have been aimed at preventing contact between the different ethnic groups in the past. At this time of change in South Africa and especially the schooling system, it is hoped that the contributions made by this research can provide guidelines to resolving problems that educators may experience in the classroom.

This study took place at a high school where black and coloured learners were enrolled. The sample consisted of six Grade Nine classes. A stratified or quota sampling method was used to determine the six grade nine classes used in this research (explained in Chapter 5). The researcher taught all six Grade Nine classes using either the traditional learning (chalk-and-talk) method and the other goal structures (cooperative learning, competitive learning, and individualistic learning).

1.4.2 Instrumentation

i. Social Preference Sociogram Questionnaire

A Social Preference Sociogram was used to investigate intergroup relations within the classroom. This methodology is based on the Coie and Dodge (1983) study. The identifiable feature of this type of sociogram is to determine the learners' social status within the classroom based on quantifiable measures obtained from positive and negative nomination data. Learners were asked to rate one another with regard to how they perceived one another. Four questions were asked and the learners were asked to rank their three nominations (first choice, second choice and third choice) per question. This design was used to test existing intergroup relations in the classroom (pre-test) and those after the experimental stage (post-test).
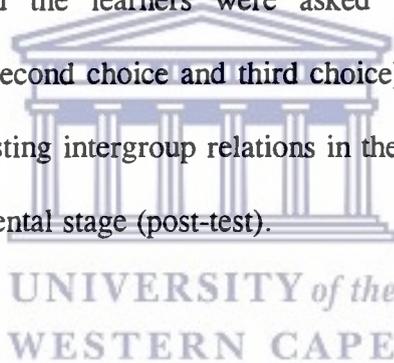
ii. Attitude Questionnaires

1. Acceptance of Others Questionnaire

This attitude scale was designed by Fey (1955) and used to investigate the opinions of acceptance of others. The questionnaire determined whether learners take an active interest in their fellow peers and whether they show a desire to develop good relations with them. This questionnaire contains 20 attitude statements with possible responses from almost always (scored as 1) to very rarely (scored as 5). This attitude scale was scored as follows: 20, low

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acceptance of others and 100 high acceptance of others.

2. Acceptability to Others Questionnaire

The acceptability to others scale also designed by Fey (1955) forms part of the acceptance of others scale and contained 5 attitude statements with possible responses from almost always (scored as 1) to very rarely (scored as 5). This questionnaire determined how well the learner felt he/she is accepted by their peers in the class and how widely he/she is chosen as "liked" the most.

iii. *Goal Structure Questionnaire*

This questionnaire was completed by the learners to validate and control the teaching method used by the researcher (educator) during this investigation. This questionnaire utilized a five point Likert Scale.

1.4.3 Design and Analysis

i. *Sociometric Scale*

This research tool used the total positive (most-liked question) and negative (least-liked question) nominations (frequencies). This was done on both the pre-test and post-test. These positive and negative frequencies were quite informative with reference to, popular learners, rejected learners, controversial learners, neglected learners and average learners in the different classes. Only

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two questions (question 3 and 4) from the Sociometric Scale were used and will be fully explained in Chapter Five.

ii. _Social Preference and Social Impact Scale_

This research tool was used to calculate the pre-test and post-test Social Preference and Social Impact scores within each goal structure to validate intergroup relations. This scale reflects the normative standing of the learner in a class regardless of the constituency or size of the class.

iii. _Solomon Four-Group Design_

Since this study researched the impact of intergroup relationships in the classroom as well as its related attitudes, this could provide an opportunity for the learners to rehearse or think about the content included in the pre-test. This might have a particular outcome on the experimental-group of learners because it sensitises the learners to study specific content in the experimental treatments. It is with this reason that a modified version of the Solomon Four-Group design was used. Instead of having four groups, six groups were used. There were two Control Groups (Traditional Learning method) and two Cooperative Learning Groups as well as one Competitive Learning Group and one Individualistic Learning Group. One Control and Cooperative Learning group were not given the pre-test. At the end of the intervention all groups

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were given the post-test.

iv. <u>*Chi-square Tests*</u>

This test was used to determine whether two or more frequency distributions differ significantly from each other. These chi-square tests were computed to examine whether or not cross-gender versus same-gender choices and whether same-ethnic versus cross-ethnic nominations differed significantly because of treatment.

1.4.4. <u>Key concepts and terms</u>

i. <u>*Goal Structures*</u>

This is the teaching or instructional methods used in this investigation namely, cooperative learning, competitive learning, individualistic learning and traditional learning.

ii. <u>*Intergroup Relations*</u>

This is the relation between black and coloured learners in the classroom, while participating in a specific goal structure.

iii. Social Structure

Social structures are those aspects dividing society into gender, age, nationality, ethnicity, education and religion.

iv. A Group

In this thesis a group is regarded as a set of learners among whom exits an observable set of relationships.

v. Ethnicity

Ethnicity refers to the characteristics of the group or an individual differing physically, nationally, culturally, linguistically, religiously, or ideologically.

vi. Mixed Schools

This is a school where the learner population is integrated in the classroom.

These concepts will be fully explained in the next chapter.

1.5 *The Outline of chapters*

This section briefly outlines the various chapters in this thesis.

Chapter 2: Key concepts and terms.

Here all the concepts significant to this thesis were comprehensively defined. The definitions were used as a guide in researching intergroup relations in the classroom.

Chapter 3: Contact Hypothesis and Social Identity Theory: An overview and relevance for South African Schooling.

Owing to prejudices and racial divisions within South African society it is necessary to review its social structure by evaluating the relevance of these two theories on intergroup relations. The success and failure of past research using Social Identity Theory and Contact Hypothesis to promote intergroup relations in South African schools are also reviewed in this chapter.

Chapter 4: Cooperative Learning and Intergroup relations.

In reviewing the research done in South Africa on cooperative learning and intergroup relations one is immediately confronted with very little research on this topic. The purpose of this chapter was to establish whether cooperative

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learning would result in positive or negative intergroup relations in the classroom. A review of American research is also presented in this chapter.

Chapter 5: **Research Methodology**.

This chapter provided information on the criteria used to select the sample, the instrumentation used (Social Preference Sociogram, Attitude Questionnaires and Goal Structure Questionnaire) and the statistical analyses used.

Chapter 6: **Results**.

This chapter is based on the empirical data collected by the different research instruments. Statistics and graphs were used to illustrate and explain the effectiveness of the different goal structures in promoting more positive intergroup relations in the classroom.
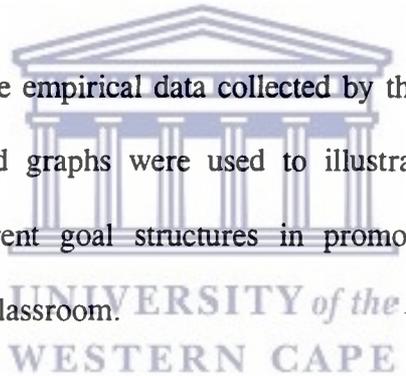
Chapter 7: **Conclusion and Recommendations**.

This chapter focuses on the effectiveness of the various goal structures to improve intergroup relations. This chapter also considered the weaknesses of this study, its implications for education and provides some recommendations for future research.

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Chapter Two

Key Concepts and Terms

Defining the different concepts has specific significance to this thesis. It is a chance to highlight those aspects, which are of special significance to the researcher. The definitions and subsequent elucidation of concepts were used as a guide in researching intergroup relations in the classroom.

2.1 Defining Goal Structures

"A goal structure specifies the type of interdependence among learners as they strive to achieve their instructional objectives through cooperative, competitive or individualized learning" (Johnson, 1979, p. 145).

i. _Individualistic goal structure_

This structure can be characterized as one where individuals (learners) are rewarded based on their own accomplishments regardless of the achievement of others (Slavin, 1983). Johnson (1983) defines an individualistic goal structure as, "no correlation among the goal attainments of learners" (p. 7). Whether the learners accomplish their goals had no influence on whether others achieved theirs. Thus learners seek an outcome that is personally

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beneficial, ignoring as irrelevant the goal achievement efforts of other learners.

ii. *Competitive goal structure*

A competitive goal structure is where goals of different learners are so linked that there is a negative correlation among their goal attainments. Here the learner seeks an outcome that is personally beneficial but is detrimental to others with whom they are linked competitively (Johnson, 1981). Since formal education has been established in South Africa it has been based upon competitiveness (Mboya, 1993). If you are the learner who knows the correct answer and the educator calls on one of the other learners, it is likely that you would sit there hoping the learner would answer incorrectly so that you would have the chance to show the educator how good you are. This message of competition is drummed into learners from nursery school to university as well as in the work place.

A study done by Warring et al. (1985) indicated that when the competitive elements within a mixed situation dominate, inter-ethnic and gender relationships were harmed within the classroom.

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iii. _Cooperative goal structure_

Cooperative learning is more than the physical proximity of learners, discussing a task or helping other learners. It requires that the learning situation be so structured that all the members of a group can only achieve their objectives if the others do likewise (Taylor, 1991). It is therefore evident, that in cooperative learning learners depend on one another for completion of classroom assignments.

Advocates of cooperative learning, claim that this goal structure not only increases inter-ethnic acceptance within the group, but also results in wider friendship networks in the class and improved self-esteem (Johnson et al., 1983; Johnson et al., 1984b; Rogers et al., 1981; Slavin, 1983, 1985; Tshibalo & Schulze, 2000).

Several structured programs of cooperative learning have been developed. They were designed for use at any grade level and in most school subjects. All the cooperative learning strategies are characterized by ethnically mixed groups working together to achieve a collective goal (Slavin, 1983, 1985). Slavin (1980) refers to cooperative learning as Student Team Learning. Student team learning methods consists of other techniques (e.g. Student Team Achievement Division (STAD), Teams-Games Tournaments (TGT)).

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In STADs the educator presents a lesson, and learners then work within their teams on academic tasks. Their objective is to ensure that all team members master the material. In TGTs, the class tests are replaced by tournaments in which learners compete with same-ability members of other teams. Here groups are structured to achieve heterogeneity in terms of ability, gender and ethnicity. These different methods emphasize the use of team goals and team success, which can only be achieved if all members of the team learn the objectives being taught. The following are crucial to all student team learning methods (a) reward, (b) individual accountability, and (c) equal opportunities for success.
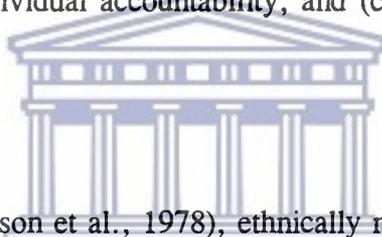
In the Jigsaw method (Aronson et al., 1978), ethnically mixed teams work on academic material that has been divided into sections. Each team member reads only one section of work. The teams then disband, and the learners meet in "expert groups" with others who have been assigned the same section. Working together, they learn the material and then return to their home teams to teach it to their team-mates. The successful completion requires learners to cooperate. The Jigsaw method also includes the improvement of communication and tutoring skills.

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In Jigsaw II (Slavin, 1985), all learners in a team read the entire assignment. They are then assigned a particular topic on which to become an expert. Like STAD, Jigsaw II uses individual class tests and team scores based on individual improvement. One of the most important effects of student team learning and the Jigsaw methods has been the positive impact developing on friendship among learners of different ethnic backgrounds in desegregated classes.

When the Johnsons (1975a) developed their method of cooperative learning they called it Learning Together. It is described as, (a) a group goal, (b) sharing of ideas and material, (c) a division of labour when appropriate, and (d) group rewards. Johnson et al. (1984a) called their method Circles of Learning. Here groups are structured to achieve heterogeneity in terms of ability, gender and ethnicity. Homogeneous groups are occasionally used to master specific skills. These groups also facilitate communication and intergroup cooperation to resolve conflicts constructively. Research done in the United States of America, examining the effects of cooperative learning methods, has generally demonstrated their positive impact on social relationships among learners of different ethnic backgrounds. Slavin (1983) found in eleven of fourteen studies he reviewed that cooperative methods have some positive effect on intergroup relations (mostly black-white relationships).

Research done on intergroup relations in South Africa concentrated on the attitudes and prejudices between the different ethnic and language groups within the community. Thus far only two research papers have been done in South Africa (Du Plooy, 1993; Tshibalo & Schulze, 2000) to compare the effects of cooperative learning on the development and promotion of intergroup relationships and achievement in the classroom (explained in Chapter 4).

iv. <u>Traditional Learning Method</u> (Control Group)

This method is referred to as the chalk-and-talk method. The educator stands in front of the class and delivers the lesson while learners will sit and listen passively in the class. Little or no interaction results between the educator and learners. Since the learners are sitting passively, listening to the educator, no interaction between the learners was allowed in the classroom. Interaction between learners is only permissible on the instruction from the educator. This type of teaching method is also sometimes referred to as "frontal teaching". Here the teacher faces the class frontally while the learners look at the back of each other's head.

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2.2 Defining Intergroup Relations

The assertion that intergroup relations is a topic of fundamental societal importance hardly needs much by way of supportive evidence. We receive daily news bulletins from radio, newspapers and television reporting the continuation or exacerbation of existing intergroup hostilities. Understanding the determinants of intergroup tensions is an important task of social psychologists but in today's educational system educators have also become involved in the search for effective ways of managing and reducing such tensions in the classroom. By gaining the understanding of prejudice, discrimination and conflict, social psychologists and educators can develop ways in which intergroup relations can be improved. Therefore, by defining intergroup relations one goes beyond the concept of interpersonal relations. In this thesis, intergroup relations, is a relationship that develops between the different ethnic groups within the classroom whether successfully or unsuccessfully. Sherif (1966) demonstrated in his study that intergroup relations must consider the attributes of the group and the consequences of affiliation in the group to the individual members. Intergroup behaviour occurs only when members of two groups interact across group boundaries in terms of their group identifications and not if they are simply interacting interpersonally as individuals who happen to be members of a different group.

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According to Turner (1982) interpersonal relations involve personal identity, whereas intergroup relations involve social identity that is defined in terms of group membership. Social identity includes the common attributes of the group and lead members to know both their own group and other groups. South Africa is a society torn by intergroup tension at all levels. This intergroup tension can be reflected in different ways namely, between ethnic groups, managers and workers, male and female, etc.. Reducing intergroup tension can improve intergroup relations, whether cooperative or conflictual forms of relations.
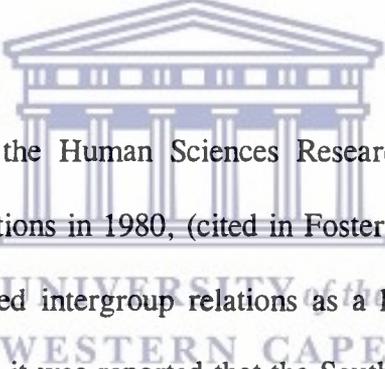
In a survey conducted by the Human Sciences Research Council (HSRC) investigating intergroup relations in 1980, (cited in Foster and Louw-Potgieter (1991)), researchers identified intergroup relations as a key research area in South Africa. In this survey it was reported that the South African community has deep and complex problems among the different ethnic groups. The problems identified by this investigation as being at the root of intergroup tension in South Africa were summarised as follows:

> **These issues concern the elevation and *institutionalisation of ethnicity* and related characteristics to the extreme that the individual is compelled to order his/her life within prescribed**

group contexts, while there are obvious *inequalities* involved in such group allocation and people eventually become *isolated and insulated* from one another. (p. 157)

The Committee (consisting of 350 researchers and members from 15 universities (Foster & Louw-Potgieter, p.82, 1991)) acknowledged that the categories used in the classification of people in South Africa could not be regarded as social "groups" and blamed the categorization of interest groups in terms of forced ethnicity as the major source of conflict in this country. Intergroup relations were seen as contact between members of different population categories and the relationship between attitudes and behaviour. The conclusion of this report was as follows:
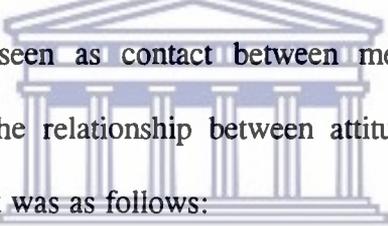
South Africans of different backgrounds experience group relations differently. Although ethnicity is an important factor, many people refuse to identify with ethnic groups because of its statutory institutionalisation. (pp. 97-98)

These two quotes from the HRSC report (1980), (cited in Foster and Louw-Potgieter (1991, p. 82 and 83)) respectively, show that intergroup problems in South Africa always return to the issue of ethnic segregation. Billig (1976)

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suggests that when we are dealing with relationships between groups we are addressing the social structure of society. It is therefore important, that when researching intergroup relations in South Africa we must look at its social structure.

There is little doubt that within the South African context defining intergroup relations is based on ethnicity (Tajfel, 1978). Intergroup relations can be found in many forms; e.g., social class, religious groupings, gender, etc.. In this research the main focus of intergroup relations will be the relationships between black and coloured learners in the classroom, while participating in a specific goal structure.
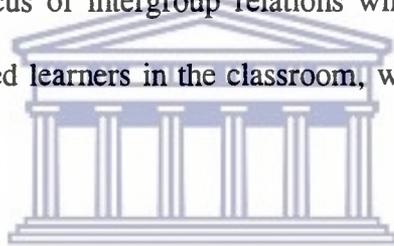
2.3 Defining a Social Structure

Within a classroom there is a network of social relationships. Here learners of one group have the opportunity to interact with other groups and one another. Social structures can therefore be divided into gender, age, nationality, ethnicity, education and religion. A social structure does not only ascertain who interacts with whom but also defines the circumstances for, and influences the content of such interaction (Tallman et al., 1983). Interaction is therefore based on the foundations of loyalty, friendship, pride and mutual aid. In a classroom the social structure is made up of those learners who are "clever",

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"average" or "weak". It can also be based on socio-economic factors (poor, middle class, rich). With regard to contact between different ethnic groups at mixed schools this can result in increased tension between the different ethnic groups.

Getzels and Thelen (1960) have proposed two fundamental structural patterns for the classroom:

(a) <u>nomothetic roles</u>, which are formalized and institutionalised; e.g. peer group norms, academic tasks and the disciplinary rules of the school etc.,

(b) <u>idiographic</u>, these are aspects of structure, which bear on personal dimensions; e.g. characteristics of the educator, which can affect the climate in the classroom.

According to Tajfel (1981), South Africa represents a perfect example where conflict will increase because of the perceived injustice in the social structure. This is based on the perception that existing relationships between groups are unjust with regard to status, power or dominance.

2.4 <u>Defining a Group</u>

Teaching and managing learner behaviour occurs within a classroom in which learners must learn to function successfully with one another. By defining a group, I am emphasizing the importance of the classroom. Johnson and Johnson (1987) defined a group "as two or more individuals who, interact with each other, are independent, define themselves and are defined by others as belonging to a group, share normal concerning matters of common interest and participate in a system of interlocking roles, influence each other, find the group rewarding and pursue common goals" (p. 8).
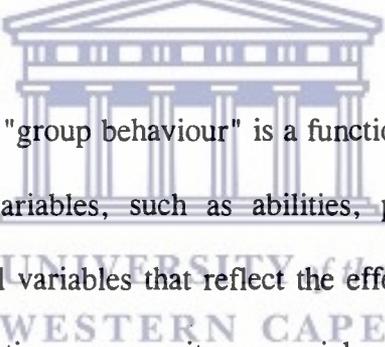
It can also be observed that "group behaviour" is a function of three classes of variables: (a) personal variables, such as abilities, personality traits, or motives; (b) environmental variables that reflect the effects of the immediate location and larger organization, community, or social context in which group action takes place; (c) variables associated with the immediate task or objectives that the group is pursuing (Davis, 1969).

A group can also be described as a collection of interacting individuals (learners) with some degree of shared influence over one another (Schmuck & Schmuck, 1988). This notion of groupness excludes aggregates in mere physical closeness such as persons in a rugby match or in a classroom. A

group also refers to a set of behaviour systems that not only affect each person in the group but respond to exterior influences as well.

A further elucidation of a group can be found in a social setting by describing it as a unit consisting of a number of individuals:

a.   Who, at a given time, stand in status and role relationships with one another;

b.   Who possess, specific or implied, a set of rules or values monitoring the conduct of individual members in matters of importance to the group (Sherif, 1966).
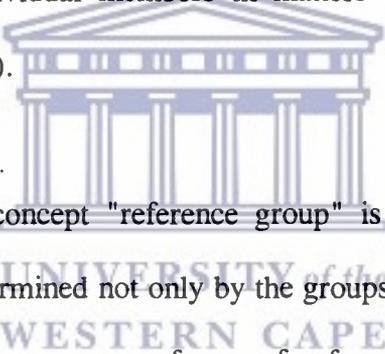
In social psychology the concept "reference group" is used to refer to the behaviour of people as determined not only by the groups they formally belong to, but also by groups they use as a frame of reference (Foster & Louw-Potgieter, 1991). A "reference group" may be any group or groups which individuals use in formulating their character, attitudes, self-image and behavioural characteristics (Schmitt, 1972).

In this thesis, I regarded a group as a set of learners among whom exists an observable set of relationships (e.g. working towards a collective goal [group work]). Because this research took place in a classroom it is also necessary to

define the class as a group. Each experimental class consisted of two groups namely, (1) the peer group, and (2) the individual learners.

As a result of social changes in South Africa, schools have an increased responsibility for helping learners learn behavioural skills that would equip them with useful roles in society (i.e. schools must concern themselves with developing interpersonal skills in their learners and not just academic skills). It is here that the class as a group would improve learners' relationships to classmates, regardless of gender, ethnicity and race. Thus the group to which learners belong, influence behaviour and attitudes.

2.5 Defining the concept ethnicity

It should be remembered that a classroom is made up of a group of learners, each identifying with a specific language, social identity, ideology, religion, culture, and ethnic group.

It is imperative to define this concept ethnicity because the learners in this research were from different ethnic groups, each with their own attitudes, prejudices and stereotypic ideas. The concept "race" can be defined as the outward or phenotypic features of the learners so that they can be classified into a specific racial group. The concept of "race" could also be viewed as a

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social construction and an ideological process (Foster, 1991, 1997; Daniels, 1998). In South Africa the physical appearances of people have consequences for social relationships, while economic exploitation of people was based on an ideological process defined in racial terms.

Race and racist views have been promoted in South Africa for the upliftment of whites. The turning point came in 1976 when black learners in Soweto and other parts of the country resisted the teachings of apartheid education. Coloured and Indian learners also supported the Soweto riots of 1976 against apartheid education. Since 1976 the number of private schools admitting black, coloured and Indian learners increased. Social upliftment programmes and recreational facilities in the townships did not exist or were instituted on a very small scale.
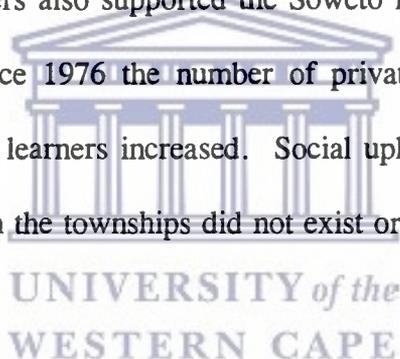
Given the dominance of race as an organising feature of South African society as well as its educational system it is not surprising that racial attitudes and racial stereotypes became part of the classroom. Providing learners with opportunities to interact and get to know one another in the classroom reduces the tendency to judge a peer in terms of race (Grant & Sleeter, 1988).

For this research the term ethnicity is more acceptable than the term "race" as ethnicity refers to the characteristics of the group or an individual who differs physically, nationally, culturally, linguistically, religiously, or ideologically from one another.

A survey conducted by the HSRC into Intergroup relations in 1980 found that ethnicity was an impossible category for determining group boundaries. However the report describes South Africa as a:
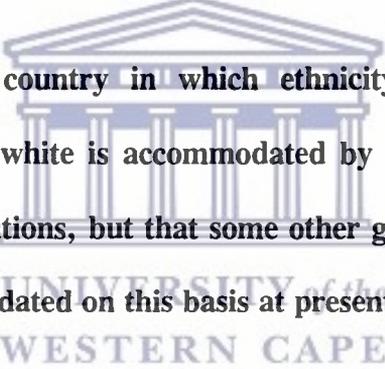
"...... **multi-ethnic country in which ethnicity under the Afrikaans-speaking white is accommodated by the policy of formal group institutions, but that some other groups do not wish to be accommodated on this basis at present. (p. 63)**

After Second World War countries began to move away from racist suppositions and began to abandon racial discrimination while in South Africa a racist way of thinking became entrenched. However, South Africa was not insensitive to these shifts and Sharp (1988) pointed out that the use of the term ethnicity avoided the opprobrium associated with race (Foster & Louw-Potgieter, 1991).

2.6 Defining the concept mixed schools

After the educational upheaval of 1985 and subsequent years, certain white schools were opened to all ethnic groups in 1990. These schools were officially known as Model C schools. A Model C school could be defined as a "mixed school" (where the white parent body gave permission for other ethnic groups to attend the school) with a number of black, coloured and Indian learners at an existing white school. In these schools the black, coloured and Indian learners were expected to conform to the ways of the white learner (Mboya, 1993).
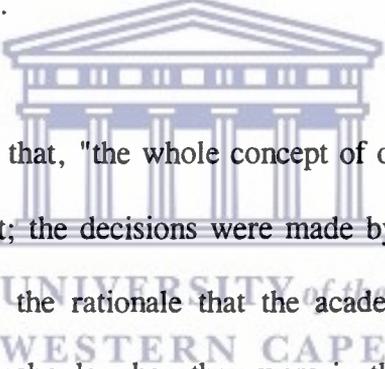
Mboya (1993) also inferred that, "the whole concept of open schools (former Model C schools) was racist; the decisions were made by white parents, and the whole concept espouses the rationale that the academic performance of Black children improved in schools when they were in the presence of white teachers and white children" (pp. 61-62). In this thesis a mixed school (principals allowed learners of other ethnic groups to attend their schools without the permission of the parent body) is a school where the learner population (black, coloured, Indian) is integrated in the classroom. Since 1994 education has been desegregated but schools have moved slowly in becoming fully integrated. To complete this research successfully, the school and the classroom had to be ethnically mixed (see Chapter 5).

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Chapter Three

Contact Hypothesis and Social Identity Theory: An overview and relevance for South African Schooling

South Africa is noted for its racial divisions as well as for its class, gender, language and political cleavages. In South Africa, the problem of intergroup relations and conflict was based on the "black" problem (Mboya, 1993). Ethnic desegregation in South Africa, particularly in school settings have not been extensively researched and this is a new area of research. The research on intergroup relations in South Africa, (Bornman, 1988; Daniels, 1998; Du Plooy, 1993; Foster & Finchilescu, 1986; Tshibalo & Schulze, 2000), such as prejudice and discrimination, followed Allport's theory where the causes were located within the individual (e.g., aggression, personality traits, etc.).

In South Africa, ethnicity, gender, class, religion and language were some important criteria of classification in our communities (Foster & Louw-Potgieter, 1991). Tajfel's Social Identity Theory (SIT) has attracted the

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interest of some researchers in South Africa (Du Preez, 1987; Foster & Finchilescu, 1985) because of social categorization.

Because this research took into account the relationship between learners and learner groups in the classroom I decided for a more social approach to the study of intergroup relations. Hence the choice of Tajfel's Social Identity Theory (1978) and Allport's Contact Hypothesis, the latter revised by Cook (1978), and further elucidated by Brewer and Miller (1996) and Hewstone and Brown (1986).
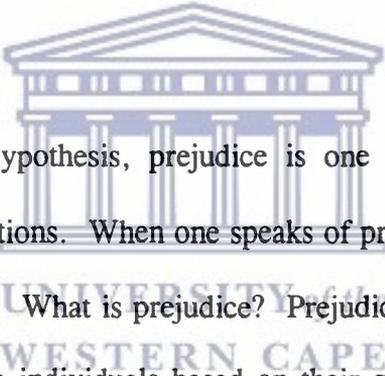
In SIT and the Contact Hypothesis, prejudice is one of many causes for deteriorating intergroup relations. When one speaks of prejudice, one is likely to think of "race prejudice". What is prejudice? Prejudices are privately held attitudes by which we judge individuals based on their group membership or their ethnicity (Kimble, 1990). Prejudice is therefore a negative evaluation of an individual based on a single characteristic of the individual, defined by the beholder. It is prejudgemental in that such an attitude exists before knowing anything about the individual to whom it is applied. Prejudice and persecution have often rested on religion but other examples do exist, e.g. persecution of the Jews during World War II, enslavement of African-Americans for

economic gain, development of a super race, etc.. This rationale took a racial form. Racial inferiority now became a justification for prejudice and had the stamp of biological finality (Erlich, 1977; Tobias, 1985).

Because of the quarrelsome and hostile nature of humans one must expect conflict and tensions to flourish. Any observer of children, (e.g. educators, parents, ministers of religion, etc.) know that in the formative years it is difficult to teach or encourage children to compete with one another. It could readily be said that friendship needs seem more important in children than malice. Within the South African context many children were denied basic human rights such as education, health care and the freedom to mix freely. This increased frustration thereby intensifying prejudice. In this thesis I adopted the position that prejudice is the apparent cause or even the most important cause to undermine learner intergroup relations in the classroom. It is also true that any negative attitude tend to express itself somewhere or somehow in our actions. I will explain prejudice as a determinant of intergroup relations and will review some research (Du Plooy, 1993; Foster & Finchilescu, 1985; Lever, 1976; Luiz & Krige, 1985).

3.1 *Acquiring Prejudice*

Where prejudiced attitudes have become widespread, especially in a society like South Africa, it seems inevitable that the learner would begin to assimilate these attitudes. Socialising vehicles that would encourage the acquiring of prejudice are parents, peers, educators and the school, literature and the media.

Brewer and Miller (1984) found 39 studies that examined the effects of inter-ethnic curricula on prejudice. Of these studies 24 found that educational material can reduce prejudice, 14 had no effect on prejudice and one study showed an increase in prejudice. A study by Slavin and Madden (1979) of 51 high schools found that the use of multi-ethnic curricula reduced the levels of prejudice for white but not for black learners. To develop successful educational programmes at schools to reduce prejudices and stereotypes the curricula should comprise both group similarities and differences. These differences should be presented in a non-evaluative manner so as not to offend learners.

On the other hand, conformity with the home atmosphere is another important source of prejudice in learners. This does not mean that the learner grows up

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to be a mirror image of their parents' attitudes. But, since the home and exposure to propaganda (TV and radio) are the earliest sources of prejudice, schools seldom countermand parental teachings and the media. Another important fact is that educators are themselves not free from prejudice.

Given the prejudicial bent of some learners, the potential for hostile intergroup feelings between subgroups of learners from different backgrounds in the classroom, and the educator's own prejudice, the educator is now confronted with a mammoth task in trying to significantly change this situation (Gerard, 1983). To promote intergroup understanding, knowledge regarding group differences must be presented in a way that shows respect to the culture of all groups in the classroom. Furthermore the explanation of differences alone is not sufficient to reduce prejudice.

According to Weigel and Howes (1985), there are several reasons for concluding that prejudice exerts an influence on individual behaviour that results in tendencies to avoid interracial contact, namely:

a.   Attitudes can be used to determine the overall pattern of behaviours exhibited towards someone.

b.   Reactions towards interracial contacts.

c.   The prejudiced person is especially ignorant about the way outgroup members behave and the way ingroup members should behave toward them, an ignorance that intensifies anxiety at the prospect of contact.

d.   Preference of maintaining social distances, as well as excluding blacks from groups.

Furthermore, ethnic prejudice may be felt or it could be directed towards a group, or towards an individual because of one's particular group (Allport, 1954). It is also true that any negative attitude tends to express itself somewhere or somehow in our actions. Few people keep their prejudices to themselves.
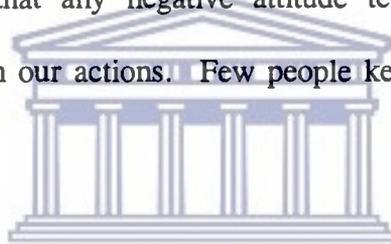
Studies conducted in South Africa on language prejudice were mostly comparisons between English and Afrikaans-speaking white learners. Despite different mother tongues, white learners share a common Western European culture. They experience similar social, economic and political conditions. Despite these important similarities, empirical studies have shown English speakers to be substantially lower in racial prejudice (Hampel & Krupp, 1977; Kinloch, 1985; Mynhardt, 1980; Nieuwoudt & Nel, 1975; Ray, 1980, Sennett & Foster, 1996). These studies show that when whites (Afrikaans- or

English-speakers) experienced social change particularly economic decline, racial prejudice increased, while if their economic situation improved their racial prejudice deceased (Foster & Louw-Potgieter, 1991).

3.2 *Prejudice and Intergroup Contact*

In reading the research on intergroup relations, one can conclude that contact between members of different ethnic groups are more effective in changing behaviour and attitudes than persuasive communication (forced integration between groups).   Brown (1995) defines prejudice as "the holding of derogatory social attitudes or cognitive beliefs, the expression of negative affect, or the display of hostile or discriminatory behaviour toward members of a group on account of their membership to that group" (p. 8).   Prejudice, as perceived by the researcher, could also be defined as an inaccurate judgement held about the members of a specific group, be it a negative judgement, emotion or behaviour.

Within this judgemental pretext, certain learners within a class could be labelled as either inferior or learning disabled. Therefore, by simply placing black and white learners in the same class may be a necessary condition in promoting positive relationships, but it may not be a sufficient condition.

Intergroup contact in these situations has been studied extensively in desegregated school settings (Hallinan & Teixeira, 1987; Hallinan & Williams, 1989; Hansell, 1984; Sagar et al., 1983). These studies have found that contact between the different groups in the classroom has generally led to a reduction of prejudice.

Under the right circumstances direct interpersonal contact between two antagonistic groups can result in a reduction of intergroup attitudes. Miller and Brewer (1984) suggest that intergroup contact will be maximally successful when the interaction is intimate.

I will now assess SIT and Contact Hypothesis theories with reference to the school environment.

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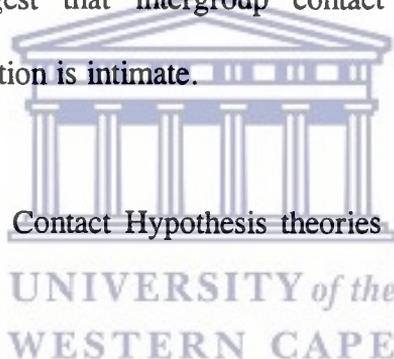
3.3 *Social Identity Theory (SIT)*

Before SIT is elucidated let me explain the term social identity. This term was used and defined by Tajfel (1972) as an "individual's knowledge of his or her membership in various social groups together with the emotional significance of knowledge", while Turner (1982) defined social identity as "the sum total of a person's social identifications where the latter represent specific social categorizations internalised to become a cognitive component of the self-concept" (Turner & Giles, 1995, p. 24). A basic assumption of SIT is that social identities have an evaluative component that is perceived as either positive or negative (Foster & Louw-Potgieter, 1991). Tajfel and Turner (1986) later revised social identity as those aspects of an individual's self image that derive from the social categories to which he/she perceives himself/herself to belong. They further assume that people generally have a preference for seeing themselves positively rather than negatively.

When learners walk into a classroom they might see themselves as being different to the rest of the class. To distinguish themselves from the rest of the class, learners categorize themselves as male or female, "black", "coloured" or Indian, older or younger or use other categories based on language or class. This, Tajfel (1978b) argues, forms part of a process known as categorical

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differentiation. By reviewing SIT, I hope to explain how the learner becomes part of a learner group and how a learner group will influence the learner's self-concept.

Social identity theory embodies the coming together of two independent theories, namely social categorization (Tajfel, 1969, 1978b; Wilder, 1978) and social comparison (Lemaine, 1974) in the research of intergroup attitudes and behaviour. Social identity theory has also been identified as the spearhead of an attack on individualism in social psychology (Hogg & Abrams, 1988). This theory also shows that the individual's personal identity is highly differentiated and found in specific social categories based on affiliation.

According to Tajfel (1978b) a fundamental result of group affiliation is its depersonalization of outgroup members. As a result of this, the social behaviour of individuals in these conditions can be identified by a tendency to approve individual outgroup members as undifferentiated objects. Social behaviour can also be categorized by individual differences that may remain within the groups, separated by any personal friendships that may be found between individuals of the ingroup and outgroup during different conditions. This type of social behaviour encourages intergroup discrimination as

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members of each group attempt to establish differing forms of group distinctiveness.

This competitive process not only creates a depersona-

lized view of outgroup members but also leads to

relatively homogeneous, undifferentiated perceptions

of one another on the part of ingroup members.

(Brown & Turner, 1981, p. 39)

Another important fact about SIT is that it incorporates both perceptual and motivational components. The realization or perception of group distinctiveness is not enough to account for far-reaching prejudices in ingroup and outgroup evaluations. Brewer (1979) states that motivational factors combined with the urge for social comparison and positive self-identity must be invoked to clarify the discriminating character of intergroup comparisons and the prevalence of ingroup nepotism.

SIT also provides a link between psychological and societal interpretations for prejudice and discrimination. Category-based identity, according to Tajfel (1978b), as found in South Africa is based on the reality of intergroup tension

at societal level. Since SIT deals with similar relationships between organizational characteristics of the social milieu it also provides a functional framework for the study of intergroup contact and its consequences (Brewer & Miller, 1984). When social category membership is decided the likelihood will be high that at least one hint to category identity will be applicable in almost any social circumstance. This could be language that could create differences in education, life style and other related social distinctions. This was and might still be very relevant in South African society today.
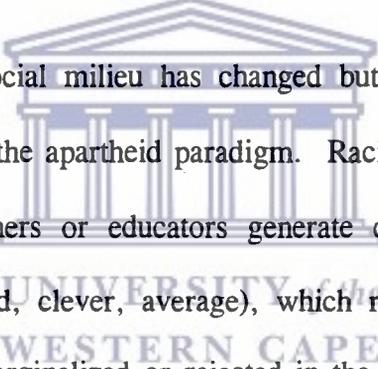
Within South Africa the social milieu has changed but perceptions of the individual is still related to the apartheid paradigm. Racial discrimination or subtle expressions by learners or educators generate category boundaries within the class (e.g. stupid, clever, average), which resulted in outgroup learners being neglected, marginalized or rejected in the class (refer Chapter 6). Since 1994 the segregation policies of the previous government in South Africa was replaced by a policy of non-racialism. With the acceptance of the South African School's Act of 1996 schools became desegregated in de jure terms, but schools are today still de facto category-based (e.g. township schools, ex-Model C schools, private schools, public schools, etc.). These stigmatise schools as having either better or poor facilities or lower or higher

learner-educator ratios or higher or lower standards. The undercurrents of intergroup tensions (gansterism, racial, or religious) in these schools can also affect intergroup relations.

When desegregation of schools in the USA was achieved by means of bussing, differences that were rooted in pre-existing ethnic and racial identity became linked with other situationally determined differences. These differences were distance and mode of transport to and from school and socio-economic status that contributed significantly to category distinction (Brewer & Miller, 1984).
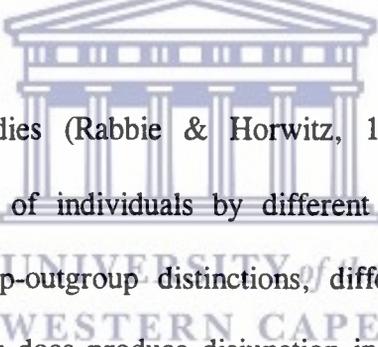
Results of laboratory studies (Rabbie & Horwitz, 1969) indicated that, although mere assignment of individuals by different group labels is not sufficient to create ingroup-outgroup distinctions, differential treatment of groups by the experimenter does produce disjunction in perceptions of own-versus other-group members. Experiments with the minimal intergroup situation (Brewer, 1979; Tajfel, 1970) attest to the powerful impact that perception by external authorities can have on the formation of subjective group-identity on the part of those who are grouped together as a category.

Tajfel (1978a) discusses some ways in which social stratifications may present itself:

> *We can distinguish "a priori" between several major sets of social psychological attributes of these stratifications which are likely to determine different forms of social behaviour relating to them. The first consists of the consensus in all the groups involved that the criteria for the stratification are both legitimate and static (i.e., incapable of being changed). The second consists of the consensus existing (or developing) in one or more groups that the criteria are neither legitimate nor incapable of change. The third arises when one or more groups believe that the criteria are illegitimate but unchangeable (because of e.g., drastic differences in power between the groups). And the fourth when they are believed to be legitimate but unstable (i.e., capable of change). (pp. 51-52)*

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Three main variables emerge from the quoted text above which also plays a major role in Social Identity Theory, namely status, legitimacy and stability. All three are related to the structure and the relationship between any two groups as perceived by the group members. Tajfel uses the term "stability" to refer to the stability of the status differences between groups and to the rigidity, as opposed to the permeability, of the intergroup boundaries. It is possible to make changes in the status position of groups without any implication to the boundaries between the groups. Increasing the permeability of intergroup boundaries would seem to encourage individuals to adopt a social mobility system of beliefs. Permeability may thus legitimize a social system containing inequalities of status, and can contribute to its stability. Brown (1995) also noticed that stratification of members with their ingroup was also correlated with status.
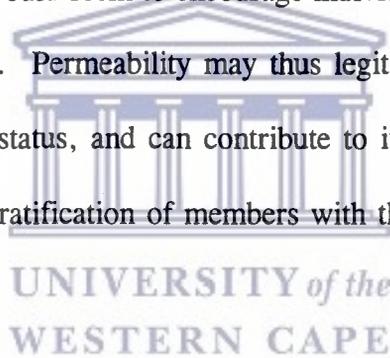
In his research, Brown (1995) identified three status positions:

1.   The higher-status group may merely seek a restatement of their socially defined superiority.

2.   The equal-status group may be tempted to achieve positive distinctiveness.

3.	In the low-status group members would seem to have an unenviable negative social identity.

A response to this type of situation is for members belonging to these groups to abandon their present social identity or categorization. Brown (1995) refers to the spirit of "if you can't beat 'em, join 'em" (p. 180). These members may also seek to leave their ingroup and join another more prestigious group. This occurs constantly in the political arena where party members switch alliances from one political party to another to increase their standing (status) in the community or for political expediency.

The effects of minority-majority representation tend to interact with differences in group status to determine the extent to which category differentiation is important. Moscovici and Paicheler (1978) expound this even further when referring to majority and minority groups and how they will react when group status differences are important. To these researchers majority groups with an insecure or negative self-image and minority groups with a positive self-image have been found to display the greatest degree of discrimination against outgroups, whereas majority groups with secure positive self-image and minority groups with negative self-image show relatively little discrimination.

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One of the most important aspects of Tajfel's theory is the assumed dependence of a person's social identity or self-evaluation on processes of social comparison. It is through such comparisons that one acquires a better or worse image of oneself by virtue of one's membership:

The characteristics of one's group as a whole (such as its status, its richness or poverty, its skin colour or its ability to reach its aims) achieve more of their significance in relation to perceived differences from other groups and the value connotation of these differences. (Tajfel, 1978b, p. 66)

Seen from the intergroup perspective of social identity, social categorization can therefore be considered as a system of orientation that helps to define the individual's place in society or within a group. Festinger's Theory of Social Comparison is highly relevant to Tajfel's (1978b) statement above. In his theory of social comparison, Festinger (1954) hypothesized that "there exists, in the human organism, a drive to evaluate one's opinions and one's abilities" (Tajfel, 1978b, p. 64). This theory primarily addressed the within-group effects of the process of social comparison and Tajfel was aware of this. Although Festinger was aware of the shortcomings of his theory, his argument

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was focused on individuals comparing themselves with other individuals. Brewer and Miller (1996) described that:

SIT provides an alternate account of group formation and social influence (Turner, 1991). As originally articulated by Tajfel and Turner (Tajfel, 1981; Turner, 1984; Tajfel & Turner, (1986), social identity theory was largely a response to the prevailing interpersonal models of group formation, such as social comparison theory (Hogg, 1992). (p. 41)

In addition to structural features of the environment, certain characteristics of an individual may also affect the salience of particular category identities across a wide range of social togetherness. For example, in a given situation individuals may be more inclined to define themselves in terms of a category identity that makes them more distinctive in a setting or if an individual's gender, ethnicity, or physical features are distinctive in a given social environment. This aspect of the self will be particularly important and most likely mentioned in spontaneous self-descriptions (McGuire & Padawer-Singer, 1976; McGuire et al., 1978).

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The success of social interaction rests on the capacity for group identity to override its individual self-interest. In situations in which group outcomes are highly interdependent (e.g., in the classroom) an emphasis on intergroup distinctions introduces dysfunctional social competition and out-group rejection, marginalization and neglect that interferes with collective action and interpersonal acceptance. It is the assumption of Brewer and Miller (1984), that the intended goal of desegregation is not simply to redistribute members of different social categories but to promote intergroup acceptance and to reduce the role that category membership plays in creating barriers to individual social mobility and to develop positive interpersonal relationships.

The effects of categorization on social interaction will be reduced successfully when:

a.   "The nature of the interaction in the contact situation promotes an interpersonal orientation rather than a task orientation to fellow participants", and

b.   "The basis for assignment of roles, status, social functions, and subgroup composition in the situation is perceived to be category-independent rather than category-related" (Brewer & Miller, 1984, pp. 290- 291). This is why heterogeneous groups are so important to

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cooperative learning structures (Johnson & Johnson, 1985; Sharan, 1990; Slavin, 1983).

Eiser (1986) summarises Tajfel's theory as follows:

... that individuals will tend to engage in intergroup comparisons which are seen as likely to make a positive contribution to their social identity (self-evaluation as group members), and will tend to avoid intergroup comparisons which are seen as likely to make a negative contribution. (pp. 320-321)

Researchers such as Rabbie and Horwitz (1988) and Rabbie et al. (1989) criticized Tajfel's social identity theory for failing to recognize mutual dependence among individuals within a socially defined group. Rabbie et al. (1989) perceives social identity as a culmination of each individual's outcomes comparable to the outcomes of others. If the outcomes are beneficial this elicits improved relationships among individuals while confrontation and discrimination is kindled where the outcomes are unfavourable.

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Another researcher, Brown (1995), cites four critical problems of Social Identity Theory. The first concerns the causal connection between intergroup discrimination and self-esteem. Abrams and Hogg (1990) show clear evidence "that people show discrimination in order to raise their self-esteem because a positive self-concept is generally preferred", or, it could be that "prior low self-esteem (belonging to a low-status or stigmatised group) causes intergroup discrimination in order to raise status to `normal' levels" (in Brown, 1995, p. 186).

The second concerns the biased intergroup evaluations and decisions that are motivated by this theory to presume "a positive correlation between the strength of people's group identification and their levels of ingroup bias" (Brown, 1995, p. 187). Researching the above, Hinkle and Brown (1990) provided proof that biased intergroup evaluations proved to be incorrect and uncorrelated. This only occurred in groups engaging in intergroup comparisons.

The third concerns the unexpected effects of intergroup similarity. Here individuals with a specific group see themselves as part of a larger group and not as a separate group with their own traditions, religion or culture. This was

clearly witnessed when South Africa won the rugby world cup in 1995.

The fourth concern is the measures of ingroup bias. This problem is seen as the most significant. The question is how these biases are measured since SIT specifies a need for a positive and a well-defined identity. This can be done by either "evaluative judgements or reward allocations" (Brown, 1995, p.188). Researchers studying ingroup biases (Brewer, 1979; Brown, 1984; Struch & Schwartz, 1989 & Turner, 1981) found that evaluative opinions did not normally compare with sentiments of like or dislike for outgroup members.
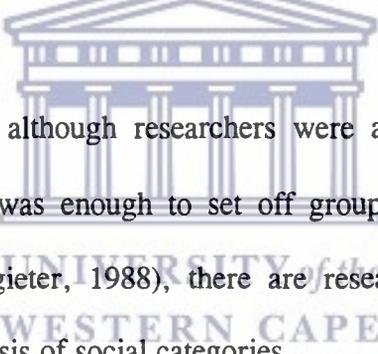
A fifth concern was that although researchers were able to show that the process of categorisation was enough to set off group differences and bias (Cairns, 1982; Louw-Potgieter, 1988), there are researchers (Billig, 1976) who criticise SIT on the basis of social categories.

In this brief review of literature on SIT, I have demonstrated that the consequences of category-based interactions are de-individuation and depersonalisation of outgroup members. To successfully eliminate category-based interactions the outgroup or members of the outgroup must override their individual or group interest.

3.4 *Studies on Social Identity Theory in S.A.*

Interaction between learners of different ethnic groups is often grouped or category oriented. Learners are always aware of the associations with particular categories. According to Mboya (1993) this causes tension between groups and has the potential to result in conflict.

Within the social context of school, learners can be socially categorized by their mother tongue. In South Africa where we have a unique situation of having eleven official languages, many learners have become bilingual or multilingual. A study by Voster and Proctor (1976) among Xhosa-speakers was intended to rate four tape-recorded voices speaking in English and in Afrikaans. This study concluded that Xhosa-speakers were strongly in favour of English and rated English speaking South Africans as more likeable, sociable, kinder, better looking than their Afrikaans-speaking counterparts. Lobban (1975) did a study with 51 black matric (grade 12) learners near Johannesburg. In this study the learners rated Afrikaans-speakers consistently low compared to English-speaking whites.

Another area of research is reflected in the debate of intergroup relations between ethnicity and class. A South African sociologist, Henry Lever, wrote

and researched a great deal on racial attitudes in numerous studies (1968; 1972 and 1976), regarded this theme as a major source of conflict in South Africa. A more comprehensive study of his research can be found in his book, South African Society, (1978) which deals with black attitudes and viewpoints towards whites. The Theron Commission of Inquiry (1976) completed one of the most important research studies on the "coloured" community. The research included social distance scales and other questions trying to establish whether "coloureds" would side with whites or blacks.

During 1976 black learners in Soweto protested against the use of Afrikaans as a medium of instruction in their schools. This resulted in the disappearance of Afrikaans as a medium of instruction from black schools but also highlighted Afrikaans as the language of the oppressor. A study by Groenewald and Heaven (1977) during the Soweto riots of 1976 among sociology undergraduates at the University of Potchefstroom found that there were prejudicial and attitudinal differences between English and Afrikaans undergraduates.

Secondly, Sennett and Foster (1996) did a repetition of a study by Morse, Mann and Nel (1977) to investigate if white English-speaking South Africans

historically exhibited a weak attachment to South Africa and their own ethnic group. This study also explored the possibility that this situation might be changing as a result of South Africa's changing transformation and whether social identity salience was increasing for this particular group. The participants of this study were undergraduate students (119 English-speakers from the University of Cape Town and 67 Afrikaans-speakers from the University of Stellenbosch). The results demonstrated that English-speaking participants experience greater acceptance of their national and ethnic identities (Morse et al., 1977).
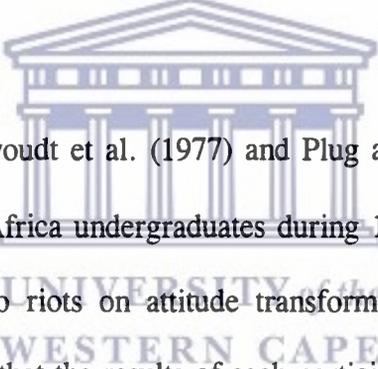
Studies conducted by Niewoudt et al. (1977) and Plug and Niewoudt, (1983) with University of South Africa undergraduates during 1973 and 1978 before and after the 1976 Soweto riots on attitude transformation generated three important findings: firstly, that the results of each participant tested every year were virtually constant; secondly, that in terms of prejudice, there were differences between English and Afrikaans speakers; thirdly, that more disapproving attitudes were shown toward blacks after the 1976 Soweto riots while a more approving attitude was shown to Indians by both white Afrikaans and English speakers (Foster & Louw-Pogieter, 1991). Within an ethnically mixed classroom there might be learners belonging to a common social identity

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and inside these groups learners will conform their actions in line with the leader or elected representative. It might be between these groups where intergroup tension can occur.

3.5 *Allport's Contact Hypothesis*

The Contact Hypothesis posits that the learner's behaviour and attitude toward learners who are disliked will become positive after direct interpersonal interaction. Brown (1995) describes Contact Hypothesis as "a way to reduce tension and hostility between groups by bringing them into contact with each other in various ways" (p. 236). The idea that contact between members of different groups will improve relations between them has resulted in social policy such as racial integration of housing and education and the promotion of international sport and cultural exchanges (Amir, 1969). The most prominent contact theorists have been Allport (1954), Cook (1962, 1978) and Pettigrew (1971).

A major focus of contact research has been on integrated schools. Some of this research, particularly on the effects of school desegregation in the United States of America, suggests that integration has not always had the hoped-for effects on ethnic relations. The reason for this is that desegregation has

seldom met all the four conditions for successful contact of which two will be discussed in this thesis. In South Africa school desegregation occurs in an environmental context that fails to meet the criteria that Allport (1954) delineates, namely that the school environment fosters more competitive or individualistic interactions than contact situations where white and black learners do not share equal status, and where cooperative and intimate relations are opposed for superficial contact. Cook (1962, 1978) puts more emphasis on the need for contact to involve intimate rather than merely casual personal relationships, while Pettigrew (1971) emphasizes a more personal basis for his contact hypothesis.
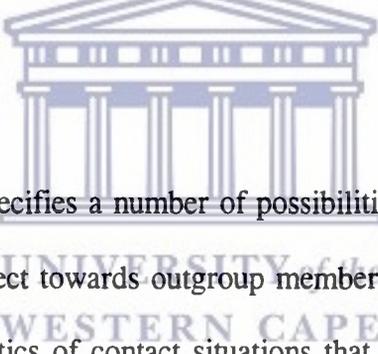
The Contact Hypothesis specifies a number of possibilities that will lead to an increase in liking and respect towards outgroup members. These possibilities involve various characteristics of contact situations that will affect intergroup interactions. These are; (1) equal status within the contact situation and (2) cooperation in achieving goals.

3.5.1 Equal status contact

Foster and Louw-Potgieter (1991) defines equal status contact as follows: "... where individuals become better acquainted within the contact situation they

come to realise that they differ less in respect to opinions and beliefs" (p. 276).

This assumption that equal status contact normally leads to attitude improvements is not entirely valid (Amir, 1976; Gerard, 1983). This was further elucidated in Cohen's (1982) study on interracial interaction in school settings and Rogers et al.'s (1977) study which demonstrates that pre-existing status differentials between groups tend to carry over into new situations, making equal status interaction difficult or impossible. When status differences are eliminated within the contact setting it may make category distinctions less salient. One of the problems regarding interpersonal contact is that there are always individuals who confirm negative categories. Allport (1954) suggests that to overcome or reduce these category attitudes, contact must occur on an equal status basis. A study, in which the importance of equal status within the contact situation was emphasised, is that of Mann (1959). Mann made use of 13 equal status groups, each comprising six persons, and found that contact significantly reduced the use of race as a friendship criterion (Foster & Louw-Potgieter, 1991).

Research done by Clore et al. (1978) found that white and black females exhibited attitude improvements after an equal status contact while on the other hand a study by Amir et al. (1973) found that equal status contact is not always

successful in friendship choices.

In a laboratory study of status-differential effects, Norvell and Worchel (1981) found that participants uniformly thought that giving one group a status advantage within the experimental session was unfair, although it did lead to increased intergroup acceptance if it was perceived as compensation for past inequity. True and equal status contact is difficult to attain because of the prejudice of minority and majority groups. Robinson and Preston (1976) found contact to be more effective in reducing prejudice of the majority group than that of the minority group. These results were also obtained in a study conducted in South Africa by Bornman (1988). Within the South African context equal status contact is difficult if not impractical because of the legacy of apartheid. Seven years since 1994 South Africa is still struggling with domination (employers and employees), unequal status, absence of cooperation that allows little opportunity for personalized or intimate relations. This is described by McDermott and Gospodinoff (1981):

Our problem is not that people are different, but that the differences are made to make more of a difference than they must, that the differences are polarised into borders that

define different kinds of people as antagonists in various realms of everyday life. (p. 216)

Theoretical distinctions with regard to status equality are pertinent to the South African situation. Researchers such as McClendon (1974) and Riordan (1978) drew a distinction between equal status within the contact situation and equal status outside the contact situation. Pettigrew et al. (1973) argue that contact hypothesis places special emphasis on status equality within the contact encounter while Riordan (1978) regards the status equality as problematic and doubts whether equality within-situation conditions are ever satisfactorily met. This is particularly germane to South Africa where socially structured status differentials (separate but equal) played such a significant role.

To overcome earlier status (high or low), according to SIT, would require the introduction of positive social identity to lessen category-orientated affiliation. Brewer and Miller (1984) allude to the following about status, " by simply eliminating status differences within an interpersonal contact setting runs the risk of arousing social competition aimed at re-establishing pre-existing status differences, especially on the part of the high status group" (p. 292).

3.5.2 Cooperative interdependence

In considering the effects of cooperation on intergroup acceptance, it is important to distinguish between cooperation as a goal structure (i.e. rewards delivered to the group rather than the individual and cooperation as a condition of interaction (i.e. a joint effort). In this thesis cooperation is used as a condition of interaction.

A review of the research indicates that the introduction of a cooperative intergroup reward structure is not sufficient to eliminate ingroup bias or intergroup social competition (Brewer, 1979; Johnson et al., 1983; Warring et al., 1985). Sherif et al. (1961) and Worchel et al. (1977) found that cooperative task interaction reduced hostility between members of cooperating social categories while Worchel and Norvell (1980) found that cooperative task interaction increased intergroup friendships.

In reading the research on intergroup relations contact between learners of different ethnic groups are more effective in changing behaviour and attitudes than persuasive communication (forced integrations between ethnic groups). This is illustrated in a study by Sherif (1966), when two groups of school boys worked together for the achievement of a common goal which neither group

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could have achieved separately. Although this experiment was successful, Billig (1976) and Tajfel (1978b) criticized the methods of Sherif. They argued that when the superordinate goals were introduced the conflict between the groups were over. The success of Sherif's experiment was that not only was there contact between the two groups but also the fusing of the groups in the performance of the superordinate goal (pushing the food truck up the hill).

Like equal status, cooperative goals provide an opportunity for reducing the salience of category membership as an important aspect of individual identity. These are only a few conclusions that can be drawn from the research on contact hypothesis. According to Brewer and Miller (1996):
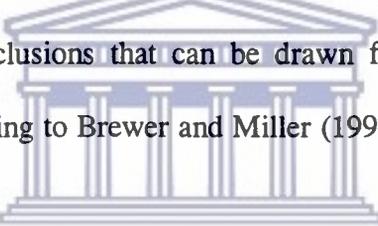
> *Reviews of the effectiveness of implementing cooperative learning strategies indicate that group learning is associated with increases in liking for classmates, increased cross-ethnic interactions, and generalized reduction in ethnic prejudice (Sharan, 1980; Johnson, 1981; Slavin, 1985). As Slavin (1985, p. 60) expounds, "thirty years after Allport laid out the basic principles, we finally have practical, proven methods for implementing contact theory in the desegregated classroom.*

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These methods are effective for increasing learner achievement as well as improving intergroup relations" (p. 116).

Further evidence can be found in Chapter 4, from researchers such as Bornman (1988), Du Plooy (1993), Johnson et al. (1983), Slavin (1991, 1995) and Taylor (1989a, 1989b, 1989c) who invariably indicated that cooperative learning experiences can enhance academic achievement and cognitive growth and promote improved self-esteem and inter-ethnic relations of learners in the classroom.

A constant problem in research evaluating the Contact Hypothesis has been how to promote positive attitudes toward individuals. Three recent models have attempted to address this issue:

1. The model of Brewer and Miller (1984) is rooted in the idea that contact is effective in reducing inter-ethnic tension. A criticism of this model is that outgroup members or minority members loose their identity when they become assimilated. Because of the assimilationist policy, tensions and prejudices will remain if consensus in the group is

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not maintained or the concern of the group is not safeguarded. Brown (1995) argues, " that during contact the boundaries between groups (*outgroup and ingroup*) should be made less rigid, ultimately to dissolve altogether" (p. 260). These groups would now, as mentioned earlier, loose their identity and interact on an interpersonal level leading to a condition of decategorization. Researchers supporting this model are Betterncourt et al. (1992), Desforges et al. (1991), Johnston and Hewstone (1992), and Miller et al. (1985).

2. The recatergorization model of Gaertner et al. (1993) is based on the same initial assumptions as that of Brewer and Miller (1984). Gaertner's (1993) model differs in that ingroup bias is difficult to overcome when group (ingroup and outgroup) differences are highly structured. In the previous model depersonalisation of groups take place while in this model members from the different groups regain their individualism (recategorized) so that intergroup relations can be successful. Gaertner et al. (1989, 1990, 1993), as cited in Brewer and Miller (1996), "suggests structuring the contact situation so as to focus attention on super-ordinate category identification ... representation. ... When such a super-ordinate category is made salient, group members

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are more likely to think of themselves as "one unit", rather than two separate groups" (pp. 123-124). This can be illustrated in a multi-ethnic soccer or rugby team. Here the goal of the team is important while the ethnic composition is irrelevant.

3. In this model researchers have developed a different approach on how to promote positive intergroup relations toward individuals coming from different groups. Hewstone and Brown (1986) allude to the Categorization model, while Brewer and Miller (1996) refers to the Subcategorization model. These models require members to have a positive individual identity to improve intergroup relations. "In order to promote positive intergroup relations, Hewstone and Brown (1986) recommend that the contact situation be structured so that members of the respective groups have distinct but complementary roles to contribute toward achieving common goals" (Brewer & Miller, 1996, p. 125). Therefore, to promote positive intergroup relations between ingroup and outgroup members cooperative structures must be created, overriding the competitive nature that might exist between the groups.

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According to Hewstone and Brown (1986) there are some limitations to the Contact hypothesis:

i.   The Contact Hypothesis assumes that prejudice is caused by ignorance about the outgroup. In their research on the Contact hypothesis, Stephan and Stephan (1984), highlights the relationship between ignorance and prejudice by examining three variables; 1) anxiety [fear and rejection], 2) assumed dissimilarity [differences between majority and minority groups] and 3) stereotyping [characteristics developed by social belief) affecting intergroup relations.

ii.   Interpersonal-intergroup relations have one major implication on the Contact hypothesis. "Unless the contact can be characterized as intergroup (i.e. between individuals as group representative or *qua* group members), any such positive outcomes will be primarily cosmetic, in the sense that they will leave divisive and conflictual intergroup relations unchanged" (Hewstone & Brown, 1986, p. 16). This may also contribute to repercussions, resulting in outgroup or ingroup members accepting or refusing the contact situation.

iii.   Causal factors are difficult to determine. Many factors play a major

part to improve intergroup relations. Causal factors playing a major role are the quality of the contact experience, the structure of the contact experience, the status of outgroup and ingroup members in the contact experience, the frequency of the contact experience and lastly the social support within the contact experience.

By scrutinizing the research on the contact hypothesis six possible inferences can be made.

i.   That contact alone will not necessary improve intergroup attitudes it may even deteriorate.

ii.   The encounter must involve a degree of intimacy between members of different groups. Some researchers have recommended that to reduce prejudice effectively, contact should be of a relatively continued and intimate nature rather than passing or serendipitous.

iii. There should be social or institutional support for non-discriminatory practices.

iv.   The presence of positive interdependence between the groups leading to cooperative activity.

v.   That contact must take place between equal status participants.

vi.   It also states that if equal status between majority and minority contact

participants occur, cooperative learning experiences will lead to more positive inter-ethnic attitudes and relationships.

In conclusion, intergroup contact under the right conditions will reduce prejudice not because it permits and encourages interpersonal friendships between members of different groups, but because it changes the nature and structure of the intergroup relationship.

3.6 *Studies on Contact Hypothesis Theory in South Africa*

Within the South African context the Contact Hypothesis Theory can be seen as a theory that has the desired effect on society because of the Apartheid government's policy of separate development in residential areas, the work place, schools and in public (separate amenities for different ethnic groups). Today a democratic South Africa faces large-scale social change and adjustment, of which integrated residential areas, the work place and schools are some of the most important components.

In the 1980s three school-contact studies were conducted. The results of Mynhardt's (1982) study showed that although the contact situation was ideal for learners to develop positive attitude changes, white learners who had

contact with black learners scored significantly more unfavourable attitudes than those white learners who had no contact with black children.

Luiz and Krige's (1981) study, attempted to improve attitudes between white english-speaking school-girls and girls from a "coloured" school by using a special group activity based on contact. After the experiment Luiz and Krige concluded that "coloured" girls showed more positive attitude change than their white counterparts. In a follow-up study Luiz and Krige (1985) found that the attitude change was found to be lasting in the "coloured" group.
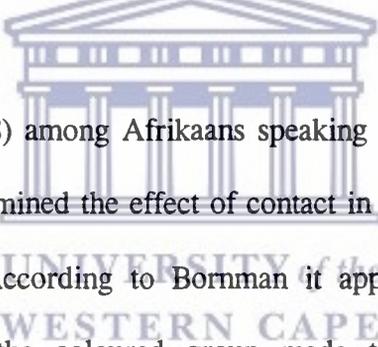
A study by Bornman (1988) among Afrikaans speaking whites and coloureds in the Cape Town area examined the effect of contact in respect to high-status and low-status groups. According to Bornman it appeared that the work situation experienced by the coloured group made them aware of their subordinate position as individuals compared to their white counterparts. When this was linked to attitudes the coloured group perception of the white group was hostile. When the social status of the group became equal more favourable attitudes were perceived between groups. The finding of this study is nearly similar to the results of Appelgryn (1985) where attitudes were linked to situational circumstances (e.g. personal finance).

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Other contact hypothesis studies done were by Spangenberg and Nel (1983) who examined contact in the work situation between lecturers at a white and black university while Foster and Finchilescu (1986) used trainee nurses at hospitals in Natal.

3.7 *Further Studies in South Afric*a

In a study review, Louw-Potgieter (1988), provided reasons for rejecting the personality measures approach to intergroup conflict in South Africa. These reasons were (1) low percentage of variations due to personality factors, (2) there were clear indications for support of socio-cultural variables such as group membership, group values and educational level, (3) by locating the causes of racism within the participant, social structure was not researched.

Studies conducted during the period 1960 - 1970 were based on attitudes related to stereotypes. Van den Berghes's (1962) study collected stereotypes of various racial groups by whites that regarded blacks as either musical (coloureds); dishonest (Indians); insolent (urban blacks); backward (rural blacks). Thus, studies mentioned dealt with attitudes toward black South Africans. At this juncture it can be noted that there were some studies dealing

with black attitudes towards other ethnic groups. Foster and Louw-Potgieter (1991), reported a study by MacCrone (1938) who used a method of paired comparison where participants rated each of 12 groups in terms of paired preference. MacCrone concluded that Indians and Coloureds rated English-speakers positively and Afrikaans-speakers poorly. In another study by MacCrone (1947) a group of educated blacks was asked to write essays and participate in group interviews to reflect on their experiences to domination. This study found that a pattern of resistance was expressed in a form of animosity, militancy, distrust and resentment directed at Afrikaans-speaking South Africans contrasting that to a commendatory relationship with English-speaking South Africans.
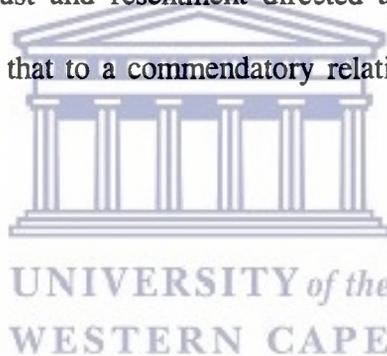
3.8 *Conclusion*

As mentioned earlier, intergroup tension can manifest itself in different ways. The Contact Hypothesis and Social Identity theory are two theories that try to explain intergroup tension within groups and between individuals. Where Contact Hypothesis stresses contact as an important factor to reduce intergroup relations, SIT posits (1) that individuals are identifiable as members of distinct social categories (e.g. black, white, coloured, male, female, etc.), (2) that group members tend to behave in homogeneous groups and (3) that there is a

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low intra-subject variability in the treatment and perception of different outgroup members (Turner & Giles, 1995). Because of South Africa's history of segregation and unequal status between the different ethnic groups, it is difficult to achieve the necessary conditions (equal status and cooperative goals) of these theories (Contact Hypothesis and Social Identity Theory). In some studies (Groenewald & De Kock, 1979; Lever, 1978; Luiz & Krige, 1981; Spangenberg & Nel, 1983) contact under relatively favourable conditions for South Africa appeared to have some positive effects, especially in improving attitudes between the different ethnic groups.
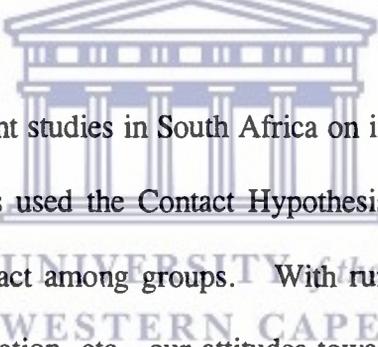
Having reviewed many recent studies in South Africa on intergroup relations it was found that most studies used the Contact Hypothesis as their theoretical base for understanding contact among groups. With rural migration, mixed residential areas, equal education, etc., our attitudes toward contact and social categorization will have to change for the improvement of positive intergroup relations to occur. To re-establish contact would require collective black - white strategies directed centrally at the very processes of social categorization that constitute the destructive lack of contact in the past (Foster & Finchilescu, 1986). Thus, change must start in our communities but especially in our schools, and therefore, educators and the goal structures they use in the

classroom may play a crucial role in improving intergroup relations.

It is with this premise that the empirical research for this thesis was undertaken to illustrate and explain the effectiveness of the different goal structures in promoting more positive intergroup relations in the classroom.

The next chapter provides information on research conducted in South Africa and the United States of America on the effects of cooperative learning on promoting intergroup relations in the classroom.

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Chapter Four

Cooperative Learning and Intergroup Relations

The primary purpose of this chapter was to determine whether past research indicated that cooperative learning promoted more positive intergroup relations between ethnic groups in the classroom. Cooperative learning is no longer just a topic for educational research but has become part of school improvement plans and is discussed in every spectrum of the media. The studies reviewed in this chapter were from principal sources including the Educational resources information centre (ERIC), psychological abstracts, psychology literature, Sabinet and Nexus.
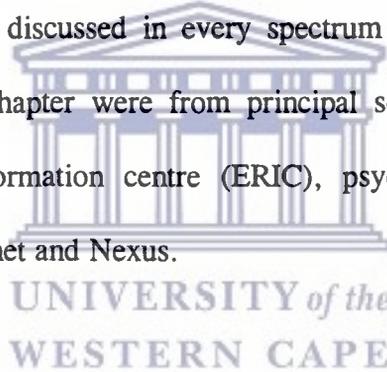
Cooperative learning in South Africa is either non-existent or criticized by educators as being noisy, unstructured and therefore almost neglected in everyday classroom practice. In reviewing the research done in South Africa on cooperative learning and intergroup relations one is confronted with very little research on this topic. Despite a history of controversy and resistance, interracial schooling has become a fact for millions of South Africans. Surprisingly little is known about the nature or extent of intergroup contact in

desegregated schools. Much of present day research was done by Bornman (1988), Du Plooy (1993), Foster and Finchilescu (1986); Taylor (1989a, 1989b, 1989c) and Tshibalo & Schulze (2000).

Over the past decade, cooperative learning has emerged as the leading new approach to classroom instruction. Using cooperative learning can teach learners to cooperate with one another. This type of cooperation can also be found in the business arena. In business and industry "team persons" and "team efficiencies" are much in demand. Companies today are looking for employees who are prepared for cooperation, prepared for open dialogue and collective support, instead of rivalry that leads to surreptitious resistance. In business or industry today, a requirement for prospective candidates is being a "team person".
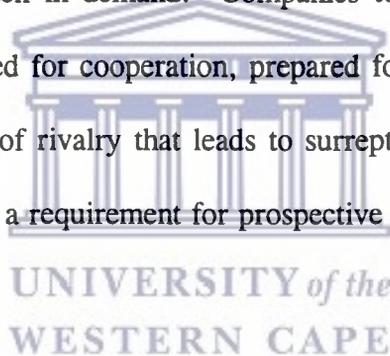
An important reason to support cooperative learning is the numerous research studies in very diverse school settings and across a wide range of content areas. Research have revealed that learners participating in cooperative learning tasks tend to have higher academic test scores, higher self-esteem, greater numbers of positive social skills and fewer stereotypes of individuals of other ethnic groups (Du Plooy, 1993; Johnson et al., 1993; Matthews, 1996;

Slavin 1991; Stahl & Van Sickle, 1992, Tshibalo & Schulze, 2000). The emphasis on successful academic learning for each individual and all members of the group is one feature that separates cooperative learning groups from other group tasks (Slavin, 1991).

The purpose of this chapter was to establish whether cooperative learning results in positive or negative intergroup relations in the classroom. The majority of studies referred to in this chapter demonstrated that cooperative learning had positive effects on learner intergroup relations.

4.1 *Research in South Africa*

Research done by Paterson (1992) investigated the promotion of interpersonal relationships through the participation in Project Rugby Week for ethnically integrated regional teams. The result of this study indicated that in the majority of cases, there was a significant shift towards more positive intergroup attitudes especially related to the affective and behavioural components. Bornman (1993) examined the influence of social comparisons, relative deprivation and perceived legitimacy and stability on intergroup relations. In this study Bornman emphasizes the importance of normative factors and intergroup comparisons in determining intergroup relations in

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multicultural societies. Bornman concludes that perceptions of legitimacy and stability, as well as the experience of deprivation, are sensitive to changes in the political and socio-economic climate.

Taylor (1989a) wrote a series of articles on intergroup relations. In the first article Taylor discusses the role of the educator in promoting intergroup relations in educational settings. To change attitudes we must change the system and person. This includes changing the law with reference to the separate development policy in South Africa at the time. In the second article Taylor (1989b) describes the development of a curriculum for the promotion of better intergroup relations under the following headings: rationale, objectives, content and strategies regarding teaching and evaluation. To develop intergroup relations, (1) the curriculum must have a view of the learners as equal, of developing the learners' full potential and of maintaining his/her own culture and identity; (2) develop a democratic community where there must be no discrimination on the basis of race, colour, language, gender, religion or any other natural characteristics; (3) respect values and cultural products. In the third article Taylor (1989c) proposes a strategy for implementing a programme to promote intergroup relations in formal (takes place at schools) education and informal (by family, radio, TV) education. Other programmes

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are incidental (learning without the use of teaching aids) education and non-formal (any non-school situation, e.g. camps, school camps, etc.) education.

Du Plooy (1993) in his doctoral thesis investigated the effectiveness of cooperative learning, specifically the jigsaw method, to promote positive intergroup relations between white and black learners. The sample used in this research was grade eight learners from two schools in the Port Elizabeth region. The number of participants in the sample was 58 white and 24 black learners. No reference is made to the number of educators used in this research. The following can be highlighted from Du Plooy's (1993) study:
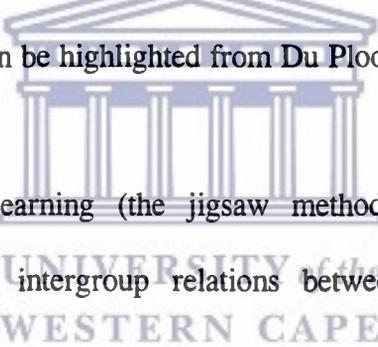
a.   That cooperative learning (the jigsaw method) played a role in promoting positive intergroup relations between white and black learners.

b.   That the relationships between male and female learners from both ethnic groups showed positive changes in intergroup relations.

c.   That an important inference from this research was that white and black 14-year-old learners whose fathers were professionals, whose mothers were home-makers (housewives) and those who regularly attended church showed the largest improvement of intergroup relations as a

result of the cooperative learning intervention.

Park (1995) argues that the question is not whether cooperative groups should be used in the classroom or not, but rather how the potential advantages of cooperative learning can be realized and how potential problems can be eliminated or improved such as intergroup relations.

Research done by Tshibalo & Schulze (2000), concluded that cooperative learning improves learning quality, achievement and also allow learners to learn from one another. Another positive outcome from this research is the significant attitude change and intergroup relations between learners.

4.2 *Research in America*

One goal of the massive effort to desegregate the American public school system was to counter racism by promoting positive attitudes and behaviours between black and white learners. A considerable amount of social science research has been conducted that aimed to understand this process and identify attitudes and behaviours. The research on interracial attitudes is inconclusive, partly because of methodological flaws in many studies and because of non-comparable research designs and analyses. Research results on intergroup

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behaviour are more consistent showing those opportunities for cross-race interaction influence interracial sociability and friendship (Hallinan & Williams, 1989; Hallinan & Teixeira, 1987; Johnson et al., 1983; Johnson et al., 1985; Patchen, 1982; Schofield, 1978; Slavin, 1991, 1995).

A study by Hallinan and Williams (1989) examined the selection of cross-race and same-race friends among high school learners. By relying on social psychological theories of interpersonal attraction the researchers predicted that individual and school-level factors influenced friendship choices. These factors, such as the personal characteristics of individual learners and the pairing of learners, had the strongest effects on friendship choices. Other important factors were the organizational characteristics of the school.

Berndt et al. (1988) give two possible explanations for the lack of significant differences between friends and non-friends interaction. The first attempt to create contrasting groups of friends and non-friends was unsuccessful because pairs of friends did not have more close relationships than did the pairs of other classmates. Another possible reason was that differences between friends' and other classmates' interactions were not captured by the coding system used in this study. This resulted in two limitations to this study: (1)

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the question whether learners learn more or less during interactions with friends rather than with non-friends was not examined; (2) only interactions between pairs of learners were examined in this study.

There was also research on the use of cooperative learning to build constructive relationships between majority and minority learners. A study by Slavin (1991) examined the most successful approaches of cooperative learning, namely group goals and individual accountability as a means to improve the self-esteem and intergroup relations of learners in a classroom.
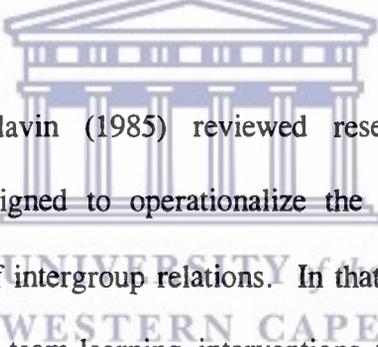
An earlier study by Slavin (1985) reviewed research on cooperative instructional methods designed to operationalize the principal elements of Allport's contact theory of intergroup relations. In that same year a study by Miller et al. (1985) used team-learning interventions to improve intergroup relations in desegregated classrooms. The effects of this study were lessened outside of the school setting. This study intimated that generalized outgroup acceptance will be produced by (1) an interpersonal orientation towards team members and (2) the assignment of learners to teams must be on the basis of their unique attributes rather than the category they represent.

Slavin (1995) reviews research on cooperative learning methods with an emphasis on understanding the complex changes that occur in both classroom organization and learner friendship patterns when cooperative, integrated learning groups are used in the desegregated classroom. Cooperative learning methods explicitly use the strength of the desegregated school and the presence of learners of different races or ethnicities to enhance intergroup relations. The result of cooperative learning to intergroup relations clearly indicated that when learners work in ethnically mixed cooperative learning groups they gain in cross-ethnic friendships. This indicated that the effects of cooperative learning on intergroup relations were convincing.

A study by Johnson et al. (1984b), in a large inner city Midwestern metropolitan school district, hypothesized that when intergroup competition was compared with intergroup cooperation there was less liking between majority and minority learners within the same learning group, while in the other group there was less liking between majority and minority learners from different learning groups. The results of this study indicated that intergroup cooperation promoted more inclusion of minority learners and more cross-ethnic relations. This study also showed that learners in the intergroup cooperation condition compared with their counterparts in the intergroup

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competition condition indicated more frequently a desire to work with outgroup learners from other ethnic groups. This study also indicated that majority and minority learners would engage more frequently in joint activities during their free time with one another. Thus, the positive cross-ethnic relationships established in the intergroup cooperation condition seemed to generalize more cross-ethnic relationships with other classmates.

A study by Hansell (1984) investigated the strength of ties between learners of different ethnic groups and gender and tested a cooperative group intervention (Student teams-achievement divisions [STAD]) designed to increase weak ties between naturally occurring peer groups. This study took place at an elementary school and confirmed the results that cooperative groups stimulated new weak ties between learners of different ethnic groups and gender. This research begins to explore the detailed structure of intergroup relations, and the feasibility of improving them by creating new weak ties through cooperative group experience. A later study by Warring et al. (1985) researched the effects of different levels of cooperation on cross-gender and cross-ethnic relationships. This research article compared two studies taken from a large inner-city elementary school in a large midwestern metropolitan school district. The result in study 1 indicated that learners in the cooperative

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learning condition made more cross-gender choices than learners in the individualistic learning condition for unstructured school activities. This study also showed that learners in the cooperative learning condition made more cross-ethnic choices for structured class activities than learners in the individualistic learning condition. The result in study 2 indicated that learners in the intergroup cooperation condition, compared with those in the intergroup competition condition made more cross-ethnic and cross-gender choices in the structured and unstructured class activities respectively.
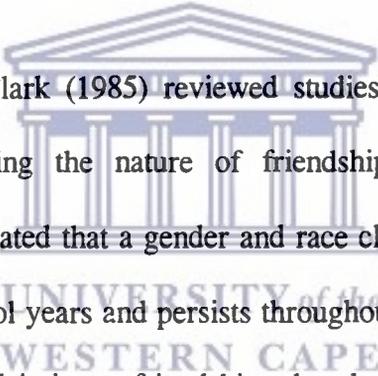
A paper presentation by Clark (1985) reviewed studies that included either gender or race in assessing the nature of friendships for children and adolescents. Findings indicated that a gender and race cleavage in friendships is evident from the preschool years and persists throughout adolescence. Girls have more reciprocated and intimate friendships than boys, especially during adolescence. Female friendships are oriented toward issues of loyalty and commitment whereas achievement and status issues dominate male friendships. Black and white children make more cross-race friendship choices in classrooms where they are in the minority while more same-race friendship choices are made in racially balanced classrooms. Cross-race acceptance is more positive now than in the past, and black and white learners with similar

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backgrounds are more likely to get along than those who differ. Also, cooperative learning teams tend to increase cross-race friendships in school settings.

Tedesco (1999), concludes that traditional instruction fails to meet the needs and interests of learners while learners who work cooperatively develop social skills and have an understanding of multiculturalism, human systems, and group and organizational development. They learn to negotiate and solve problems and to be kind to fellow learners. By taking an active part in their learning, learners improve their academic achievement and self-esteem due to positive peer relations. The acceptance of diversity, the appreciation for peer contributions build self-esteem and commitment to the development of intergroup relations.

Farivar (1991) investigated the impact of social relationship activities with regard to classmates and teammates in a middle school (grade 7) mathematics class using cooperative learning. The sample consisted of 184 learners (55% Hispanic American, 27% White, 14% Black, and 3% Asian American). Each educator (namely two) taught three classes, two cooperative learning classes and one conventional class. The following stages of group development were

investigated: (1) class-building, (2) preparation for group work/team-building, (3) communication, and (4) cooperation and helping behaviours. The results were that group work was more effective in increasing learner's regard for team-mates in cross-ethnic and cross-gender relationships.

4.3 *Conclusion*

The purpose of this chapter was to summarize the research on cooperative learning regarding its benefits. Research suggests that cooperative learning has both cognitive and social-emotional benefits. Participation in cooperative learning experiences can enhance academic achievement and cognitive growth, motivation and positive attitudes, toward learning, and the development of social competence and intergroup relations (Nastasi & Clements, 1991). Researchers consistently (as mentioned in this chapter) indicated that cooperative goal structures are more effective than individualistic, competitive or traditional (chalk-and-talk) methods for promoting learning and intergroup relations. Another component of learning cooperatively compared to individualistic or competitive learning is that the first mentioned promotes more active involvement in learning and reciprocal interaction among learners (Johnson et al., 1985; Slavin et al., 1985).

An important question in theorizing the impact of cooperative learning experiences on intergroup relations is whether positive relationships found within the instructional situation can be generalized to other areas of the learners' lives. For example, interactions have important influences on the learner's personal and social development. These results give some indication that some positive intergroup relations built within the cooperative learning experiences might be generalized and could sustain self-initiated interactions.

The next chapter provides information on the criteria used to select the sample, the instrumentation, and the statistical analyses used to test intergroup relations in the classroom.
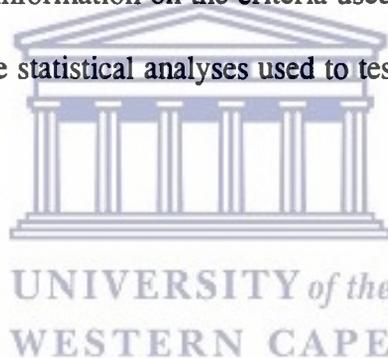
Chapter Five

Research Methodology

This chapter provides information about the research design, the research instruments and the statistical analyses used in this thesis.

5.1 _Aim of this Study_

The aim of this research was to investigate how classroom educators can improve learner intergroup relations (between black and coloured) in their classrooms. This research compared specific goal structures such as cooperative learning, competitive learning, individualistic learning and traditional learning in terms of its effectiveness in promoting intergroup relations. Intergroup relations were investigated by using the Social Preference Sociogram (Coie & Dodge, 1983), the Acceptance of Others Questionnaire and the Acceptability to Others Questionnaire (Fey, 1955).

5.2 _The Research Question and Hypothesis_

The aim of this research was to examine how classroom educators can improve learner intergroup relations in their classrooms between black and coloured

learners. The study was guided by the following hypotheses;

1.   Cooperative learning would be effective in increasing the most-liked nominations, the social preference and social impact scores as well as acceptance of others and acceptability to others and decreasing the least-liked nominations. The testing of this hypothesis involved comparing a group that was exposed to cooperative learning to a group that was not exposed to this learning method.

2.   Cooperative learning in comparison to competitive learning, individualistic learning and traditional learning would be more effective in increasing the most-liked nominations, the social preference and social impact scores as well as acceptance of others and acceptability to others and decreasing the least-liked nominations. The testing of this hypothesis involved comparing a group that was exposed to cooperative learning to groups that were exposed to competitive, individualistic and traditional learning respectively.

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The essential aim of the research was a comparison of various goal structures in terms of their effectiveness in improving intergroup relations in the classroom.

5.2.1 Independent Variables

The independent variables were the different goal structures (cooperative learning, competitive learning, individualistic learning and the traditional learning method [chalk-and-talk method or control group]). In the cooperative goal structure the learning situation was structured so that all the members of a group can only achieve their objectives if the others do likewise (Taylor, 1991). In the competitive goal structure the learners seek an outcome that is personally beneficial but is detrimental to others with whom they are competing (Johnson, 1981). In the individualistic goal structure, individual learners were rewarded based on their own performance regardless of the performance of others (Slavin, 1983), while in the traditional learning method the educator stands in front of the class and give the lesson while learners sit and listen passively in the class. Ethnicity refers to the physical, cultural, language and ideology of the learner, while religion classifies the learner as Muslim or Christian.

5.2.2 <u>Dependent Variable</u>

The dependent variables, social preference and social impact scale (specifically the most-liked question and least-liked question (see p.106)) were used to investigate intergroup relations. The reason for using these two questions was that they had a direct bearing on intergroup relationships within the classroom. The other two questions used (going to a movie and being together during interval) relates to factors outside the classroom. The Sociometric scales (see p. 112) were used to chart the intergroup relations within the class. In the sociometric test the zLM (z-score of the most-liked question) and the zLI. (z-score of the least-liked question) were used to compute the SP (sociometric preference scale) and the SI (social impact scale). The attitude questionnaires (see pp. 107 – 108) were used to determine attitudes toward self (Acceptability to Others) and attitudes toward other learners (Acceptance of Others).

5.3 Procedure

To conduct this investigation in a school, letters requesting consent to use the learners as participants in this research were written to the Research Directorate of the Western Cape Department of Education (WCED) and the school principal. Once the principal agreed, the contents of the letter received

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from the WCED were explained. During an interview with the principal the entire focus of the research was explained. Permission was obtained subject to the following conditions:

i.   Principals, educators and learners were under no obligation to cooperate in the research.

ii.   Anonymity of the school, educators and learners used in the research must be strictly maintained.

iii.   The research may not be conducted during the fourth term because of preparations for final examinations and completing the Grade syllabi.

iv.   A copy of the completed summary of the thesis must be sent to the Western Cape Education Department for perusal.
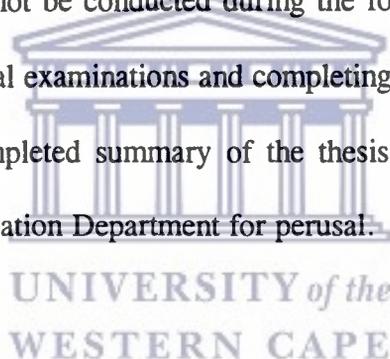
The design was based on a modified Solomon Four-group design, which is described later in this chapter. A pre-test took place in the first week of March. Here the learners completed the Social Preference sociogram and the attitude questionnaires. At the end of the first quarter the post-tests were conducted. The intervention period took place over 5 weeks. During this period there was a total of 10 contact sessions. All classes were co-educational and heterogeneous (based on ethnicity). Before the intervention took place the

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researcher taught his classes as he always did, i.e. upon entering the class, taught his lessons with no interaction between himself and the learners in the class and half-way through the lesson wrote notes on the board which learners directly transcribed into their note-books. During the intervention the researcher taught the subject material (Biology) to his classes using the different experimental teaching methods (cooperative learning, competitive learning, individualistic learning and traditional learning [control group]).

5.4 *Sample*

In this research the stratified quota sample technique was used. Here, "the researcher knew before hand what some of the major characteristics were and deliberately selected the sample that shares these characteristics in the same proportions" (Sprinthall, 1990, p. 117). This sample used was appropriate because the research problem required comparisons between various sub-groups. For example, classes had to be co-educational, heterogeneous (ethnically) and grade nine learners.

5.4.1 Selection of School

This study took place at Bel-Air High School. (This pseudonym was given to protect the identity of the school, the educators and the learners in this

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research. This was a condition set by the Research Directorate of the Western Cape Education Department for allowing the researcher to carry out the research).

A principal was approached at a high school previously under the Department of Education and Culture (House of Representatives [a coloured school]) in the Cape Town area. This school was selected based on its ethnic composition in terms of coloured and black learners in grade nine. After showing the letter of consent from the Western Cape Education Department, and explaining the procedures and methodology of this research, the principal of this school was quite amenable in accepting this type of research at the school.

Six grade nine classes were selected. The reasons for selecting this group were:

a.   the educational authorities were more forthcoming in allowing junior secondary learners to participate in this research.

b.   the curriculum is not so demanding as in the senior secondary phase.

c.   the subject choices are limited in the junior secondary phase, which results in fewer class combinations.

5.4.2 Ethnicity and Religious Composition of Classes

As defined in Chapter One, ethnicity refers to the character of groups that may differ by physical, national, cultural, linguistic, religious or ideological means. The ethnic and religious composition of the classes is reported in percentage in Table 1.

TABLE 1
Ethnic and Religious Composition of the Classes
in Percentages

		RELIGION		ETHNIC		
Goal Structure	Test	Muslim	Christian	Black	Coloured	Grade
CONTROL GROUP	Pre-test	19.4	80.6	2.8	97.2	9E
	Post-Test	30.6	69.4	2.9	97.1	9C
		15.6	84.4	3.3	96.7	9E
COOPERATIVE LEARNING	Pre-test	12.5	87.5	16.7	83.3	9G
		25.0	75.0	8.3	91.7	9H
	Post-Test	17.1	82.9	14.3	85.7	9G
COMPETITIVE LEARNING	Pre-test	41.7	58.3	2.8	97.2	9F
	Post-test	36.8	63.2	2.6	97.3	9F
INDIVIDUA-LISTIC LEARNING	Pre-test	14.6	85.4	2.5	97.5	9D
	Post-test	14.6	85.4	2.5	97.5	9D

The religious comparison as set out in Table 1 above showed that the majority of learners were Christian 77,9% (pre-test) and 76,5% (post-test) while Muslim learners represented 22,1% (pre-test) and 23,5% (post-test). The ethnic comparison in Table 1 showed that the majority of learners were Coloured 94,4% (for both pre-test and post-test) while black learners

represented 5,6% (for both pre-test and post-test).

5.4.3. Class allocation by Goal Structure

1. The Competitive Goal Structure Class (Gr 9F)

The essence of the competitive learning method was to give learners individual goals and evaluate them by means of a normative evaluation system. In this system one assumes that classroom achievement would vary among learners because of differences in such characteristics as prior knowledge, learning skills, motivation and aptitude. The evaluation system was based on the work the learners produced during their group work and based on the continuous evaluation system as prescribed by the Western Cape Education Department (WCED). A class could therefore be divided into learners who were identified as average (normal), above average or below average (Biehler & Snowman, 1990). The researcher's role in using the appropriate competitive goal structure was more complicated and can be outlined as follows:

i.   Specify the instructional objectives

ii.   Select the group size most appropriate for the lesson.

iii.   There were 9 competitive groups, namely 6 groups of 4 and 3 groups of 5 learners in each group. Each group had 2 males and 3 females

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depending on its size.

iv.   The learners were not divided into these groups based on their academic ability.

v.   The researcher encouraged competition by buying the wining team/group soft drinks during interval.

2. The Control Group Classes (Gr 9C and 9E)

In the traditional learning method (chalk-and-talk method or frontal teaching [control group]) the researcher did most of the work and the learners were passive receivers. Communication between the learners was at a minimum or non-existent. A normative evaluation system was used (as explained above). Here the learners were graded as individuals completing tasks on their own. This method was used in two classes to fulfil the Solomon Four-group design. This was done to investigate whether the pre-test had any effect on the intervention.

3. The Individualistic Goal Structure Class (Gr 9D)

The gist of an individualistic goal structure is giving learners individual goals and using a criterion-referenced evaluation system in class. "Under a criterion-reference system results were determined by comparing the extent to

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which each learner has attained a defined standard of achievement based on the premise of continuous evaluation. Whether the rest of the learners in the class are successful or unsuccessful in meeting the criterion is irrelevant" (Biehler & Snowman, 1990, p. 630). The researcher's role in using the appropriate individualistic goal structure is outlined below:

i.   Specify the instructional objectives.

ii.   Learners work at their own ability.

iii.   Learners evaluated on mastering the class work.

iv.   Learners work on their own in class.

v.   Researcher to intervene if the behaviour of learner(s) is inappropriate. Provide assistance where needed.
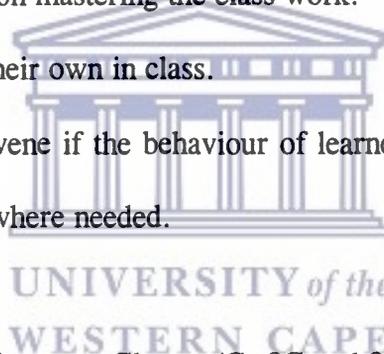
4. The Cooperative Goal Structure Classes (Gr 9G and 9H)

Here the researcher structured the learning tasks so that learners come to believe that they sink or swim together as a group. The essence of cooperative learning is assigning a group goal, such as producing a single product or achieving as high a group average on a test as possible and rewarding every group member on the basis of quantity or quality of the group product. A criterion-referenced evaluation system (as explained in the individualistic goal

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structure) was used to reward members on their group performance based on the principle of continuous evaluation as determined by the educational authorities. The role of the educator in this goal structure is as follows:

i.   Specify the instructional objectives

ii.   Learners were randomly divided into 5 groups of 5 and 3 groups of 6 in Grade 9G and 6 groups of 5 and 1 group of 6 in Grade 9H irrespective of colour or academic ability. A maximum of 3 male learners were placed in each group.

iii.   The groups of learners were not to interfere with other groups.

iv.   Researcher to assist the group solve their problems and to assist members in learning the interpersonal skills necessary for cooperating.

Two classes used this method to fulfil the Solomon Four-group design. This was done to investigate if the pre-test had any effect on the intervention.

5.5 *Research Design*

In this research, six experimental groups were used each receiving a combination of pre-testing, treatment and post-testing. To minimise the dangers of pre-test sensitisation and the possible threat to the validity of the

experiment a Solomon Four-Group Design was chosen. This type of design makes use of two control groups and two experimental groups.

Group	1	Pre-test (T_1)	Experimental Group (X_1)	Post-test (T_1)
	2	Pre-test (T_1)	Control Group	Post-test (T_1)
	3		Experimental Group (X_1)	Post-test (T_1)
	4		Control Group	Post-test (T_1)

The Solomon four-group design was used to achieve the following:

1. to assess the effect of the experimental treatment relative to the control treatment,

2. to assess the effect of a pre-test relative to no pre-test, and

3. to assess the interaction between pre-test and treatment conditions (Borg & Gall, 1989, p. 705).

This research investigated the impact of intergroup relations as well as its related attitudes, which could provide the opportunity for learners to rehearse or remember the content in the pre-test. This can sensitise the learners to the study specific content in the experimental treatment.

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In addition to the Solomon Four-group, 2 other groups were used to allow for the comparison of the different treatments. The modified Solomon Four-group design looked as follows:

Group 1	Pre-test (T_1)	Cooperative Learn (X_1) (Experiment Group)	Post-test (T_2)
Group 2	Pre-test (T_1)	Traditional Learn (Control Group)	Post-test (T_2)
Group 3		Cooperative Learn (X_1) (Experiment Group)	Post-test (T_2)
Group 4		Traditional Learn (Control Group)	Post-test (T_2)
Group 5	Pre-test (T_1)	Individual Learn (X_2) (Experiment Group)	Post-test (T_2)
Group 6	Pre-test (T_1)	Competitive Learn (X_3) (Experiment Group)	Post-test (T_2)

The first four groups represent the traditional Solomon Four-group design and allows for testing the effect of pre-testing on post-testing. The additional two groups allow for the testing of relative effectiveness of the different goal structures in promoting intergroup relations and can be visualized as follows:

Group 1	Pre-test (T_1)	Cooperative Learn (X_1) (Experiment Group)	Post-test (T_2)
Group 2	Pre-test (T_1)	Traditional Learn (Control Group)	Post-test (T_2)
Group 5	Pre-test (T_1)	Competitive Learn (X_2) (Experiment Group)	Post-test (T_2)
Group 6	Pre-test (T_1)	Individualistic Learn (X_3) (Experiment Group)	Post-test (T_2)

In the above design the researcher can compare the effectiveness of Cooperative learning to traditional (control group), competitive and individualistic learning. This design focuses on validating empirically that cooperative learning is more effective in promoting intergroup relations in the classroom than the other learning modes.
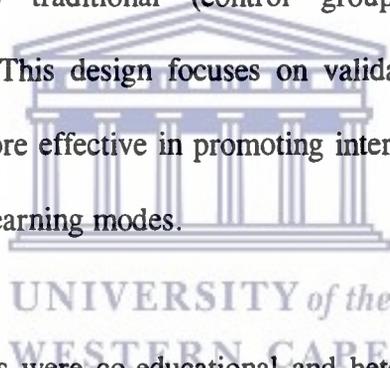
In this research all classes were co-educational and heterogeneous (based on ethnicity). Before the intervention took place the researcher teaching the grade nine classes did the following, i.e. upon entering the classes, taught the lesson with no interaction between himself and the learners in the classes and half-way through the lesson would write notes on the board which would be directly transcribed into the note books by the learners. During the intervention stage of the research the researcher taught the subject material (syllabus) to the classes by using the different goal structures.

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Since this was a Before-After research design with a separate control group, a pre-test took place in the first term. Here the learners completed the Social preference sociogram and the Attitude Questionnaires (Acceptance of Others and Acceptability to Others Questionnaires). At the end of the First Term the control group and the three experimental classes using the appropriate goal structures were tested again (post-test) using the same questionnaires (Social preference sociogram, Acceptance of Others and Acceptability to Others). The intervention period took place over a period of five weeks. The researcher taught, using the specific goal structure for the entire experimental session, teaching the subject matter (the Biology component of General Science).
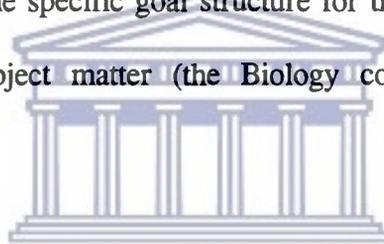
5.6 *Research Instruments*

5.6.1 <u>Social Preference Sociogram</u>

A Social Preference Sociogram was used for the charting of intergroup relations within the class. Its value to the researcher was its potential for developing greater understanding of group behaviour so that the researcher might operate more efficiently in group management, intergroup relations or gender development (Schmuck & Schmuck, 1983). The identifiable feature of this sociogram was to determine learner's social status within the classroom

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based on quantifiable measures obtained from positive nomination data e.g. "Who are your best friends in this class?" or " What three learners in the class do you most admire?" and negative nomination data e.g. "Which three learners in the class do you like the least?". Some researchers recommend the use of negative questions in order to discover interpersonal resistance. This methodology is based on the Coie and Dodge (1983) study.

Four questions were asked: (Based on the Coie & Dodge study, 1983)

a.   Which three learners in this class would you most like to sit with at lunchtime (interval)?

b.   Which three learners in this class would you most like to go with to a movie?

c.   Which three learners in this class would you most like to work together with in a small study group?

d.   Which three learners in the class do you like the least?

The nominations were treated as "fixed-rank" measures. These nominations were weighted, 3 for the first nomination, 2 for the second nomination, 1 for the third nomination and 0 [zero] for no nomination. Learners were asked to rate each other with regard to how they perceive one another.

Learners were also instructed not to choose themselves, nominate those who were absent or nominate the same learner more than once for each question. This would prevent a learner nominating a member of the class three times for one specific question.

5.6.2 Attitude Questionnaires

i. Acceptance of Others

This attitude scale was designed by Fey (1955) and used to investigate the opinions of acceptance of others. McIntyre (1952) hypothesized that acceptance by others was in part a functional pattern of interrelationships between one's attitudes toward themselves and those toward others. This questionnaire determined whether learners took an active interest in their fellow peers and whether they show a desire to develop good relations with them. The questionnaire contained 20 attitude statements with possible responses from almost always (scored as 1) to very rarely (scored as 5). Scores of 20 indicated a low acceptance of others while a score of 100 indicated a high acceptance of others. The split-half reliability for the acceptance of others scale was .90 (Fey, 1955). The validity for this questionnaire was .727 (Berger, 1952), while Fey (1955) reported no validity.

ii. Acceptability to Others

This attitude scale was designed by Fey (1955) and forms part of the acceptance of others scale. The Acceptability to Others questionnaire contained 5 attitude statements with possible responses from almost always (scored as 1) to very rarely (scored as 5). This questionnaire determined how well the learner was accepted by his/her peers in the class. The split-half reliability for the estimated acceptability to others was .89 (Fey, 1955). Berger (1952) and Fey (1955) reported no validity data in their research articles.
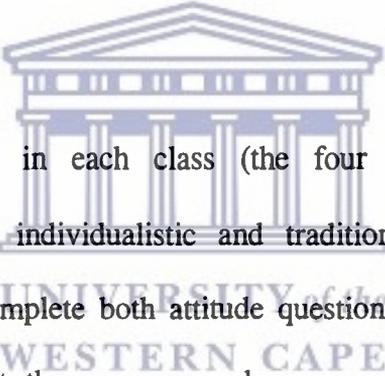
At the pre-test, learners in each class (the four experimental groups [cooperative, competitive, individualistic and traditional learning {control group}]) were asked to complete both attitude questionnaires as sincerely as possible. At the post-test the same procedure was repeated as explained above. At this stage two extra classes were added (a control group and a cooperative group). These two classes did not form part of the pre-test. The post-test now consisted of six grade nine groups. This was done to follow the extended Solomon Four-Group Design as explained previously.

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5.6.3 Goal Structure Questionnaire

This questionnaire on the specific goal structure for each experimental class was handed to each learner to validate and control the specific goal structure used by the researcher. The questions used in the questionnaire were generated from the literature of Johnson and Johnson (1975b). The questionnaire was administered in English. To ensure accurate responses the Goal structure questionnaires were explained in detail to the learners in each experimental class and then completed anonymously by learners.

This questionnaire was used to assess and correct any deviation made by the researcher. It would also remove the likelihood of non-deliberate bias as the researcher may unconsciously confuse the goal structures with one another. This questionnaire would ensure that methodological inaccuracies be corrected during the presentation of lessons. The Goal Structure questionnaire used a five point Likert Scale and was encoded as follows: 1 for strongly disagree; 2 for disagree; 3 for unsure; 4 for agree; and 5 for strongly agree.

5.7 *Analysis*

The analysis in this research was based on discovering how different goal structures would affect (improve or worsen) intergroup relations between learners from the pre-test to the post-test.

5.7.1 Sociometric Analysis

According to Coie and Dodge (1983) the use of most-liked and least-liked question scores provided the basis for meaningful comparison between rejected, neglected, popular, average and controversial learners. Coie and Dodge (1983) presented evidence that social rejection can be a strong predictor of classroom absenteeism, school drop out and even a variety of socio-emotional problems.
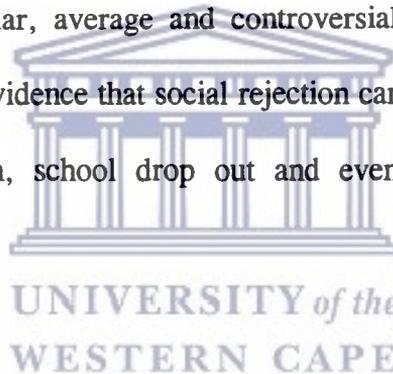
This analysis used the total positive (most-liked question) and negative (least-liked question) frequencies (nominations). The reason for choosing the most-liked question was that learners were inclined to choose the same learners as in Question 1 (which three learners you would sit with at lunch time [interval]) and Question 2 (which three learners you would go with to a movie). This was done on both the pre-test and post-test. The Sociometric analysis was quite informative with regard to the following:

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a.   *Popular learners:* These are learners who received a social preference score greater than 0.5, a Most-Liked Question standardized score of greater than 0, and a Least-Liked Question standardized score of less than 0.

b.   *Rejected learners:* These are learners who received a social preference score of less that –0.5, a Least-Liked Question standardized score of greater than 0, and a Most-Liked Question standardized score of less than 0.

c.   *Controversial learners:* These are learners who received a social impact score of greater than 0.5 and who received Most-Liked questions and Least-Liked question standardized scores that were each greater than 0. Learners of this group were all above their class mean for both the Most-liked and Least-Liked Question nominations.

d.   *Neglected learners:* These are learners who received a social impact score of less than –0.5 and who receive Most-liked and Least-liked question standardized scores less than 0. The neglected learners had no one identifying them as among the three learners they most-liked.

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e. _Average learners:_ These are learners who received a Social Preference score that is greater than –0.5 and less than 0.5.

5.7.2 Social Preference and Social Impact Scale

This analysis was used to determine whether the class's social preference and social impact scores improved or deteriorated. The analysis was based on the pre-test and post-test scores and consisted of the following steps as developed by Coie and Dodge (1983):

a. Convert the learner's raw frequency to standardized z-scores for the most-liked (LM) and the least-liked (LL) question
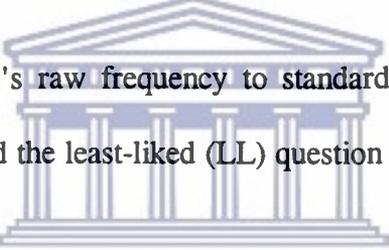
Formula 1: $\dfrac{\text{learner's score - mean}}{\text{standard deviation}} = z\text{ - score}$

zLM = the z-score for the most-liked question.

zLL = the z-score for the least-liked question.

b.	After separately computing each learner's zLM and zLL scores the Social Preference and Social Impact score of each learner was calculated as follows:

Formula 2:	Social Preference (SP) = zLM - zLL

Social Impact (SI)	= zLM + zLL

A negative SP indicated very little preference, while a positive SP indicated a strong preference. A score close to 0 indicate average social preference. A negative SI indicated a low social impact. In this group the learners were normally neglected by their peers while learners at the upper end of the scale were found to have controversial status (learners perceived as disruptive and starting fights or shy). These analyses were used to test intergroup relations in the class.

5.7.3 Solomon Four-Group Statistics

All statistical analyses were done using the BMDP– (Dixon, 1993) and SPSS–
(Nie, Hull, Jenkins Steinbrenner & Bent, 1975) statistical packages.

Crano and Brewer (1986) suggests that the comparison of Groups 1 and 2 with
regard to pre-test scores would demonstrate if random assignment was
successful or not. To test random assignment the sub-programme P3D of the
BMDP was used. This sub-programme was used to compare two groups with
regard to a number of variables. The Hotelling T^2 gives an indication if the
two groups differed statistically.

The comparison of group 1 and group 3 with regard to the post-test scores
represented a test of the effect of pre-testing on treatment, since both groups
received treatment and only differed with respect to pre-testing. Because
groups 2 and 4 only differ in terms of pre-testing (did not receive any
treatment (Control Group)) the comparison of the post-test scores of these two
groups would serve as a test on the effect of pre-testing on post-test scores.

If the groups did not differ with regard to their pre-test scores the effect of
treatment could be determined by comparing the two experimental groups

(groups 1 and 3) with the two control groups (groups 2 and 4). The above comparisons represent a factorial design that can be illustrated as follows:

		PRE-TESTING			
		YES	NO		
T R E A T M E N T	YES	GROUP 1	GROUP 3	E F F E C T O F	T R E A T M E N T
	NO	GROUP 2	GROUP 4		

This factorial design allows the researcher to determine the effect of treatment and the interaction between pre-testing and treatment. To determine the above a Two-way ANOVA was used. For this purpose the sub-programme MANOVA of the SPSS was used. This sub-programme provides different F-tests that the researcher used to determine the effect of pre-testing, the effect of treatment as well as the interaction between pre-testing and treatment.

In cases where there were differences between the pre-test groups (which would be indicative of no randomness) the averages of the two pre-tests can be used as an estimation of the pre-test scores of the other two groups (in line with Solomon's (1949) recommendation). This was viewed as a meaningful alternative, although one must take into account that it represents a breach of the assumption of independence (Campbell, 1957). This F-test is however fairly robust and can usually tolerate the breach of one assumption (Pretorius, 1989). These procedures would enable the researcher to do a Covariance of Analysis as it provided all groups to have pre-test scores.
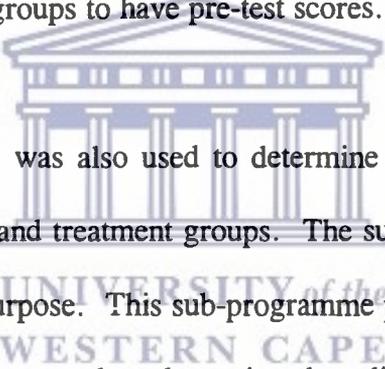
The analysis of covariance was also used to determine the differential effect between the control group and treatment groups. The sub-programme P1V of BMDP was used for this purpose. This sub-programme provides two different F-tests. The first F-test was used to determine the adjusted averages of the groups after pre-test differences were taken into account. The second F-test was used to test homogeneity of regression slopes (Pretorius, 1989). This assumption required that the slopes of the regression line in the groups are equal. If this test was significant it meant that covariance was not an appropriate test. In this instance only gain scores – representing the differences between pre-test and post-test scores – were used in a one-way

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analysis of variance (ANOVA).

5.7.4 Chi-square Tests

The Chi-square test was used to determine if cross-ethnic and same-ethnic or cross-gender and same gender choices differed significantly as a result of treatment.

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Chapter Six
Results

The data of this empirical investigation were analysed in order to determine which goal structure(s) promotes more positive intergroup relations in the classroom. These results might not only have important implications for researchers but also for educators who are struggling with intergroup tensions in the classroom.

6.1 *Goal Structure Questionnaire*

Analysing the goal structure questionnaire was simply a control measure to reduce researcher bias. Learners were asked to validate the different goal structures by completing a goal structure questionnaire. A five point Likert Scale was used. The learners completed the same questionnaire twice (during the second week of March and second week of April). The researcher did not inform the learners when they would complete the questionnaire.

During the first review the majority of learners responded positively (agreed (4) or strongly agreed (5)) to the questions in the questionnaire, while a few learners responded negatively (disagree (2) or strongly disagree (1)). Where the learners responded negatively the researcher corrected the shortcomings in that specific method. By the second review most shortcomings were rectified. This was achieved by comparing the mean scores of each question and by

revisiting the outline of each goal structure as explained in Appendices 11–14.

The means and standard deviations of the Cooperative Learning goal structure

questionnaire are reported in Table 2.

Table 2
Results of Goal Structure Questionnaire
Cooperative Learning
Mean and Standard Deviation of Likert Scores

Questions	1st Review n = 65	2nd Review n = 65
1. The educator divided the class into groups.		
Mean	3.738	4.292
SD	1.439	1.092
2. The groups are mixed (males and females).		
Mean	4.185	4.477
SD	1.094	0.746
3. The educator explains the work before the group begins.		
Mean	4.338	4.600
SD	0.933	0.628
4. In your group you work together with your fellow learners.		
Mean	3.954	3.985
SD	1.143	0.920
5. You are allowed to talk and exchange ideas in your group.		
Mean	4.215	4.215
SD	0.903	0.903
6. If there are problems (tension) in the group it is solved while you are working on a task during the lesson.		
Mean	3.108	3.354
SD	1.178	1.073
7. The educator assists your group if you have any problems during the lesson.		
Mean	4.277	4.369
SD	1.089	0.833
8. Everyone in the group helps with the task during the lesson.		
Mean	3.769	4.308
SD	1.262	1.037
9. There is acceptance of support by learners of the group during the lesson.		
Mean	3.785	4.077
SD	1.045	1.071

The analysis in Table 2 was used to assess and correct any shortcomings made by the researcher in terms of teaching while using the Cooperative learning goal structure. In Table 2, question six had a mean score of below four indicating that the learners were unsure whether working together during lessons solved problems (tensions). Questions with a mean score of four and higher, indicated agreement to strong agreement of learners with researcher activities during the lessons.

The means and standard deviations on the Control Group goal structure questionnaire are reported in Table 3.

Table 3
Results of Goal Structure Questionnaire
Control Group
Mean and Standard Deviation of Likert Scores

Questions	1st Review n = 70	2nd Review n = 67
1. The educator uses the chalkboard most of the time during the lesson in class.		
Mean	2.194	3.214
SD	1.330	1.027
2. There is no communication between educator and learner during the lesson.		
Mean	1.729	1.836
SD	0.999	1.167
3. The educator speaks all the time during the lesson.		
Mean	2.985	3.386
SD	1.228	1.234
4. You work on your own during the lesson.		
Mean	2.448	2.643
SD	1.055	1.219
5. Learners do not participate in the lesson.		
Mean	2.086	2.179
SD	0.996	1.158
6. The educator assists you in your schoolwork during the lesson.		
Mean	3.771	4.075
SD	1.333	1.137
7. Are you allowed to exchange ideas during the lesson in class?		
Mean	3.671	3.866
SD	1.130	1.196

The results in Table 3 were used to ensure that the researcher corrected methodological inaccuracies during his lessons. In Table 3, questions 2, 4, and 5 had a mean score of below two and three which indicated that learners in the Control Group communicated with the researcher, did not work on their own

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and participated in the lessons, respectively. In the Control Group questions 1, 3 and 7 had a mean score below four suggesting that the learners were unsure if the researcher used the chalkboard most of the time, spoke all the time during the lesson and if learners were allowed to exchange ideas during the lessons. These were corrected by the researcher.

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The means and standard deviations on the Individualistic learning goal structure questionnaire are reported in Table 4.

Table 4
Results of Goal Structure Questionnaire
Individualistic Learning

Mean and Standard Deviation Likert Scores

Questions	1st Review n = 36	2nd Review n = 36
1. The educator explained the teaching method in class.		
Mean	4.167	4.222
SD	0.799	0.885
2. You work on your own without being disturbed by others during the lesson.		
Mean	2.694	2.722
SD	1.411	1.407
3. When learners make contact with one another during the lesson the educator stops it?		
Mean	3.639	3.944
SD	1.158	0.880
4. The educator explains the work before you begin.		
Mean	4.222	4.222
SD	0.946	1.133
5. The educator assists you when you have a problem during the lesson.		
Mean	4.417	4.444
SD	0.722	0.598
6. The class is arranged so that learners can work on their own during the lesson.		
Mean	3.278	3.333
SD	1.096	1.155

These results were used to assess and correct any shortcomings made by the researcher during his lessons. In Table 4, question 2 showed a mean score below three indicating that learners were disturbed by other learners in the class while trying to work on their own. Learners were also unsure about the

arrangement of the class during lessons (question 6). Questions with a mean

score above 4 indicated agreement to strong agreement of learner with

researcher activities during lessons.

The means and standard deviations on the Competitive learning goal structure

questionnaire are reported in Table 5.

Table 5
Results of Goal Structure Questionnaire
Competitive Learning

Mean and Standard Deviation of Likert Scores

Questions	1st Review n = 36	2nd Review n = 38
1. The educator explained the teaching method.		
Mean	4.289	4.500
SD	1.222	0.986
2. The educator divided the class into groups.		
Mean	4.658	4.889
SD	0.619	0.314
3. The groups are mixed (males and females).		
Mean	4.579	4.722
SD	0.963	0.606
4. The educator explains the work before the group begins.		
Mean	4.474	4.472
SD	0.939	0.726
5. In your group you work together so that the group is the best in class.		
Mean	4.421	4.694
SD	0.907	0.461
6. Are you allowed to exchange ideas in your group so that your group can be the best?		
Mean	4.263	4.444
SD	1.185	0.864
7. Are the groups competing with one another during the lesson?		
Mean	4.395	4.556
SD	1.014	0.643
8. Learners work together to gain information or to compete with other groups during the lesson.		
Mean	4.500	4.579
SD	0.645	0.674
9. There is no communication with other groups during the lesson.		
Mean	3.605	3.750
SD	1.247	1.256

The results in Table 5 were used to ensure that the researcher corrected methodological inaccuracies during his lessons. In Table 5 questions with a mean score above four indicated agreement to strong agreement of learner with researcher activities in class. In this goal structure question 9 had a mean score below four indicating that learners were unsure whether no communication occurred with other groups in the class during lessons.

In each goal structure the mean scores in the second review increased indicating that corrective procedures, which were done by the researcher, had the desired effect. These corrections were mostly methodological procedures for individualistic learning and the control group, namely:

1.   to increase the use of the chalkboard by the researcher

2.   to increase learner participation in lessons

3.   to arrange and allow learners to work on their own in the control and individualistic groups.

6.2 *Sociometric Scale Nominations*

The Sociometric questionnaire was based on a negative nomination received by the learner from his or her peers in class (Appendix 1, question 4). This question was used to determine intergroup relations in the class.

When the pre-test questionnaire (sociogram) was completed, learners who had conflicts and arguments with their fellow learners wrote fellow learners names in the space provided on the questionnaire (referring to the least-liked question). In many instances the names of only certain learners were repeated.

6.2.1 Competitive Learning (Figure 1)

Immediately after the pre-test (least-liked nominations of learners were relatively high as illustrated in the pre-test graph) learners were placed in groups irrespective of competency levels (academically good, average, weak) in the class. The competitive learning groups competed against one another by successfully completing tasks given by the researcher in the class.

The least-liked nominations of thirteen learners increased in the post-test. Of these learners eight were female and five were male. The learners coded 1, 9, 17 and 30 recorded the highest least-liked nominations.

The least-liked nominations of seventeen learners decreased after the post-test, (eight were male and nine were female) while the least-liked nominations of four learners remained the same (one was male and three female). One male learner (coded 6) received no least-liked nominations in the pre-test and post-test. This learner was neglected by his fellow learners in the class. Learners coded 7, 15, 33, and 40 were absent during the pre-test while learner coded 27 was absent during the post-test.

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Figure 1
Sociometric Scale (Least-liked Question)
Competitive Learning (Gr. 9F)
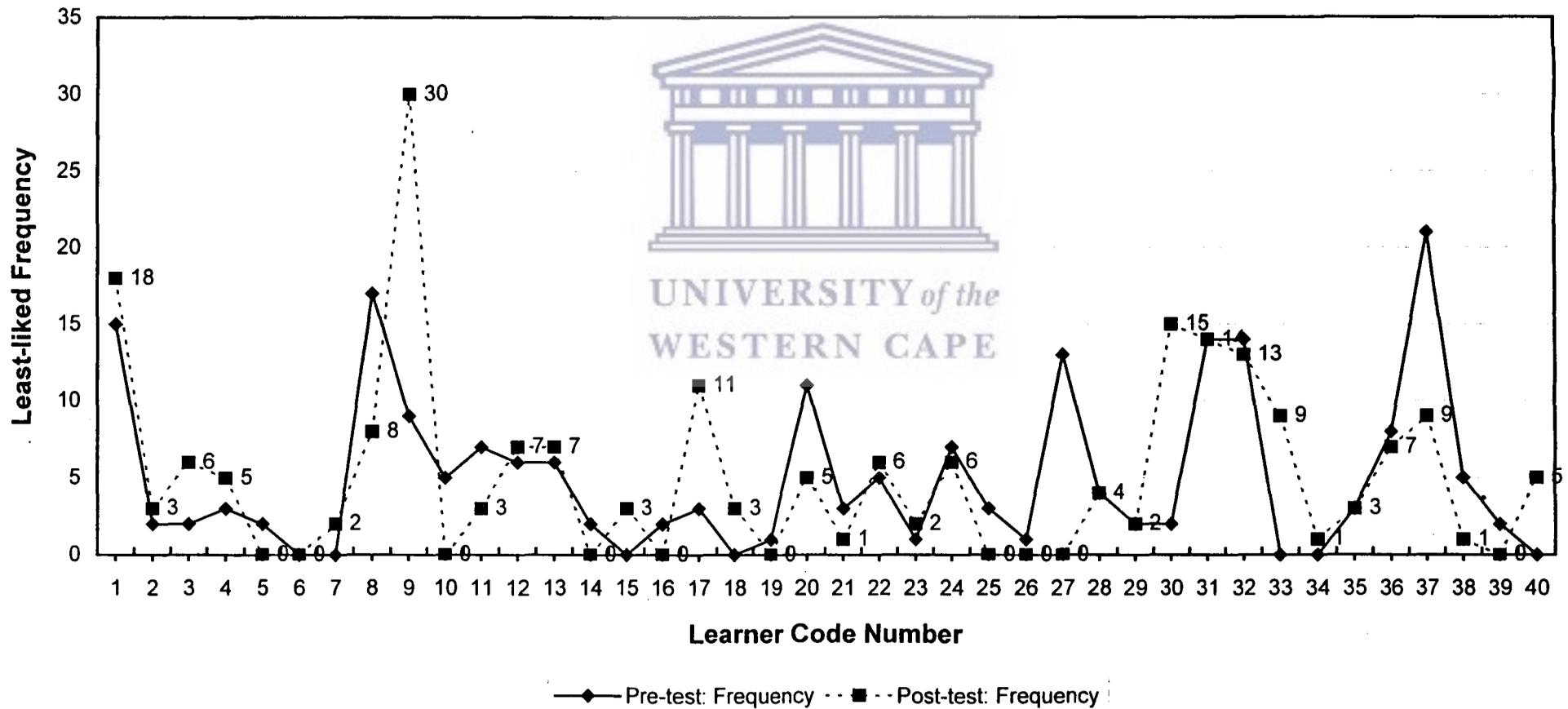
6.2.2 Individualistic Learning (Figure 2)

In this class learners worked on their own with no contact or communication between peers. Tension between class members increased. This could be seen by the increased least-liked nominations in the post-test. In some instances least-liked nominations for the pre-test and post-test were the same or remained high.

In the individualistic learning goal structure the least-liked nominations of fifteen learners increased in the post-test, eight were female and seven were male. The least-liked nominations of thirteen learners decreased in the post-test, six were male and seven were female, while the least-liked nominations of four learners remained the same. Sixteen learners received no least-liked nominations in the pre-test (eleven were females and five were males) while nine learners (five were females and four were males) received no least-liked nomination in the post-test.

In the individualistic learning condition learners were not given the opportunity to communicate with each other in the class. The essence of this learning condition was to create individualism.

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Figure 2
Sociometric Scale (Least-liked Question)
Individualistic Learning (Gr. 9D)
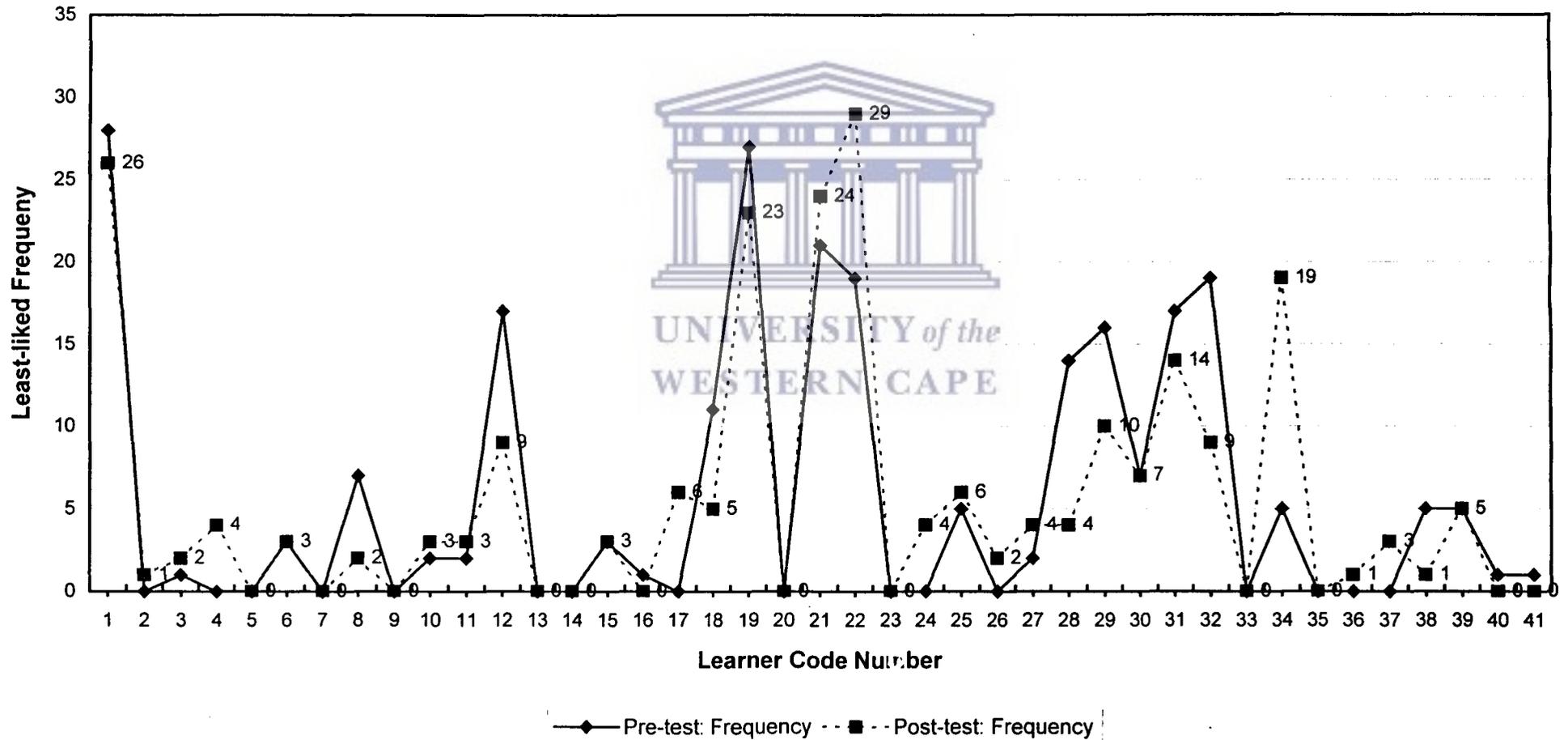
When the least-liked nomination of a learner increased it indicated rejection in the class by classmates. A decrease in the least-liked nomination indicated acceptance by the classmates.

6.2.3 Cooperative Learning (Figure 3)

In the pre-test the tension in the class was high as represented by the least-liked nominations. In the pre-test graph twenty-three learners received least-liked nominations while nine received none. In the post-test learners were divided into cooperative groups.

The least-liked nominations of twenty learners decreased in the post-test (ten were male and ten were female) while the least-liked nominations of six learners remained the same (three were female and three were male). Five learners received no least-liked nominations in the pre-test and post-test. Learners coded 4, 19, and 22 were absent and were recorded as zero during the pre-test. In this goal structure the least-like nominations of six learners increased in the post-test (five were female and one was male).

Figure 3
Sociometric Scale (Least-liked Question)
Cooperative Learning (Gr. 9G)
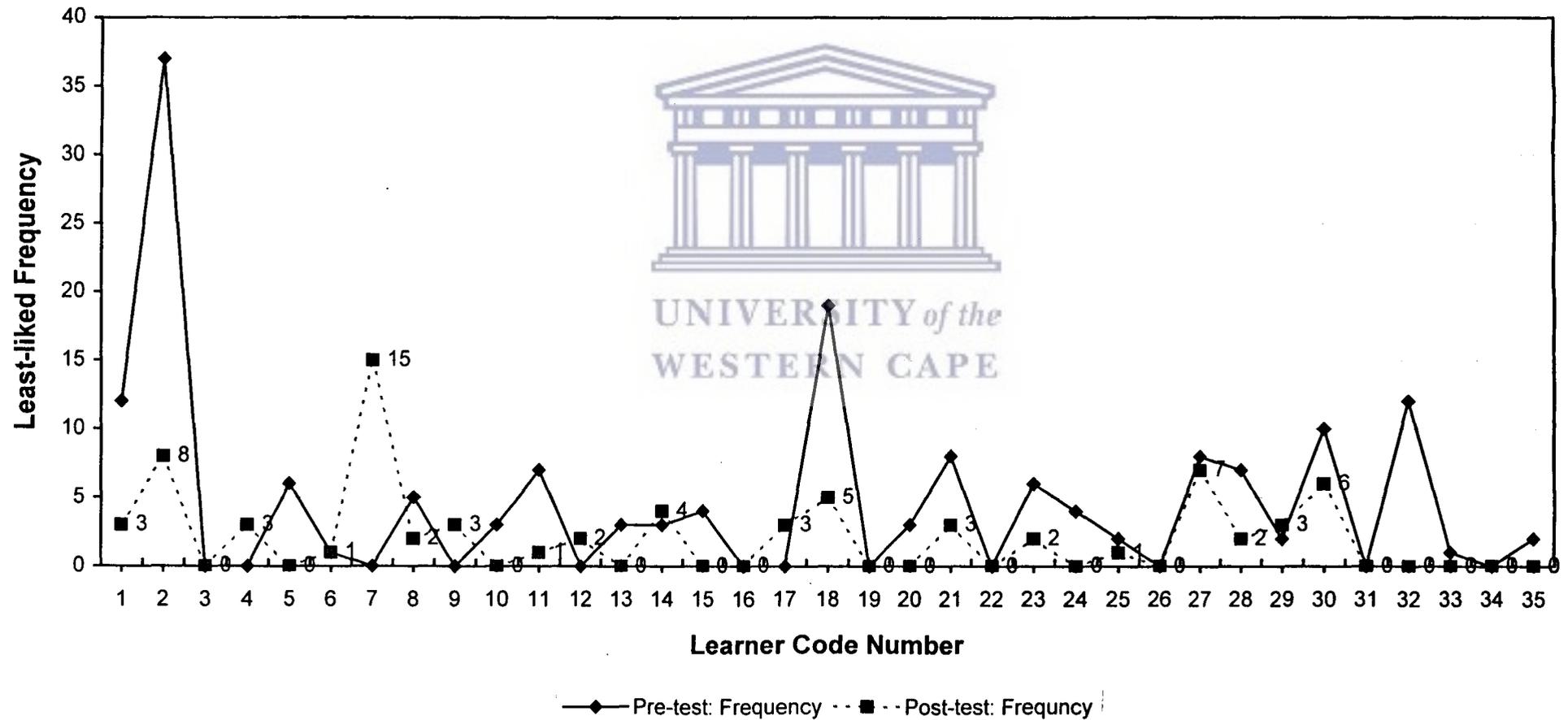
In summarising, learners in the cooperative learning condition were divided into groups and work together towards a common goal. Learners who received high least-liked nominations were not liked or rejected by their classmates in the class. A learner who received no least-liked nomination or whose least-liked nominations decreased in the post-test showed an improvement in learner relationships.

6.2.4 <u>Control Group</u> (Figure 4)

In the Control group the nominations received by fellow learners in the post-test did not change significantly. In fact many learners received nearly the same or more nominations

In this goal structure the least-liked nominations of eleven learners increased in the post-test, while the least-liked nominations of two learners remained the same. The least-liked nominations of fifteen learners decreased in the post-test (ten were male and five were female). Two female learners received no least-liked nominations in the pre-test and post-test. The learners coded 2, and 20 were absent during the pre-test while learners 9, 10, 26, 34 and 37 were absent during the post-test and were recorded as zero.

In the Control group learners were given enough opportunity to complete their work without being disturbed by fellow learners in the class. The essence of this learning condition was that learners sat and listened passively to the researcher in the class.

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Figure 4
Sociometric Scale (Least-liked Question)
Control Group (Gr. 9E)
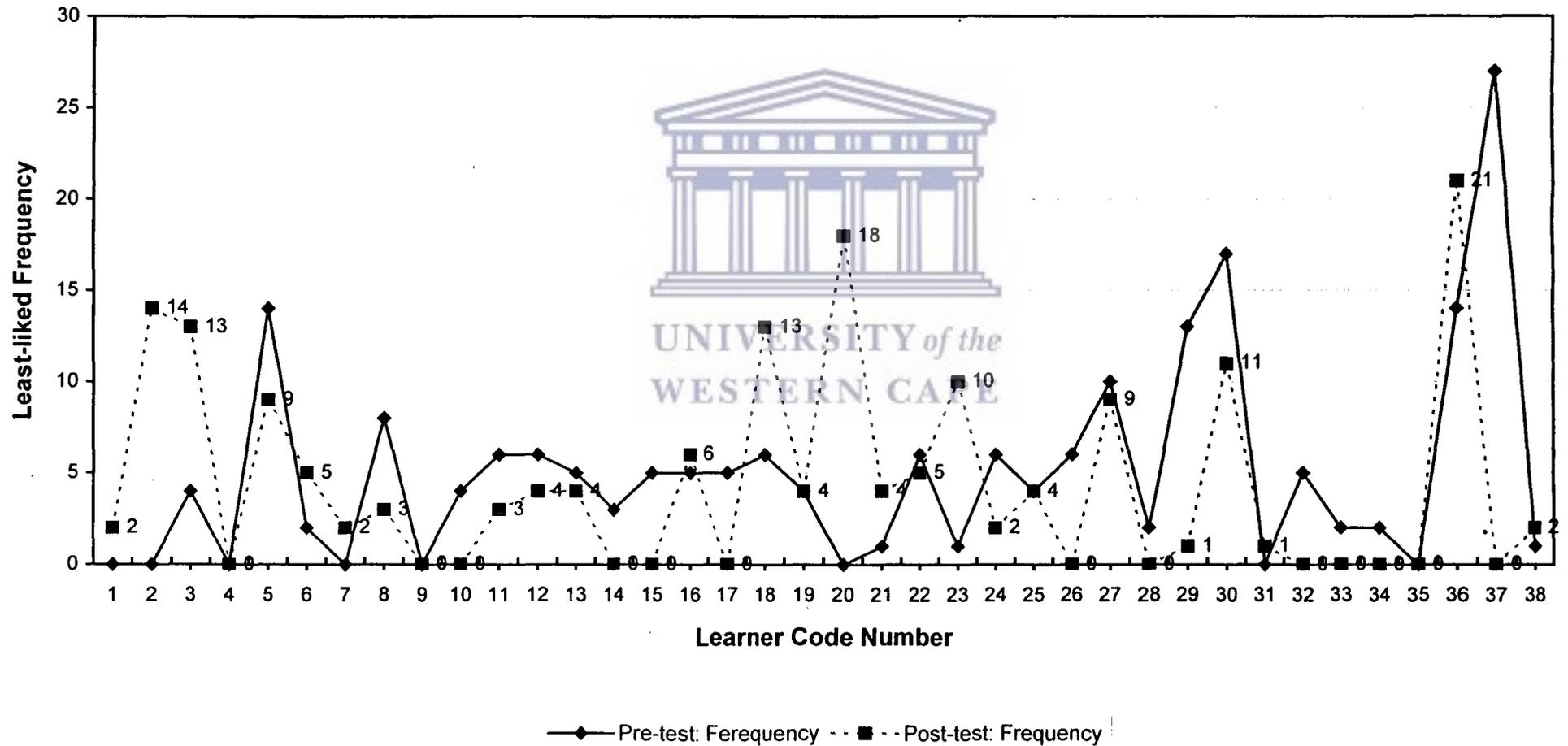
When the least-liked nomination of a learner increased, their classmates in the class rejected these learners. If a learner received no least-liked nomination in the pre-test or post-test, then these learners were neglected in the class.

When summarising the results learners received 30.2% more least-liked nominations in the post-test, 43,6% received less least-liked nominations, 10,7% received the same number of least-liked nominations as in the pre-test, 11,4% received no least-liked nominations and 4,1% were absent.

When the Sociometric analysis was compared across groups two important assumptions can be made:

1.   In the pre-test the least-like nominations were high across all learning groups especially in individualistic learning.

2.   In the post-test the least-liked nominations decreased in the competitive and cooperative learning groups while in the control group and individualistic learning post-test nominations remained high.

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6.3 _Attitude Questionnaire_

In this study the relationship between expressed attitudes of acceptance of others and acceptability to others was based on the attitude questionnaires (Acceptance of Others and Acceptability to Others). It was hoped that these questionnaires might supply an understanding of the learner's attitudes toward others and acceptability to others in the classroom. For the purposes of this investigation the score on the scale for Acceptance of Others represented a learner's acceptance of learners in the class. The scale for Acceptability to Others represented acceptability to other learners in the class. These questionnaires were administered to the four learning groups and correlations between acceptance of others and acceptability to others was determined (Table 6). These were all significant at $p < 0.05$.
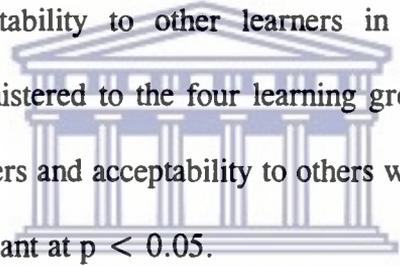
The results of the Pearson correlation between acceptance of others and acceptability to others for the different goal structures are reported in Table 6.

Table 6

Pearson Correlation between Acceptance of Others and Acceptability to Others for different Goal Structures.

Goal Structures	Pre-test		Post-test	
	N	r	N	r
Control Group (9E)	36	0.835*	32	0.643*
Competitive Learning (9F)	36	0.788*	38	0.852*
Individualistic Learning (9D)	41	0.699*	41	0.526*
Cooperative Learning (9G)	32	0.786*	35	0.937*

* $p < 0.05$

In the pre-test the correlations of the four classes were positive with a high correlation between acceptance of others and acceptability to others. The learners with high acceptance of others scores tend to have high acceptability to others scores. In the post-test the correlation remained positive but varied from moderate (individualistic learning) to very high (cooperative learning).

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A comparison between pre-test and post-test coefficients indicated that there was a noticeable decrease in the correlation between acceptance of others and acceptability to others in the post-test of the Control Group. In contrast the relationship between acceptance of others and acceptability to others increased in the post-test of Cooperative learning.

The results in Table 6 indicate that acceptability to others is positively correlated with acceptance of others within the class. This determined that learners took an active interest in their classmates and showed a desire to develop good intergroup relations in the classroom.

A comparison between the pre-test and the post-test provided an indication that differences was a result of exposure to treatment. When the four learning groups were compared with one another two significant outcomes can be gleaned from Table 6. The coefficients decreased in the control group and individualistic learning. In these two learning groups learners worked on their own. In contrast the coefficients increased in the competitive and cooperative learning groups. In these learning groups learners worked together in groups completing specific tasks.

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6.4 *Classroom Dynamics*

6.4.1 Social Interaction

To provide a meaningful comparison between rejected, neglected, popular, average and controversial learners in the class these terms are again defined with reference to their social preference and social impact scores.

a. *Popular learners:* These were learners who received a social preference score greater than 0.5, a Most-Liked question standardized score of greater than 0, and a Least-Liked question standardized score of less than 0.

b. *Rejected learners:* These were learners who received a social preference score of less that –0.5, a Least-Liked question standardized score of greater than 0, and a Most-Liked question standardized score of less than 0.

c. *Controversial learners:* These were learners who received a social impact score of greater than 0.5 and who received Most-Liked questions and Least-Liked question standardized scores that were each greater than 0. Learners of this group were all above their class mean

for both the Most-liked and Least-Liked question nominations.

d.   *Neglected learners:* These were learners who received a social impact score of less than –0.5 and who receive Most-liked and Least-liked question standardized scores less than 0. The neglected learners had no one identifying them as among the three learners they most-liked.

e.   *Average learners:* These were learners who received a Social Preference score that is greater than –0.5 and less than 0.5.

The percentage of learners nominated in the various categories in the pre-test and post-test of the different learning groups are reported in percentage in Table 7.

Table 7

Learner interaction in the Classroom
Pre-test and Post-test in percentages

Goal Structures	Popular Learners		Rejected Learners		Neglected Learners		Controversial Learners		Average Learners	
Tests	Pre-	Post	Pre-	Post	Pre-	Post	Pre-	Post	Pre-	Post
Control Group (9E)	28.2	21.1	28.1	20.7	14.3	18.6	16.7	20.0	40.0	35.0
Competitive Learning (9F)	15.4	18.4	15.6	27.6	38.1	30.2	50.0	40.0	15.0	20.0
Individualistic Learning (9D)	33.3	34.2	31.3	31.0	26.2	27.9	8.3	6.7	30.0	30.0
Cooperative Learning (9G)	23.1	26.3	25.0	20.7	21.4	23.3	25.0	33.3	15.0	15.0

The popular learners as defined in Chapter Five and again in this chapter were learners who were liked and formed the core of any group work initiated by the learners or the researcher. In the post-test, the Control Group was the only goal structure where the percentage of popular learners decreased. The percentage rejected learners decreased in cooperative learning, individualistic learning and the Control group. In competitive learning in contrast there

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was an increase of 12% in the rejected learners. This can be attributed to the competitive nature of the learning condition where learners outside the competitive groups were rejected.

Neglected learners were those learners whose social preference and social impact scores were below zero or who received no nominations. The percentage neglected learners increased in cooperative learning, individualistic learning and the Control group. In competitive learning group the number of neglected learners decreased by 7.9%.

The number of controversial learners in the post-test increased in the control group and cooperative learning group but decreased in individualistic and competitive learning groups.
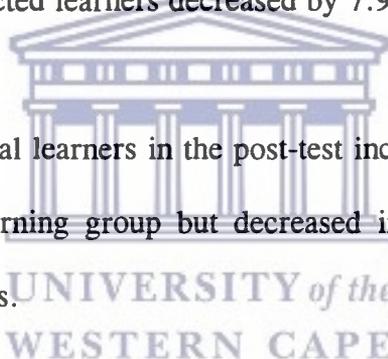
6.4.2 Same-gender and Cross-gender Choices

The pre-test results of same-gender and cross-gender choices are reported in percentage in Table 8.

Table 8

Same-gender and Cross-gender choices on the pre-test in Percentages. (Least-liked question - First Choice only)

Goal Structure and Grade	Same-gender vs Cross-gender Choices		No Gender choices
Control Group (9E)	52.8	30.6	16.6
Competitive Learning (9F)	72.3	19.4	8.3
Individualistic Learning (9D)	65.9	19.5	14.6
Cooperative Learning (9G)	78.1	12.5	9.4

The outcome of the pre-test chi-square analysis was $X^2_{.05[6]} = 6.029$ which was statistically not significant. The outcome of this result was that there were no differences between groups in terms of same-gender, cross-gender and no gender choices.

The post-test results of same-gender and cross-gender choices are reported in percentage in Table 9.

Table 9

Same-gender and Cross-gender choices on the post-test in Percentages. (Least-liked question - First Choice only)

Goal Structure and Grade	Same-gender Choices vs Cross-gender Choices		No Gender choices
Control Group (9E)	40.6	53.1	6.3
Competitive Learning (9F)	60.5	36.8	2.7
Individualistic Learning (9D)	61.0	34.1	4.9
Cooperative Learning (9G)	28.6	20.0	51.4

The outcome of the post-test chi-square analysis was $X^2_{.05[6]}$ = 22.192 which was statistically significant. This analysis provided evidence that the differences between groups in terms of same-gender, cross-gender and no gender choices were the possible influence and exposure to treatment. This statistical difference implied that less same-gender and more cross-gender choices were made in groups. The no gender choices played a significant role in the post-test as this indicated that less least-liked nominations were made due to treatment, especially in the cooperative learning group (51.4%).

6.4.3 Same-ethnic and Cross-ethnic Choices

The pre-test results of same-ethnic and cross-ethnic choices are reported in percentage in Table 10.

Table 10

Same-ethnic and Cross-ethnic choices on the pre-test in Percentages. (Least-liked question - First Choice Only)

Goal Structure and Grade	Same-ethnic vs Cross ethnic Choices Choices	No ethnic choices
Control Group (9E)	75.0 8.3	16.6
Individualistic Learning (9D)	78.0 12.2	9.8
Competitive Learning (9F)	77.8 11.1	11.1
Cooperative Learning (9G)	78.1 12.5	9.4

The outcome of the pre-test chi-square analysis was $X^2_{.05[6]} = 1.430$ which was statistically not significant. The outcome of this result was that there were no differences between groups in terms of same-ethnic, cross-ethnic and no ethnic choices.

The post-test results of same-ethnic and cross-ethnic choices are reported in percentage in Table 11.

Table 11

Same-ethnic and Cross-ethnic choices on the post-test in Percentages. (Least-liked question - First Choice Only)

Goal Structure and Grade	Same-ethnic vs Cross ethnic Choices		No ethnic choices
Control Group (9E)	75.0	15.6	9.4
Individualistic Learning (9D)	63.4	19.5	17.1
Competitive Learning (9F)	76.3	13.2	10.5
Cooperative Learning (9G)	37.1	20.0	42.9

The outcome of the post-test analysis was $X^2_{.05[6]}$ = 19.129 which was statistically significant. This analysis provided evidence that the differences between groups in terms of same-ethnic, cross-ethnic and no ethnic choices were the possible influence and exposure to treatment. This statistical difference implied that less same-ethnic and more cross-ethnic choices were made in groups. The no ethnic choices played a significant role in the post-test as this indicated that less least-liked nominations were made due to treatment, especially in the cooperative learning group (42.9%).

6.5 _Testing of the Hypothesis_

The use of the Solomon Four-group design enables the researcher to investigate a number of design requirements, namely; (i) random assignment, (ii) the effect of pre-testing on post-test scores, (iii) the effect of pre-testing on treatment and, (iv) the interaction between pre-testing and treatment. Learners who were absent during the pre-test or post-test were not included in these analyses.

By comparing the pre-test scores of group 1 with group 2, the researcher tested random assignment. To determine the effect of pre-testing on treatment the researcher compared the experimental groups 1 and 3 by using their post-test scores. The post-test scores of the control groups 2 and 4 were used to determine the effect of pre-testing on treatment (see Chapter 5). These comparisons were done using Hotelling T^2, which compares groups simultaneously on a number of measures. These measures are listed as dependent variables in Table 12.

Table 12 represents the results of the Hotelling T^2 with respect to the design requirements of random assignment.

TABLE 12

The result of Hotellings T^2 in respect of random assignment

Test	Dependent Variable*	Mean			Sig	df	N
		Group 1	Group 2				
Reference to Random Assignment (1 vs 2)	Most-liked	5.813	5.889				
	Least-liked	5.156	5.389				
	ZLM	0.0001	0.026				
	ZLL	0.0001	-0.002				
	Sos. Impact	0.0001	0.024				
	Sos. Prefer	0.0000	0.028				
	Acceptance	53.188	53.333				
	Acceptability	14.531	13.583	$T^2 = 6.476$	- - - - - -	6/70	77

* Most-liked question; Least-liked question; (zLM) z-score Most-liked question; (zLL) z-score least-liked; Social Impact Score; Social Preference Score; Acceptance of Others and Acceptability to Others.

1 vs 2 = treatment group 1 versus control group 2

To determine random assignment the means of the pre-test scores were used. The treatment group 1 was compared with control group 2. Hotelling T^2 was not significant (T^2 = 6.476), implying no statistical significant difference between groups in terms of the measures (dependent variables). This indicated that random assignment was achieved.

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Table 13 represents the results of the Hotelling T^2 with respect to the effect of pre-testing on treatment.

TABLE 13

The effect of Pre-testing on Treatment

Test	Dependent Variable*	Mean			Sig	df	N
		Group 1	Group 2				
Effect of pre-test on treatment. (1 vs 3)	Most-liked	5.600	5.639				
	Least-liked	2.114	2.889				
	ZLM	0.003	-0.033				
	ZLL	0.010	-0.033				
	Sos. Impact	0.012	-0.066				
	Sos. Prefer	-0.007	0.000				
	Acceptance	54.714	52.056				
	Acceptability	15.000	13.583	$T^2 = 15.064$	p > 0.05	6/66	73

* Most-liked question; Least-liked question; (zLM) z-score Most-liked question; (zLL) z-score least-liked; Social Impact Score; Social Preference Score; Acceptance of Others and Acceptability to Others.

1 vs 3 = treatment group 1 versus treatment group 3

The means of this test was computed from the post-test scores. In this analysis treatment group 1 was compared with treatment group 2. The result of the analysis showed that Hotelling's T^2 was significant ($T^2 = 15.064$) indicating that overall there were significant differences between groups 1 and 3. Univariate t-tests indicated that groups 1 and 3 differed significantly in terms of post-test scores on acceptability to others. This would indicate that pre-testing probably sensitised subjects to the nature of the treatment.

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Table 14 represents the results of the Hotelling T^2 with respect to the effect of pre-testing on post-test results.

TABLE 14

Effect of pre-testing on post-test results

Test	Dependent Variable*	Mean			Sig	df	N
		Group 1	Group 2				
Effect of pre-test on the post-test results (2 vs 4)	Most-liked	5.906	5.771				
	Least-liked	5.313	5.286				
	ZLM	0.0002	0.0001				
	ZLL	0.111	-0.063				
	Sos. Impact	0.111	-0.063				
	Sos. Prefer	-0.111	0.063				
	Acceptance	52.844	47.457				
	Acceptability	13.875	14.257	$T^2 = 38.021$	P < 0.05	6/74	81

* Most-liked question; Least-liked question; (zLM) z-score Most-liked question; (zLL) z-score least-liked; Social Impact Score; Social Preference Score; Acceptance of Others and Acceptability to Others.

2 vs 4 = control group 2 versus control group 4

The means of this test was computed from the post-test scores. In this analysis control group 2 was compared with control group 4. The result of the analysis showed that Hotelling's T^2 was significant ($T^2 = 38.021$) indicating that overall there were significant differences between groups 2 and 4. Univariate t-tests indicated that groups 2 and 4 differed significantly in terms of post-test scores on acceptance of others. This would indicate that the mere fact of being pre-tested might have influenced post-test results.

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To analyse the effect of cooperative learning on the dependent variables the two treatment groups (group 1 and 3) were compared with the two control groups (group 2 and 4). This allowed the researcher to determine the effect of treatment (Cooperative learning) and the interaction between pre-testing and treatment by using a Two-way ANOVA.

Table 15 represents the results of the two-way ANOVA in respect of the interaction between pre-test and treatment.

TABLE 15

Interaction between pre-test and treatment

Test	Dependent Variable[*]	F	Sig	df	N
Interaction between pre-test and treatment.	Most-liked	0.010	- - - - - -	1/134	138
	Least-liked	0.162	- - - - - -	1/134	138
	ZLM	0.010	- - - - - -	1/134	138
	ZLL	0.145	- - - - - -	1/134	138
	Sos. Impact	0.045	- - - - - -	1/134	138
	Sos. Prefer	0.101	- - - - - -	1/134	138
	Acceptance	0.796	- - - - - -	1/134	138
	Acceptability	2.796	- - - - - -	1/134	138

[*] Most-liked question; Least-liked question; (zLM) z-score Most-liked question; (zLL) z-score least-liked; Social Impact Score; Social Preference Score; Acceptance of Others and Acceptability to Others.

It can be concluded from the F-tests in Table 15 that there was no interaction between the pre-test and treatment since these results were statistically not significant.

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6.6 *The effect of Cooperative learning on the Dependent Variables*.

The result of the two-way ANOVA in respect of main effects is reported in Table 16. This is in essence a test of the hypothesis that cooperative learning would be more effective than traditional learning (control group) in affecting the dependent variables.

TABLE 16

The effect of cooperative learning on the Dependent Variables

Dependent Variables[*]	Mean				F-Value	Sig
	Treatment		No Treatment			
	Pre-test	No Pre-test	Pre-test	No Pre-test		
Most-liked	5.600	5.640	5.910	5.770	0.061	- - - - -
Least-liked	2.110	2.890	5.310	5.290	7.882	p < 0.05
ZLM	0.002629	-0.0328	0.0001562	0.0001429	0.008	- - - - -
ZLL	0.009457	-0.0327	0.111	-0.0629	0.042	- - - - -
Sos. Impact	0.01209	-0.0655	0.111	-0.628	0.050	- - - - -
Sos. Prefer	-0.00683	-0.0000278	-0.111	0.06297	0.006	- - - - - -
Acceptance	54.710	52.06	52.84	47.46	4.479	p < 0.05
Acceptability	15.00	13.58	13.88	14.26	0.176	- - - - - -

[*] Most-liked question; Least-liked question; (zLM) z-score Most-liked question; (zLL) z-score least-liked; Social Impact Score; Social Preference Score; Acceptance of Others and Acceptability to Others.

It can be concluded from Table 16 that the cooperative learning group differed significantly from the control group in terms of the least-liked question and

acceptance of others. From the means it can be seen that the treatment group in comparison to the no treatment group had less least-liked nominations and higher acceptance of others scores.

Since two out of the four design requirements were successfully controlled by using the Solomon Four-group design this does not invalidate the results of this research.

6.7 *Comparison of the different Goal Structures*

This section of the analysis relates to the effectiveness of cooperative learning relative to other learning modes such as Traditional learning (Control Group), Competitive learning and Individualistic learning. If cooperative learning was successful in improving intergroup relations in the classroom then learners of Group 1 would do better than learners of Groups 2, 5 and 6 in terms of differences between pre-test and post-test scores. These comparisons were used to investigate the hypothesis: Cooperative learning would be more effective in promoting intergroup relations than competitive learning, individualistic learning and traditional learning in the classroom. The differences between the post-test scores of the four groups were tested by using an analysis of covariance with pre-test scores being the covariant. The result

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of this analysis is found in Table 17.

TABLE 17

Results of the Analysis of Covariance Comparing Groups[*]

Dependent Variables	Groups[*]	Mean	Adjusted Mean	F=value for slope	Sig	F-value for Means	Sig	df
Most-liked	1	5.812	5.869					
	2	6.200	6.326					
	5	6.412	6.276					
	6	5.878	5.854	194.404	p < 0.05	3.932	p > 0.05	3/129
Least-liked	1	1.750	1.887					
	2	4.600	4.868					
	5	5.588	5.539					
	6	5.658	5.397	103.177	p < 0.05	7.165	p > 0.05	3/129
ZLM	1	0.047	0.053					
	2	0.057	0.066					
	5	0.057	0.036					
	6	0.000	0.006	185.463	p < 0.05	1.160	- - - - - -	3/129
ZLL	1	-0.108	-0.136					
	2	-0.010	0.014					
	5	0.016	0.002					
	6	0.008	0.023	95.3447	p < 0.05	1.737	- - - - - -	3/129
Sos. Impact	1	-0.061	-0.088					
	2	0.047	0.084					
	5	0.073	0.037					
	6	0.008	0.031	136.838	p < 0.05	1.122	- - - - - -	3/129
Sos. Prefer	1	0.155	0.190					
	2	0.068	0.049					
	5	0.041	0.038					
	6	-0.008	-0.019	130.464	p < 0.05	2.083	- - - - - -	3/129
Acceptance	1	55.312	54.541					
	2	53.567	52.451					
	6	50.382	52.370					
	5	49.390	49.160	88.434	p < 0.05	0.622	- - - - - -	3/129
Acceptability	1	15.219	15.244					
	2	14.033	14.416					
	5	13.088	13.178					
	6	14.195	13.821	29.288	p < 0.05	3.254	p > 0.05	3/129

[*]Group: 1 = Cooperative Learning; 2 = Control Group (Traditional Learning); 5 = Competitive Learning; 6 = Individualistic Learning

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Reference to the adjusted means in Table 17 refers to the means used to compare the four groups using the analysis of covariance. This refers to the group means, after differences in the pre-test scores were taken into account.

However, the tests for equality of slopes were all significant indicating that an analysis of covariance was not appropriate since the slopes of the regression lines for the various groups were not equal. Given that the tests for equality of slopes were not equal the hypothesis was tested using ANOVA, where groups were compared using gain scores (pre-test minus post-test).

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6.8 *Analysis of Variance (ANOVA)*

The results of the analysis of variance on the gain-scores are reported in Table 18.

TABLE 18

Results of Analysis of Variance (Gain-scores)

Dependent Variables[*]		df	Mean Squares	F	Significant
GAINLM (Most-liked)	Between Groups Within Groups Total	3 133 136	2.198 14.770	0.149	- - - - - -
GAINLL (Least-liked)	Between Groups Within Groups Total	3 133 136	89.213 27.246	3.274	p < 0.05
GAINZLM	Between Groups Within Groups Total	3 133 136	0.02547 0.493	0.052	- - - - - -
GAINZLL	Between Groups Within Groups Total	3 133 136	0.247 0.670	0.368	- - - - -
GAIN Sos. Impact	Between Groups Within Groups Total	3 133 136	0.210 1.101	0.191	- - - - -
GAIN Sos. Prefer	Between Groups Within Groups Total	3 133 136	0.335 1.226	0.273	- - - - - -
GAIN Acceptance	Between Groups Within Groups Total	3 133 136	182.988 58.700	3.117	p < 0.05
GAIN Acceptability	Between Groups Within Groups Total	3 133 136	37.151 10.606	3.503	p < 0.05

[*] Most-liked question; Least-liked question; (zLM) z-score Most-liked question; (zLL) z-score least-liked; Social Impact Score; Social Preference Score; Acceptance of Others and Acceptability to Others.

The results of the ANOVA showed that the groups differed significantly in terms of least-liked, acceptance of others and acceptability to others. To determine how groups differed in terms of these three variables post-hoc analyses were conducted.

6.9 Turkey HSD Post-Hoc Test

The results of the Turkey HSD post-hoc test in Table 19 indicate the comparisons between groups that were significant.

TABLE 19
Turkey HSD Post-Hoc Test

Dependent Variable*	Method (I)	Method (J)	Mean Difference (I-J)	Significance
GAIN Acceptance	Cooperative	Individualistic	5.223	$p < 0.05$
GAIN Least-liked	Cooperative	Competitive	-3.524	$p < 0.05$
	Cooperative	Individualistic	-3.236	$p < 0.05$
GAIN Acceptability	Cooperative	Individualistic	1.956	$p < 0.05$

* Acceptance of Others; Least-liked question; and Acceptability to Others.

The Post-hoc analyses showed a significant difference between:

i. the cooperative and individualistic learning groups in terms of acceptance of others and acceptability to others. The cooperative learning group had a higher gain score than the individualistic learning group on these two scales indicating greater improvement from pre-test to post-test in the cooperative learning group in

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respect of acceptance of others and acceptability to others scores.

ii.   the cooperative learning group and the competitive and individualistic learning groups in terms of the least-liked question. The cooperative learning group had a lower gain score on the least-liked question than the competitive and individualistic learning groups. This indicates that from the pre-testing to post-testing the number of least-liked nominations decreased more in the cooperative than the competitive and individualistic learning groups.

6.10 *Summary of the results*

6.10.1 The descriptive analysis

i.   In the goal structure questionnaire the mean scores for each goal structure in the second review increased indicating that corrective procedures done by the researcher had the desired effect.

ii.   These corrections were mostly methodological procedures for all the groups such as, the increase use of the chalkboard by the researcher during the lesson, increase in learner participation in lessons, arranging and allowing learners to work on their own in

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the control and individualistic learning groups.

6.10.2 The Sociometric Scale

When the Sociometric analysis was compared across groups two important assumptions can be made:

1. In the pre-test the least-like nominations were high across all learning groups especially in individualistic learning.

2. In the post-test the least-liked nominations decreased in the competitive and cooperative learning groups while in the control group and individualistic learning post-test nominations remained high.
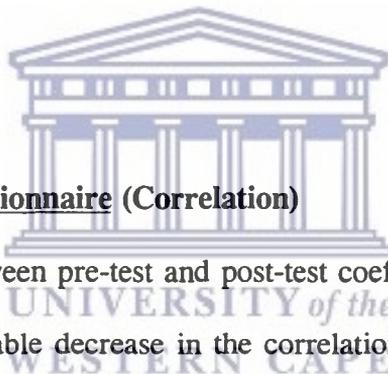
6.10.3 The Attitude Questionnaire (Correlation)

i. A comparison between pre-test and post-test coefficients indicated that there was a noticeable decrease in the correlation between acceptance of others and acceptability to others in the post-test of the Control Group. In contrast the relationship between acceptance of others and acceptability to others increased in the post-test of Cooperative learning. This also provided an indication that differences were a result of exposure to treatment.

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ii.   This determined that learners took an active interest in their classmates and showed a desire to develop good intergroup relations in the classroom.

6.10.4 Chi-square Analysis

i.   The outcome of the post-test analysis on same-gender and cross-gender was statistically significant. This analysis provided evidence that the difference between groups in terms of same-gender, cross-gender and no gender choices was the possible influence and exposure to treatment.

ii.   The outcome of the post-test analysis on same-ethnic and cross-ethnic was statistically significant. This analysis provided evidence that the differences between group in terms of same-ethnic, cross-ethnic and no ethnic choices was the possible influence and exposure to treatment.

6.10.5 The Design Requirements

i.   Of the four design requirements (random assignment, the effect of pre-testing on treatment, the effect of pre-testing on post-test results and interaction between pre-test and treatment) only two were statistically

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not significant which indicated that two design requirements were met namely, random assignment and interaction between pre-test and treatment.

ii.   Since two of the four design requirements were successfully controlled by using the Solomon Four-group design this did not invalidate the results of this research.

6.10.6 Testing the Hypothesis

i.   The differences between the post-test scores of the four groups (cooperative learning, competitive learning, individualistic learning and traditional learning [control group]) were tested by using an analysis of covariance with pre-test scores being the covariant.

ii.   The tests for equality of slopes were all significant and indicated that the analysis of covariance was not appropriate since the slopes of the regression lines for the various groups were not equal.

iii.   Given that the slopes were not equal the hypothesis was tested using an ANOVA where the groups were compared using gain scores (pre-test minus post-test).

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iv. The results of the ANOVA showed that the groups differed significantly in terms of least-liked, acceptance of others and acceptability to others.

v. The post-hoc analysis showed a significant difference between:

1. cooperative learning that had a higher gain score than individualistic learning in terms of acceptance of others and acceptability to others.

2. the cooperative learning group and the competitive and individualistic learning groups in terms of the least-liked question. This indicated that from pre-testing to post-testing the number of least-liked nominations decreased more in the cooperative learning group than in the competitive and individualistic learning groups.

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Chapter Seven

Conclusions and Recommendations

This study investigated the effectiveness of cooperative learning, competitive learning, individualistic learning and traditional learning (control group) in improving intergroup relations in the classroom. In the competitive learning class learners worked together for the advancement of their own group to the detriment of the other learners with whom they were competitively linked while learners in the individualistic learning class disregarded and ignored the efforts of other learners in the class. In the traditional learning class learners listened to the researcher with a minimum of interaction with their classmates while in the cooperative learning class learners worked and communicated together for the attainment of the group goal. Previous studies indicated that the cooperative learning condition is successful in developing feelings of increased friendship across ethnic groups and reduced intergroup tension between learners.

The expectation was therefore that cooperative learning would be more effective in improving intergroup relations as assessed by Sociometric analysis

and attitude questionnaires. In particular the following hypotheses guided the analyses:

1. Cooperative learning would be effective in increasing the most-liked nominations, the social preference and social impact scores as well as acceptance of others and acceptability to others and decreasing the least-liked nominations. The testing of this hypothesis involved comparing a group that was exposed to cooperative learning to a group that was not exposed to this learning method.

2. Cooperative learning in comparison to competitive learning, individualistic learning and traditional learning would be more effective in increasing the most-liked nominations, the social preference and social impact scores as well as acceptance of others and acceptability to others and decreasing the least-liked nominations. The testing of this hypothesis involved comparing a group that was exposed to cooperative learning to groups that were exposed to competitive, individualistic and traditional learning respectively.

The discussion of the results are thus presented in the following way: firstly the descriptive analyses (including Sociometric analyses), secondly examining

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the results of certain design requirements arising from the use of the Solomon Four-group design and thirdly the testing of the previous hypotheses.

7.1   *Discussion of results*

7.1.1   Descriptive results

Although these results were obtained using descriptive statistics important assumptions were made from these results that will be explained in the paragraphs below.

The sociometric data from this study underlined the importance of using both positive and negative sociometric questions to obtain social status among learner peer groups and the types of social status that can be found in the classroom (Coie, Dodge and Coppotelli, 1982). When the four learning groups were compared with one another inconsistencies can be highlighted from Tables 6 and 7. Table 6 indicated that acceptance of others was positively correlated with acceptability to others and that the coefficients decreased in the control group (traditional learning) and individualistic learning while coefficients increased in the competitive and cooperative learning groups. Table 7 indicated the contrary. In this table learners who were rejected (whose least-liked standardized score was greater than 0 and most-

liked standardized score was less than 0) increased in competitive learning and can be attributed to the competitive nature of the learning condition. Neglected learners (learners who received no least-liked and most-liked nominations) increased in cooperative learning, individualistic learning and control group.

When examining the information gleaned from the graphs it indicated that learners in competitive learning (Figure 1), individualistic learning (Figure 2) and the control group (Figure 4) made more least-liked nominations than those in the cooperative learning condition (Figure 3). Learners in the cooperative learning condition engaged more frequently in group activities during their free time than their counterparts in the individualistic learning condition. In the individualistic learning classroom learners worked on their own, sitting in rows listening to lessons with a minimum of interaction with their classmates. When learner interaction in individualistic learning and traditional learning (control group) was reduced it resulted in less interaction between learners.

The post-tests (chi-square analyses) for both gender (Table 9) and ethnic (Table 11) choices were statistically significant. These analyses provided evidence that the differences between groups were the possible influence and

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exposure to treatment. These results also implied that learners made less same-gender and same-ethnic choices and more cross-gender and cross–ethnic choices due to treatment (cooperative learning). These results compared favourably with studies by Hallinan and Williams (1989), Hallinan and Teixeira (1987), Slavin (1991, 1995) and Warring et al. (1985).

Within an ethnically mixed classroom there might be learners belonging to a common social identity. Social Identity theory explains that by eliminating category-based interactions the outgroup or members of the outgroup must ignore their individual or group interest (Groenewald and Heaven, 1977; Morse, Mann and Nel, 1977; Plug and Niewoudt, 1983; Sennet and Foster, 1996). On the other hand Contact Hypothesis Theory assumes that contact under the right conditions will reduce prejudice, not because it permits and encourages interpersonal friendships between members of different groups but, changes the nature and structure of the intergroup relationship (Bornman, 1988; Luis and Krige, 1981; Mynhardt, 1982).

7.1.2 Design Requirements

To minimise potential threats to the validity of the study a modified Solomon Four-group design with six groups was used. The Solomon Four-group design enabled the researcher to test four design requirements namely (1) random assignment, (2) the effect of pre-testing on treatment, (3) the effect of pre-testing on post-test results and (4) interaction between pre-test and treatment. Two of the four design requirements were met namely random assignment and interaction between the pre-test and treatment. This implied that random assignment of learners was achieved and that pre-testing did not interact with the treatment received in affecting the post-test performance.

However, in terms of the other two design requirements the results showed that pre-testing on treatment probably sensitised learners to the nature of treatment. Also it was found that the mere fact of being pre-tested on treatment might have influenced post-test results. Although, one ideally would have wanted all the design requirements to be met, the researcher is reasonably satisfied with two of the requirements being met.

To enable the researcher to test the four design requirements the results of the Hotelling T^2 and a two-way ANOVA was used. The Hotelling T^2 tested random assignment, the effect of pre-testing on treatment and the effect of pre-

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testing on post-test results while the two-way ANOVA tested interaction between pre-testing and treatment. Hotelling T^2 was statistically not significant for random assignment implying that randomness was achieved compared to the effect of pre-testing on treatment and the effect of pre-testing on post-test results that was statistically significant and possibly sensitised the learners to the nature of the treatment which could have influenced the post-test results. The result of the two-way ANOVA was statistically not significant allowing the researcher to determine that interaction between the pre-test and treatment did not occurred.
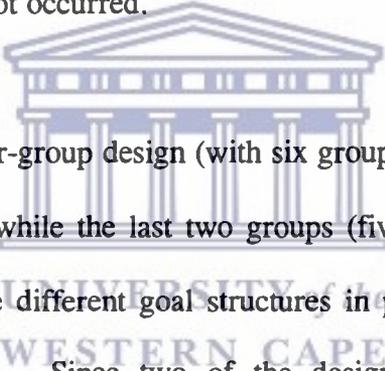
The modified Solomon Four-group design (with six groups) tested the effect of pre-testing on post-testing while the last two groups (five and six) tested the relative effectiveness of the different goal structures in promoting intergroup relations in the classroom. Since two of the design requirements were empirically validated by the Solomon Four-group design this does not invalidate the results of this research.

7.1.3   The Hypothesis

The first hypothesis was whether cooperative learning would be more effective than traditional learning (control group) in affecting the dependent variables. The hypothesis was tested by using a two-way ANOVA and provided proof that the cooperative learning group differed significantly from traditional learning in terms of the least-liked question and acceptance of others.   The means also provided proof that the treatment group in comparison to the no treatment group had less least-liked nominations and higher acceptance of others scores. . When searching principle sources such as ERIC (educational resources information centre), psychological abstracts, Sabinet and Nexus no research articles could be found to substantiate this result.

The second hypothesis relates to the impact of cooperative learning in relation to individualistic, competitive and traditional learning.   The first part was whether cooperative learning or competitive learning would improve intergroup relations in the classroom.   The Turkey HSD post-hoc test provided proof by indicating that the cooperative learning group had a lower mean score than the competitive learning group on the least-liked question. This implied that cooperative learning promoted more positive intergroup relations in the class than competitive learning.   It also indicated that learners in the competitive learning condition made more least-liked nominations than

learners in the cooperative learning condition. In cooperative learning learners were put together in cooperative contact groups that developed friendships and improved intergroup relations.

The second part was whether individualistic learning or cooperative learning would improve intergroup relations in the classroom. The result showed a significant difference in the Turkey HSD post-hoc test indicating that the cooperative learning group had a lower mean score than the individualistic learning group on the least-liked question. This implied that cooperative learning promoted more positive intergroup relations in the class than individualistic learning. It also indicated that learners in the individualistic learning condition made more least-liked nominations than learners in the cooperative learning condition.

The third part was whether cooperative learning would promote more positive intergroup relationships than traditional learning (control group). There was no significant difference in the Turkey HSD post-hoc test. This implied that there were no differences in the mean scores between cooperative learning and traditional teaching (control group).

These results are supported by the literature. Researchers (Du Plooy, 1993; D.W. Johnson & R.T. Johnson, 1985; Slavin & Hansell, 1983; Tshibalo & Schulze, 2000) provided further evidence in their studies that grouping learners across ethnic lines facilitated learning and promoted greater acceptance and liking of individuals from other ethnic groups. In fact, a study by Slavin and Oickle (1981) proved that cooperative learning was more successful than traditional learning in increasing intergroup relations between learners in ethnically mixed classrooms.

Turner (1978) found that in a competitive situation groups with similar values demonstrated more ingroup-outgroup bias than groups with different values. Similarly, in a field study of engineering workers, it was found that three groups of very similar status and with similar socio-political attitudes showed marked evidence of intergroup discrimination and mutual distrust (Brown, 1978a). Brown (1978b) established that, in a cooperative context, attitudinal similarity between groups of learners decreased differentiation and increased friendliness and cooperation between learners.

This research underlines the assumption of Allport's Contact Theory that, if groups were isolated or segregated they would display avoidance and develop stereotypic views of one another. When ethnically mixed learners interact

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within a context characterised by a positive goal structure (cooperative learning) a process of acceptance was promoted resulting in positive intergroup relations. Contact theory also claims that contact is insufficient to improve intergroup relations but that contact in a context of status equality (Allport, 1954; Brown, 1995; Cook, 1962, 1978) was needed not only the different goal structures.

From the results obtained in this study, learners were categorized as popular, rejected, neglected, controversial or average. Tajfel's Social Identity Theory emphasises that by eliminating prejudices or category-orientation, we restructure intergroup relations into cooperative inter-dependencies, thereby reducing the tendency to view other learners as merely representatives of a particular category. Genuine change will require action directed towards the reduction of categorization and distinction (Brewer and Millar, 1996, Hinkle and Brown, 1990 and Rabbie et al., 1989).

7.2 *Limitations of the Research*

1. Principals at ex-Model C schools (these were white only schools that allowed, by decision of the parents, a limited number of black, coloured or Indian learners to enrol at the school) were approached,

but were not amenable that this research takes place at their school.

2. The ethnic composition of this research was 94.4% coloured and 5.6% black. Because of the ethnic disparity of the sample this could have influenced the results of this research.

3. The subject educators of the six grade nine classes used in this research did not observe the researcher. To overcome this dilemma a Goal Structure Questionnaire was used to validate and control the goal structures used by the researcher in the different classes. The learners completed this questionnaire twice during the investigation. The learners were not informed when they would complete these questionnaires. The questionnaires were used to monitor any shortcomings in the teaching methodology of the researcher.

4. Once the study was completed no follow-up took place and many learners were placed in other classes when they were promoted to grade ten due to their subject choices. Learners had to re-establish new friendships in their new class.

5. Sociometric studies have specific objectives when researching racial attitudes but also have their weaknesses. One major weakness is the learner's attitude towards a specific group (ethnic or religious) when making a choice on the Sociometric questionnaire (Turner & Giles, 1995).

6. Asher and Hymel (1981) recommend that the use of negative questions (least-liked question) in the Sociometric questionnaire must be used cautiously and carefully.

7. Two out of the four design requirements were successfully met by the Solomon Four-group design, and ideally all four should have been met.

7.3 *Implications and recommendations*

1. The results of this research showed a significant difference between cooperative learning and the other goal structures (competitive learning and individualistic learning) in terms of the least-liked question. During the cooperative learning experience the learners shared a common group membership and acted together in the interest of the group. Past reviews of studies demonstrated the effectiveness of

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implementing cooperative learning strategies. Studies indicated that cooperative learning was associated with increased liking for classmates, increased intergroup relations, increased learner achievement and the reduction in ethnic prejudice (Johnson, 1981; Sharan, 1980; Slavin & Oickle, 1981).

2.   The results of this research have important implications not only for future theorising and research, but also for educators. In many classrooms individualistic and competitive learning procedures are used. Learners work on their own sitting in a row-by-column room arrangement, listening to lessons, with minimum interaction between classmates. The results of this research provide some indication that cooperative learning procedures could be utilised to promote more positive intergroup relations.

3.   Educators who are interested in promoting more positive relations among learners of different ethnic backgrounds must provide learners with the opportunity to cooperate with one another in their classrooms. Educators must also emphasize that harmony in the classroom is about accepting learner differences and not try to categorise learners as being the same.

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4. Increased educator-learner ratio by the educational authorities resulted in larger class sizes and intergroup tensions. Cooperative learning could be used by educators to reduce intergroup tension in the classroom.

7.4   *Avenues for future research*

1. This study should be replicated at a school with a more balanced ethnic composition.

2. A longitudinal study to research the effects of different goal structures on intergroup relations in the classroom from grade eight to grade twelve should take place. This would identify learners likely to experience social rejection and peer neglect in the classroom. This study could also help educators determine group management techniques for successful intergroup relations in the classroom.

3. Research the role of religion, class size and gender on intergroup relations. This could further determine the patterns of friendship and rejection.

7.5 _Conclusion_

The most powerful determinant of intergroup relations and friendships is learner reciprocity. The more opportunities learners have to interact positively the more learners would regard classmates as friends. The goal structure, the organisation of the learners in the classroom and learner interaction emerged as factors affecting intergroup relations in the classroom.

Intergroup relations, has always been a core discussion topic of social psychology. In education today and especially in South Africa where a non-racial educational system affects intergroup relations the role of the educator will become increasingly important. This thesis gives some insight to educators to improve intergroup relations in the classroom.
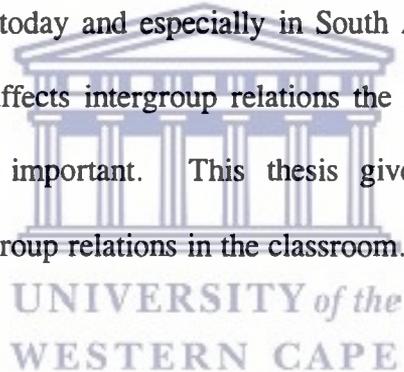
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WESTERN CAPE

APPENDICES

Appendix 1

SOCIOMETRIC NOMINATIONS

Your Class Teacher: Sex:

_____   __Male   or   Female__

Your full name: Date of Birth:

_____

1.   Which three learners in this class would you most like to sit with at
       lunch-time (interval)?

       First Choice   Second Choice   Third Choice

2.   Which three learners in this class would you most like to go up town
       to a movie with?

       First Choice   Second Choice   Third Choice

3.   Which three learners in this class would you most like to work together
       with in a small study group?

       First Choice   Second Choice   Third Choice

4.   Which three learners in this class do you like the least?

       First Choice   Second Choice   Third Choice

Appendix 2

ACCEPTANCE OF OTHERS QUESTIONNAIRE

NAME: ....   GRADE: 9....

In making your selection, <u>circle the number of your choice</u> (circle only **ONE NUMBER**).

Almost always   **1**   **2**   **3**   **4**   **5**   **very rarely**

1.   People are too easily led.
       1   **2**   **3**   **4**   **5**

2.   I like people I get to know.
       1   **2**   **3**   **4**   **5**

3.   People these days have pretty low moral standards.
       1   **2**   **3**   **4**   **5**

4.   Most people are pretty smug about themselves, never really facing their bad points.
       1   **2**   **3**   **4**   **5**

5.   I can be comfortable with nearly all kinds of people.
       1   **2**   **3**   **4**   **5**

6.   All people can talk about these days, it seems, is movies, TV and foolishness like that.
       1   **2**   **3**   **4**   **5**

7.   People get ahead by using "pull", and not because of what they know.
       1   **2**   **3**   **4**   **5**

8.   If you once start doing favours for people, they'll just walk all over you.
       1   **2**   **3**   **4**   **5**

9.   People are too self-centred.
       1   **2**   **3**   **4**   **5**

10.   People are always dissatisfied and hunting for something new.
        1   2   3   4   5

11.   With many people you don't know how you stand.
        1   2   3   4   5

12.   You've probably got to hurt someone if you're going to make
        something out of yourself.
        1   2   3   4   5

13.   People really need a strong, smart leader.
        1   2   3   4   5

14.   I enjoy myself most when I am alone, away from people.
        1   2   3   4   5

15.   I wish people would be more honest with you.
        1   2   3   4   5

16.   I enjoy going with a crowd.
        1   2   3   4   5

17.   In my experience, people are pretty stubborn and unreasonable.
        1   2   3   4   5

18.   I can enjoy being with people whose values are very different from
        mine.
        1   2   3   4   5

19.   Everybody tries to be nice.
        1   2   3   4   5

20.   The average person is not very well satisfied with himself/herself.
        1   2   3   4   5

From: Fey, W.F. Acceptance by other and its relation to acceptance of self and others: a revaluation. **Journal of Abnormal and Social Psychology**, **50(2)**, pp. 274-276.

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Appendix 3

ACCEPTABILITY TO OTHERS QUESTIONNAIRE

NAME: ....   GRADE: 9.....

In making your selection, <u>circle the number of your choice</u> (circle only **ONE NUMBER**).

Almost always   **1   2   3   4   5**   **very rarely**

1.   People are quite critical of me.

   1   2   3   4   5

2.   I feel "left out" as if people don't want me around.

   1   2   3   4   5

3.   People seem to respect my opinion about things.

   1   2   3   4   5

4.   People seem to like me.

   1   2   3   4   5

5.   Most people seem to understand how I feel about things.

   1   2   3   4   5

From: Fey, W.F. Acceptance by other and its relation to acceptance of self and others: a revaluation. **Journal of Abnormal and Social Psychology,** **50(2)**, pp. 274-276.

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Appendix 4

COOPERATIVE LEARNING QUESTIONNAIRE

DATE: ....

Mark with a CROSS in the correct block which best describes the statement:

strongly disagree (SD); Disagree (D); Unsure (U); Agree (A); Strongly Agree (SA).

1. The educator divided the class into groups.

SD	D	U	A	SA

2. The groups are mixed (males and females).

SD	D	U	A	SA

3. The educator explains the work before the group begins.

SD	D	U	A	SA

4. In your group you work together with your fellow learners.

SD	D	U	A	SA

5. You are allowed to talk and exchange ideas in your group.

SD	D	U	A	SA

6. If there are problems (tension) in the group it is solved while you are working on a task during the lesson.

SD	D	U	A	SA

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7. The educator assists your group if you have any problems during the lesson.

SD	D	U	A	SA

8. Everyone in the group helps with the task during the lesson.

SD	D	U	A	SA

9. There is acceptance of support by learners of the group during the lesson.

SD	D	U	. A	SA

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WESTERN CAPE

Appendix 5

COMPETITIVE LEARNING QUESTIONNAIRE

DATE: ....

Mark with a CROSS in the correct block which best describes the statement:

strongly disagree (SD); Disagree (D); Unsure (U); Agree (A); Strongly Agree (SA).

1.   The educator explained the teaching method.

SD	D	U	A	SA

2.   The educator divided the class into groups.

SD	D	U	A	SA

3.   The groups are mixed (males and females).

SD	D	U	A	SA

4.   The educator explains the work before the group begins.

SD	D	U	A	SA

5.   In your group you work together so that the group is the best in class.

SD	D	U	A	SA

6.   Are you allowed to exchange ideas in your group so that your group can be the best?

SD	D	U	A	SA

7.   Are the groups competing with one another during the lesson?

SD	D	U	A	SA

8.   Learners work together to gain information or to compete with other groups during the lesson.

SD	D	U	A	SA

9.   There is no communication with other groups during the lesson.

SD	D	U	A	SA

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WESTERN CAPE

Appendix 6

INDIVIDUALISTIC LEARNING QUESTIONNAIRE

DATE: ....

Mark with a CROSS in the correct block which best describes the statement:

strongly disagree (SD); Disagree (D); Unsure (U); Agree (A); Strongly Agree (SA).

1.　　The educator explained the teaching method in class.

SD	D	U	A	SA

2.　　You work on your own without being disturbed by others during the lesson.

SD	D	U	A	SA

3.　　When learners make contact with one another during the lesson, the educator stops it?

SD	D	U	A	SA

4.　　The educator explains the work before you begin.

SD	D	U	A	SA

5.　　The educator assists you when you have a problem during the lesson.

SD	D	U	A	SA

6.　　The class is arranged so that learners can work on their own during the lesson.

SD	D	U	A	SA

Appendix 7
CONTROL GROUP QUESTIONNAIRE

DATE: ....

Mark with a CROSS in the correct block which best describes the statement: **strongly disagree (SD); Disagree (D); Unsure (U); Agree (A); Strongly Agree (SA)**.

1. The educator uses the chalk board most of the time during the lesson in class.

SD	D	U	A	SA

2. There is no communication between educator and learners during the lesson.

SD	D	U	A	SA

3. The educator speaks all the time during the lesson.

SD	D	U	A	SA

4. You work on your own during the lesson.

SD	D	U	A	SA

5. Learners do not participate in the lesson.

SD	D	U	A	SA

6. The educator assists you in your schoolwork during the lesson.

SD	D	U	A	SA

7. Are you allowed to exchange ideas during the lesson in class?

SD	D	U	A	SA

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Appendix 8

115 Kromboom Road
Crawford
7764
11 April 1995

The Director: Research
Western Cape Education Department
Private Bag
Cape Town
8000

Dear Sir

Re: Research at a School.

I am reading towards my Doctorate in Education at the University of the Western Cape. My research will be investigating the effects of teaching methods (cooperative learning, competitive learning and individualistic learning) in promoting more positive intergroup relations in the classroom.

This research will encompass the following:
a.   the use of a school in the Cape Peninsula.
b.   the use of the learners, specifically grade nine (9) learners as participants in this research to answer a sociometric questionnaire on intergroup relations as well as attitude questionnaires.

The questionnaires will be within the parameters of ethics as described by the University.

My promoters for this research are Prof. Tyrone Pretorius (Vice Rector Academic) and Prof. Aslam Fataar (Faculty of Education) at the University of the Western Cape.

As I have completed my literature review, I will be starting my empirical (statistical) study. I would like to obtain permission to carry out this study at a school. My doctoral proposal is attached to this letter.

Hope my request will meet your approval.

Yours faithfully

Ronald.S. Cornelissen.

P.S.   For further information contact R.S. Cornelissen at Ph. (021) 697-2960 or at the above address.

Appendix 9

Navrae
Enquiries   Mr D.A. Norton
Imibuzo

Telefoon
Telephone   403-6100
Ifoni

Faks
Fax   425-7445
Ifeksi

Verwysing
Reference   L.15/73/7/2
Isalathiso

Wes-Kaap Onderwysdepartement

Western Cape Education Department

ISebe leMfundo leNtshona Koloni

Dear Mr Cornelissen

RESEARCH PROJECT: GOAL STRUCTURES THAT WILL PROMOTE MORE POSITIVE CLASSROOM INTERGROUP RELATIONS.

1.   I refer to your letter of application to do research dated 11 APRIL 1995.

2.   Your application to approach school(s) in the Cape Town area to conduct the above-mentioned research project is granted, subject to the following conditions.

2.1   The principals/teachers/pupils are under no obligation to cooperate in the research.

2.2   The principals /teachers/pupils/schools may not be identifiable in any way in your researcgh project.

2.3   All arrangements in connection with your project must be undertaken by yourself.

2.4   The research may not be conducted during the fourth term.

2.5   Conditions 2.1 and 2.4 above must be quoted in full when you approach the principal.

2.6   A copy of the completed report must be sent to:

The Reseach Section
Western Cape Education Department
Private Bag 9114
CAPE TOWN
8000

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2.7   A separate synopsis (a maximum of 2 – 3 typed pages) of the most important findings and recommendations must accompany the completed report.

3.   The department wishes you every success in carrying out this research project.

Yours sincerely

for ACTING HEAD OF EDUCATION
DATED: 12 April 1995

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Appendix 10

115 Kromboom Road
Crawford
7764
11 February 1996

The Principal
....
....
....
....

Dear Madam/Sir

Re: Research at School.

I am reading towards my Doctorate in Education at the University of the Western Cape. My research will be investigating the effects of teaching methods (cooperative learning, competitive learning and individualistic learning) in promoting more positive intergroup relations in the classroom.

This research will encompass the following:
a.   the use of your school.
b.   the use of the learners, specifically grade nine (9) learners as participants in this research to answer a sociometric questionnaire on intergroup relations as well as attitude questionnaires.

The questionnaires will be within the parameters of ethics as described by the University.

My promoters for this research are Prof. Tyrone Pretorius (Vice Rector Academic) and Prof. Aslam Fataar (Faculty of Education) at the University of the Western Cape.

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As I have completed my literature review, I will be starting my empirical (statistical) study. I would like, if possible to obtain permission to do this study at your school. A study outlined is attached to this letter.

Hope my request will meet your approval.

Yours faithfully

_____

Ronald.S. Cornelissen.

P.S.   For further information contact R.S. Cornelissen at Ph. (021) 697-2960 or at the above address.

Appendix 11

ESTABLISHING AN INDIVIDUALISTIC GOAL STRUCTURE

The essence of an individualistic goal structure is giving learners individual goals and using a criteria-referenced evaluation system to assign rewards. The researcher's role in using appropriate individualistic procedures is outlined below:

1. As far as possible, specify the instructional objectives.

2. Arrange the classroom. This means providing adequate space for each learner so that he/she can work without being disturbed by others.

3. Explain the task and the goal structure. This often involves work at one's own speed on a set of programmed materials and evaluating the learner's progress in mastering the materials. The goal structure is communicated by telling the learner to work on their own to achieve their own goal and telling them that they will be evaluated on the basis of how the quality or quantity of their work compares with the criteria established for this purpose.

4. Each learner needs a set of self-contained materials to work on their own.

5. Observe learner behaviour. Answer all questions about procedures.

6. Intervene to ensure that learners are behaving appropriately without disturbing the work of others. It will be necessary to ensure that learners follow the procedures correctly. Researcher to provide assistance where needed.

7. Evaluate learner progress according to a criteria-referenced system.

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Appendix 12

ESTABLISHING A COMPETITIVE GOAL STRUCTURE

The essence of a competitive goal structure is to give learners individual goal and reward them by means of a normative evaluative system. Assigning the individual goal of being the best learner in the class, giving a test, ranking learners from best to worst. The researcher's role in using appropriate competition is slightly more complicated. The researcher's actions can be outlined as follows:

1.   As far as possible, specify the instructional objectives.

2.   Select the group size most appropriate for the lesson. When learners compete, they should be placed in homogeneous groups based on ability or previous achievement, the more groups the better.

3.   Assign learners to group.

4.   Arrange the classroom. This may mean separating learners somewhat so they cannot copy.

5.   Explain the task and the competitive goal structure. The goal structure is communicated by telling learners that the individual goal is to be first in the class.

6.   Provide the appropriate materials. Each group needs a self-contained set.

7.   Observe learner behaviour. Answer all questions about procedures.

8.   Intervene to encourage the fun of competing or to de-emphasize the importance of winning when it seems necessary. Make sure that rules are followed, no one cheats and disputes are settled quickly.

9.   Evaluate learner progress according to a normative evaluation system.

Appendix 13

ESTABLISHING A COOPERATIVE GOAL STRUCTURE

The essence of cooperative learning is assigning a group goal, such as producing a single product or achieving as high a group average on a test as possible, and rewarding every group learner on the basis of the quality or quantity of the group product according to a fixed set of standards. The researcher establishes a group goal and a criteria-referenced evaluation system, and rewards learners on the basis of their group performance. Teaching a cooperative lesson involves more than just setting up a cooperative goal structure. Here is a summary of the researcher's role in cooperation:

1. As far as possible, specify the instructional objectives.

2. Select the group size most appropriate for the lesson. The size of the group will vary according to the resources needed to complete the lesson or project.

3. Assign learners to groups. Maximise the heterogeneity in the group. Random assignment usually ensures a good mixture of males and females, highly verbal and passive learners, leaders and followers and enthusiastic and reluctant learners. Random assignment is the most highly recommended procedure.

4. Arrange the classroom. Cluster the groups of learners so that they will not interfere with one another. Within the groups that learners should be able to see the relevant materials, talk with one another and exchange materials and ideas. Usually a circle is best and long tables should be avoided.

5. Explain the task and the cooperative goal structure. The goal structure is communicated by telling learners that there is a group goal and that group members will be rewarded on the basis of the quality of the group's work.

6. Provide the appropriate materials. When learners are first learning how to cooperative or when some learners are having problems in contributing to the group's work you may want to arrange the materials so that every learner participate.

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7.   Observer interactions between learners. Asking learners to cooperate does not mean they will do so. Much of your time will be spent observing the groups to see what problems they are having.

8.   Intervene as a consultant to help the group solve its problems and to help learners learn the interpersonal skills necessary for cooperating.

9.   Evaluate the group products using a criteria-referenced evaluation system.

Appendix 11 to 13:   From D.W. and R. Johnson, <u>Joining Together: Group theory and group skills</u>. Englewood Cliffs, NJ: Prentice Hall, 1975.

Appendix 14

ESTABLISHING A TRADITIONAL GOAL STRUCTURE

The essence of traditional learning or "frontal teaching method" is giving learners individual goals and using a criteria-referenced evaluation system to assign rewards. The researcher's role in using appropriate traditional procedures is outlined below:

1. As far as possible, specify the instructional objectives.

2. Arrange the classroom. This means providing adequate space for each learner so that he/she can work without being disturbed by others.

3. Explain the task and the goal structure. This often involves work at the educator's own speed on a set of programmed materials and evaluating the learner's progress in mastering the materials. The goal structure is communicated by telling the learner to work on their own to achieve their own goal and telling them that they will be evaluated on the basis of how the quality or quantity of their work compares with the criteria established for this purpose.

4. The researcher stands in front of the class and delivers the lesson while learners will sit and listen passively in the class. Little or no interaction results between the educator and learners.

5. Each learner needs a set of self-contained materials to work on their own.

6. Intervene to ensure that learners are behaving appropriately without disturbing the work of others. The researcher provides no assistance when required by the learner.

7. Evaluate learner progress according to a normative evaluation system.

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