

**THE INFLUENCE OF THE SOCIAL COMPOSITION OF A
LEARNER GROUP ON THE RESULTS OF COOPERATIVE
LEARNING TASKS**

by

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submitted in fulfilment of the requirements for
the degree of

MASTER OF EDUCATION

in the subject

SOCIO-EDUCATION

at the

UNIVERSITY OF SOUTH AFRICA

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December 2002



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I declare that **THE INFLUENCE OF THE SOCIAL COMPOSITION OF A LEARNER GROUP ON THE RESULTS OF COOPERATIVE LEARNING TASKS** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Signed

Helen Ramsay

Summary

The dynamics of the social interaction within the cooperative learning group are accepted and considered to be one of the aspects that will influence the individual learner's feelings regarding the group activity. The impact of the groupings on the quality and quantity of the observable learning within the class is considered. For this study the cooperative learning groupings were manipulated, considering aspects of the learner's social relationships uncovered with the use of a social questionnaire, which the learners completed. These details were summarised by means of a sociometric table and a sociogram.

This study approaches the topic from two main perspectives. Primarily observation and naïve sketches, from the learners, formed the source of the data and provided the initial perspective on the area of study. From the viewpoint provided in this information specific grouping parameters were applied to later groups of learners, and a survey conducted.

Acknowledgements

A very special thanks to my husband Charles, for the encouragement and especially for his patience during the entire period of the study. Special thanks must go to my two children David and Carroline for the time that they gave me to spend quietly in my study.

Thanks need to go to Professor Schulz for the care and time taken in the processing of the data, and to Professor Lemmer for the careful editing of the document.

To those learners that were the “guinea pigs” in the research I thank them. To Mrs Diane Thompson for the support in the writing of the dissertation and to Mrs Mary Ann Evenhuis for the time spent reviewing thought processes and for debating alternative viewpoints.

Finally a very special thanks to Dr Dicker for her care, patience and encouragement in completing the study. Her insight into approaching the topic from different perspectives was invaluable.

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Chapter 1 Introduction and overview

1.1 Introduction

Cooperative learning is not a new concept that is being introduced; rather it has been well researched and documented. This approach to teaching and learning provides for an atmosphere that is very different from that of the traditional classroom (Slavin 1996: 43). Traditional teaching places the teacher at the centre of all of the activities that occur in the classroom. The activities / interactions that occur are predominantly of a one-to-one nature, being based on a relationship between the teacher and the pupil. No productive relationship exists between the learner and the other members of the peer group (Bruffee 1989: 64).

Kader Asmal, the current Minister of Education in South Africa, in his "Call to Action" speech of the 27th July 1999, states:

It is important to recognise that damage was done over the decades by an approach to education that was essentially authoritarian and allowed little or no room for the development of critical capacity or the power of independent thought and enquiry.

This statement was made in order to voice his support for the institution of Curriculum 2005, a national curriculum framework based on the concept of outcomes based education, or O.B.E. At the centre of this concept is the idea that the teacher becomes one of the resources available to the learner. The learner in turn is afforded the environment in which he/she is

able to think for himself/herself and to move towards self-motivated learning.

While cooperative learning and outcomes based education may never be considered to be synonymous concepts, the cooperative learning approach is well suited to a large proportion of the activities proposed by outcomes based education. This link between the two concepts increases the necessity for the development of an understanding of the approach and its implementation in the South African situation, as this approach is to be utilised in all South African schools.

1.1.1 Curriculum 2005 and outcomes based education (O.B.E.)

1.1.1.1 A brief history of Curriculum 2005.

Curriculum 2005 is the name that has been given to the curriculum reform that was necessary in a democratic South Africa in order to move away from the apartheid legacy of the past (Jansen & Christie 1999: 4; Jansen 1998: 322). This curriculum was introduced in order to set aside the philosophical and pedagogical basis of the apartheid education for all future generations. The curriculum model that was thus named Curriculum 2005, drew on a variety of ideas that are current in the international education arena, and reshaped these ideas in order to fit them to the local conditions. Prominently included in these ideas is that of outcomes based education.

The initial implementation plan was to have the curriculum introduced into all of the school grades by the year 2001. However the implementation did

not go according to plan, largely due to wider post - 1994 election changes and a lack of the essential resources. Early in January 2000, the Minister of Education, Kader Asmal announced the establishment of a committee whose task it was to investigate aspects of Curriculum 2005.

The committee, under the chair of Prof Linda Chisholm, made their recommendations to the Minister of Education on the 31 May 2000.

The core concepts of Curriculum 2005 such as learner centred education, the teacher as a facilitator, relevance of the learning material, contextualised knowledge and cooperative learning are to be implemented. The new curriculum aims at equipping all learners with the knowledge and competencies that they will require when they leave school. Furthermore, learning is considered a lifelong process, and emphasis needs to be placed on *Lifelong learning for the 21st century*, the title of a booklet produced by the National Department of Education at the introduction of Curriculum 2001.

The shift of emphasis from that of content to that of outcomes is the key to the philosophy upon which the curriculum is based. Outcomes based education is here to stay (Report of the Review Committee, C2005, 31 May 2000: 18).

1.1.1.2 Outcomes based education

From the outset, it is important to consider that in South African literature Curriculum 2005 and outcomes based education are frequently considered to be one and the same. Curriculum 2005 is a political strategy, a planned process of curriculum change, directed at redressing the discrepancies of the past, equality and development. The strategy that has been called

Curriculum 2005, draws on progressive learner centred education, and outcomes based education and concepts of an integrated approach to knowledge (Report of the Review Committee, C2005 31 May 2000: 16).

Spady (1993: 1) considers outcomes based education to be a means for:

focusing and organising a school's entire programme and instructional efforts around clearly defined outcomes we want all learners to demonstrate when he/she leaves school.

Outcomes based education is an approach that has been developed from the core paradigm that it is necessary to motivate lifelong learning, to strengthen self-discipline and to encourage curiosity. Outcomes based education is thus an approach that focuses on the desired end results of the learning process. It is from the intended learning results that the outcomes as well as the instructive and learning processes that lead the learner to those end results are developed. (Van der Horst & McDonald 1997: 7 – 8; Spady 1993: 2).

An outcome is a visible, observable demonstration of something that the learner can do as a result of all the learning experiences and the capabilities that underlie the ability (Pretorius 1998:ix). The emphasis of this approach is competence as well as content, knowledge, combined with effective motivational and rational elements that make up a performance (Spady 1993: 4). The approach thus may be considered to focus on what the learner has learnt and understood and how he/she has learnt it and whether he/she can apply it, rather than only considering what is being taught and what the learner does not know.

Basing education on outcomes means that the planning needs to be done in order to reach the end that is desired in the learner's demonstration

(Pretorius 1998: x). The outcome must become the starting point and the curriculum must then be built up around the learning demonstration that is hoped that the learner will achieve. The emphasis for the schooling system must thus change from ensuring that the learner remain at school for a specified period of time, to a situation where the learner is able to demonstrate a predefined level or standard of competence. Furthermore, the activities within the classroom need to adopt a structure wherein the learners are provided with a variety of opportunities whereby they can acquire and develop the required competencies (Bossert, Barnett & Filby 1984: 44).

Within the constraints of the traditional classroom, the emphasis is on the ability of the individual learner, who is placed in a position of competition with all the other learners in the group (Helton & Oakland 1977: 261). Those who do not reach the predetermined level of expectation, are considered to be uninteresting and not worth knowing (Aronson & Patnoe 1978: 5). Outcomes based education in contrast seeks to look at what the learner has achieved, rather than what he/she still needs to achieve.

Using the outcomes based education approach, the community needs to consider what the learner should be able to do and what he/she should know at the completion of his/her school career. The results of these deliberations then form the core outcomes, which will be considered at all stages of the planning of education events (Pretorius 1998: x). The development of an outcomes based curriculum thus will have as the starting point, the desired results of the entire learning experience. Some of these outcomes may be based on experiences that the learners can expect to encounter once they have left school or to provide the learners with skills that will enable them to be more economically desirable once they leave school.

Vocations are more flexible today than ever before, with teamwork and rotation frequently key ingredients in the workplace. Higher order thinking skills, cooperation between employees and communication skills are needed more in today's marketplace than ever before (Pretorius 1998: vii). Essentially the school needs to prepare the learners for a world that may be very different from the one that we know today.

Considering that at the core of outcomes based education is the successful learning of all of the learners in a group; the need exists to see the other members of the group as an essential part of their individual progress in achieving the desired outcomes. This is an important aspect for each learner to acquire and to develop. Since each of the learners is a unique individual, interpersonal interaction and the management of these dynamics are undeniable aspects of a curriculum based on learner-centred education.

1.1.1.3 Cooperative learning – the concept and O.B.E.

Cooperative learning is the term used to describe a teaching method whereby the learners must work together and ensure that all the members of the group have assimilated the learning content. The group members are thus responsible for their own learning and for assisting the other learners in the group to learn or to practice the skills. Therefore, the strategies used in this situation are different to those in which each learner is working independently on their his/her tasks.

An important critical outcome of outcomes based education is to encourage learners to work effectively with the other members of a team or group. Cooperative learning thus seeks to promote this outcome (Gawe 2000: 190 –191).

1.2 Subject of the study

The study aims to look at the dynamics and interactions that occur in a small group of four to five adolescents, the small group being made up within the larger class group. Cooperative learning activities will be used in order to direct the activities and to provide the reason for the learners working together as a group. The subject related test results are thus not core to the study, rather the learner's perceptions of the group's dynamics and his/her feelings are what is considered to be more important.

The study has been conducted within the parameters of cooperative learning activities. Two main considerations influenced this decision; firstly to limit the possible results, and secondly as cooperative learning activities are of significance in the introduction of Curriculum 2005.

1.3 Research problem

Grouping demands that some differentiation and selection must be made. These selections will directly influence the system that exists within any group, and it is the relationships within these systems that will in turn determine whether he/she produces results that may be considered to be effective or not.

1.3.1 Background to the problem

The progressive institution of Curriculum 2005 in all the South African schools implies that group work in a variety of forms is going to become more common at these institutions. Within the present education system, two social distortions exist from the previous apartheid era: *one was the extreme inequality in learner-educator ratios...the second serious distortion was the racially defined qualifications structure... which ensured that African teachers, taken as a whole are less well qualified than other teachers* (Asmal 1999). The reality of the statement is generally that those teachers who are less qualified are the ones that have the greater learner-educator ratios. Furthermore these teachers generally have a lack of learning resources and poor or no facilities. While a concrete attempt is being made to redress these inequalities, the chasm is not likely to be negated in the immediate future, as the situation needs to be systematically addressed.

The foregoing paragraph outlines the already troubled situation wherein a new Curriculum, with the associated teaching methods, is being introduced (Jansen 1998: 321). The necessity therefore exists for the provision of guidelines where at all possible.

When adolescents are placed into a small group and given a task to do, the quality and the quantity of the learning that results may not meet the level that was expected. Less frequently, the results may exceed the teacher's expectations. In an education system that is already under duress, the process of placing the learners into the groups that are likely to be the most effective, if such a 'formula' exists, needs to be carefully investigated.

Factors that have no direct relationship with the philosophy of outcomes based education, may thus directly contribute to the success or failure of

the implementation of this education policy. Identification of even one of the aspects that may be seen to be of significance in the achievement of the critical outcomes, as they are stated in the education policy documents, may thus assist in the reality of putting this curriculum into practice.

1.3.2 Problem statement

What are the learners' feelings regarding the successfulness of their own learning experience within different group compositions?

The sub-problems that will need to be considered are:

- ❖ The possible influence of the least-liked member of the class group being placed into the same group as the "star" (most liked member) of the class.
- ❖ The possible influence of the "star" or the least liked member of the class group on the results of the other members of the group.
- ❖ The possible effect of being in a group that is composed of friends.
- ❖ The possible effect of using randomly generated groups.

1.3.3 Aim of the study

The aim of the research is to ascertain whether a particular combination of socially based preferences within the class groups will result in more or less favourable outcomes of cooperative learning activities. The study will consider the learner's perceptions regarding the learning activities as they have occurred in the groups.

It is not the aim of the study to prove that one type of grouping is more successful than another, rather to isolate possible social position or standing characteristics of learners, which have an impact on the learning experience of their peers in the group.

The significance of the individual's perceptions regarding the meaning that he/she attaches to the activities and the accounts of the grouping that he/she perceives to be the more beneficial will be considered.

1.4 Delimitation of the study

The study was conducted in a middle to upper class, secondary school. This school was previously classified as a "Model C" school, and as such may be considered to be well equipped with regard to both facilities and teaching staff.

The all-round achievement of the learners is considered to be important. However, the record of previous matriculation groups, together with the expectation of success with each matriculation group, places an element of importance on the academic achievements of the learners. While the learners are permitted to select subjects for the senior secondary phase

from all of the subjects offered by the school, the expectation exists that the majority of the learners will do a matriculation course that includes mathematics and science. As business economics is one of the subjects that a “non-maths” learner can choose, the subject tends to attract the academically weaker learner. Thus the academic ability of the learners in the sample group may not be considered to be a true representation, or cross-section, of the ability within the school as a whole.

Business economics as a school subject has a direct impact on the potential task structure, and thus also the learning that occurs in the classroom. The nature of the learning outcomes, that is whether it may be classified as intended in terms of the educational outcomes directly related to the subject matter or unintended such as, for example, improved social skills or an impact on the learner’s behaviour or attitude towards others in the group, is a factor that is limited in the extent of the study. The nature of the tasks that have been assigned to the groups is predetermined by the subject matter and by its essence not directly applicable to other subjects. This will limit the scope of the study.

This study considers the individual feelings of the adolescents once they have been working for a period together with a small group of their peers. It is not within the bounds of this study to consider the greater class groupings as they have occurred due to the learner’s past academic ability and their own individual subject selection. Both of these factors will have a direct influence on which class the learner is placed into.

As the intention of the study was to consider the impact of the groupings on the perceptions of each one of the learners, at that point in time, the Learner Team Achievement Divisions (STAD) and the Teams, Games, Tournament (TGT) forms of cooperative learning were used. These methods do not, necessarily, rely on the learners being placed in the same

group for an extended period of time, as is necessary with some of the other methods described. Furthermore, the STAD and TGT methods allow for a variety of activities that will facilitate learning to be presented to the groups of learners, after the lecture or presentation of the subject matter. The use of the STAD and TGT forms of cooperative learning activities will thus limit the conclusions that may be drawn.

That a group is a dynamic system (Cartwright & Zander 1968: 3 – 9), and that as such there is change and development occurring within the individuals as well as the group, is not questioned. The dynamics of the group are accepted and considered to be one of the facts that will influence the individual learner's feelings regarding the group activity. As the groups are formed, knowing that there are potentially difficult relationships, thus also affecting the dynamics of the groups, the initial feelings with regard to the individual learner's placement in the group are not considered. Rather the learner's feelings at the termination of the activity are seen as more relevant. The changes in the group dynamics, as they occur during the period of time spent as a group, are noted as part of the observed activities. These changes will direct what the learner notes at the termination of the activity.

1.5 Definition of concepts

1.5.1 Cooperative learning defined

Cooperation is generally considered to mean, the working together or as a team in order to reach a common goal (Johnson & Johnson 1994: 3). The term cooperative learning has been defined in many different ways:

1. Cooperative learning is the instructional use of small groups in order to achieve common learning goals, via cooperation (Dornyei 1997: 482).
2. Cooperative learning involves working together to accomplish shared goals, using skills that benefit each group member (Singhanayok & Hooper 1998: 18).
3. Cooperative learning is a carefully planned learning strategy that involves forming appropriate sustained learning groups of interdependent members who have been assigned a specific learning goal. Emphasis is placed on student involvement in active learning and the development of social skills (Kaufman, Sutow & Dunn 1997: 38).
4. A completely cooperative group setting.....is characterised by interdependence among children with regard to both means and end. In a completely cooperative group children work together towards a common end task or goal. Members share in all aspects of the group processes and activities. All children in the group are expected to interact and/or contribute to the group's activity (Stodolsky 1984: 114).
5. Cooperative learning refers to instructional methods in which students work together in small groups to help each other. Students are assigned to cooperative groups and stay together for weeks. They are usually taught specific skills to help them to work well together, such as active listening, giving good explanations, avoiding putdowns and including other people (Slavin 1997: 284 – 285).

6. *Cooperative learning is a way of teaching in which pupils work together to ensure that all members in their groups have learnt and assimilated the same content. In cooperative learning groups are organised and tasks structured so that pupils must work together to reach a goal, solve a problem, make a decision and produce a product (Gawe 2000: 190).*

The selection of definitions of the term cooperative learning differ in the expectation of complexity with regard to: the anticipated interaction among the learners in the groups; the period of time that the groups work together; the nature of the task as well as the social skills required by the learners and teacher.

For the purpose of this study, the definition provided by Dornyei (1997: 482) quoted in point 1 above, will be used, that is, *the instructional use of small groups in order to achieve common learning goals.*

A motivating factor for the implementation of this study is the applicability to Curriculum 2005 and the practice of Outcomes Based Education in the South African school system. It is from this perspective therefore that the more simplified definition has been selected.

1.5.2 Learner Teams Achievement Divisions (STAD)

The Learner Team Achievement Divisions (STAD) is a form of cooperative learning activities detailed by Slavin (1994: 2 – 3). The learners are assigned by the teacher to four to five member teams, wherein the members are mixed with regard to their ability, performance level, gender, and ethnicity.

The teacher then presents a lesson. The learners then work, for a specified period of time, in their teams in order to master the contents of the lesson. Learners are then tested individually on their mastery of the contents of the lesson; during this part of the activities there may be no inter-group assistance.

Each of the learner's individual test scores are then compared with their own past averages and points are awarded based on the change in their performance. These points are then added to (or subtracted from) the other group member's points to provide a group score. The teams that meet the pre-specified criteria will be awarded with the rewards, as previously decided on by the class group.

The value in this cooperative learning activity is that if the learners wish to earn the team rewards, they must help his/her teammates to master the learning material. The team members also need to encourage their team-members to do their best. Because each one of the learners must do the end test individually, every learner must know the material, therefore if the team is to be successful all the team members need to have mastered the contents of the lesson. This will encourage peer tutoring within the groups.

1.5.3 Teams, Games, Tournaments (TGT)

Teams, Games, Tournaments (TGT) is similar to STAD in both justification and method. The difference is only evident once the teacher presentation and the learners' guided practice have been completed. At this point, instead of the learners completing a test individually and their individual improvement score adding to the team score, they take part in an academic game tournament. Each learner competes, as a representative of

their group, with members from the class who are similar to them in past academic performance (Slavin 1994: 26; Gawe 2000: 202; Slavin 1997: 285).

The games are based on the content that the learners have had presented to them and have had the opportunity to practice in their groups. The game consists of a number of questions on a Game Question Sheet. Each question is numbered. The Game Tables are provided with a set of numbered cards, which are shuffled and placed face down on the table. The learners then take it in turns to take the top card from the pile on the table, the question relating to that number is asked, and the learner attempts to answer the question. Where the learner answers the question correctly, he/she holds the card. At the end of the game session, each learner counts the number of cards in their possession. The learner with the most cards wins that game. Each learner is awarded points according to their position in the game, which are averaged with the rest of the group's points. The rewards for each group are announced.

A tournament occurs when the learners play a series of games. During a tournament, the learner's position in the previous game would determine whether he/she moves up a table, as the winner of a table, or moves down a table, as the loser at a table. Moving the learners in this way ensures that where a learner has been inappropriately or misassigned to a table, this would be corrected (Slavin 1994: 26)

1.5.4 The adolescent as the subject of the study

During adolescence a young person is experiencing significant changes in his/her emotional and social lives. His/her membership to groups is important, promoting feelings of self-worth, when he/she has been

included in the groups. The adolescent's friends are more important than ever before (Slavin 1997: 99). It is within these groups that the adolescent is placed in a position where he/she is able to develop a philosophy of life and a sense of identity. The young person needs to have formulated some concept of whom he/she is as an individual, and where he/she is going before he/she can leave the security of childhood behind him/her (Mussen, Conger, Kagan & Huston 1984: 478).

The development of independence is a core task for the adolescent (Mussen et.al. 1984: 479). Within the peer group the individual adolescent is able to discover a context of interaction wherein he/she is an equal, and therefore able to explore the rules of conduct for his/her society (Giddens 1994: 78). Furthermore the importance of the peer group prompts adolescents to conform to the values and customs of their peer group. The feedback, or input, of their peers is taken seriously, and they are motivated to reconcile any contradictions between themselves and their peers. The information that he/she does receive from his/her peers is seen as less emotionally threatening than similar input from adults (Damon 1984: 332).

With the increasing emotional and social importance of the peer group, the adolescent is urged to re-examine his/her own self within this environment. The truth of his/her own conceptions and the guidance of the feedback received from others have cognitive benefits. Piaget believed that the adolescent's improved social communication instigates a progressive cognitive change (Damon 1984: 333).

The popular, well accepted adolescent tends to display positive academic and conflict resolution skills, together with pro-social behaviour. In contrast the rejected child appears to be at a greater risk for developing later academic and social problems (Slavin 1997: 103). From a cognitive

perspective, the conclusion would be that the interaction among the peers would in itself improve the learner's achievements due to the mental processing of the information (Dornyei 1997: 483). However, in the traditional classroom, the learners are frequently required to compete against one another, which would appear to be contrary to what is considered to be natural, with regard to the expected behaviour for the adolescent.

Where the learner is required to compete against the other learners in the class group, it is normally because the goal is one that only a few may achieve, that is there can only be one winner. The learner soon perceives that he/she can achieve his/her goals only if the other learners in the group fail to achieve their goals. The net result of this situation, is that the learner will either work hard so as to do better than his/her classmates, or he/she may feel that there is no way that he/she will be in any position to "win" in the class, and therefore take it easy, and stop trying to achieve success (Johnson & Johnson 1994: 3-4). This situation is one that is contrary to the expectations of society. The school is expected by society to help the learners to learn to govern their own behaviour and to learn to cope with social problems. The expectation exists that the schools will produce competent trained individuals who can function within, and advance the work of that society (Ballantine 1983: 48 – 52).

That the adolescent (and for that matter the human being) is a "social animal" should not necessarily be excluded from the planning that goes into the education of the learner. Rather this aspect of being human should be utilised to the benefit of the schools, in any way that is possible.

Merely placing the adolescent into a group of some form or another does not necessarily make that a cooperative learning group. In some regards the group activities may be detrimental to the achievement of the goals

set. This is the situation where the members of the group have been assigned to work with one another, but have no desire to do so. They may meet but make no attempt to help each other to learn or to contribute to the success of the other members of the group and may even mislead the others in the group. Another scenario is that the learners have been assigned to a group, and accept that they need to work together, but see little personal benefit for doing so.

With the disadvantages of group work being so evident, together with the benefits of learners working together being logically recommendable, the concepts of cooperative learning theory have been developed.

1.5.4.1 Gender

While the achievements of boys and girls are reported to be similar up to the age of 11 years, girls have been reported to experience a decreasing set of possibilities in their educational achievement (Meighan 1986: 303 – 304). Proposed explanations are that: girls inherit a different set of personality traits and emotional tendencies (Ford, Wentzel, Wood, Stevens & Sieffeld 1989: 414 – 417), attitudes and abilities to boys; the socialisation process is different for boys and girls; society has allocated roles to males and females in order to ensure the prosperity of the society and these roles need to be perpetuated (Andre 1999: 356 – 358; Giddens 1994: 443 – 444; Meighan 1986: 303 – 305).

The gender issue has generated a number of theories and explanations, criticisms and contradictions, a full discussion of which falls outside of the scope of this study. Suffice to say that gender inequality does exist in the schooling system, although every effort is being made to reduce this phenomenon.

1.5.4.2 Age

As the child grows older, the peer group becomes progressively more important. During early adolescence, conformation to the peer group is greatest. It is easiest for a young adolescent to be accepted by a group if he/she conforms to the group's values, customs and interests. This conformation diminishes after the 14th or 15th year (Louw 1991: 421 – 422).

The age of a learner may therefore impact on his/her interactions within a group (Feshbach & Feshbach 1987: 1335 – 1347). This may be particularly true if he/she is younger than the other learners.

1.5.4.3 Ethnicity

The term “ethnic” means a group whose members share a common culture. Physical features, such as skin colour or facial structure, are a poor indicator of ethnic differences. However, these physical features have, historically, been applied in the grouping and ranking of the races (Meighan 1986: 327), while in reality these physical divergences are almost totally confined to the aspects of appearance (Giddens 1994: 255).

Where ethnicity does have significance is in the cultural differences, as it is these differences that define values that will shape the members of that ethnic group (Gerdes, Moore, Ochse & Van Ede 1988: 230; Spindler 1987). A variation in child-rearing practices, for example, may present itself in the behaviour of the learner in the classroom (Kimberly 1999: 50 – 52). Thus a learner may appear to be shy, withdrawn and unwilling to participate in

classroom discussions because he/she has been reared in that manner (Mwamwenda 1996: 413)

1.5.5 Social composition

The class group in which the learners find themselves, is determined by a number of factors, largely outside of their own influence. Some of the factors are for example, the area in which they live, their age, their level of ability and their subject selection for further study. Within this class group, the learner's peers are likely to fall into one or more possible categories, based on the type of relationship experienced. Things such as intimacy, affection, acceptance, availability, inclusion, dislike or active rejection may be used in order to define the relationships within the peer group.

These relationships within the peer group may be regarded simply as falling onto a continuum, at the one end of which are those learners who are generally accepted and at the other extreme are those learners who are rejected (Schaffer 1996: 319). However, in reality, this perspective may be considered to be simplified, as the generally accepted learner may himself/herself make a distinction between peers that he/she likes and those that he/she considers to be true friends. An accepted learner may also be in a position where he/she is generally liked by all his/her classmates, but has no close friends (Cowie, Smith, Boulton & Laver 1994: 3). The unpopular learner may fit into, or somewhere in between, two categories, namely: rejected where he/she is actively disliked; and neglected where he/she is not popular but not disliked (Schaffer 1996: 319). Furthermore, the rejected learner may have one or two close friends within the peer group.

The social composition of the larger class group is likely to consist of relationships that fit into the main categories as described above. For the purposes of the study, these relationships will be described as fitting onto a grid (see diagram to follow), with those learners that may be placed on the extremities are the ones that are most likely to influence the achievements of the group as a whole.

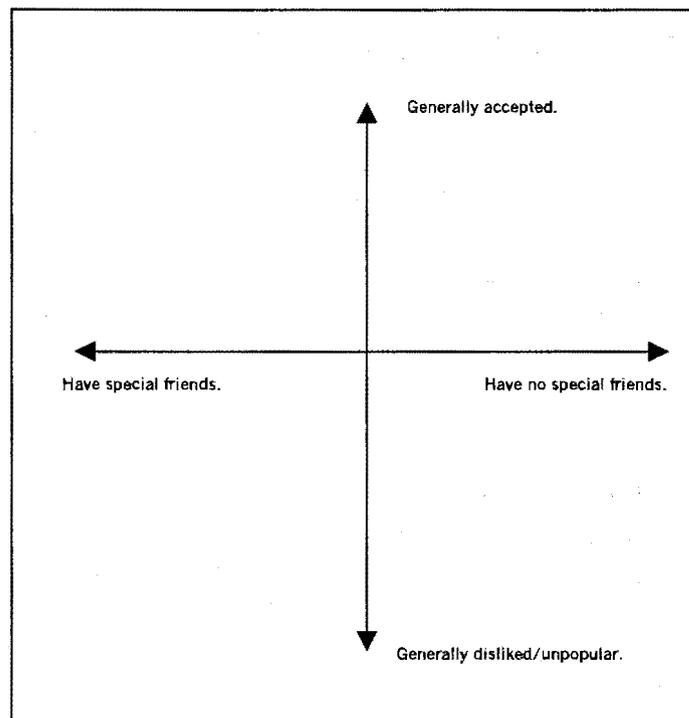


Figure 1-1 Relationship grid

With the classification indicated above, it becomes theoretically possible to position a learner in the group in one of the four quadrants.

1.5.5.1 Learner group

The adolescent's peer group has an impact on the social development of the adolescent, and shapes the behaviour patterns and the self-attitudes of

the young person (Hamachek 1990: 118). The complexities of the social development of the adolescent; the need for acceptance together with the changes in the peer group's gender composition through this period will influence the learner's preferred grouping. Taking these points into consideration would thus develop the learner group. In the classroom situation, the group may be considered to range from the whole class, to the other smaller groups of four to six members, to pairs frequently chosen as a result of the proximity of the seating arrangements (Kutnick & Rogers 1994: 3). The composition of the group may be based on the ability of the learners, for example homogeneous ability or heterogeneous ability. Alternatively the group may be based on gender, friendship with learners, being allowed to choose his/her own group members (Kutnick & Rogers 1994: 23), or according to some other specialised or random assignment.

The term learner group thus refers to the group of four to five members who have been placed together for the duration of the assigned phase. The composition of each one of the groups, within the larger class group, will be carefully considered in order to comply with the requirements of the study. The first of these requirements is that the group should be heterogeneous, with regard to ability. This means that in each of the groups there should, as far as is possible, be learners of above average, average and below average ability in the group. The group should also consist of both boys and girls, and should include racial diversity where possible. The learner group is therefore not a natural grouping; rather it is a group that is placed together for the purposes of the study.

1.5.5.2 Social skills

From birth to death, we as individuals are involved in interactions with others that may have some effect on our personalities, the values that we hold and the behaviour in which we engage. It is therefore through this

process of socialisation that each individual develops a sense of his/her own self-identity, together with his/her ability to engage in independent thought and action (Stevens & Slavin 1995: 321-325; Giddens 1994: 87).

According to Erikson's psychosocial theory, wherein each of the eight stages in the life of an individual is characterised by certain developmental tasks, the adolescent is described as being involved in an identity consciousness. It is during the stage of adolescence that the individual's personal identity should be established (Van den Aardweg & Van den Aardweg 1993: 12). In the school situation, the learner is not just interpreting the new knowledge that is being imparted, but also the cues and attitudes accompanying it (Meighan 1986: 290). The interaction that the adolescent has with his/her peers assists him/her in learning attitudes, values and skills (Stevens & Slavin 1995: 324 – 328; Johnson & Johnson 1994: 63). In this environment the adolescent is able to direct his/her learning through his/her interaction with others.

The interaction with peers provides support for, and models, for prosocial behaviour. Without interaction from his/her peers many forms of prosocial values and commitments would not be developed. The world in which the adolescent will be expected to function, is one that rewards an ability to get others to cooperate, to lead others and an ability to cope with the complex problems of power and influence (Johnson & Johnson 1989: 32). A lack of development in this area of prosocial behaviour tends to lead to the rejection of the adolescent, resulting in antisocial behaviour (Johnson & Johnson 1994: 64-65).

By introducing some form of cooperative learning to the school situation, the adolescent is being placed in a position where he/she is expected to develop skills such as tact, responsive listening, willingness to compromise and skills in negotiation. These are all skills that will be needed in later life,

and through social engagement, the adolescent can acquire them (Bruffee 1989: 28).

1.6 Arrangement of the chapters

- Chapter 1. Introduction and definitions.
- Chapter 2. Business economics as a school subject.
- Chapter 3. The concept of cooperative learning. (Cooperative learning and its significance to Curriculum 2005.)
- Chapter 4. Empirical research design.
- Chapter 5. Findings and results with the discussion of the findings and results.
- Chapter 6. Conclusions, recommendations and limitations of the study.

1.7 Chapter summary

This chapter has included a brief introduction to Curriculum 2002 and cooperative learning. The concepts directly related to the study were defined. The next chapter is a discussion of business economics as a school subject and the current methods used to teach this subject.

Chapter 2 Business economics as a school subject

2.1 Introduction

In Chapter one the main concepts under discussion were briefly considered. In this chapter the current methods used in the teaching of Business Economics will be discussed. Included in the discourse are aspects that relate to this school subject and its need to develop an understanding of the complex context in which the business functions occur.

The Department of Education (2002a National Curriculum Statement Business Economics Chapter 2) defines business economics as follows:

Business Economics deals with the knowledge, skills and attitudes and values critical for informed, productive, ethical and responsible participation in the formal and informal economic sectors. The subject encompasses business principles, theory and practice that underpin the development on entrepreneurial initiatives, sustainable enterprises and economic growth.

Business economics focuses on the business environment and the activities that occur within the business enterprise. The objective of the subject is to assist the learners to understand business management from the perspective of the business itself (Malgee, Mayhew & Bounds 2000:2). As such this subject encompasses many aspects of commerce that the learners are familiar with from their daily lives. Each learner therefore may

be expected to have some form of personal experience of many of the aspects of the topics that are discussed.

A challenge that presents itself in the teaching of this subject is the encouragement of the learners to take the informal body of experiential knowledge that they already possess, and to incorporate it into the more formal parameters of the topics under consideration. Relating this relevant information in the required format, irrespective of the nature – whether practically in a business simulation, in a formal report format, in answer to a specific question, or applied in a final product, then proceeds from this stage of learning.

The presentation of the subject matter will generally be according to the narrative, textbook, project or simulation methods of teaching.

2.2 Direct instruction, teacher talks and lecture method

The term direct instruction is used to describe lessons where the teacher transmits the information to the learners. This method relies on the verbal ability and presentation skills of the teacher as he/she presents the subject material to the learners. The subject matter may be exemplified with illustrations, audiovisual aids and/or demonstrations, which will assist in providing clarity of the concepts (Clark & Starr 1991: 214). Direct instruction involves an academic focus, as the learners are not provided with much opportunity to become involved in the activity themselves. Throughout the teacher talk or lecture the learners, predominantly, are only passively involved (Orlich, Harder, Callahan, Kauchak & Gibson 1994: 159).

Business economics lends itself to this form of instruction. A realistic expectation is that the majority of the learners will have had some informal expose to the concepts being presented by the teacher. The lecture method therefore allows the teacher to take examples from the local business activities in order to illustrate the subject matter. However the feeling of familiarity with the ideas and concepts makes it possible for the teacher to present more information than the learners can comfortably absorb (Clark & Starr 1991: 216).

The lecture method is an important form of instruction, with some of the strengths being:

- the information is provided to the entire class.
- the focus of attention is controlled.
- most can be made of the available time.
- the lesson or discussion may be modified during the presentation in reaction to the learners' reactions or questions.
- information that is not readily available may be easily presented to all the learners (Orlich et.al. 1994: 159 – 160; Clark & Starr 1991: 215).

This method may be complemented with a whole class questions and answer session (Kagan 1990: 12) where the learners are encouraged answer questions posed by the teacher. As a method of explaining concepts, lecturing or teacher talks is an important component in the teaching of business economics.

2.3 Textbooks

Textbooks are the most commonly used instructional tool in schools (Clark & Starr 1991: 411). Traditionally the textbook, as a teaching method is when:

...the teacher goes about his task as follows: he demands no preceding study from the textbook: pupils are required, pencil in hand, to open the books at the lesson or section in question. He now explains where necessary, asks questions, stresses the important points, asks pupils to underline certain sections, dictates a few notes where applicable, etc. It is neither a lecture nor a question-and-answer lesson... This is pre-eminently one of the most passive teaching methods (Dominy & Söhnge 1987: 72).

In spite of the criticism levelled at this method of teaching, the textbook remains an important tool in the teaching of business economics, and frequently serves as a base around which the teaching program is organised and planned. The available textbooks for the subject form a source of knowledge for the introduction, presentation and review of the subject matter. However it is possible for the teaching to become dependent on a textbook, with it becoming the only source of information. This may result in the subject becoming dull and restricted (Clark & Starr 1991: 404).

In meticulously following the textbook and ensuring that each exercise is completed, no provision is made for the individual learner's experiences, or for his/her existing level of knowledge. This results in business economics becoming very theoretical and difficult for the learners to assimilate, as the subject matter can very easily be reduced to a number of

lists of attributes, or characteristics, which the learners would need to remember.

The textbook as a teaching method is an important component in the presentation of the subject, however, as with any teaching method, the use of the textbook needs to be tempered and used judiciously.

2.4 The inquiry method

The inquiry method focuses on the asking of questions, and seeking and pondering alternative answers to the questions posed (Orlich et.al. 1994: 269). Frequently the teacher so as to stimulate the learner's inquiry into the subject matter provides the initial questions. The principal point is not to insist that the learners recreate or rediscover all knowledge, but rather to enable them to draw inferences from data by using logical thinking processes (Clark & Starr 1991: 270).

With this method of teaching the inquiry proposed should be as realistic as possible (Clark & Starr 1991: 270). This constraint makes this method favourably suited to the teaching of business economics. The inquiry method is encountered predominantly in two main formats, namely: case studies and projects.

2.4.1 Case studies

The case study may be classified as a special type of problem-solving technique, whereby conclusions about a phenomenon as a whole are deduced from the reality as it is presented in a particular individual or case (Clark & Starr 1991: 282).

Within business economics, the case study may be successfully utilised in expounding details of specific concepts, problem areas, or business processes (De Young 1994: viii). With the enormous quantity of business related information that is available, selecting an appropriate example that is relevant and interesting to the learners may become time consuming. Specific questions should be posed on the case under study, so as to focus the learners' attention on the important topics. Furthermore, these questions should encourage the learners to apply what they have learnt, and to propose solutions where necessary (De Young 1994: viii).

Once the topic has been clearly defined, taking into consideration the aims and objectives of the study, the learners should be presented with, or given access to, the appropriate resource material. Learners should be encouraged to research specific topics further, in order to gain additional insight into the topic under study.

The completion of the case study should include a presentation, or discussion thereby allowing each of the learners to present his/her own findings and conclusions and to listen to the conclusions of the other learners. Discussing the case study within a group may be advantageous, as the learners may be exposed to a critique of their own thinking processes, and exposure to a progressive development of other learner's thoughts and thinking processes.

2.4.2 Projects

Clark and Starr (1991: 282) define a project as:

..a natural lifelike learning activity involving investigation and solving of problems, by a individual or small group.

Projects frequently involve the use and manipulation of physical material and result in a tangible product.

However, for the project to be successful the learners' activities need to be carefully directed towards the desired results. For this to occur clear instructions as to what must be done, how the findings should be presented, how the project will be assessed and the assessment methods, as well as the clearly stated deadline for the projects completion need to be given to the learners (Mahaye 2000: 232).

The appeal of this method to business economics is the manner in which the learners can interact with their real-life world, either by applying what has been learnt, or by providing a platform upon which to develop more formal theory. The project also provides an avenue through which it becomes possible to cater adequately for the individual differences of all of the learners.

Providing clear guidelines to the learners, could enable them to observe and/or question aspects and concepts within the local business environment thereby enabling them to relate the theoretical aspects of the subject to their own environment. The project may be used as an effective method of assessing the learner's grasp and understanding of specific concepts. This assessment may be done by requiring the learners to create a physical item (for example, an advertisement, a product's packaging, a market research questionnaire and report) in which the essential concepts have been considered and included where necessary.

Findings from the project may be presented in either the physical product, a written report, or in a verbal format.

2.5 Games and simulations

Games and simulations depict real-life situations in an interactive and protected manner (Mahaye 2000: 232).

2.5.1 Games

A game is a world unto itself, determined by its own set of rules that do not necessarily extend into real life. Furthermore the consequences, experienced as a player in a game, do not extend into real life. Participation in the game is, thus, in terms of the rules of the game as defined by that particular game (Gredler 1994: 13 – 14).

For the learner, the game may be presented as a problem that needs to be solved (Mahaye 2000: 232) within the prescriptions of the rules of the game, or it may follow a format in which the learner is given the opportunity to pit his/her skill against that of the other learners.

An academic game requires specific knowledge in a defined subject area, and the skills required in the game should be relevant to that particular subject. Classroom games may be used so that learners:

- practice or refine already acquired knowledge and/or skills.
- identify gaps in their knowledge or weaknesses in their skills.
- are stimulated to assimilate actively or review subject matter.
- are assisted in developing relationships between concepts and/or principles. (Gredler 1994: 27).

These functions of the game should not be considered to be mutually exclusive.

The Teams, Games, Tournaments form of cooperative learning, discussed in section 3.6.2, would fall into this specific format.

The game may thus be used so as to provide a challenge to the learner that creates an enjoyable learning experience.

2.5.2 Simulations

Cassells Dictionary (1997: 1374) defines “simulate” as, among other things:

- *to assume likeness or mere appearance.*
- *to reproduce the structure, movement or conditions.*

Within the classroom situation, a role-play would include the learners assuming and playing or acting out the roles as if they were executing the real life situation (Clark & Starr 1991: 290). This would thus be considered to be a simulation.

The simulation may be identified by a specific issue, problem of policy that precipitates a number of possible reactions from the learners. The interactions of the learners are defined by the specific roles that they assume. These roles that they assume would resemble reality and will influence their encounter as well as the consequences thereof. The outcomes of the simulation are not determined by chance or luck, but

rather as a consequence of their own actions and reactions (Gredler 1994: 14 – 16).

A prerequisite for the success of the simulation is that the learners must be able to relate to the situation, as well as the parameters of the role of the characters that they are playing. The building of the scenario needs to be done carefully so as to ensure that adequate information is provided for the development of the encounter (Clark & Starr 1991: 290).

The Johannesburg Securities Exchange (J.S.E.) (details provided on their web-site www.jse.co.za) annually runs a stock-exchange simulation for grade eleven business economics learners. This simulation enables the learners to buy and sell shares, warrants and futures, on the J.S.E. At the start of the simulation the investment teams accounts are credited with an imaginary R100 000 (correct in 2002) for the purpose of trading on the exchange so as to make a profit. The simulation is run within the parameters of the current business practices in this area. Information and guidance are thus available through the press and Internet, as would be the case in reality.

Another example of a frequently used simulation is the “market-day” at school. In this simulation the learners are allowed to decide upon a product and to assume the role of storekeeper for the prescribed period of time.

2.5.3 Computer based games and simulations

The computer may be used in a manner that imitates the essential structure of manual games, as explained above, to store databases and manage information (Gredler 1994: 43), and as a simulator of potential outcomes to a particular theory.

The computer has effectively been used in the teaching and presentation of many subjects, topics and theories. These games and simulations are not limited to any particular field, but rather to the interest and imagination of the programmer and the technology that is available.

Availability of the technology limits its use principally when a large proportion of citizens in the country are poor and do not have access to electricity, let alone the intricacies of the Internet. This situation is enhanced by a lack of computer literacy in the teaching staff of many of the schools (Gawe, Vakalisa & Van Niekerk 2000: 178). However, the technology, and access to this technology, is expanding and accordingly becoming a more frequently used teaching method.

Internet technology has provided a facility through which learners may network with other learners through their interface on the computer. This capability means that the learner may now compete either against themselves or against others interacting through the same program, even if the other players/learners are in different parts of the country. This type of relation is ,however, not social in its essence albeit compelling the learner to remain an active participant in the event (Van Rooyen & Van Der Merwe 2000: 268).

Interactive features on the computer proved a forum through which the learner may practice skills and test knowledge. Mistakes that the learner makes may prompt the computer to provide additional opportunities for further practice, or to provide supplementary tuition on the subject matter. In this manner the learner may keep on trying until he/she has mastered the content or skill (Van Rooyen & Van Der Merwe 2000: 267). Correct responses can be reinforced immediately and as the learner masters the

content or skill, the program may permit them to progress to a higher or more advanced level.

Simulation packages promote the formulation and testing of ideas and assumptions, enabling the learner to see probable outcomes to his/her “what if” questions (Nelson 1999: 963). By manipulating variables the learners can see the impact of that change on the other values. The problem solving and decision-making capabilities of the learner may thereby be enhanced.

Business economics may effectively utilise simulation packages that have been primarily written for the commercial market, in use in business practice, for example, Microsoft Office 2000 programmes allow the learners to manipulate variables in a production cost statement, or change the colours or text in an advertisement and see the impact of those changes. A disadvantage of using this method of teaching is that the learners are physically passive and predominantly working individually, and this can lead to a lack of social interaction. Thus the computer as a teaching method has to be used in conjunction with the other teaching methods.

2.6 Business economics and the Further Education and Training qualification

The National Qualifications Framework (N.Q.F.) links the various learning areas under Curriculum 2005. Within this framework Grades 10, 11 and 12 form the Further Education and Training Band (F.E.T.) (National Department of Education 1997: 30). Curriculum 2005 is due to be introduced into grade 10 from 2004. The National Curriculum Statement Grades 10 – 12 (Schools) Draft (Department of Education 28 October

2002b: 16) indicates that the N.Q.F. level four (Grade 12) will be the only exit point for this phase where a qualification will be issued.

The F.E.T. band was developed so as to ensure that social and economic progress is possible. The structure of the present qualification system, curricula and subjects offered, as well as the human resources available were important considerations in the changes made in this education band. For this reason the 124 subjects offered for the matriculation certificate, which become 264 subjects with the operation of the higher and standard grade levels, needed to be reconsidered. Accordingly 35 subjects have been arranged into organising fields. Business economics falls into the Business, Commerce and Management studies field, together with economics and accountancy (Department of Education 2002b : 3 – 8).

Learners in the General Education and Training phase, have Economic Management Sciences (EMS) as a learning area, which is essentially an introduction to the subjects business economics, accountancy and economics (see Figure 2:1 below).

A positive attribute reflected in the National Curriculum Statement Grades 10 – 12 (Schools) Draft, is the proposed development of business roles, which will promote economic development and personal financial development for the learners, so that they will be in a position to apply their knowledge and to analyse and evaluate the business environment (Department of Education 2002 b: 46). This stated purpose appears to indicate a move away from rote learning at present dominant in the subject, towards a focus on creating and solving business related problems and the development of business related skills.

The advent of the Internet which has *spanned conventional boundaries, and is overturning the way people communicate, do business, learn, play and find*

out about each other (Financial Mail 17.12.1999: 104) implies that the technology is changing the way in which mankind functions in the dynamic environment. *Good ideas come from anywhere and anyone. And no-one owns an idea....The modern emphasis is on de-centralisation, delegation of authority and empowerment, on self-managing team, the leader-as-a-facilitator not the leader-as-god* (Financial Mail 17.12.1999: 106). This article highlights a future potentially very different from that of today, one in which the learner's ability to fashion his/her own environment may be his/her key to success.

<i>SCHOOL GRADES</i>	<i>N.Q.F. LEVEL</i>	<i>BAND</i>	<i>APPLICABLE BUSINESS RELATED SUBJECT</i>		<i>TYPES OF QUALIFICATIONS AND CERTIFICATES</i>
12	4	FURTHER EDUCATION AND TRAINING BAND	Business economics, economics and accountancy		FURTHER EDUCATION AND TRAINING CERTIFICATE
11	3		Business economics, economics and accountancy		
10	2		Business economics, economics and accountancy		
9 8 7 6 5 4 3 2 1 R	1	GENERAL EDUCATION AND TRAINING BAND	Senior Phase	EMS	GENERAL EDUCATION AND TRAINING CERTIFICATES
			Intermediate Phase	EMS	
			Foundation Phase		
			Pre-school		

Figure 2-1 The N.Q.F; F.E.T. and business economics

2.7 Summary

This chapter considered the position of business economics as a school subject and the current more common methods used to teach the subject. The subject's position with regard to the proposed implementation of the Further Education and Training Certificate as indicated in the draft of the Curriculum Statement and starting with grade 10 in 2004 was also briefly discussed.

The next chapter looks at the concept of cooperative learning from the perspective of a selection of the literature available on the topic.

Chapter 3 Cooperative learning

3.1 Introduction

In the introduction in Chapter one the concepts under study were defined. Chapter two considered the teaching of business economics as a subject in the school. In this chapter the concept of cooperative learning is discussed by looking at the existing research on this topic. The relation of this topic to outcomes based education is considered.

The following research has been grounded in three concepts that have, as a result of the recent changes in education, become interdependent, namely Curriculum 2005, outcomes based education and cooperative learning.

3.2 Curriculum 2005

Curriculum 2005 is the catalyst that brings these concepts together. At the present time Curriculum 2005 has still to be instituted throughout all stages of education as envisaged by Professor S.M.E. Bengu (the Minister of Education at the time) when he unveiled the new curriculum in February 1997. As a result Curriculum 2005 has not been fully implemented in the school system and its implementation is still largely un-researched.

However, the curriculum is based on a philosophy that looks at learning as a process in which the emphasis is placed on what is now known by the learner, on the individual's performance in terms of his/her or her own potential, and on the learner's ability to apply what he/she knows.

3.3 Outcomes based education

Outcomes based education, considered to be the brainchild of W.G. Spady, is the philosophy upon which Curriculum 2005 has been based. In the field of education outcomes based education is a relatively new concept, with the debate continuing regarding what exactly constitutes outcomes based education (Vakalisa 2000: 11). However, it is possible to accept that the philosophy of outcomes based education means that the curriculum based on it has been designed with the end, the critical outcomes, as the starting point. For the learners O.B.E. means that they will be required to demonstrate that they have mastered the set of requirements before moving on. In this manner, permanent learner failure will be eliminated, as the learner will have further the opportunity to meet the required standard and he/she will therefore be allowed to progress through the given outcomes at different rates (McGhan 1994: 70 -71).

Outcomes based education, as the philosophy guiding the development of a country's national curriculum, has been considered, since the mid 1980's, in countries such as Australia, Canada, New Zealand and the United States of America (Clements 1996:61). However, Eltis (in Clements 1996: 76) is quoted as indicating that no significant investigations have been done where the implementation and the effects of using O.B.E. models is considered. The implementation of the complete O.B.E. system as Spady described it has not yet been implemented anywhere in the

world, only certain aspects have been adopted (Jacobs & Chalufu 2000: 99-100).

In March 1995, in New South Wales, Australia, the National Outcomes were removed from the curriculum (Karaolis 1997: 50). Karaolis goes on to say:

Macro-reforms have delivered nothing but wasted resources in education. Yet reform through change to educational theory has served teachers so poorly also, replacing one paradigm by another and losing much that was valuable in traditional practice in the process.

The implementation of O.B.E. into the South African education system will require a determination to succeed, as well as reorganisation of present education practices. Inadequate training of educators as well as the complexity of the O.B.E. philosophy may be difficult to overcome. The changes that have been made by government still need to be implemented in the schools, which form a vital part of society.

The change to the structures made by government still need to be fully implemented by changing educators, learners and society. However, the positive move away from an authoritarian teacher-centred education system, to a more learner friendly one needs to be embraced by all concerned. All the potential of the philosophy needs to be considered from the perspective of what is an already known part of the current educational practice.

The foundation for the development of the outcomes based education philosophy is to be found in earlier educational movements, namely, educational objectives, competency based education, mastery learning and criterion referenced assessment (Van der Horst & McDonald 1997: 9).

3.3.1 Educational objectives

For every school program, curriculum, course unit or lesson, the planner should decide just what should result. These learning objectives are all important.... Instruction can be effective only when the teaching methods and content are aimed directly at the objectives (Clark & Starr 1991: 10).

The differentiation between what constituted an objective and what an outcome, does not need to impact directly on the consideration that either term is used to describe a goal, a purpose given to teaching and learning. The statement of objectives or outcomes enables the learners and teachers to distinguish between those actions that may be considered to be important and those that are less so. The taxonomies, initially developed by Bloom in the 1950 - 1960's, have provided a hierarchy into which educational objectives may be organised. Teachers have used these hierarchies of objectives in lesson planning (Bloom (ed.) 1956).

The argument for the development of specific educational objectives is that the teachers will know more clearly how to teach in order to achieve those specific objectives. Furthermore, the specific objectives will serve as a guideline that will assist the learners in their achievement of those objectives, and they can be used in the development of assessment criteria (Hamachek 1990: 351). A theory of motivation, when related to instruction in the classroom, thus needs to consider why the learner behaves as he/she does.

Development and use of objectives by teachers is futile unless the learners adopt similar objectives, and these objectives lead the learner to action. Knowledge of the goals and feedback information concerning progress in

achieving these goals is an important motivator of learning (Clark & Starr 1991: 146). It remains a possibility, however, that the learners' behaviour is directed towards a goal that differs from that of the teacher. Such a learner may be judged as lacking in motivation, whereas the learner is performing that task, as he/she perceives it to be of value (Winnie & Marx 1989: 252).

Research in this area tends to emphasise the conditions that the learner perceives as being motivational. Any theory that is proposed, in order to explain classroom activities, will have to include the relationships among many concepts. Some of these aspects of learner behaviour will appear to be logical, while others will appear to be irrational (Weiner 1984: 18). The nature of the environment, this is whether the learners consider this to be competitive or cooperative, will influence the nature of the motivational framework (Klein & Erchul 1994: 24-25 Ames & Ames 1984: 4). Thus, the manner in which the educational objectives are presented to the learners, and subsequently stressed, is important (Chambers & Abrami 1991: 140 – 141).

With a shift in the focus to the concept of outcomes there is an acknowledgement that not all learning can be measured, or assessed, or even perceived by another individual. Rather an end product or terminal performance is defined and the learners are encouraged and assisted as they move towards that point (Le Grange 2000b: 21). The focus of the learning situation is on the learners' learning, and on what is being learnt. The assessment in this environment thus also needs to be amended. This implies that the application of criterion-referenced assessment is important.

3.3.2 Competency based education

During the late 1960's competency-based education was introduced in America. This is not outcomes based education, as all the parties that were using the method did not necessarily accept the competencies that were taught. The competencies were frequently taught in isolation, rather than as a part of a unified whole. There was also a general lack of agreement on what the competencies should be (Van der Horst & McDonald 1997: 10-11).

A true competence based curriculum would mean that multiple criteria such as the learners' interests and capabilities as well as a selection of presented tasks would be used in the formation of the groups, and would facilitate the interdependence within the group (Bossert et.al. 1984: 43-45).

While it is possible to conclude that competency-based education was not successful as it was envisaged, and was reduced to a form of remedial teaching programme (Van der Horst and McDonald 1997: 10), the core concepts, that all learning is individual and that learning is facilitated if the teacher and the learner know what is required of them, have been carried through into the outcomes based education philosophy.

The effectiveness of the national implementation of outcomes based education will need to be considered once Curriculum 2005 has been implemented across all of the levels of the South African education system.

3.3.3 Mastery learning

Mastery learning is essentially an instructional technique used in teaching and learning of hierarchical, sequential material. Material to be learned is subdivided into natural units or steps, covering from one lesson to several weeks' lessons. Students are given a test at the end of the unit, and if he/she does not achieve a mastery grade on the test he/she are provided with more time and more teaching until he/she can achieve the mastery grade on a retest. (Arlin 1984: 65).

Most group instruction is basically the same for all learners, with the individual differences in abilities being reflected in the levels achieved by the individual learners (Arlin 1984: 65). However, mastery learning requires that the learners work at a specific task until he/she has achieved a specific minimum level of achievement (Hamachek 1990: 366). At the core of the concept of mastery learning is the idea that rates of learning differ among learners, and that by varying the amount of time allowed for learning it is possible for virtually all learners to master the given contents (Spady 1982: 124). Achievement is based on the successful completion of the block, or study program, rather than the relative ranking of the learner in relation to his/her peers (Ausubel, Novak & Hanesian 1968: 387 – 388).

Therefore in terms of mastery learning, rather than providing the same amount of instruction and instruction time, and allowing learning to differ, a learner should be given as much time as he/she requires in order to ensure that all learners achieve the same level of learning (Slavin 1997: 317). Thus, the way in which to decrease the gap between those learners who can achieve academically and those who appear to have difficulty, is to ensure that learners are provided with extra learning time in those specific areas where he/she may be deficient before allowing the learner to

go on to the next step (Arlin 1984: 67). Implementation of mastery learning thus implies striking a balance between the amount of subject content that can be covered and the extent to which each of the learners can master the concepts (Slavin 1997: 320).

The proposition at the core of mastery learning is that mastery learning can reduce the variation in the learning rates of learners, by increasing the learning speed of those learners who may be classified as slow learners. That is if learners can begin each new learning unit only once he/she have mastered the previous units, then the learning rates for all of the learners would be similar for all of the learners (Arlin 1984: 69). Those studies into mastery learning that have indicated the positive effects of mastery learning on learner achievement, have been based on experiments of a very short duration. A review of research, done by Slavin (1983b: 43) found that those studies that lasted for at least four weeks, revealed no significant positive effects when mastery learning was compared to standardised measures.

Possibly one of the main concerns regarding the concept of mastery learning is that, in a group – based teaching situation, where the learners are expected to proceed through the learning material as a group, the faster learners are likely to be held back while they are waiting for the slower students to reach the prescribed level of mastery (Arlin 1984: 75).

Mastery learning may, however, be beneficial in that it encourages the teacher to focus on the learning objectives in terms of specified criteria that the learner should achieve, assess the learner in terms of those criteria, and then to modify his/her instruction according to the progress of the learners.

3.3.4 Criterion referenced assessment

Criterion referenced assessment looks at the learner's performance against a set standard, in comparison to a norm referenced assessment whereby the learner's performance is rated against the performance of other learner's in the same group – norm referenced testing (Clark & Starr 1991: 442). Criterion referenced measurement, places the learner's performance on a specific task, onto a continuum ranging from no-proficiency to perfect performance. The continuum provides specific information on what that particular learner can and cannot do (King & Evans 1991: 73).

Thus, in terms of mastery learning, the criteria would be defined according to the prescribed minimum level of achievement for that specific aspect of learning. The emphasis of the assessment therefore shifts to what an individual can now do but was unable to do before, rather than focussing on the position of the learner in comparison to the others in the group. Each learner is thus allowed to see his/her own progress in achieving the predetermined outcomes. The only one that he/she is in competition with is himself/herself (Ausubel et.al. 1968: 388 – 389).

3.4 Cooperative learning

Dornyei (1997: 482) defines cooperative learning as:

The instructional use of small groups in order to achieve common learning goals, via cooperation.

Cooperative learning may thus be considered to differ from ordinary group-work activities in so much as the cooperative learning process generates a

supportive learning environment. In addition, the learners are expected to complete the task with a minimum of supervision from the teacher. This learning environment should ideally be characterised by the cohesion among the learners.

Three aspects may be considered to be central to any discussion of the concept, cooperative learning. The first of these aspects is that the learners spend a pre-determined period of time working in small groups. The groups consist of two to six learners. Secondly, the learning material is structured in such a way as to ensure that each one of the group members has to contribute to ensure that the entire group is successful. This idea is most frequently referred to as positive interdependence. The third aspect is the individual evaluation of each one of the members of the group. This therefore makes it possible to evaluate the level of achievement of the individual members of each group as well as the combined group achievement (Dornyei 1997: 483; Stahl 1994).

The aspects that thus differentiate cooperative learning activities from other forms of group work found in classroom situations are twofold: namely, group goals which need to be achieved through positive interdependence, together with individual accountability (Kagan 1990: 12-14; Aronson & Patnoe 1978: 24).

3.4.1 Individual accountability

One of the main problems associated with the traditional form of group work, is the problem of the social loafer, or the “free rider”. This term refers to the situation where at least one member of the group does not contribute to the group in any significant manner; rather he/she takes advantage of the other members of the group (Yamane 1996: 379).

Latane, Williams and Harkins (1979: 830) indicates that where an externally motivated group task has no method of ascertaining the amount of each one of the individual member's contribution to the task, each individual should work less hard. The essential result of social loafing, as it occurs in groups, is thus, that there is a decrease in the output, when compared with what would be expected when assessing the individual's potential contribution to the group.

By instituting a method whereby the individual's activity within the group can be identified and assessed, it becomes possible to establish a feeling of individual accountability. The result of creating the feeling of individual accountability in each of the learners, is that he/she will voluntarily assume responsibility for completing the task, or portion of the activity individually, and will therefore not be prepared to allow the other members of the group to do all the work for him/her (Van der Horst & McDonald 1997: 129).

3.4.2 Group goals and positive interdependence

Where the learners are individually accountable for their actions within a group, it becomes important to ensure that there should be some group interaction, rather than competition among the members of the group. With the cooperative learning approach, the learners become formally accountable for the collective learning that occurs within the group (Bruffee 1989: 88). The structure of the task presented to the group will thus ensure that the group members interact positively with each other, in order to achieve the tasks or the goals of the task. The success of the group as a whole will thus be dependent on each one of the members contributing to the group. Furthermore, each member is accountable for

the total final outcome, thereby ensuring that the individual contribution of each one of the members is considered to be important.

Cooperative learning research generally falls into two main categories, namely psychological and sociological. In the psychologically related research, aspects such as common goals, rewards and the need for the other individuals in the group are considered. The sociological viewpoint considers points such as task structure and delegation of authority (Cohen 1994: 3) and how these aspects will affect the behaviour of the learners in the group.

Within the cooperative learning activities, the individuals seek objectives that benefit themselves as well as the other members of the group. The learning tasks are so structured that the group members are motivated to ensure that their peers have also mastered the learning material, or achieved the desired goal. Within the cooperative situation, everyone benefits from the efforts of the co-operators and it becomes the group-norm to support group efforts to achieve.

In the cooperative learning situation, all of the activities are centred on the giving and receiving of ideas and clarification, providing task related help and assistance and exchanging the required resources (Dornyei 1997: 484).

3.4.3 Psychological perspective

The psychology of education includes far more than just psychology (the study of behaviour) as it embodies in an integral way pertinent aspects of such disciplines as psychology, sociology, medicine, anthropology, philosophy, theology, physiology, social sciences, didactics and so on,

which contribute to an understanding of the complex, unique child/adolescent as a totality in his culturally determined life world (Van den Aardweg & Van den Aardweg 1993: 189)

The psychological perspective therefore considers aspects, which may be identified as a segment of a potential explanation of the learner's behaviour within the stated situation.

3.4.3.1 Self-concept

Self-concept is a person's perception of himself/herself, as well as his/her strengths and weaknesses (Mwamwenda 1995: 363) and comprises the totality of his/her evaluation of all of the components that together make his/her self (Vrey 1979: 167). A person's self-concept develops throughout life as a result of his/her interaction with others (Slavin 1997: 91) leading to a set of ideas about himself/herself that is essentially descriptive (Mussen et.al. 1984: 356). A collective evaluation by the individual of the attributes that constitute his/her self-concept, together with the value that he/she attaches to each component is referred to as the self-esteem.

If a person evaluates his/her traits as good and acceptable, according to his/her own value system, he/she is said to have a positive self-concept. Learners with a positive self-concepts tend to be academically more successful, are generally self-confident and not afraid of expressing their own opinions (Louw 1993: 283).

The relationship that the adolescent has with his/her peers, parents, teachers and other adults has a crucial effect on the development of his/her self-concept. Where these relationships are satisfying and harmonious, higher levels of self-esteem are reported. These learners are

generally more mature and do better at school than those learners that do not benefit from supportive relationships (Louw 1993: 284; Slavin 1997: 101). Using cooperative learning strategies, learners have shown more positive feelings about themselves than do learners in traditional classrooms. This effect may be explained by the feeling of success experienced by the learners in the teams, thereby enhancing their self-esteem (Hendrix 1996: 334).

3.4.3.2 Motivation

The term motivation has been defined in the Concise Oxford Dictionary (1982: 660) as *a compelling force*. Psychologists define the term motivation as an internal process that activates, guides and maintains behaviour over time (Slavin 1997: 345).

According to Lewin's theory (as quoted in Johnson, Maruyama, Johnson, Nelson & Skon 1981: 47), motivation is a state of tension within an individual, which motivates movement towards the accomplishment of the desired goals. Gage and Berliner (as quoted in Slavin 1997: 345) have likened *motivation to the engine (intensity) and steering wheel (direction) of a motor car*. This description of motivation incorporates the two main aspects of motivation, namely the intensity of the motivation and the direction in which that movement takes place. While these two aspects may be separated in theory, in practice, this is not so easy to do. The intensity of the motivation to engage in a particular activity may depend to a large extent on the intensity and direction of the motivation to take part in an alternative activity.

Where the impetus, or motivation, to engage in the particular goal directed activity is an inner drive, it is referred to as intrinsic motivation. The

achievement of the goal is sufficient reward for the individual and he/she is more likely to perform better in the actual activity or task than the extrinsically motivated learner (Graham & Golan 1991: 187; Lepper 1988: 292). The extrinsically motivated learner is dependent on reinforcement from others, that is, some approval, praise, reward or approval for work done or marks achieved (Van den Aardweg & Van den Aardweg 1993: 140). Motivation is not considered to be a precondition for learning to take place, as motivation to learn may result from learning or educational achievement (Ausubel et.al. 1968: 401).

That the activity is a goal driven activity does not necessarily follow from the above argument. Every person is motivated, however, this motivation may not be in a direction that is expected or encouraged by the other members of the social group. In the school situation, we would like to be able to conclude that motivated behaviour is that which has as its aim the accomplishment of learning goals. However, generalised tendency is to strive towards the goal, or to strive for success as preferred by the individual (Slavin 1997: 356). The resultant behaviour may take the form of cooperative, competitive or individualistic behaviour, and the goal structure chosen by the learner may be one of mastery, performance or possibly even social.

3.4.3.3 Cooperative, individualistic and competitive goal structures

Recent research (Ames 1992; Chambers & Abrami 1991; Damon 1991; Graham & Golan 1991; Jagacinski & Nicholls 1987; Cooper, Johnson, Johnson & Wilderson 1980) indicates that the nature of the task and the achievement goal, will influence the levels of cognitive and affective involvement in the learning task.

Ames (1992: 261-262) refers to a mastery goal and a performance goal, each of which will influence the manner in which the individual perceives his/her ability with regard to the particular learning task. The mastery goal also called a learning goal or called a task involving state by Graham and Golan (1991: 187), has as its essence the mastery of the task; the acquisition of the skill or technique is considered to be an end in itself. The involvement of the individual in this type of task is based on the belief that the effort that he/she expounds in the task will lead to success and a sense of mastery, which may be considered to be the goal.

The mastery goal may be contrasted to those tasks that emphasise personal accomplishment, which is then evaluated in competitive terms with the other members in the group (Graham & Golan 1991: 187). In this environment, competence is not indicated in terms of ability, as self-referenced cues, but rather as an ability to outperform the others in the group.

A learner may see the purpose of schooling as gaining competence in the skills that are being taught: that is, his/her individual predominant goal structure is one of mastery. Alternatively, the learner's goal may be to gain positive evaluations of his/her abilities and competence (and avoid negative judgements) that is, he/she may be considered to have a performance goal structure.

The introduction of a cooperative learning structure will create a situation in which the learners can only achieve his/her own personal goals if the rest of the group is also successful. By rewarding groups, based on the total of the individual performances within that group, an interpersonal reward structure is developed whereby the group members encourage or gently chastise other group mates' task-related efforts (Slavin 1996: 44).

The feedback that the learner receives on the quality and the relevance of his/her own individual contribution within the group is personalised and given continuously throughout the process. The goal directed activity within the group is thus constantly being monitored by the other members of the group, and the individual is assisted in mastering the task set. In this environment the learner's competencies and talents can develop and thus the learner can improve. The classmates and the teacher can be viewed as assistants, rather than as an obstacle, to each learner's academic and personal success.

The activity within the classroom may create a specific goal structure, according to the expectation of the teacher and the others in the class group. By grading the learners on a norm-referenced basis, the expectation exists that the learner will work faster and more accurately than his/her peers and in so doing achieve the goal. This goal can only be achieved by a few, and the learners are required to compete against one another. In this environment, the learner perceives that he/she can achieve his/her goals only if the others in the group fail to achieve theirs (Johnson, Johnson & Holubec 1994: 2).

a The impact of social comparison

The individual's construction of knowledge and understanding takes place within the boundaries of the society to which he/she belongs. The cognitive resources of the society are gradually made available to the child, who internalises this socially regulated knowledge. The child's understanding of the world may therefore be considered to be built up, or developed through his/her interaction with others (Littelton & Hakkinen 1999: 24).

A part of the social context to which the child is exposed is the classroom situation, which is in itself a complex system that is culturally bound. The

interactions that occur within this situation therefore need to be understood in terms of these particular defined parameters.

Social comparison is a term that refers to the effects that the mere presence of a peer will have on the power of expectations of success and the response of, and to, the other individuals in the learning situation. Related to this concept is that of self-efficacy, that is the individual's personal judgement of his/her ability to organise and implement actions in specific situations (Schunk 1984: 48). How the individual will process the information regarding his/her self-efficacy in the various situations is dependent on how it is cognitively appraised by the individual. A child's sense of efficacy is strengthened as he/she works at a task and he/she observes his/her progress (Schunk 1984: 53). Providing socially comparative information to learners, emphasis may be placed on competitive self-evaluation.

The goal structure that a person adopts will influence the impact that social comparison has on the effort and outcome of the individual's behaviour. If the person's goal is that of a mastery goal, the motivational pattern is one that is associated with a level of involvement that is most likely to maintain the achievement (Ames 1992: 262). In this instance emphasis is placed on the acquisition of the skills themselves, in this situation the learner is likely to experience greater feelings of achievement when he/she succeeds with high rather than low effort (Jaginski & Nicholls 1987: 107). An educational situation that clearly conveys to the learner, the fact that he/she is becoming more capable, should lead to sustained task involvement and an increase in self-efficacy (Schunk 1984: 49).

When the person adopts a goal structure that is performance based, that person's perception of his/her own self-worth in that learning situation is determined by his/her perception of his/her ability to perform. When that

individual feels that he/she is unable to perform adequately or that his/her effort will not lead to success, his/her self-concept is threatened and he/she may choose to withdraw from the situation and adopt a failure-avoiding pattern of motivation (Ames 1992: 262).

The goal structure of the individual and the effect of the social comparison in the learning situation will influence the focusing of the learner's attention on the task relevant information. This is mediated by the learner's emotional response to the situation. The learner who experiences a measure of success that is in agreement with his/her perception of his/her own ability and thus his/her expectation, generally learns more effectively in those situations where his/her achievements are visible to his/her peers (Littelton & Hakkinen 1999: 29). Thus the phenomenon of social comparison has a potentially positive effect on the learning activities. Where a mismatch occurs between the learner's academic achievement and his/her perception of his/her ability relative to his/her peers, the more effective learning outcomes are achieved when learning situations are anonymous or private, that is not visible to his/her peers (Littelton & Hakkinen 1999: 29). Social comparison may thus have a negative effect on the learning activities.

b Intrinsic motivation and self-regulated learning

One of the more common practices in the school situation is the use of marks, or grades, as a form of extrinsic motivation, and as a measure of the learner's success. However, success that is intrinsically motivated and rewarding is usually considered to be more desirable for learning. This apparent contradiction implies that a change or development needs to occur at some stage in the learner's school career. This intrinsically motivated, self-regulated learning is reflected in the learner's desire to

enhance his/her own knowledge and his/her knowledge of appropriate problem solving strategies.

“Learned helplessness” or “passive failure” are terms that are used to describe the situation where a learner has reached the stage when he/she feels that it is fruitless to invest any further effort in the task. He/she believes that he/she do not have sufficient ability to accomplish the task and therefore in order to protect his/her self-esteem, does not even attempt the task. Just as the learners can become intrinsically motivated in all learning activities, so too can he/she choose to abdicate all responsibility for his/her own learning (Paris & Newman 1990: 90).

The goal structure that the child chooses, that is performance or mastery goals, may result from his/her own expectations of success or failure and his/her own theory of his/her own academic ability (Paris & Newman 1990: 91). The intrinsically motivated learner is motivated by internal standards and would seek to master the task or skill according to his/her own standards. Mastery goals have been associated with a preference for challenging work and risk-taking together with an intrinsic interest in the learning activity and a positive attitude towards learning (Ames 1992: 262).

The less successful learner tends to be more oriented towards extrinsic motivation and social controls. He/she may therefore choose goals that are more easily attained, that is the performance goals, in which as little thinking as possible is required (Paris & Newman 1990: 91). When the learner adopts a performance goal, his/her perception of his/her own ability becomes one of the main determinants of learner’s achievement related behaviour (Ames 1992: 263).

When learners change their goals or alter their expectation and effort, they will approach the problem differently. Instruction that will alter the learner's feelings of efficacy will effect a change in his/her personal theories about learning. Allowing learners to listen to the difficulties experienced by their peers may reassure weak learners, indicating that they are not dumb or hopelessly lost, and they may be made aware of alternative methods of reaching the solution (Paris & Newman 1990: 98).

Learners striving for mutual benefits want to help each other succeed and are committed to each other's well being. The relationship among the group members may create an intrinsic motivation to achieve, and this relationship may become more important than the actual extrinsic rewards being given for the work that is being done.

Cooperative learning provides a forum wherein the learner is not allowed to sit passively; rather he/she is compelled to confront his/her own theories, and to pay attention to the thinking of others. Participation through help-giving and help-seeking is also encouraged (Paris & Newman 1990: 98). Cooperative learning is an efficient intervention when considering learning gains and learner achievement, higher-order thinking, positive attitude towards learning and increased motivation (Dornyei 1997: 482).

c Academic achievement and conceptions of ability

Adolescents generally believe that higher effort produces more learning, however, to be considered to be able, one must learn more than others with equivalent effort, or achieve an equivalent level of performance with less effort than others (Jagacinski & Nicholls 1994: 909). The individual's belief in his/her or her own ability is an essential component of positive achievement motivation. The classroom evaluation practice, task structure and the grouping patterns will influence the information that the learner

receives regarding his/her performance, and thus will affect his/her perception of his/her own ability (Maclver 1987: 1258-1259).

The policy of assigning marks to learners is essentially stratifying and forces the learner to assess his/her standing in the group. The adolescent learner will have realised that in order to form a valid assessment of his/her ability, he/she will need to expend optimum effort (Jagacinski & Nicholls 1994: 909). This image of his/her own capabilities is referred to as the self-evaluation or self-conception of abilities (Rosenholtz & Rosenholtz 1981: 132), which is influenced by, and related to, various dimensions within the classroom situation (Helton & Oakland 1977: 261 – 262). The level of task differentiation in the classroom will influence the number of skills that the adolescent perceives as being important. The lower the task differentiation the more likely that the learner's performance may be perceived as persistently good or poor, as he/she is being assessed on a few tasks. The teacher's grouping and comparative assessment practices will influence the visibility of the learner's performance. Where the learners are grouped together as a whole class and perform the same task, comparative assessments become the norm and performance inequalities are highly visible (Rosenholtz & Rosenholtz 1981: 134; Maclver 1987: 1259).

For the learner to achieve academic success, he/she may need to pursue a number of goals, those that conform to the social requirements of the classroom (Helton & Oakland 1977: 261 – 262), as well as those that are inherent in the tasks and learning activities (Wentzel 1989: 132). The goals that the individual is most likely to choose are those that he/she believes he/she is able to achieve and that he/she actually wants to achieve.

The nature of many classroom tasks is such that they are not essentially interesting or challenging. The motivating factor in this situation is

frequently compliance to the norms within the classroom and the perception that the learner has regarding the adult expectations for his/her behaviour (Wentzel 1989: 140). The learner's self-evaluation will directly influence his/her level of academic achievement.

d Group cohesiveness

The relationship between group cohesiveness and performance was the subject of a meta-analysis, done by Mullen and Cooper in 1994. The necessity for the study was indicated by the apparent contradiction that appears in the literature on the subject. Mullen and Cooper therefore looked at aspects, such as the nature of the group, the contribution of the components of group cohesiveness and the sequential patterns in the relationship between group cohesiveness and performance.

The term group cohesiveness is described as being the *resultant forces, which are acting on the members to stay in the group* (Festinger, as quoted in Mullen & Cooper 1994: 210). Because the cooperative learning activities are group based, cohesiveness as an important group dynamic is of considerable significance. The relative contributions of the various components, which influence cohesiveness, may indicate a potential optimum, which will in turn highlight effective interventions that may enhance productivity. The results of the relevant studies should therefore be considered and where indicated the necessary practice should be amended.

It is possible to assume that a cohesiveness-performance effect may primarily be due to related aspects, such as interpersonal relationships, commitment to the task and/or the enhancement of self-esteem as a result of group pride. The Mullen and Cooper meta-analysis under discussion indicates that the primary component of cohesiveness is commitment to

the task, and that interpersonal attraction did not make a significant independent contribution to the cohesiveness-performance effect. This suggests that the group members do not strive towards achieving for the sake of the well liked members of the group.

The net conclusion of the meta-analysis is that the cohesiveness-performance effect does, in fact, exist, and to a significant degree. This effect was found to be stronger for real groups (groups established for a specific reason for example sports groups, management teams, etc., as opposed to groups established for some arbitrary task), and for smaller groups (4 to 6 members in size). In the smaller groups, the commitment to the task invoked a self-regulatory mechanism that effectively decreased the effects of social loafing. Of equal significance is the indication that the cohesive group is not characterised by agreement and smooth coordination in the task, rather that the members of the group are committed to successful task performance and therefore regulate their own behaviour accordingly (Mullen & Cooper 1994: 225).

e Interpersonal attraction

Children generally make a distinction between their peers whom they like and those of the group that he/she considers to be friends (Cowie, Smith, Boulton & Laver 1994: 3). During adolescence there is an increase in the individual's capacity for mutual understanding together with the knowledge that others are unique individuals with unique feelings. This leads to a dramatic increase in the adolescent's self-disclosure and intimacy with those individuals whom he/she considers to be his/her friends. By 14 to 16 years of age, the peer group is seen as the primary source of social support (Slavin 1997: 102). It is in the peer group that the adolescent

experiences support and guidance in the development of his/her roles and values.

The study of the interpersonal attraction looks at the manner in which people respond to one another along a continuum ranging from hate at the one extreme to love at the opposite extreme (Baron & Byrne 1991: 260). Simply placing learners in close proximity does not mean that the individuals will form high - quality peer relationships. Positive attraction to another person is frequently as a result of expressed similarities in attitudes, beliefs and values. From a social psychological perspective, a friendship may be formed when there is a reciprocal positive evaluation by both of the individuals under consideration (Baron & Byrne 1991: 261). That a group should display cohesiveness when the individuals in the group express similarities in attitudes and beliefs, and enjoy reciprocal positive evaluation, is understandable. However, learners can obstruct as well as facilitate their peers' learning activities.

A group that is composed of members who are socially or ethnically too homogeneous tends not to provide the most satisfactory results, as the members appear to agree too soon, or even fail to propose potential differences. Their belief is that any differences on basic issues are minimal, and therefore not worth discussing or are dismissed as quickly as possible (Bruffee 1989: 26). The group in which there is a large degree of interpersonal attraction may seem to be more cohesive, however these groups are not always more productive (Mullen & Cooper 1994: 211).

3.4.4 Sociological perspective

Sociology is the study of people as they function as a part of a group (Van Den Aardweg & Van Den Aardweg 1993: 227), that, is the study of human social life, groups and societies. From this perspective both the intended and unintended outcomes of a cooperative learning activity are considered, and specific aspects are considered when looking at the question of why the results were as they were (Giddens 1994: 7 – 22).

3.4.4.1 Cooperative learning versus teacher centred teaching

Cooperative learning seeks to promote effective teamwork among the learners, with an essential aim being the help provided among the learners in the group. Encouragement, to ensure that each member of the group has learnt and assimilated the learning content is an indispensable component of the cooperative learning situation. The learning tasks should be structured in a manner that should ensure that the learners must work together in order to reach the successful conclusion of the task (Gawe 2000: 190-191). The teacher structures learning content, in such a way that analysis of factual knowledge is of more importance than the knowledge itself. The learning content is, thus intended to enrich the learners' existing understanding of reality (Vakalisa 2000: 5-9). Learning becomes an active process in which the learner is a vital participant. The success of the group is therefore dependent on the input of each of the group members.

From this perspective each individual learner is seen as being able to contribute to the group process and as having some previous experience that is unique, and upon which he/she is able to draw. Following on from

this perspective is the premise that all learners are capable of understanding learning and performing the leadership task. The result is that each member of the group carries responsibility in ensuring that the other group members experience success, and thus no one learner is overshadowed by another (Gawe 2000: 194-195). Each learner is afforded the opportunity to develop his or her own interpersonal skills.

Teacher centred teaching places the educator into a position of being the one in the classroom who will impart the prescribed body of knowledge, the prescribed curriculum, so that the learner will acquire the “right” or “correct” information (Ferguson 1982: 317 – 319). The teacher determines the activities, learning content, and aspects of assessment. The expectation is that the learners will sit quietly while the teacher lectures to them. When a learner is forced to provide an answer or opinion, he/she frequently will say what he/she expects the teacher will want to hear, that is, to provide the correct answer and not state his/her own opinion (Vakalisa 2000: 10).

a Authority structures

From a pedagogical perspective, *a person cannot be an educator unless he/she is a bearer of authority* (Du Plooy, Griessel & Oberholzer 1982:103). The relationship that is thus seen to exist is one of inequality between an adult and a child. *The educator makes a value-judgement, for the benefit of the child whose sense of values and norms is still inadequate* (Du Plooy et al. 1982:103). The teacher is thus perceived to be in a position where he/she has to guide the learner along the correct path. The learner is seen as having inadequate knowledge, experience and self-control, vision and a lack of maturity. He/she therefore needs the educator to take the necessary decisions and act accordingly (Du Plooy et. al. 1982:103).

In the traditional classroom, the authority structure is based on these assumptions. The teacher is the person who decides on the activities that will occur in that environment. The relationship that exists within that situation is that of a one-to-one nature, namely between that learner and the teacher. No real relationship among the learners is encouraged, or even allowed to exist.

The situation may exist where the teacher involves the learners in the decision-making processes in the classroom. This form of democracy has been documented to improve the motivation patterns in the learners (Ames 1992: 265). However, while the learners are more involved in the learning situation, the basic authority still lies with the teacher and the relationship remains of a one-to-one nature.

With the introduction of cooperative learning into the classroom, the authority structure changes. The group structure and dynamics become more important. The teacher alters his/her position from being the possessor of knowledge, to being a facilitator within that environment. The learners are then in a position where they can assume responsibility for their own planning and learning (Garrett 1993: 47). The group development and the cooperation within that group will influence both the quality and quantity of that group's interaction (Dornyei 1997: 485), which will in turn teach the child to share ideas, to respect the insights of others and to see the strengths and limits of his/her own ability and thinking (Garrett 1993: 47).

A learner entering into the traditional classroom may ask himself/herself, whom he/she has to beat in order to be successful. Cooperative learning is designed in such a manner as to change the learner's questions to whom he/she can help and who can help him/her. This change in turn increases

the probability of the adolescent becoming socialised so as to be civil and cooperative within his/her own environment (Bruffee 1989: 88).

Within the cooperative classroom, the teacher still maintains the systematical structure. Not all of the authority in the classroom is divested from the teacher. He/she must still be in a position to ensure that all of the members cooperate so that the task is completed. However, each member of the group needs to be individually accountable, to the other members of the group and to the teacher, for the final outcome of the activity.

b Task structures

The tasks assigned to the groups may be classified in a number of ways. Each of the described task structures has an implication to the interactions that may be allowed and /or expected to occur. Bossert et.al. (1984: 41) classify tasks on the basis of the interdependence required for the task. They place all tasks into three common states: where children can work independently on the activities; the learners work on separate tasks but may work cooperatively and, where the learners work interdependently with each child contributing a unique part to the activity (Bossert et.al. 1984: 42). This last category may be classified as a group task according to Cohen (1994: 8), that is:

A task that requires resources that no single individual possesses, so that no single individual is likely to solve the problem or accomplish the task's objectives without at least some input from others.

A cooperative learning task may be considered to be a group task, as defined above, however, more frequently the task requires that an academically stronger learner assist a weaker one. In this situation, the

weaker learner is dependent on the stronger learner, but the reverse is not true.

Work assigned to the groups may be different in nature of the task, that is, the task may have a correct answer that is to be reached through a well-structured path. Alternatively the task may not have a correct answer, and the solutions may be considered to be open-ended. Where the group task, or problem, has no specific right answer, the achievement of the group will depend on the frequency and the nature of the group interaction (Cohen 1994: 8).

Interactions that occur within a group may be structured by the task, or by conditions imposed by the supervisor or teacher. In some conditions each member is assigned a role within the group in order to structure the interactions (Yamane 1996: 380-381). These structured procedures may prove not to be the most desirable when the groups are required to engage in tasks that require higher order thinking skills, or may be classified as open-ended with a lack of structured solutions (Cohen 1994: 20). A lack of structure given artificially to the group task may increase the amount of learner interaction with one another (Ehrlich as reported in Cohen 1994: 22).

3.4.4.2 Grouping structures in the classroom

a Groups and task differentiation

Groups, in a school, are usually formed with a particular purpose in mind. In the secondary school, the most common reason is differentiation in instruction. Thus, a large learner group may be formed on the basis of ability or as a result of different subject selections (different curricula) (Rosenbaum 1984: 54-55). The use of the groups means that the teachers

and the learners are compelled to function within these constraints, as unrestricted movement between groups is generally not possible. The mere existence of groups will result in certain achievements, attitude changes, and social and socialisation outcomes, some of which are predicted and desired, others not so (Stodolsky 1984: 107).

Decisions on the formation of class-groups, made at the school-level, will establish the learner diversity with which a teacher has to work in order to achieve the educational outcomes. Furthermore, the subject matter will have a direct influence on the most suitable instructional arrangements and the resultant outcomes.

Stodolsky (1984: 110) in her presentation of the research into peer-work groups indicates that the instructional arrangements, and the teacher's expectations, will mould the learners' functioning within that environment. That is *in a given setting the learner detects behaviour and products that will attain rewards for him* (Stodolsky 1984: 110). These then become the actions that the learner is likely to take.

Where small groups are formed, the possibility of task differentiation exists, and when compared to whole-class instruction, one would expect to find that a higher level of on-task behaviour exists. However, studies in this regard are reported as being contradictory, possibly due to a lack of uniformity in the research methods (Bossert et.al. 1984: 46).

b Group size and the heterogeneous nature of the group

Bennett (1991: 593) has concluded from his study of selected primary schools in Britain, that group composition is important to learning outcomes and that pupil involvement improves in cooperative group

endeavours. The groups in this study were composed of three children, either with two high achievers and one low achiever or one high achiever and two low achievers. In the latter grouping the high achiever took on the role of peer tutor. The grouping of a high achiever with low achievers did not adversely affect the high achiever's progress as it was found that he/she performs well irrespective of his/her group membership. Rather the high achievers may tend to benefit from the participation in the heterogeneous group, as he/she provides the explanation (Cohen 1994: 9).

Using heterogeneous learning groups, of between three and six members, has become the norm. The attitudes of learners towards working in the heterogeneous groups were found to be more positive when compared to individual studying. The exposure of learners to peers, who are ethnically, culturally or otherwise heterogeneous provides a forum in which these learners can develop attitudes and skills in interaction (Johnson, Johnson & Scott 1978: 214). Perspectives from other backgrounds, presented in a group, may be seen to assist in understanding other approaches and ideas of people from diverse backgrounds and cultures. However, when the group consists of one member from a diverse cultural group, an out-group member, and two in-group members, the out-group member is likely to become alienated from the remainder of the group (Rosser 1998: 84 –87; Cohen 1994: 25).

The gender of the members of adolescent groups does not appear to be a significant factor in determining the effectiveness of the groups' activities, except that girls tend to be less active and offer less input than boys (Cohen 1994: 24-25).

c Issues of status

Status may be defined as *relative standing, rank or position* (The Cassell Concise English Dictionary 1997: 1458). An individual's status may thus be considered to be his/her rank or position within the particular social situation, when a specific attribute or characteristic is considered. It may therefore be possible to describe an individual's rank in terms of, for example, his/her peer status or popularity, or his/her academic status, based on his/her academic ability as seen by the others in the group.

In a brief survey of the literature, the status created by an individual's ethnicity or race or ethnicity, with the related stereotypes, and the impact that this may have on the outcomes of cooperative activities did not appear to have been considered for the South African context.

Individuals working within a group develop expectations of the other group members' ability based on previous performances. A position in the status ranking is assigned to the group members and the individual group members are likely to take roles in accordance with his/her status (Chizhik 1998: 60). The status of a learner is likely to determine the interactions within a small group. This may be detrimental to the group's productivity (Cohen 1994: 24), or the group's ability to arrive at the desired outcomes.

3.5 Further outcomes associated with cooperative learning

Cooperative learning research looks at the occurrence of learning that occurs, and is in accordance with the parameters described, however, the outcomes of these activities are varied. These outcomes may thus be

categorised, as indicated above, but this is not exhaustive. Further outcomes, relevant to this study, are therefore discussed below.

3.5.1 Intergroup relations

A group may be defined, simply, as a number of people who interact with each other on a regular basis and familiarity, solidarity and shared habits are encouraged (Giddens 1994: 305). So much so that group members perceive themselves as “us” in contrast to “them” (Myers 1996: 314) Inter-group relations may be described as the interactions between “us” and “them”.

Within a cooperative learning situation, learners from different ethnic and social groups may be placed within the same group and encouraged to discuss, debate and disagree with each other. However, in the process inter-racial cooperation may be promoted. The boundary between “us” and “them” may become less obvious. As such, cognitive learning methods have been shown to have a positive effect on inter-group relations (Slavin 1997: 292).

The use of cooperative learning in teaching business economics is therefore likely to have a positive impact on the inter-group relations on an individual, personal level.

3.5.2 Self-esteem

An evaluation that the individual makes of his/her collective attributes that constitute his/her self-concept is referred to as the self-esteem. It is usually in relationships with others that the individual develops his/her self-esteem.

A feeling of being worthwhile and being liked by other in a group, has been indicated as being an important aspect in the development of self-esteem (Hendrix 1996: 334). Johnson et.al. (1978: 208) indicated that academic motivation and school achievement are enhanced by a positive self-esteem. In a cooperative learning class, learners were found to have more positive feelings about themselves when compared to learners in traditional classes (Hendrix 1996: 334).

Success that the learner experiences in the cooperative learning situation may have a direct impact on that learner's self-esteem. Where the group's success depends on the learning performance of all the group's members, where it is not possible for a single group member to do all the work, the members of the group will pay attention to one another's action. Regular positive reinforcement and outstanding learning performance are likely to occur among group members (Slavin 1983b: 443).

3.5.3 Social skills related to business management

From a business management perspective:

The combination of human skills is important.... For humans as social beings arrange themselves into groups to achieve objectives that would

be too difficult or complex for an individual to achieve alone (Cronje, Du Toit, Mol, Van Reenen & Motlatla 1997: 89).

Business expects that schools in educating the child should prepare him/her for employment. As such this is one of the purposes of the Further Education and Training (F.E.T.) curriculum (Department of Education 2002b: 7).

The study done by Deutsch (1962: 210 – 212) reveals that group centeredness and working together to achieve a common goal, were rated higher in the cooperative groups when compared to the competitive groups. The groups' processes make a significant contribution to the success or failure in the classroom (Dornyei 1997: 485).

The cohesiveness – *all the pressures or forces causing members to remain a part of the group* (Baron & Byrne 1991: 443) – within a group has been shown, in the meta analysis by Mullen and Cooper (1994: 225) to have a positive impact on the groups' productivity.

However, group cohesiveness may only develop in a group where interaction is promoted. In this regard communication, both verbal and non-verbal, needs to occur (Giddens 1994: 100 – 101). A cooperative learning situation thrusts learners into an environment in which they have to engage with their peers in order to be successful (Slavin 1983b: 442, Singhanayok & Hooper 1998: 18; Dornyei 1997: 484), yet at the same time emphasises the necessity of building trust, providing leadership and managing conflicts between the group members (Dornyei 1997: 486).

Introducing cooperative learning thus provides a forum for the learners to experiment socially within the security of the classroom and the boundaries of the subject. In this environment they are afforded the

opportunity to develop their own social skills. These skills will stand them in good stead as they leave school and, most likely, enter the business world.

3.5.4 Productive thinking or higher-order thinking

Productive thinking involves the execution of a mental task that depends on more than the reproduction or recall of existing knowledge (Jordaan & Jordaan 1989: 437). These mental tasks according to the taxonomy of educational objectives, in the cognitive domain, developed by Bloom and his colleagues would be classified as belonging in the higher categories of analysis, synthesis and evaluation (Clark & Starr 1991: 136 – 137).

Small group learning with the learners being cooperatively involved was shown by Sharan and Ackerman (1980: 128) to result in superior achievement in higher order thinking. Garrett (1993: 45) reports that college students learn better when they are actively participating in the analysis. Cooperative learning has been shown to emphasise thinking strategies by placing the learners into situations in which they can elaborate their own ideas as well as test and share, their theories and their capacity to speculate (Garrett 1993: 46 – 47).

In conclusion, Cohn (1999: 51) states that cooperative learning has been shown to promote an increase in higher-level thinking, as well as the more frequent generation of ideas and solutions.

3.6 Cooperative learning methods

With the criteria describing what constitutes cooperative learning, in the broad sense, being relative to apply, many different cooperative learning methods have been developed and researched (Slavin 1994: 285). What follows is a brief description of the more extensively applied methods of cooperative learning, that are relevant to the teaching of business economics.

3.6.1 Student Team Achievement Division (STAD)

Student Teams Achievement Division, developed by R.E. Slavin (1994:13 – 14; 1997: 287), is made up of five main components that form a regular cycle. These components are:

Class presentations:

In the class presentation the teacher introduces the material to the learners. Most frequently this comprises a lecture – discussion presentation or direct instruction.

Teams:

The teams are composed of four to six learners of mixed ability. The function of the teams is to ensure that its members do well in the test. This is achieved by the provision of peer support in order to make sure that all the members of the team master the learning material.

Tests:

The learners take the tests individually after the class presentation and the periods of team practice. The learners are not allowed to help one another during these tests, thereby ensuring that each individual learner knows the material.

Individual improvement scores:

These scores provide an attainable performance goal for each learner. These scores are based on the learner's average score from previous, similar tests. The learners contribute points for their teams based on their individual test score improvement from that of their base score.

Team recognition:

Recognition is given to those teams whose average score improvement exceeds the predetermined criteria. These teams may earn certificates or be recognised on the class bulletin board. (Slavin 1994:13 – 14; 1997: 287).

3.6.2 Team Games Tournament (TGT)

Team Games Tournament is similar to STAD in the underlying principle and method. However, in place of the use of individual quizzes, the learners play games composed of content-relevant questions. These games test the knowledge that the learners have gained during the class presentation and the team practice.

A member from each team is assigned to a tournament table, so as to make a homogeneous tournament. The equal competition in the tournament makes it possible for learners to all contribute to the team score. Each team member's position within the tournament adds to the team total. The teams achieving the predetermined criteria are rewarded as for STAD (Slavin 1994: 26 – 41; Gawe 2000:202).

3.6.3 Jigsaw method

This method originally developed by E Aronson, places the learners into six member heterogeneous teams and each team member is given a section of the material to work on. The members of the different teams, which have been working on the same section of the material, meet together in the so-called expert group in order to discuss their sections. After a period of time these members return to their original teams and then teach their team-mates about their particular section.

The learners are required to complete a test, individually, based on all of the sections of the work. The Jigsaw II method includes rearranging the individual test score improvement for the team members (as for STAD) in order to provide a team score. The teams reaching the predetermined criteria are rewarded as for STAD (Slavin 1994: 42; 1997:286; Gawe 2000:202).

3.6.4 Group investigation

The class group is divided into heterogeneous groups of five or six members, with each group choosing a subtopic from a general learning area that has been delineated by the teacher. Each subtopic has specific,

pre-stated, objectives and tasks. Within each team the objectives and tasks are broken down and assigned to individual group members. Each team member needs to present his/her section of the subtopic to the remainder of the team so that a group presentation may be compiled. This presentation is then made to the entire class group (Van der Horst & McDonald 1997: 132 – 133; Slavin 1997: 286).

3.7 Chapter summary

The overarching objective of a schooling system and thus also a curriculum should be the holistic development of the child in such a way that he/she can meaningfully take a productive part in society. With the change in the political dispensation in South African in 1994, the aims and objectives of education were revisited, with the result being the introduction and gradual implementation of Curriculum 2005 into the schooling system of this country. The terms of outcomes based education and cooperative learning have become frequently used when reference is made to this “new” curriculum.

Existing cooperative learning research tends to isolate and focus on particular, defined aspects, that contribute to the outcomes of the cooperative learning activities. Attention has been given to the motivational aspects of the activities as well as to the individual learner’s goals and the goal structures that direct learning tasks. Individual learning may occur in the company of other learners, and thus a learner may be provided with a measure against which to judge his/her own competence in a variety of areas. This comparison may be either, or both, formal and/or informal in nature and has been the basic consideration in research activities investigating the influence of aspects such as the impact of social comparison, interpersonal attraction, academic achievement, conceptions

of ability and self-regulated learning. The body of research literature available on these topics accentuates that the concepts of motivation and individual goal structures are complex and multifaceted.

Thus, the psychological perspective on cooperative learning considers the influence of the aspects mentioned above on the individual learner, as a part of a group that is participating in cooperative learning activities. This perspective may be contrasted to the sociological perspective that seeks to interpret the influence of external forces on the processes as they occur within a group.

From the sociological perspective a change in the authority structure, will have direct implications for the group processes. Of relevance here is the way in which the task assigned to the learners is structured as the expectations in this regard have a direct implication on the likely interactions within the group. An individual's status within the larger group, may present as a measure of his/her authority within the smaller group, thereby directly influencing the group processes. From the sociological perspective the manner in which facets such as the group size as well as the group composition are approached are seen as having a significant impact on a group's interaction.

This chapter presents a literature review of the concepts that are significant in this study. In the next chapter the empirical investigation is described.

Chapter 4 Research design

4.1 Phase 1 - Introduction

In the previous chapter, a literature review was presented. This chapter describes the empirical investigation.

Cooperative learning requires that an atmosphere of mutual support exists within a group. Thus, the members of the group need to be in a position where they trust each other, and are comfortable enough to provide their individual input into the group activities. It was from this perspective that the research design proceeded. There was thus no intention of statistically proving that one teaching method was more effective than another. The research design is thus hinged on a qualitative method of inquiry (Le Grange 2000a: 192).

4.2 Aims

The primary aim of this research project is to consider the academic outcomes that result from the various methods of grouping learners, within the larger class group. The problem, namely that in some situations a particular grouping appears to be more successful than other groupings in the same classroom, is looked at by purposefully manipulating the formation of the groups.

Therefore the impact of the groupings on the quantity and quality of the observable learning that took place during the specified time period is of relevance.

Furthermore, as learning that is pleasurable tends to be remembered for longer, the learners' personal feelings regarding the effectiveness and the attendant affect, of the learning activity will be considered in the findings relating to the final outcomes of the learning activity. In each of the situations the learners' feelings are noted.

4.3 Methods utilised

Prior to any group activity, or any explanation regarding the nature or aim of the study, the learners were requested to complete the Social Questionnaire (Appendix A). The information supplied by the learner was then used to complete the sociogram that formed the basis for the formation of the groups.

The aims of the study implied that qualitative methods be used in the collection of the data, with the initial data being collected through observation of the learners while the activities were in progress.

Because of the number of learners in the class group, those groups that were expected to reveal the most data were more closely watched, and details noted.

In order to gain an insight into the learners' own feelings about the activities and dynamics of the group, they were requested to write down their own feelings. These comments were noted and analysed with the observations. Adjustments were made to the groupings for the next task, arranging the learners into groups according to the parameters included in the discussion of the problem statement in Chapter one of this study.

The researcher was aimed at creating a grouping wherein all the groups were functional, that is achieving the learning objectives as well as being enjoyable for the learners.

4.4 Research methodology

The research is based on a qualitative method of investigation, with the intention of describing the social interactions among a particular group of learners (De Vos 1998: 240). The interpretations and meanings that the learners attach to those interactions, as well as the outcomes as perceived by the learners, are important.

4.4.1 Description of the research design

The research was based on a qualitative method of investigation, and as such employs different techniques and methods in the process of collecting the data. The methods so utilised are largely dependent on the interactions among the learners and the unique situations as they develop (De Vos 1998: 240). Significance is attributed to those aspects that are highlighted by the learners. With the dynamic nature of the subject of study as well as the necessity to determine the parameters of the plausible interactions, it did not appear practical to approach the field of study from an entirely quantitative research perspective.

The research design may be described primarily as naturalistic, in so much as the activities being observed are being performed within the normally expected environment. Those participants, that is the learners, are observed within their normal habitat, namely the school classroom. Furthermore, no additional individuals have been introduced into the

environment, as the researcher is the expected teacher for that period of time. In order to ensure that the learners did not react unnaturally during the group activities, no video cameras or electronic recording equipment were used.

As the researcher is an active participant in the situation, the conclusions drawn on the activities are subjective, and are thus related to the interpretations and explanations of the situations provided by a unique group of individuals. These relations are thus unique. It may be deduced that a description of the events may be transferable to similar situations, but that a generalisation of the results is not entirely possible (McMillan & Schumacher 1993: 394).

4.4.1.1 Reliability in design

The question of reliability of the study was considered in the research design, and thus the role of the researcher, the selection of the class group, their social contexts and the methods of data collection (McMillan & Schumacher 1993: 386) were carefully considered and adjusted where necessary.

In the average South African school, during an average school lesson, the teacher is normally the only adult in the classroom. The presence of another adult changes the group dynamic of the class. Bearing this in mind, it was decided not to introduce another researcher into the classroom.

The researcher was thus also the teacher and therefore an essential part of the normal classroom activities, with the relationship between the researcher and the group being established by the norms and

expectations, of the society from which the learners came, as well as the ethos of the school being studied. As the teacher, the researcher had an identified status. However, this status included elements of authority as well as an expectation from the class group. Where these elements were identified, attempts were made to eliminate the possible effect on the group activities where at all possible. Where this was not possible, the events were noted and taken into consideration during the data analysis.

In order to create a constant physical environment, all of the group activities were completed in the regular classroom, that is the classroom where the learners would normally attend their business economics lessons. Social interactions and events that occurred outside of the classroom were recorded and cognisance taken of these events, as they were uncontrollable, and their influence on the progress of the group activities significant.

4.4.1.2 Validity in design

Validity in the design looks at the question *Are we measuring what we think we are measuring?* (Kerlinger 1986: 417). From the qualitative perspective, this concept of validity may be divided into two sections; namely internal and external validity.

Internal validity refers to the degree to which the explanations of the phenomena studied, and the reality of the situation coincide, whereas external validity is considered in the study's usefulness. The latter is the degree to which the research design is adequately described so that the study may be compared to the findings of other studies; and the manner in which the theoretical framework is used to base the study on are

understood by other researchers (McMillan & Schumacher 1993: 391 – 394).

a Internal validity

The data for this study was collected at intervals during the learners' grade 11 year. These learners were observed for the full length of time necessary for the specific exercise. However, only those events that were overt were noted, together with specific learner's comments that appeared to be particularly revealing with regard to the nature of the interpersonal relationship within the group. These comments made by the learners, have been acknowledged as being recorded in the field journal primarily due to the subjective observations of the researcher. To compensate for this subjective input, the learners were requested to write down their own comments and feelings on the events as they occurred in the group.

The individual comments made by the learners, became more informative as the study progressed; the length of the study thus appeared to have a positive influence on the quality of the data collected. The initial comments made by the learners, after the first grouping, were very stilted and the first set of comments embodies the learners' perceptions as reflecting the researcher's expectations (what she wanted to hear). However, the second grouping this influence was not as evident. This appeared to have been related to the fact that no feedback, or reference, was given to the learners on the comments that were made, thereby encouraging the learners to express their true feelings.

Events external to the group activities were acknowledged as having a probable influence on the group processes, and thereby affecting the events during the periods under observation. An example to illustrate this,

was the anticipated handing out of the terms reports immediately after the conclusion of the lesson period. In this case the learners were noticeably preoccupied with their own thoughts, or engaged in conversations with their existing friends predominantly regarding this forthcoming event. Where the researcher was aware of these events, the learners were asked for details after the lesson, and those were aspects noted and taken into consideration during the analysis phase of the research.

While attrition was not a significant cause for concern, with only one learner leaving the class group during the study period, of more concern was the absence of a learner for one or more of the periods of the activity. These absences had an influence on the group processes, and were thus noted in a field journal. The change in the group dynamics caused by the individual learner's absence was noted and considered during the interpretation of the data.

b External validity

The characteristics of the school, as well as the surrounding neighbourhood, have been described so as to enhance the comparability of the study. However, the ethos of the school with the resultant expectations of the learners could not be completely explained, as it represents an overarching atmosphere which is difficult to quantify.

While no immediate change is expected in the nature of the Matriculation Certificate Examination, a significant adjustment to the basic composition of this examination would comprise an external motivating factor, which could have a significant influence on this study. This motivating influence of the Matriculation Certificate could not be considered as significant in a lower grade. The results of this study could thus not be compared to

studies involving either younger learners or those learners that had started their tertiary studies.

4.4.2 Sampling plan

A learner by the time he/she has reached grade 11, has generally established his/her individual goal structure. By this stage in the learners' school career, there is a general move towards a focus on their future, away from the school situation. This may be a motivating factor that cannot be influenced. The grade 11 learners were thus selected with this element being considered as desirable. From the three groups of grade 11 learners doing business economics, the group reflecting the greatest diversity between the individual class members was selected for the study.

The three possible grade 11 groups were, however, predetermined in a manner that was not under any form of experimental control. The criterion that placed learners into the three groups was his/her subject selection at the end of his/her grade nine year. There was no way that these initial groups could be changed. The selection of an information rich group thus had to be done within these constraints.

The class group was selected from three possible groups, as it was believed that this group would provide the greatest amount of relevant data. The class group members appeared to be the most diverse with regard to aspects such as ability, ethnicity or race and existing predispositions, both positive and negative, to the other members of the class group (De Vos 1998: 252 – 268). Thus the qualitative sampling method of maximum variation was used.

Once the class group had been selected and the information gathered by means of the Social Questionnaire (see Appendix A), the allocation of the actual activity to the specific smaller grouping was random.

The allocation of the learners to the groupings was done on the basis of the information provided in the Social Questionnaire. That is once the sociometric table and the sociograms (Appendix B) had been compiled, the learners were placed into the smaller groupings in a manner that would fit the categories as described in the problem statement. These groupings were thus formed in a manner that would yield the most relevant information.

4.5 Descriptions of groupings

4.5.1 Grouping 1

Group structure: the groups were not pre-selected; the learners were allowed to stay in groups as they chose. The groups were thus not strictly heterogeneous, that is group 1 had three of the high achieving students in a group of six, and group 3 had three members, all of whom were in the lower range.

Setting

Dates:

13.04.2000, 14.04.2000 3rd and 6th periods, and the 19.04.2000.
(Total time, 4 periods of approximately 30 minutes working time),

Location:

Classroom

Physical setting: desks arranged previously in groups of six desks, facing each other. This is illustrated by the following figure.

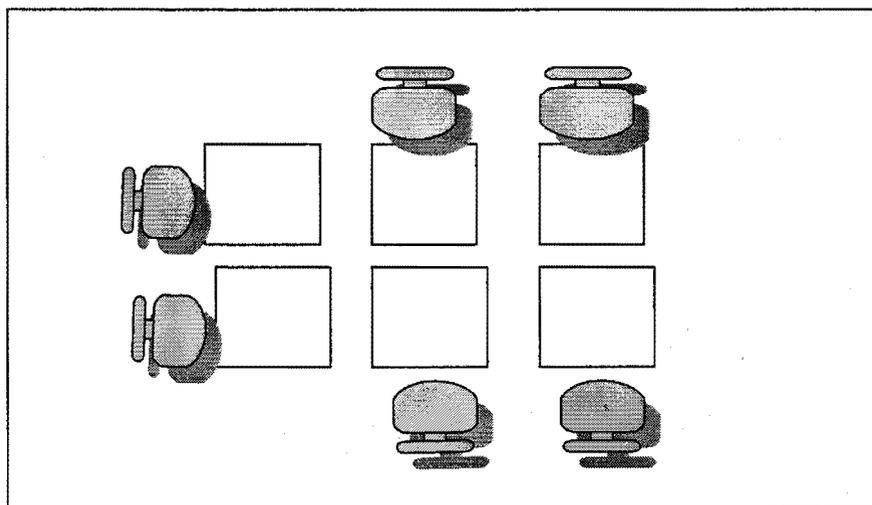


Figure 4-1 Desk arrangement

Task structure:

The task given to the learners was in the form of a worksheet with selected questions. These questions referred to their interpretation and identification with the topics being considered. The definitions, descriptions and formal points on which the topics were based needed to be found in textbooks provided. Each textbook was different, and no indication was given regarding the probable location of the answers to the questions, or even whether a particular book provided an answer for a particular question. The expectation was that the learners would consider the question, look for an explanation and discuss the applicability of their

experience and text to the question, eventually arriving at an answer that was acceptable to the group as a whole.

No measure of group interdependence was provided or included in the task structure and there was no way in which individual accountability could be measured. The prescriptions were limited.

The reasoning behind starting with a task that did not provide for any of the essential conditions for cooperative learning was to gauge the learner's reaction to this format, and to assess his/her level of commitment to the task. Indications regarding social loafing, competitiveness and individuality should be evident in this format.

I also felt that each one of the learner's input or feelings, after the completion of the task could be interesting. At the end of the period of time (19.04.2000) each one of the learners was asked to write down his/her feelings regarding the activities, that is: what he/she liked; what he/she disliked; how he/she hoped to see the activities changed and anything else that he/she would like to say.

4.5.2 Grouping 2

Setting

Dates:

3.05.2000, 4.05.2000, 5.05.2000 and 8.05.2000. (Total time 3 periods of approximately 30 minutes and 1 period of 20 minutes)

Location:

Classroom

Physical setting:

As for grouping number 1.

a Group structure

These groups were formed in a purely heterogeneous manner, namely the learners were ranked according to marks, and the students with the highest and the lowest marks were placed into a group together. Care was taken to ensure that the groups had both males and females in the group. No consideration was given to preferences regarding preferred or disliked (rejected) members of the group.

b Task structure

The learners were given a case study to read with questions at the end that needed to be explained and answered. The questions, and the case study were based on the subject matter that had been covered in class. However, the learners' interpretation and the application of the details in the case study was important. The activity was thus a form of revision of the actual subject matter with application being required.

The learners wrote a spot test on the subject matter prior to the start of the activity, and these scores were recorded. Once the activity had been completed, the learners once again wrote a spot test. The learners were informed that the group with the best nett increase in test scores would receive a reward, and time was taken discussing what form they believed this reward should take.

With the pre-test and post-test scores it was possible to determine the individual's input into the group's success. The learners were also given these details. As the tests were being handed out, each learner was told what score he/she had achieved on the pre-test, how the post-test score compared and how he/she was placed with regard to the achievement of the group.

Once all of the tests had been handed out, the group results were given, and the rewards handed out, according to the prearranged criteria. The groups came to the front of the classroom as a unit, and were encouraged to congratulate each of the other members of his/her group in front of the remainder of the class group.

Once again the learners were asked to jot down their feelings concerning this particular group activity on a sheet of paper.

Special comment:

Half way through the first period during this particular activity, a boy joined the class. He was new to the school and therefore unknown to all concerned. I had no idea as to his level of ability, his previous experience with regard to group work, or his possible effect on the dynamics of the group. The group that he was placed in was chosen because that group was situated nearest to the door with a vacant chair that was easily accessible.

4.5.3 Grouping 3

Setting

Dates:

2.08.2000, 3.08.2000 (2 separate periods) and 4.08.2000.

Location:

Classroom, (the classroom continued to be the location for the activities, although it would have been practical to use the school field or gardens. However, it was easier to observe the groups in the classroom as the learners were in a confined space.

a Group structure

The first three groups, that is groups 1, 2 and 3, were composed on the basis of the details on the sociogram, in the following manner: a “rejected” learner, and a friend were placed together with the “rejecter” and a friend. A neutral person was also placed in each of the groups in order to ensure that the groups complied with the heterogeneous criteria. The reasoning behind this particular structure was to observe the group dynamics, and eventually the learners’ feelings regarding the experience of the group activities.

b Task structure

A section of the work was covered in class, using general lecture, and group discussion methods. The learners were not given an opportunity to do any written work, or have any discussion on the subject with each other during the class time. Notes on the work covered were handed out before the start of the "lecture periods", and reference was made to the appropriate pages during the class time. The learners were then given a spot test (predominantly multiple choice) on the work covered.

Once in the groups the learners were required to cover the work by going through a worksheet with questions based on the work covered. The parameters for the learner participation were as described above in grouping two. Once again the learners were told that a winning group would be declared, and that any group meeting the predetermined criteria would win a prize, as in the previous situation. While a post-test was alluded to, this was not stated categorically, rather that each learner's understanding of the subject matter was important and that for the group to be considered to have been successful, all the learners in that group needed to understand the subject matter.

After four periods (effectively a possible two hours task application) dealing with the work sheet, the learners were given the same test as a post-test. The post-test was written on a Monday a week after the pre-test was written.

The results of the post-test were compared with the pre-test, the net average improvement (or decline) compared and a winning group declared. The rewards were handed out according to the prearranged criteria. The

members of each group were encouraged to congratulate each of the other group members as before.

4.5.4 Grouping 4

Setting

Dates:

31.08.2000, 19.01.2001 (a double period).

Location:

The classroom has changed for the second session, from one of the prefabricated classrooms to a classroom in the main building. I do not believe that the change of venue would have a significant influence on the interaction within the groups.

a Group structure

The groups were formed from the Sociogram in the following manner: a “rejected” member of the class was placed with the “star”; the remainder of the members of the group were made up of learners that showed little or no connection (neutral learners) to the other members of the group. The groups were made as heterogeneous as possible. Furthermore the first group consisted of the “most rejected” and the “greatest star”, and the other learners were assigned to the next groups in descending order. Group five consisted of learners not otherwise placed.

b Task structure

The separate activity consisted of a worksheet covering work that had been done in class prior to the allocation of the learners to the groups. The worksheets were thus to be done as a form of revision, however, the learners were given an instruction to discuss and agree on the most significant details or aspects of the topics. Relationships between concepts within this section of the work also needed to be considered and discussed so that the learners gained a clearer understanding of the topic. The class was given a pre-test, once again a test consisting predominantly of multiple choice type questions, covering the section of work in general. The worksheet then guided the learners through the concepts contained in the subject matter work.

4.5.5 Data collection procedures

The class group of grade 11 business economic learners was presented with the Social Questionnaire (see Appendix A) and a brief description of

the study was given to them. This particular class group of students was chosen, from three possible groups, because he/she appeared to be the most diverse in composition. This was especially true when aspects such as level of ability in the subject, as taken from his/her results in the subject in grade 10, and ethnicity or race were taken into consideration.

The Social Questionnaire asked the learners to select five people with whom they would like to work from the class group. They were also asked to indicate any student that they felt a dislike for, and rejected. From the information that the students gave, a sociometric table and sociogram was developed. These instruments then formed the basis for the future group placing.

At the time that the learners were asked to complete the questionnaire, they had no idea as to how the information was going to be used, other than a very brief explanation of its necessity for research. During this explanation the learners were assured that all information that was provided would be kept strictly confidential, and that at no stage would they be identifiable as the contributors of this information. The researcher is of the opinion that all of the information included in these questionnaires was accurate at the time of completion.

In terms of the STAD form of cooperative learning (as discussed in Chapter one), a pre-test was administered. The objective of the test was to provide a measure against which a learners could judge his/her progress in the group. The primary purpose of the tests was to motivate the learners to make a positive contribution to the group activities. The results of the test, when compared to the post-test, do not have a significant influence on the research, other than to provide a superficial measure of the functioning of the group. These tests were thus subject-specific, and closely related to the subject related content in the activities that the learners had been

doing. There was never an attempt to check the internal or external validity of these tests, as the function was secondary in the research, namely that of motivating the learners, and providing an aspect of individual accountability. For the purpose of this study the terms pre-test and post-test are therefore used to describe at what point in the process the tests occurred, that is before the group activity or after the group activity.

Once the learners had been placed into the various groups and the assignment or group activity explained, the learners were carefully observed, and notes taken in a field journal. The researcher was not an active participant in the group activities, leaving the groups to do as they pleased (with one exception, that is where two of the learners appeared to become potentially violent at which point one learner was removed from the remainder of the group).

At the end of the activity, after the predetermined period of time, the learners were given the post-test. They were also requested to write down what they felt about the group's functioning. It was these comments that were given the most attention, and considered together with the observations noted in the field journal.

4.5.6 Measuring instruments

The measuring instruments used were observation and naïve sketches.

The tests that were used are subject-specific, and were used in order for the learners to measure the group's success in the activity. They were used in accordance with the parameters of the STAD method of cooperative learning. The discrepancy between the test scores before the group activity and the results from the test after the group activities has been recorded.

These results were used to reward those learners who had reached the predetermined goals.

Observation of the group dynamics was of significance. These observations were noted, and specific comments made by the learners were noted in the field journal where these were considered to be pertinent. The observations and comments were analysed and looked at according to the placing of the learners into the groups.

Once the activity had been completed, and the test written, the learners were requested to write down their feelings with regard to the success, or otherwise, of the group activity in the form of naïve sketches. By requesting the learners to write down their feelings on blank sheets of paper, rather than answering specific questionnaires, it was believed that none of the researcher's expectations were imposed on their answers. Moreover, the lack of questions implied that there were no parameters for "right" or "wrong" answers, that is, answers that the learners felt the researcher would like to receive.

4.5.7 The researcher as instrument

As indicated previously, the teacher and the methods of teaching that he/she uses in the classroom has a bearing on the atmosphere within that environment. Furthermore, in the South African context, the presence of an additional adult/teacher in the classroom situation is unusual and possibly would impact on the dynamics within that situation. For the purposes of this study it was decided to maintain the status quo of the classroom, as the learners would most likely have expected it to be.

The teacher and the researcher were thus the same person. Accordingly, the activities within the classroom were determined by the teacher/researcher. That teacher usually taught the group of learners used for the study, and thus their expectations, for any lesson, within that subject were in accordance with pre-existing or preset parameters. That is, the learners had no reason to believe that classroom rules and conditions would necessarily change.

Due to the active involvement of the researcher in the situation, she was more than an impartial observer, but rather had an important impact on the results of the study. Thus the method of participant observation was employed.

4.6 Phase 2 - Introduction

An analysis of the observations and naïve sketches described in the qualitative research indicated that the groupings considered provided results that were generally less than satisfactory with regard to the desired outcomes (as described in the Discussion (5.3.2). For example the placing of a “rejected” learner in the same group as the learner who did not like him/her created an environment of general disquiet throughout the entire class group (see 5.3.2.1 (c)).

The quantitative research thus follows the qualitative research, and aims to consider the impact of the selected groupings on the desired outcomes from an alternative perspective. From the literature research, cooperative learning has been indicated as having a positive influence on aspects such as the social relations within a group, the self-esteem and intrinsic goal structures of the learners. Cooperative learning, as a learning method,

different to group work, is indicated by the learners' perceptions of interdependence within their group accompanied by their own individual accountability. Finally the learning activities should be pleasurable for the learners.

4.7 Problem statement

The problem statement generally indicates the variables that the researcher is considering as well as the relationships between those variables that are to be investigated (Gay 1990; Gay 1992: 36).

4.7.1 General problem statement

The general problem statement may be stated as follows:

What are the learner's feelings regarding the success of his/her own learning experience within a group composition?

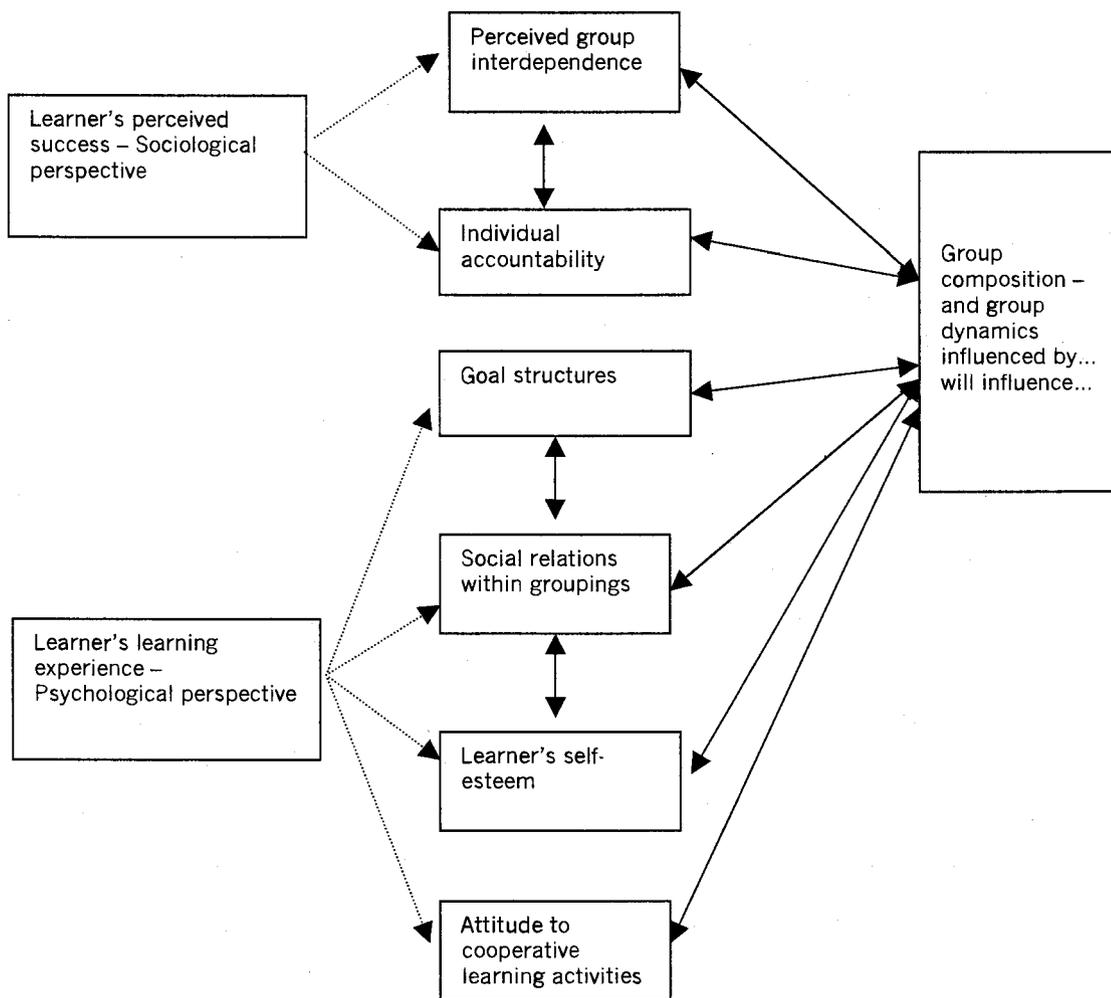


Figure 4-2 General problem statement and the relation to variables indicated in the specific problem statements

4.7.2 Specific problem statements

4.7.2.1 Problem 1

Is there a significant difference between the two methods of grouping the learners with regard to the learner's feelings on the development of group interdependence?

4.7.2.2 Problem 2

Is there a significant difference between the two methods of grouping the learners with regard to the learner's feelings of individual accountability within the group?

4.7.2.3 Problem 3

Is there a significant difference between the two methods of grouping the learners with regard to the learners' perceptions of their own goal structures?

4.7.2.4 Problem 4

Is there a significant difference between the two methods of grouping the learners with regard to the learner's interpretation of the social relations within the group?

4.7.2.5 Problem 5

Is there a significant difference between the two methods of grouping the learners with regard to the learner's self-esteem in that specific group?

4.7.2.6 Problem 6

Is there a significant difference between the two methods of grouping the learners with regard to the learner's attitude towards cooperative learning?

4.8 Hypotheses

A hypothesis is a conjectural statement of the relation between two or more variables (Kerlinger 1986: 17).

The hypotheses therefore present statements about the expected relation between the variables indicated in the problem statements. The purpose of the hypotheses is to provide the focus for the research activities (McMillan & Schumacher 1993: 45 & 48).

4.8.1 Hypothesis 1

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to group interdependence.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to group interdependence.

4.8.2 Hypothesis 2**Experimental hypothesis**

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's feelings of individual accountability.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's feelings of individual accountability.

4.8.3 Hypothesis 3**Experimental hypothesis**

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learners' perceptions of their own goal structure.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learners' perceptions of their own goal structure.

4.8.4 Hypothesis 4**Experimental hypothesis**

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's interpretation of the social relations within the group.

Null hypothesis

There is no significant difference between the feelings of the learners Group 1 and the learners in Group 2 with regard to the learner's interpretation of the social relations within the group.

4.8.5 Hypothesis 5**Experimental hypothesis**

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's self-esteem in that specific group.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's self-esteem in that specific group.

4.8.6 Hypothesis 6**Experimental hypothesis**

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's attitude towards cooperative learning.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's attitude towards cooperative learning.

4.9 Identification of variables

A variable may be defined as a property that may take on different values. The constructs, complex abstractions that are not directly observable (McMillan & Schumacher 1993: 81), of behavioural sciences are defined and specified in such a way that the manifestations may be measured and a value assigned (Kerlinger 1986: 27). The variable thus is used to express the construct and has different values depending on how it is used in the particular study (McMillan & Schumacher 1993: 81)

The independent variable is usually that variable that is manipulated by the researcher and as such is considered to be the presumed cause of the variations in the dependent variable. The dependent variable is observed for the disparity (Kerlinger 1986: 32) and the changes in the values are measured so as to reflect the manipulation of the independent variable.

The variables identified are categorised as follows:

Independent variable:

- The two grouping structures of the two classes of grade 11 learners – named Group 1 and Group 2 (Refer section 4.10.2)

Dependent variables:

- Perceived group interdependence (Refer section 3.4.2).
- Individual accountability (Refer section 3.4.1).
- Goal structures (Refer sections 3.4.3.2 and 3.4.3.3).
- Social relations (Refer sections 1.5.5 and 3.5.3).
- Learner's self-esteem (Refer sections 3.4.3.1 and 3.5.2).
- Attitude to cooperative learning (Refer section 3.4.4.1).

Moderator variables:

- Gender (Refer section 1.5.4.1).
- Age (Refer sections 1.5.4 and 1.5.4.2).
- Ethnicity (Refer section 1.5.4.3).

4.10 Quantitative research methodology

The quantitative research attempts to provide an accurate description of the situation under discussion. As a non-experimental format, no attempt may be made to establish or describe cause-and-effect relationships, rather the relationships that exist between the variables are considered (Christensen 2001: 32 – 34).

Results from the qualitative research – Phase one, indicated that some of the heterogeneous groups formed did not appear to function in a manner consistent with expectations, as presented in the literature. The identification of aspects that may indicate facets or aspects of the groups' functioning warranted further investigation. Such an investigation was not possible within the parameters of the qualitative research, described above. This section of the research thus aims to continue within the parameters, described above, and related to the first part of the study, so as to gain further insight into this field.

4.10.1 Description of the quantitative research design

The research design is considered to be the overall scheme, or program, and structure of the investigation that is conceived so as to obtain the answers to the research questions (Kerlinger 1986: 279). As such the research design provides the framework according to which data are collected and the hypotheses investigated (De Vos 1998: 124)

The research design is a two-group post-test only design.

This is a design in which a number of groups are studied only once, subsequent to the application of the agent or treatment, which is

presumed to cause the change. This design provides for a measure of what happens to the groups of people when subjected to the specified experience, it is however, not possible to conclude that the agent or treatment alone caused the change, or to what extent change has occurred (De Vos 1998 125 – 127).

Two grade 11, business economics, class groups were classified as individual experimental groups and divided into smaller groupings based on the predetermined parameters. The two classes then followed a program based on the same learning material, with the same teacher, and completed the questionnaire.

4.10.2 Sampling plan

The sampling plan was a non-probability sampling plan, due to the fact that the learners had been placed into the class groups and it was not possible to adjust these, due to the constraints within the school timetable. Randomised sampling was therefore not possible.

Only two classes of grade 11 learners were available at the time that this section of the study was completed. Both of the grade 11 classes were utilised. The manner in which the smaller groupings were formed within the two class groups was decided randomly, that is the two possibilities were each given a number, and then one selected by an uninformed third party, and allocated to the first class group. Thus the second class group had the remaining grouping method applied.

4.10.3 Cooperative learning

The learning activities for the classes were subject based, and formed predominantly on the STAD basis as explain above (Sections 1.5.2 and 3.6.1). For this phase of the research, however, each group was allowed to move into an area where they felt comfortable, in order to complete the worksheet based on the previous explanation of the subject matter. Each group was given a team summary sheet, reflecting their group members as well as the criteria for achievement.

The base score for each learner was taken to be his/her percentage mark as used in the ranking.

On completion of the activity or worksheet, the learners were either given a written test, or a tournament (as in the Teams, Games, Tournament format as detailed in Section 1.5.3 and 3.6.2). The learners were not told prior to the event, which one of the two formats would be used. The learner's teams were credited either with their score from the tournament or the marks achieved for the test were then compared to the learner's base score, and a mark allocated, which were then included onto the team summary sheet. At the end of either test or the tournament the team averages were calculated and the team/s reaching the criteria announced and rewarded. The teams were also encouraged to congratulate their teammates in whatever way they felt as being appropriate.

Team summary sheet

Team members	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Total team score														
Team average														
Team award														

Team average	Award
15	GOOD TEAM
20	GREAT TEAM
25	SUPER TEAM

Figure 4-3 Team summary sheet

4.10.3.1 Forming cooperative teams

The cooperative learning teams consisted of four to five members, who were considered to be heterogeneous with regard to ability in business economics, ethnicity and gender. In order to determine the ranking of the learners, with regard to ability in Business economics, the earlier test marks and assessments (taken from the existing marks) were considered. The overall percentage for each learner was used as an indication of that learner's ability. However, details from the sociogram and sociometric tables took precedence over the rankings in placing the initial learners into

the groups. Once those learners who complied with the social criteria described in the section on the formation of the groups, described in the following paragraphs, had been placed, their ranking was noted. The remaining group members were assigned so as to ensure that the groups were heterogeneous.

a Group 1

The learning teams within this class group were formed according to the parameters described for Grouping Four (Section 3.5.4.1.a), while still maintaining the heterogeneity. The details of the relationships were taken from the sociometric table and the sociogram (Appendix C). The learner with the highest marks was placed with the learner with the lowest marks. Where at all possible the groupings were formed in such a way that learners were not placed with their immediate friends. Thus an apparent cluster, for example, consisting of learners numbered 26, 25 and 33 were split into separate groups (Appendix C Sociogram 2). The remaining learners were placed into the groups according to the heterogeneous criteria.

This class group: Group 1.

- Number of learners: 33
 - Males: 17
 - Females: 16
- Number of groups formed: 7
- Average number of learners in each group: 5

Table 4-1 Grouping placement for Group 1

	Name	Selections received	Rejections received	Mark	Initial group placing	Group allocation
1	AL	3		42		2
2	AM	6	1	56		1
3	AN	6		18	4	4
4	AT	6		40		6
5	DP	4	1	39	3	3
6	DT	6		53		5
7	FR	6		85	2	2
8	KE	2		66		5
9	LO	5		47		2
10	MI	4		44		6
11	NA	4		57		7
12	NI	3	1	55		1
13	ST	1	1	46		3
14	SY	2	1	66	4	4
15	TH	6		43		7
16	TU	11		92	1	1
 						
17	BRA	5		46		6
18	BRY	4		53		4
19	DU	3	1	50		3
20	ED	3	2	30		2
21	GE	8		48		3
22	JA	2		54		4
23	JO	7		32		6
24	JU	3	5	7	1	1
25	MA	2		25		5
26	MX	3	5	34	1	1
27	MI	5	1	78	3	3
28	NA	0	1	36		7
29	PE	4		64		5
30	RO	10		51		7
31	TY	7		58		4
32	ZD	2		33		5
33	ZS	3	3	19	2	2

b Group 2

The details contained in the sociogram and sociometric table (Appendix D) were the basis for the groupings within this class. These groupings were formulated on similar parameters as that of Grouping three (3.5.3.1.a). The “rejected” learner was placed together with a friend into the same group as the “rejecter”. Furthermore the most “rejected” learner was placed into the same group as the “star”. Thus learner number 5 “star” was placed with learner number 20 “most rejected”. (In this particular case learner number 5 was also classified as learner number 20’s friend.) The obvious clusters of friends were once again split up into separate groups as for group one. This information was taken from the sociogram (Appendix D Sociogram 3).

Once again the remaining members were placed according to heterogeneous criteria.

This class group: Group 2.

- Number of learners: 24
 - Males: 14
 - Females: 10
- Number of groups formed: 5
- Average number of learners in each group: 5

Table 4.2 briefly indicates the initial placing as they were made for this group. The additional learners were placed into groups using this placement as a base, while still taking the sociogram into consideration.

Table 4-2 Group placing for Group 2

No	Name	Marks	Selections received	Rejections received	Group placing
0	Ja	55	0		
1	As	48	4		
2	Ch	28	2		
3	Che	57	3		
4	La	57	5		4 ("Star")
5	Le	54	11		1 ("Star")
6	Me		3	3	1 ("Rejected")
7	Re	35	1	1	5 ("Rejected")
8	Sc	58	3	2	2 ("Rejected")
9	St	50	8		2 ("Star")
10	By	54	7		
11	Ch	60	5		5 ("Star")
12	De	66	3		
13	G La	47	5	2	
14	G Li	54	3	1	3 ("Rejected")
15	Gr	43	5		
16	Ja	58	7		
17	JH	48	2		5 ("Star")
18	Mi	56	6		
19	O'B	47	2	3	4 ("Rejected")
20	Ri	84	4	6	1 ("Rejected")
21	St	47	4	1	
22	Wa	38	5		
23	We	45	8		3 ("Star")

4.10.3.2 Learner roles

The learners were not allocated specific roles but rather allowed to fit into the group activities as they wished as the learners all knew one another as they had been together as a class unit for business economics for over a year.

From the first phase of the research it appeared as if the learners had expectations regarding the roles of their group mates. These expectations appeared to be based on the learners' previous achievement in the subject, as well as their personality.

4.10.3.3 Carrying out the research

Initially the learners were requested to complete the Social Questionnaire (Appendix A). The cooperative learning activities followed over two months after these questionnaires had been completed.

The learners were placed into the cooperative learning groups, as described above, for a period of five weeks. This amounted to a total time of approximately 20 hours. This time did, however, include the time required for the tests or games and tournaments.

The subject matter that the learners were required to work on during this period of time, was content that had already been covered in the formal manner, that is the lecture, teacher-talk and class discussion section of the STAD or TGT was complete. This portion of the activity was not a part of the time allocated.

Once in the groups the first worksheet was handed out and the learners were told how long they had to complete the activity. A pre-test was not set for each section of the subject matter that had been covered, as in phase one (Section 4.5.5). The learners' achievements were either measured from the base score that had been calculated and point awarded to their team according to the Improvement Point Criteria (Figure 4.4) (Slavin 1997: 21) or according to their position in the game.

At the end of the time allotted for the worksheet, the learners either wrote a test, based on the subject matter covered in the worksheet, or one round of the game was played. The two methods of assessment were used randomly and the same method was not necessarily used for both of the grade 11 classes.

a Tests

The tests set on the completed work contained primarily objective type questions, namely multiple choice, give the correct term and fill in the missing word. True and false questions were not used as there is a possibility that the learners may guess the answer. Once the test papers had been corrected, they were not handed back to the learners, rather the points that they had contributed to the group total were included in the team summary sheet (Figure 4.3). The points were allocated as follows:

Table 4-3 Improvement point criteria

A test score that is.....	Improvement points awarded.....
Completely correct....	30
More than 20% above the base score...	30
10% - 19% above the base score....	20
0% - 9% above the base score....	10
Below the base score...	5

The cooperative learning group scores were then calculated, as an average for that team. The completed Team Summary Sheets were handed back to the teams as the results of the test were being announced and the awards being allocated. These awards took the form of certificates (Examples in Appendix H) handed out to the each group.

b Games

The game sheet consisted of questions the same or similar to those used in the test (excluding the multiple choice type questions). For the game, each learner was assigned to a table according to their base score. Four learners were allocated to each table. On each table was the game sheet, with an answer sheet, a set of number cards, a Rule Sheet (Appendix G) (Slavin 1997: 31) and a Game Score Sheet (Figure 4.4) with the participant learners' names filled in.

Once the learners had been allocated to their table, they were allowed to start with the game.

Game score sheet.

Game Table Number _____

Player	Team	Game 1	Game 2	Total

Figure 4-4 Game score sheet

During the game the teacher was available to mediate in any disagreements, and to ensure that the learners were actively involved in the game. Five minutes before the end of the lesson, the learners were told to finish and to allocate points according to their own tally of cards,

according to the schedule indicated below (Table 4.4). The learner with the most cards is the winner.

Table 4-4 Games score allocation

Position in the game	Points awarded
Winner.	40
2 nd	30
3 rd	20
4 th	10
Tie for 1 st	35
Tie for 2 nd	25
Tie for 3 rd	15

The points awarded to the learner were included on the Team Summary Sheet, as with the test. The table allocations were also adjusted according to the learner's position at the end of the game, for the next game. This was done as follows:

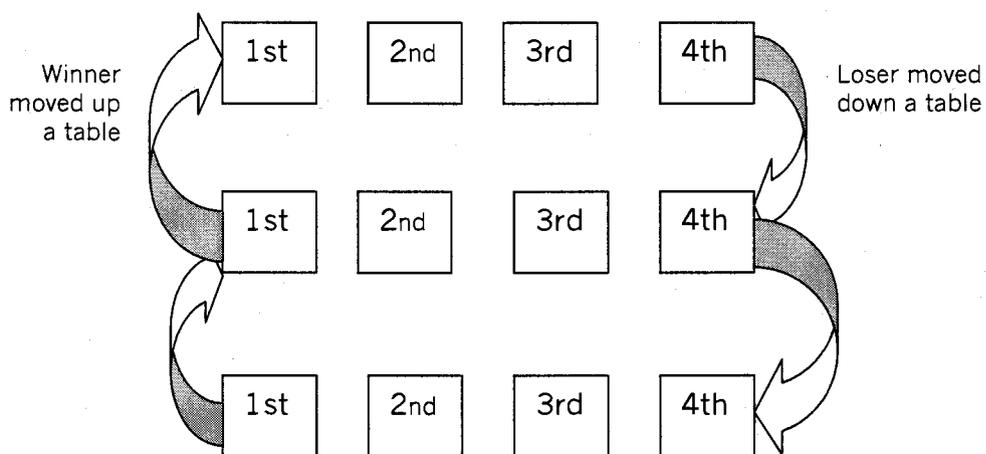


Figure 4-5 Games, Tournament - Movement between tables

The main reason for using the system of moving the learners between the tables is to ensure that they are competing in the game against other learners of similar ability. All the learners are thus given a fair chance of contributing to their teams.

A game was allowed to last for one period, resulting in approximately 30 minutes per game. The class group did not carry on with the game, using the same game sheet, in two successive lessons. A new section with a worksheet was allocated to the consequent lessons.

c In conclusion

At the termination of this research period, the learners were requested to complete the questionnaire detailed below. It was at this stage that the learners received their test answer sheets back.

4.11 Questionnaire

The aim of the questionnaire was to determine, in a more formal manner than in the qualitative phase, the perceptions of the learners with regard to the functioning of their grouping.

4.11.1 Compiling the questionnaire

The questionnaire was therefore formulated to function as a survey.

The 77 statements in the questionnaire (Appendix F) were formulated within the variables' parameters as indicated in the literature research.

The learners were required to respond to each statement, in accordance with the general four point Likert scale parameters, with the response options being:

1. Definitely disagree
2. Disagree
3. Agree
4. Definitely agree.

Learners were required to indicate their response on the response sheet, by writing the selected number in the space provided on the response sheet. The learners were requested not to write their names on the response sheet. The statements focused on the following variables:

- Social relations.
- Self-esteem.
- Intrinsic goal structures.
- Perceptions of group interdependence.
- Individual accountability.
- Attitude to cooperative learning activities.

The first three items and the last item in the questionnaire related to biographical data namely; gender, age, ethnicity and their grouping number.

- A total of 77 statements were included, with 37 positive statements and 40 negative statements. The statements related to the variables, as described in the literature study are as follows:

- **Variable - Social relations:**
 - Positive statements - 4; 10; 17; 20; 36; 37; 38; 43; 44; 52 and 54.
 - Negative statements - 5; 9; 14; 19; 27; 31; 34; 47; 49; 51; 55 and 69.

- **Variable – Self-esteem:**
 - Positive statements – 23; 41; 57 and 65.
 - Negative statements – 7; 13; 18; 25; 56; 62; 70 and 74.

- **Variable – Intrinsic goal structures:**
 - Positive statements – 64; 71; 72 and 73.
 - Negative statements – 46; 61; 75 and 76.

- **Variable – Perceptions of interdependence:**
 - Positive statements – 8; 11; 21; 29; 48; 58; 59 and 68.
 - Negative statements – 22; 50 and 77.

- **Variable – Individual accountability:**
 - Positive statements – 24; 63 and 79.
 - Negative statements – 66; 67; 78; 80.

- **Variable – Attitude to cooperative learning:**
 - Positive statements – 12; 16; 26; 32; 39; 40 and 42.
 - Negative statements – 6; 15; 28; 30; 33; 35; 45; 53 and 60.

4.11.2 Pilot study

A pilot study is a process whereby the proposed research design for the survey is tested. This is usually a small-scale trial run of the proposed research (De Vos, Strydom, Fouche & Delpont 2002: 211).

The purpose of the pilot study in this research was to test the acceptability of the statements in the questionnaire (Appendix F). For the pilot study a group of grade 10 learners were used. The class group followed the same process as that for the research groups, so as to make the questionnaire meaningful for them. Thus they completed the Social Questionnaire (Appendix A) and a sociometric table (Appendix E) was drawn up. The learners were then allocated into groups and tasks allocated, although while these tasks were cooperative learning activities they included Jigsaw and group projects as well as the STAD and TGT forms.

Each of the learners was presented with a copy of the questionnaire. An important aspect in the administration of the questionnaire was the time limits imposed by the school timetable, thus the amount of time taken to hand out, complete and collect the questionnaires and response sheets was carefully noted at this stage.

The pilot study consisted of 31 learners, comprising 17 females and 14 males. As the amount of time taken to administer the questionnaire was

of significance, it was felt that using a smaller group would have presented an unrealistic result. The pilot study also indicated whether the learners understood the instructions and the statements (De Vos 1998: De Vos et al 2002: 211 – 221; Gay 1990; Gay 1992: 227).

4.12 Validity

Validity refers to the ability of the instrument, or test, to measure what it is supposed to measure and to reflect the true differences in the variables that are being measured (De Vos 1998: 83). It is not possible to declare that a specific test is generally valid rather a test may be described as valid for the purpose for which it was designed (Kerlinger 1986: 417). An instrument may have a number of purposes that it may be used for, thus validity may be categorised in more than one manner; namely content validity, face validity, and construct validity.

4.12.1 Construct validity

A construct may be defined as a concept that has been developed or invented for a specific scientific purpose (De Vos 1998: 112) and as such links psychometric ideas and practices to theoretical thinking (Kerlinger 1986: 420). These constructs may be considered to be hypothetical because they are not directly observable, rather the presence of such a construct is inferred due to changes in observable behaviour (Borg & Gall 1989: 250). The construct is defined and specified in such a way that it may be measured and so become a variable (De Vos 1998: 112). The construct validity of the test is concerned with the meaning of the test instrument, and the theory that is underlying it. Thus, those observable

behaviours need to be elucidated so that the relationship between them and the constructs are clear and substantiated (De Vos 1998: 84 – 85).

The questionnaire, discussed above, identified and categorised the variables, which were acknowledged in the literature study as being an integral part of adolescent interaction and learning. The 77 items were thus categorised into six sub-categories, increasing the construct validity of the questionnaire.

4.12.2 Content validity

Content validity refers to the degree to which test items included in a test represent the content that the test is designed to measure. Content validity is thus of primary importance where the test is designed to measure achievement of proficiencies or skills (Borg & Gall 1989: 250).

The content of the questionnaire was based on those items that had been shown to be of significance in the literature study and perceived to be relevant in describing the learning activities as successful.

4.12.3 Face validity

Face validity refers to the assessment of the test, in order to determine if it appears to measure what it is supposed to measure. The face validity of the test thus adds to the credibility of the instrument, particularly in consideration of the subjects involved in the study (De Vos 1998: 84).

4.13 Reliability

Reliability may be defined as the precision or accuracy of the instrument (De Vos 1998: 85). Thus the more reliable the instrument, the less likely other variables, unrelated to the objective of the test, will influence the measurements of the instrument (McMillan & Schumacher 1993: 227).

The reliability of the scaled items is 0.92 on the Cronbach Alpha correlation coefficient. This coefficient presents an interpretation of the internal consistency of the scaled items. The closer that the coefficient is to one, the more reliable the test is considered to be (Kerlinger 1986:415), thus a coefficient of 0.92 on this kind of questionnaire is very good.

4.14 Analysis of data

The completed response sheets provided the data for this phase of the research. This data was considered according to the grouping that the learners were placed into, as described in section 4.10.2.1. The mean calculated for both of the groupings was compared in terms of each of the variables indicated in the hypotheses.

Moderator variables were then applied to the data, and the mean calculated for each of the groupings. Accordingly the data, from the response sheets, were analysed according to each of the variables and in terms of the:

- two full groups for each of the variables
- gender of the learners in two groups
- age of the learners and;

- ethnicity.

A standard deviation and a t-test were done for each sub-set in the data. The t-test, two tailed to a 0,05 level of significance, was prepared on the data as an indication of the level of significance. The small sample size may be considered to influence statistical significance of the t-test results.

4.15 Ethics

The group activities that the research groups participated in were drawn from the topics covered in the appropriate syllabus. These learners were thus not subjected to any extraordinary experience in the actual subject matter. This was according to what could be expected in the classroom situation. In this way no emotional harm to participants was expected.

Prior to the start of the research, the learners were given a brief description of the nature of the study. At this point confidentiality of their statements was assured. The format that the results would take was also briefly described so as to reassure the learners that they would not be identifiable in any way.

At no time during the study could it be said that the individual learners were manipulated or coerced into participating in the study. The activities occurred as a normal part of the school day, and within the constraints of the prescribed subject syllabus.

Where a learner was perceived to be emotionally charged, or emotionally distressed, as a result of the group activities, time was spent with the learner, at the conclusion of the activities, allowing him/her to normalise the situation. Expressing frustration at the group dynamics and the group

processes as they had occurred was important for some individual learners. This was provided at the termination of each lesson where it was needed.

4.16 Summary

In this chapter the qualitative and quantitative research designs and data collection methods was highlighted. In the next chapter the findings and results are discussed.

Chapter 5 Findings and discussion of findings

5.1 Introduction

In the previous chapter the research design and data collection methods were explained. In this chapter the findings and results are described and discussed.

5.2 Specific problems encountered during research

The specific problems encountered during the research may be classified into two main categories, namely those problems related to the collection of the data, and those that related directly to the participants of the study.

5.2.1 Problems related to the collection of the data in phase 1

The collection of data occurred in two main ways: the observation of the group activities as these occurred and the naïve sketches, that is the individual comments written down by the learners at the end of the group activities.

With the class group divided into five smaller groups, it was not possible to observe each one of the groups constantly; therefore specific events were missed in some of the groups. Because the groups were formed on the basis of the information provided in the Social Questionnaire (Appendix A), I had an expectation with regard to those groups formed to meet the specific research criteria described. These groups, usually three, were initially observed more closely, and the observations noted in the field journal. This resulted in the remaining two groups not being observed at all for that period.

A general lack of previous research on a similar topic, namely, the personal interaction among members of a group, meant that no guidelines were available. This implied that it was not possible to draw up a meaningful observation checklist, to simplify and increase the effectiveness in the collection of data.

Using tape recordings of the discussions that occurred in each of the groups, to supplement the observations, was considered. This was, however, decided against after an initial attempt as the presence of the recording equipment in each of the groups, hampered the free progression of the discussions within the groups as the group members became self-conscious.

Requesting each one of the learners to provide written comments, on their feelings with regard to the group dynamics, became easier for the learners as the research progressed. Initially the learners needed reassurance that there was no specific "right" answer, and that what they commented on would have no further implications in the class group. After the initial group activity, the learners did become more forthcoming with information. However, some learners were either unaware of group

dynamics or chose not to record those dynamics. This lack of information may have an impact on the quality of the study.

5.2.2 Problems related to the participants of the study

Grade 11 learners were specifically chosen for the study as the learners have generally had one year together as a class group, and thus know their peers well enough to make the selections necessary for the Social Questionnaire (Appendix A) at the start of the study. However, two main problems were encountered with regard to the selection of participants for the study.

5.2.2.1 Alterations to the class group

A lack of consistence in the class group for the entire period of the study created complications in the small group dynamics. More permanent changes to the class group, with the addition of new students and the transfer to other classes of other learners had a significant bearing on the relationships within the group affected. The arrival of the new learner to the school and thus unknown to the learners, was particularly significant in the group dynamics.

Of an equal, though less permanent nature, was the problem of learner absenteeism. As each one of the groupings worked together for a few days, a learner who was absent for any of the days influenced the group dynamics, either through his/her return or through his/her absence from the group. These changes to the group were noted, but it was not possible to negate the impact on the dynamics of the group system.

5.2.2.2 Pre-selection of the class group

In the school under study, the composition of the class-groups, at the grade 11 level is normally determined at the beginning of the learner's grade 10 year. The criteria for the grouping of learners together into a class are primarily twofold, based on the learner's academic ability (marks achieved at the end of grade nine) and the learner's specific subject selection for the senior secondary phase. The class groups are not the same for a learner in all of his/her subjects. However, once a learner has been placed into a class group for a specific subject, that group remains relatively constant for the remainder of the learner's school career, unless he/she chooses to change a specific subject.

As business economics is one of the smaller subjects at the school, a learner was placed into one of the classes, depending entirely on his/her selection of other subjects. This timetable arrangement meant the class group under study was heterogeneous with regard to academic ability. Changes to the class group were impossible within the complexities of the timetable. The research had to take place within these constraints, as well as within the constraints of amount of time and time of day allocated.

5.2.3 In summary

The problems faced during the research were not insurmountable, and solutions were found as these problems occurred. Thus, the study had a dynamic nature that worked well within a flexible research design. This was appropriate for a qualitative approach.

5.3 Sociometric tables and sociograms

The completed Social Questionnaires (Appendix A) provided the initial data. In these questionnaires the learner's individual preferences, with regard to working companions, were stated. Furthermore these preferences were ranked by the learners, from first on the list being the most preferred to fifth on the list of preferences. Learners were also requested to indicate, also in a ranked list, whom they considered their friends in the class group. Members of the class, in whose presence a learner felt uncomfortable, were listed in point (b) of the questionnaire. For this list there was no ranking associated and the learners were allowed to list as few or as many names as they chose.

An alphabetical list of the learners, using Christian names, was compiled and then separated into a section for males and one for the females. The details contained in the completed questionnaires were then transferred onto the table, and the sociometric table and sociogram drawn up (Mellett, du Toit Le Roux & Bester 1994: 87 – 97).

Creating the sociogram, mutual selections between learners is indicated with a solid black line. A red arrow indicates rejection by a learner of another, with the arrowhead pointing towards the rejected learner. A learner (indicated by the number, within the circle for a girl, or triangle for a boy) is placed within the larger concentric circles indicating the total number of selections that the learner received. The learner's symbol is placed on the side relating to his/her gender, that is girls to the left of the vertical line and boys to the right. The sociogram thus reflects clusters of friends, rejected learners and isolates within the class groups.

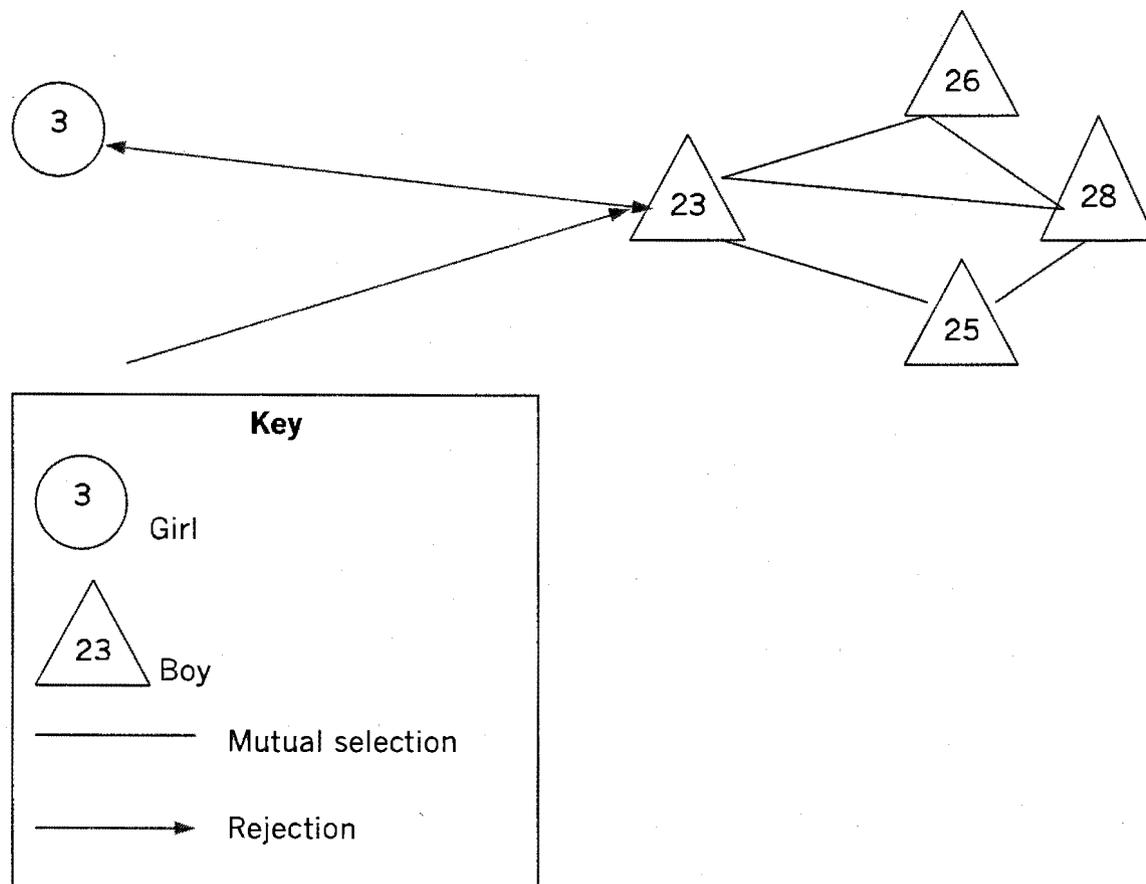


Figure 5-1 Example of symbols used in the sociogram

Reflected in these two summaries were the learners' selections with regard to peers that they would choose to work with and those with whom they would rather not have to work. The completed sociometric table made it possible to assign a social status ranking to those particular learners who were highlighted in either a positive or negative manner.

These rankings, as assigned to the learners, and the reflected interactions between peers, became the central criteria used in allocating the learners to the groupings for the cooperative learning activities.

5.4 Findings – phase 1

5.4.1 Processing and analysing of the data

The main body of the data processing was one that was based on the observed reactions of the learners. These events provided for a core structure from which the additional data were interpreted.

5.4.1.1 Observation data - categorisation process

Once the initial Sociometric Tables and Sociograms had been completed, and the core of the relationships within the class group ascertained, the activity groups were formed in a manner congruent with the stated research questions. The collection of relevant data thus occurred from the outset of the observations. It was thus, primarily, those reactions or events that were considered to be of significance for the research problem that were noted in the field journal. Comments that related directly to the nature of the subject matter were disregarded.

Data categorisation followed the process as depicted in the following diagram:

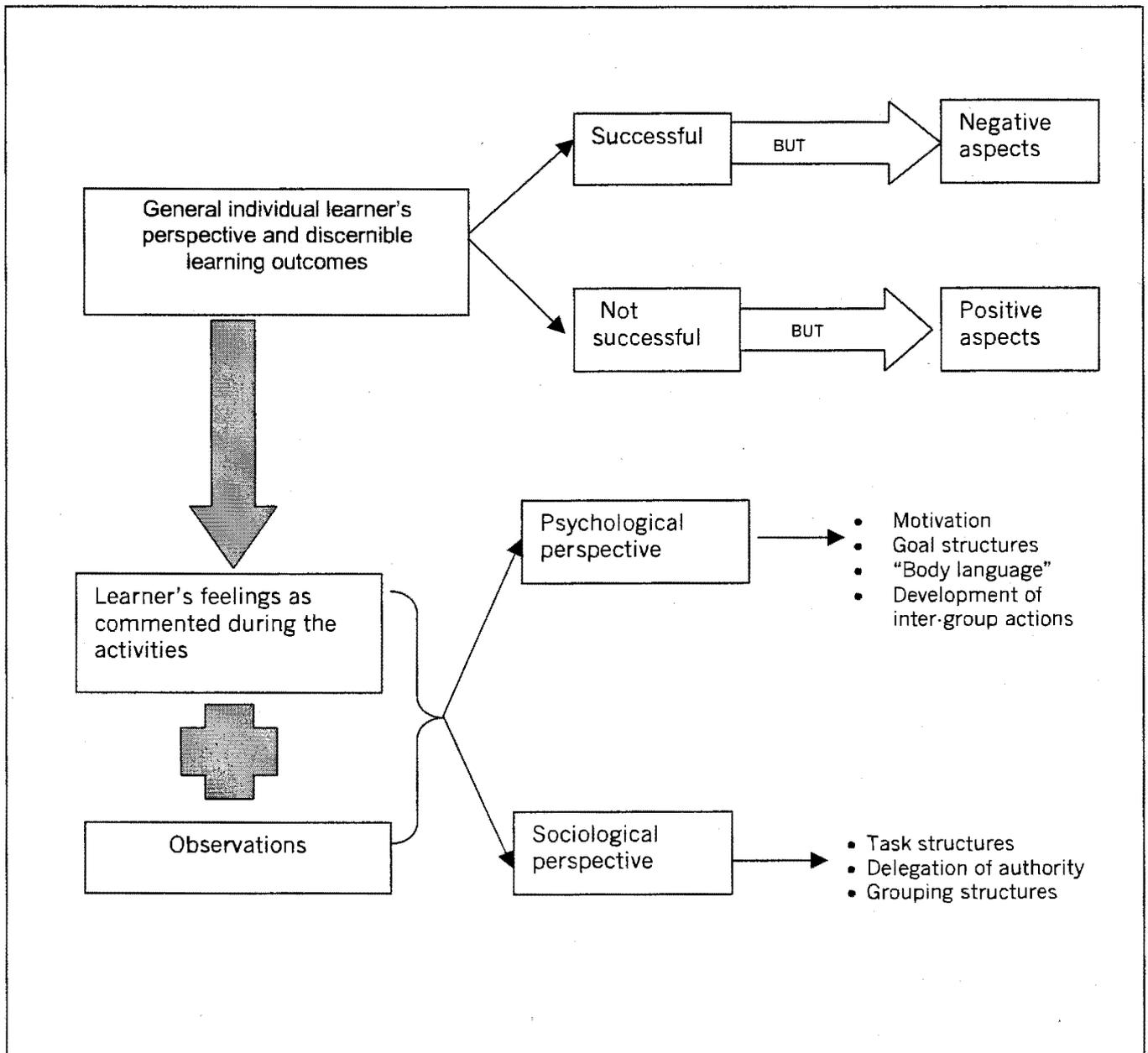


Figure 5-2 Data categorisation flow diagram

Due to the social position, as indicated on the sociometric table and the sociogram, of each of the learners as well as their stated preferences, reactions were more expected from some of the learners than from others. The comments of these learners were noted from the time when the groups were called.

Once the learners had been assigned to their groups for the activities, their actions within that group, as well as specific statements were noted. These statements and actions were those that were considered to be of most significance with regard to either the psychological aspects or the sociological aspects as highlighted in figure 5.2.

At the termination of the period of time under observation, recorded comments and notes were considered and additional perspectives or events noted in the field journal. These retrospective comments were made in alternative colour ink so as to be clearly identifiable as such. The observations for each demarcated school period were recorded on a separate page of the journal.

Primarily the data was divided into two main categories, namely, those comments or actions which could be seen as being positive and would enhance the learning activities, and those that could be considered to be detrimental to an individual learner's progress within the group. The comments or events, as initially categorised, were then looked at in terms of the specific group manipulation that had occurred. Comments or events were also considered from either or/and a sociological and a psychological perspective.

5.4.1.2 Naïve sketches categorisation process

Initially the naïve sketches were arranged so that the statements from all of the group members of a single group, were read as a unit. Each group's sketches were then transcribed into a single document. The identification of the learner was retained with his/her comments.

Taking the categorised and expanded record of observations, as discussed above, the naïve sketches were reconsidered. Where necessary specific notes were made on the transcription of the sketches regarding the observed events.

Finally, the observations, as well as the sketches were considered in the light of discernable learning outcomes. The learning outcomes were deemed to be more than test scores, rather they were seen to include aspects such as working as a part of the group, taking responsibility for the leadership of the group, encouraging group members and peer tutoring.

5.4.2 Discussion

Of prime consideration in the analysis of the data was the level of successful functioning of each of the groups, with regard to the achievement of the desired outcomes. While the completion of the learning activities and understanding of the concepts in the subject matter were classified as outcomes and explained to the learners as such, the interactions within the group together with the individual learner's desire to take part in the activities were taken as indicators of the success of these activities.

The very complex and dynamic nature of human interaction makes the categorical statement of any cause-effect relationship impossible. However, the data did indicate that it might be possible to suggest a demarcation for further studies in the area.

The following discussion of the data will follow the sequence depicted above, namely the sequence that the data analysis took (Highlighted in Figure 5.2).

5.4.2.1 Perceived success in achieving the learning outcomes

a Grouping 1

The assignment of the learners to groups where they were allowed to select their own friends, could not be considered to be successful, if the amount of time spent discussing other “non-topic” related subjects is taken into account. With their friends in the groups, those learners who generally find it difficult to work consistently at a given task were very easily distracted and spent a significant period of time in general conversation before returning to the task in hand. However, the learners presented positive comments on the activities, such as:

- o *It's easier than working alone because you have other people to help you with the work; you can talk about the questions and together find an answer.*
- o *I liked the fact that we were in groups because we could discuss whatever is on the subject at hand.*

The negative comments for this activity revolved primarily around social loafing, that is allowing some of the members of the group to do the work, and then explain the answers to the questions posed.

b Grouping 2

The majority of the literature on cooperative learning, where group structure is mentioned, recommends a heterogeneous group structure. It was, therefore, in accordance with these generally prescribed parameters that the learners were assigned to groups in this instance. There were thus four to five members in each group and a spread of abilities and ethnic groups. The groups also consisted of both males and females.

In clear evidence in this particular grouping was the forming of pairs within the groups, generally related to perceived similarities in academic status of the other members of the group. Over the short period of time that the learners were in the groups, little interdependence was developed within the groups. The proposed rewards and acknowledgements of success were possibly not seen as being significant enough. From some of the statements made by the learners in their individual comments, it appeared as if the effort to engage the other members of the group was more than they were prepared to invest. Examples include:

- o *.....I found the rest of the group hard to work with.*
- o *....I really don't dig An's mood swings, he goes high and low.*
- o *I am not happy with Cl, he will just not work.*

c Grouping 3

The prime consideration in this grouping was to create a “worst-case” scenario in terms of the social composition of the probable groupings. To this end learners who were rejected by specific members of the class, were placed together with those individuals in the same group. The groups were kept heterogeneous with regard to ability, ethnicity and gender.

The discomfort of the learners in the groups was clearly evident from the very start of the activities. Even as the learners were being assigned to the groups, comments of dissatisfaction were being made. Requests were made to be placed with other groups, or to swop with particular members of the class. A few of the learners reacted with comments such as:

- o *“Ah, no, ma’am”*
- o *“Are you being serious?”*
- o *“I can’t work with ...”*

Various levels of aggression and hostility were clearly evident. This ranged from learners physically turning their bodies so as to exclude the others of the group, to a verbal discourse intended to insult. At one point in the activities, the defamatory remarks nearly resulted in a physical assault between two members of the group. They needed to be separated and restrained.

In the groups where this tension was the most evident, namely, groups one and two, the comments made by the learners indicated that the learning activity was not successful as a cooperative learning exercise. Furthermore, the discontent in these groups impacted negatively on the other groups. A statement that highlighted this was:

- *The thing that irritated me most was that the other people from other groups come along asking questions. You are supposed to work in your own group not others.*

From this grouping it was possible to see that the:

- negative effect, of being placed in a group with a disliked peer, directly influenced the individual's performance of the tasks.
- an observable consequence of the tensions within these two groups was disruptions and an atmosphere of disquiet in the entire class group.
- animosity between two members of a group resulted in the other members of that group being unable or unwilling to give adequate attention to the task in hand.

d Grouping 4

In terms of the quantity of work that was completed, placing the "star" and the "rejected" learners in a group could be considered to be the most successful. However, as a cooperative learning activity, this grouping was a dismal failure. This is highlighted by individual learner comments such as:

- *The only person that I can ask for help is Ol and at times I feel I'm bugging her. She kind of intimidates me because she is so smart and I feel stupid.*
- *I thought that this group was pathetic, to put it mildly.*
- *....the rest didn't talk. R was kind enough to lend me his/her ruler, so that was nice.*

The learner's perception of the existing antagonism apparently suppressed any external motivation to move towards group interdependence. Interaction within the group was at a level that could easily be considered to be well below any acceptable level considering the age and maturity of the learners. Some of the individual learners were evidently prepared to forego their own personal success in this situation, if that implied having to engage and interact with the other members of the group in even a formal manner.

5.4.2.2 Psychological perspective

The class group selected for the study had been exposed to group work in a variety of subjects during their school career, as working in groups is a common teaching method in the school. However, these activities could not be classified as cooperative, as they generally do not comply with the requirements for cooperative learning activities. As mentioned in Chapter two (Delimitation of the study), the school's existing ethos tends to be competitive in nature.

During the study, where the small groups became tense or un-accepting, for whatever reason, the learners no longer appeared to be prepared to engage the other in the group consequently the body language clearly indicated a closing off of themselves. At times this was evident from the very start of the activity.

a Motivation

While attempting to encourage and motivate the learner towards the achievement of the learning activity, and to embrace the contributions of

the other members of the group as being of value, the individual learner's behaviour frequently did not reflect these aspects as being motivational. In an environment that was potentially hostile the impelling force appeared to become one of self-centredness. As the learners are relatively mature, above fifteen years of age, it was possible for them to look at alternative sources for the required information, or to decide not to complete the activity at all.

The less cordial the atmosphere in the learning environment became, the more the individual learners manifested either existing motivational goal structures, or withdrew from the situation. The withdrawal from the situation was either a physical removal; such as going to speak to someone across the room in another group, or a mental "switching off" which was evident in the learner daydreaming or doodling on a piece of paper.

Grouping number four, created in a manner to facilitate the most heterogeneous groups with regard to social acceptance in the class group, ostensibly reflected the greatest level of dysfunction in terms of cooperation. By the time that the group activity was terminated, the learners were all working as individuals, at their own individual paces, although they were still in the proximity of the other members of the group. Some of the weaker learners had stopped trying to complete the task, the other group members were no longer concerned that their own success was dependent on those members.

b Goal structures

In a situation that was being manipulated in its social composition, the cooperative goal structure became untenable. The pre-existing group dynamics alienated any desire to encourage or assist group mates.

The learners within the groups, especially in the case of Groupings number three and four, who had been classified as the achievers, worked on their own, completing as much as possible of the activity. For these learners, it was easier to dissociate themselves from the group and work at their own mastery of the concepts. These learners did not appear to place any significance at all on the external motivator of group success and group reward. These learners did not even attempt to encourage the other members of the group. Noticeably, the weaker learners within these groups decided not to invest any effort in the task. No help-seeking participation occurred.

5.4.2.3 Sociological perspective

From a sociological perspective, the group and the task are independent, but significantly related as factors that influence the productivity and the management of the progress made.

a Task structures and the delegation of authority

Each of the activities that the learners completed within the groupings was similar with regard to the structure of the task. In each case it was possible for a learner to complete the majority of the activity with a limited amount of input from the other group members. However, the measure of success was placed in the achievement of their group as a whole acquiring an increased level of understanding. Individual achievements were not commented on only the group results were related to the learners.

As the teacher in the classroom, as well as the researcher, it was necessary for me to behave in a manner in which all of the expressions of

authority with regard to the group actions were divested to the members of the group, that is, all teacher-centred authority was kept to the minimum. Actions by the learners, that would normally be considered to be contrary to the acceptable classroom practice were allowed to continue until the other group members corrected the action. It was therefore possible for Kh to study his history, or for Sh to sit doodling on a piece of paper for an hour.

The group's members were allowed to assume the roles within the groups as they saw fit. Where one of the members did try to take on a leadership role within the group, the results could be categorised as follows:

- the attempts were successful, resulting in increased reciprocation within the group.
- the attempts resulted in that individual being the link between the paired members of the group.
- all attempts to encourage co-action were rejected and interdependence within the group members did not realise.

The remaining observable situation occurred when the learner, who was perceived to hold the academic subject related status within the group chose not to take a leadership role. No other group member appeared as the leader.

Which one of the results occurred appeared to be congruent to the individual's subject related status, as perceived by the other members of the group. This was combined with the individual's acceptance of the role of leader. Thus, a comment by a particular learner *She makes me feel stupid* could be made, clearly indicating a lack of reciprocal task-related

interaction. This same learner, in another grouping makes the comment *I can speak freely and the input from everyone was tremendous....we got the job done together.* In this first instance OI was placed as the “star” in the group, however she was not prepared to take the leadership role, resulting in an apparent lack of direction for this group. Furthermore, OI was not prepared to assist the weaker learners in the group even to the point where she was not prepared to share a book with a peer in her group. This situation could be contrasted with Ay who took the leadership role within her group, actively encouraging participation from all in the group and directing the group’s activities as a whole.

b Grouping structures

Creating a heterogeneous group with regard to ability, ethnicity and gender, does not necessarily create a group that will work interdependently in order to achieve the desired outcomes. Additional aspects, not necessarily considered in the normal course of events within the classroom, appear to be of equal or greater significance.

Manipulation of the groups (all – except grouping one – were heterogeneous) presented significant degrees of functional success. It was possible to conclude that interpersonal relationships within some of the groups resulted in actions that were clearly self-centred, with no attempt being made to rectify this matter. This behaviour was reflected in spite of it being to the detriment of success in achieving the stated learning activities. One particular learner demonstrated leadership ability and was prepared to assume this role in all of the groups that she was in. She also held subject related academic status that was acknowledged by her peers. Her function thus enhanced the cooperative functioning within the group, and the positive aspects reported by the other members of the group.

The group that could be considered to be the most dysfunctional was group one in the specific grouping composition number three. Here events outside of the school had a very negative impact on the group functioning. These pre-existing stressors were aggravated further by the group's composition and resulted in an extreme limitation of socially accepted conversation in the group, let alone subject related discussion. Thus, the verbalising, as a group, that did occur was in the form of insults directed at specific members of the group. This group needed authoritative intervention in order to restore a level of normality.

5.4.3 Comparison of the literature study and the empirical findings

The ideal of the cooperative learning process generating a supportive learning environment, with each one of the learners contributing to a unique part of the learning experience of their peers, as they all progress towards mastery of the learning material and the successful achievement of the learning objectives, remained, as far as this study was concerned, an impervious ideal.

The goals of the learner were not always directed at the objectives stated by the teacher for the activity. However, it was possible to conclude that the actions within the groups were always goal directed, even if in some cases these goals were self-preservation. Slavin (1996: 44) suggests that introducing a cooperative learning structure will promote group members *encouraging or gently chastising* their fellow group mates' task related efforts. This environment is reported as allowing the development of the learner's competencies and talents.

The findings of this study appear to indicate that merely creating a cooperative learning environment, in which the learners may be assisted by their classmates in achieving academic and personal success, may be an overly simplistic solution. As a large proportion of the studies done on cooperative learning involved younger learners; namely grades one to five, the apparent contradiction reflected by this study may be related to the subjects being adolescents in their second last year of schooling.

A significant result of the group dynamics was the manner in which the individual learners replaced the cooperative goal structure with their existing goal structures. A striving towards mastery of the material, or a failure-avoiding pattern generally replaced the cooperative goal structures. The learners apparently no longer attached any measure of their own success to the achievements of the others in the group. Their peers' actions were not a significant contributor to their own progress towards these unstated, though observable goals.

Those learners who had at the start of the study been considered to be achievers continued to be intrinsically motivated. This reflected responsibility for their own learning was unchanged by an amendment to the goal structure, and the reward structure. A similar statement may be made for those learners who reflected aspects of passive failure. This behaviour continued although in the dysfunctional groups this behaviour became more pronounced. The possibility that this study's results may have been closer to those reflected in the literature study, were it not for the manipulation of the study groups to the extremes of the scale of social relationships, cannot be discarded. Furthermore, as the learners were in grade 11, the possibility that the greater personal goal of the matriculation certificate, may have replaced group goals where these were not easily perceivable.

What resulted in the interactions within the groups appeared to be a ranking of acceptable behaviours within the group. Where it was perceived by the learner that it was not possible to strive towards the stated goal, alternative goal directed behaviour resulted. In those cases where this specified goal directed behaviour was not facilitated, the learners reacted as individuals in a manner apparently to protect their self-esteem. This behaviour appears to be consistent with a conclusion of the meta-analysis by Mullen and Cooper (1994: 225), namely, that group members do not strive towards achieving for the sake of other members of the group.

5.5 Results - phase 2

5.5.1 Biographical data – moderator variables

The frequencies and percentages of learners for the two groups, considering the moderator variables, appear in tables 5.1 to 5.3

Table 5-1 Frequencies and percentages of gender

Gender	Frequency	Percentage %
Female	27	47,4
Male	30	52,6
Total	57	100

Table 5-2 Frequencies and percentages for diverse age groups

Age	Frequency	Percentage %
16 years old	16	28,1
17 years old	37	64,9
18 years and older	4	7,0
Total	57	100

Table 5-3 Frequencies and percentages of diverse ethnicity

Ethnicity	Frequency	Percentage %
Asian	4	7
Black	9	15,8
Coloured	2	3,5
White	42	73,7
Total	57	100

5.5.2 Problem statement and hypothesis 1

Is there a significant difference between the two methods of grouping the learners with regard to the learner's feelings on the development of *group interdependence*?

In this regard the two class groups are:

Group 1 – learners categorised according to the highest and lowest marks in the class group.

Group 2 – rejected learner with the rejecter grouped together.

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to *group interdependence*.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to *group interdependence*.

To test the null hypothesis, means were calculated. Thereafter a t-test and analysis of variance were executed. The results appear in table 5.4 and figure 5.3.

Table 5-4 Means for group interdependence of the two class groups

Group	N	Mean
Group 1	33	2,6942
Group 2	24	2,5606

The perceptions of interdependence were higher, that is more positive, in Group 1 when compared to the perceptions of Group 2. This implies that learners who were placed with others that they rejected evaluated group interdependence more negatively. However, this difference is not statistically significant, at the 95% confidence level, probably due to the small number of respondents.

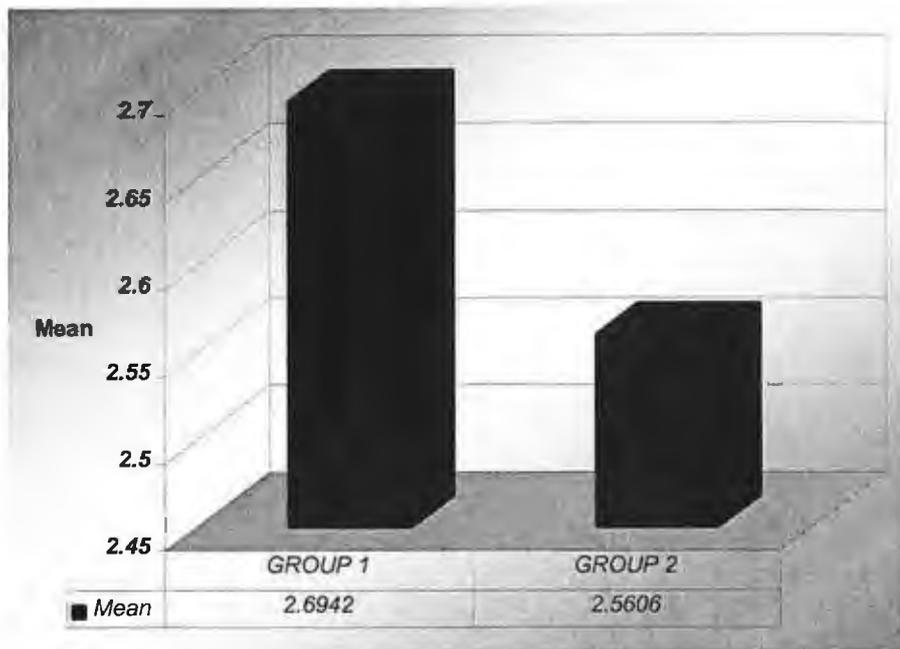


Figure 5-3 Means of interdependence of the two class groups

Considering the moderator variables, the results are as illustrated in table 5.5 and figure 5.4 to 5.6.

Table 5-5 Means of interdependence of groups of different gender, age and ethnicity

	Gender			Age			Ethnicity		
		N	Mean		N	Mean		N*	Mean
Group 1	Female	17	2,6898	16	10	2,8182	Asian	1	2,5455
	Male	16	2,5636	17	19	2,6124	Black	7	2,7013
				18 +	4	2,7727	White	23	2,7036
Group 2	Female	10	2,6989	16	6	2,6212	Asian	3	2,6061
	Male	14	2,5584	17	18	2,5404	Black	2	2,3636
				18+	0	-	White	19	2,5742

N* - The ethnic group - "Coloured" was excluded from this summary of the results as Group 2 had no respondents in this category.

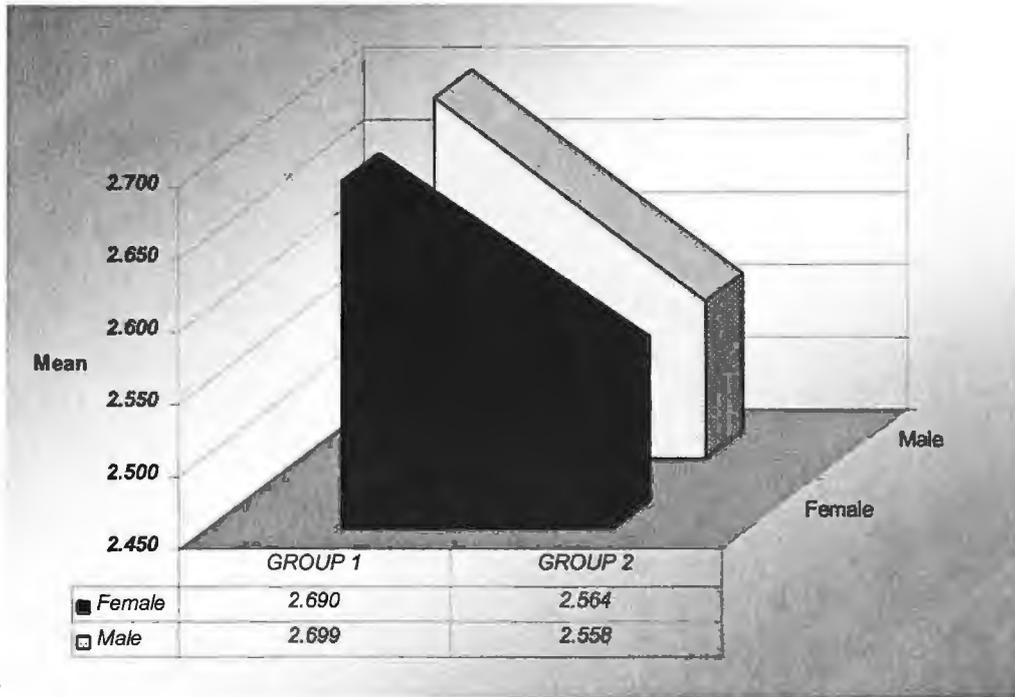


Figure 5-4 Gender moderator variable – Group interdependence, Hypothesis 1

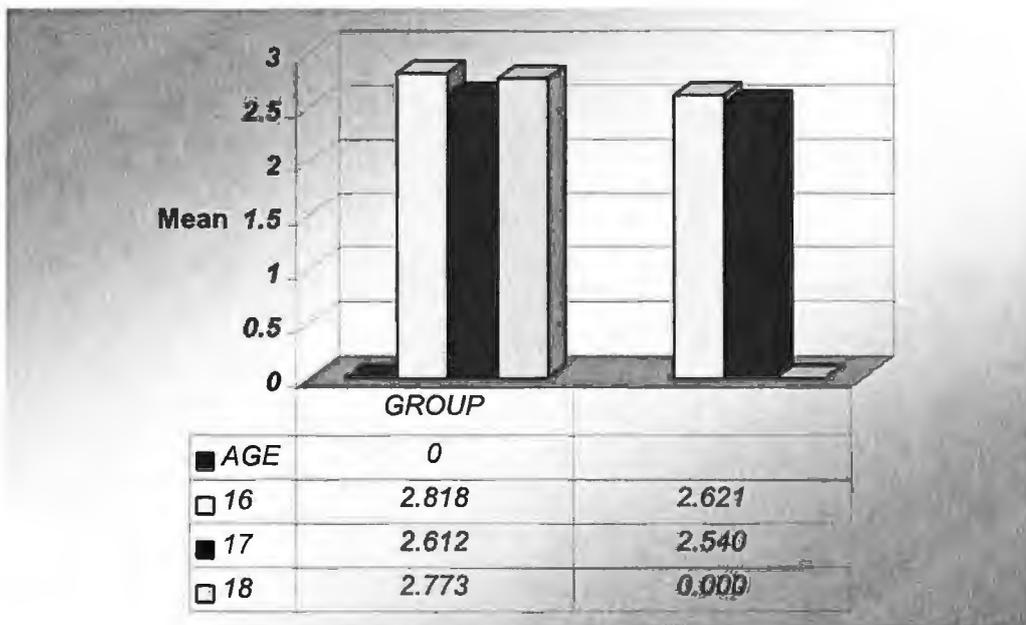


Figure 5-5 Age moderator variable - Group interdependence, Hypothesis 1

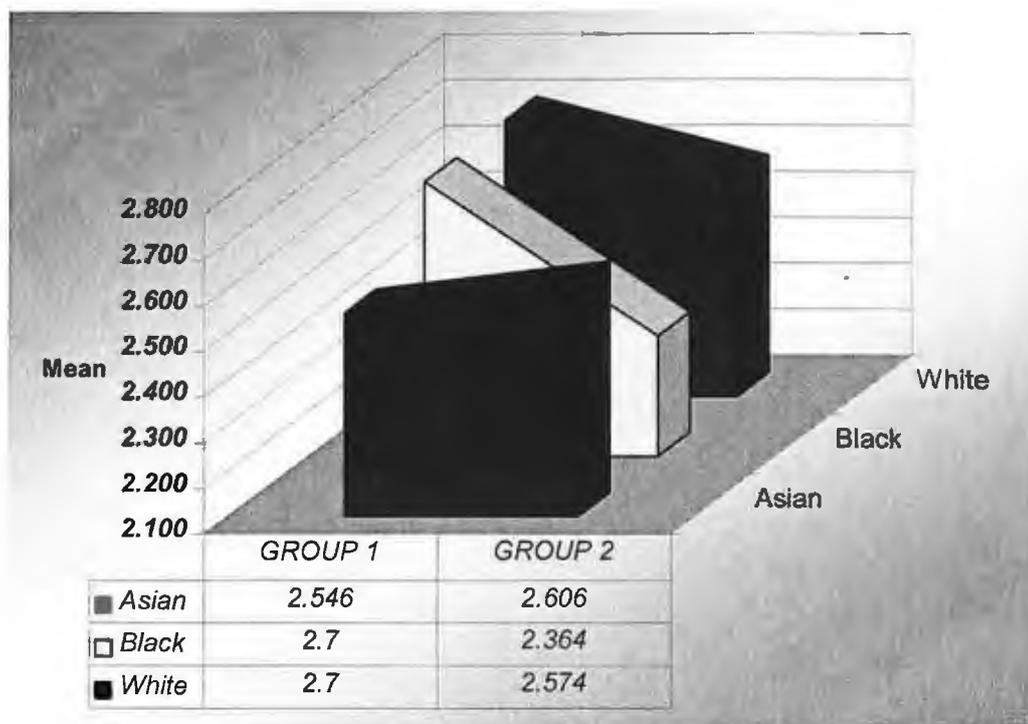


Figure 5-6 Ethnicity moderator variable - Group interdependence, Hypothesis 1

Analysis of the data, with the categorisation according to the moderator variables, indicated that those learners of group one (high and low achievers grouped together) had a more positive perception of interdependence when compared to the learners of group two (rejected and rejecter learners together). However, the differences are not statistically significant at the 95% confidence level, in all probability due to the small sample size.

The exception to this trend occurred when the moderator variable ethnicity, was considered. In this case this trend was reversed with group two reflecting a higher, more positive, perception of interdependence. Whether this may be considered to be a common trend for the ethnic group, or explained by the individual learner's personality characteristics

would need to be measured in a further study with larger numbers in the specific ethnic groups.

5.5.3 Problem statement and hypothesis 2

Is there a significant difference between the two methods of grouping the learners with regard to the learner's feelings of *individual accountability* within the group?

In this regard the two class groups are:

Group 1 – learners categorised according to the highest and lowest marks in the class group.

Group 2 – rejected learner with the rejecter grouped together.

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's feelings of *individual accountability*.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's feelings of *individual accountability*.

To test the null hypothesis, means were calculated. Thereafter a t-test and analysis of variance were executed. The results appear in table 5.6.

Table 5-6 Means for individual accountability for the two class groups

Group	N	Mean
Group 1	33	2.8535
Group 2	24	2.7917

The learners' perceptions of individual accountability were more positive in group one than the learners' perception of individual accountability in group two.

Table 5-7 Mean of individual accountability of groups of different gender, age and ethnicity

	Gender		Age			Ethnicity			
		N	Mean		N	Mean		N*	Mean
Group 1	Female	17	2.9244	16	10	2.8452	Asian	1	3.5714
	Male	16	2.7783	17	19	2.8647	Black	7	2.9830
				18 +	4	2.8214	White	23	2.8075
Group 2	Female	10	2.8429	16	6	2.4048	Asian	3	2.6190
	Male	14	2.7551	17	18	2.9206	Black	2	2.4286
				18+	0	-	White	19	2.8571

N* - The ethnic group - "Coloured" was excluded from this summary of the results as Group 2 had no respondents in this category.

If the moderator variables are considered, table 5.7 illustrates the following:

a Moderator variable – Gender

The females of group one have a more positive perception of individual accountability than the females in group two. The males of group one have more positive perception of individual accountability than the males in group two. This shows that both genders have a more positive perception of individual accountability when they are not placed with learners that they reject.

b Moderator variable – age

The learners aged 17 years of group two have more positive perceptions of individual accountability than the 17-year-old learners of group one. This appears to be contrary to the generalised pattern or trend that is reflected in the main body of data. The difference reflected is, however, not statistically significant at the 95% confidence level, probably due to the small number of respondents. In contrast the 16-year-old learners of group one have higher mean scores than those of group two. This confirms the general trend that learners have more positive perceptions of individual accountability if they are not placed with learners that they dislike.

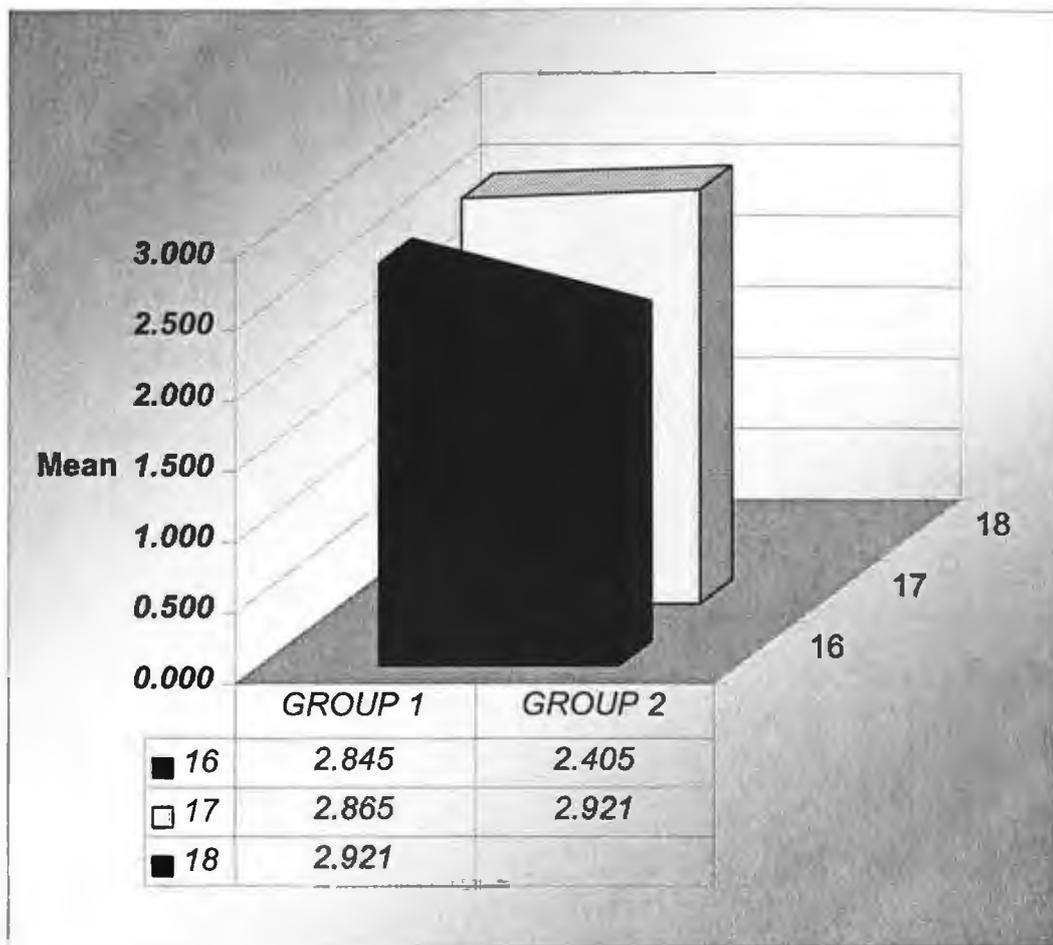


Figure 5-7 Age moderator variable – Individual accountability, Hypothesis 2

c Moderator variable – Ethnicity

The White learners of group two (rejected and rejecter learners together in a group) have more positive perceptions of individual accountability than the White learners of group one (high and low achievers grouped together), while the Black and Asian learners of group one have the more positive perceptions of individual accountability.

In the two class groups that participated in the research, the Black and Asian ethnic groups were the minority groups. The formation of the

cooperative learning groups within the class group one (high and low achievers were grouped together) created an environment that was not as socially divergent as class group two (rejected and rejecter learners grouped together). It is thus possible that the learners' from the minority ethnic groups perceived themselves as estranged in the groups in class group one, thereby seeing the others from the group to be more unified in the accomplishment of the group goals. This is however merely a supposition and would need to be considered in further research.

5.5.4 Problem statement and hypothesis 3

Is there a significant difference between the two methods of grouping the learners with regard to the learner's perceptions of his/her own *goal structures*?

In this regard the two class groups are:

Group 1 – learners categorised according to the highest and lowest marks in the class group.

Group 2 – rejected learner with the rejecter grouped together.

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's perceptions of his/her own *goal structure*.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's perceptions of his/her own *goal structure*.

To test the null hypothesis, means were calculated. Thereafter a t-test and analysis of variance were executed. The results appear in table 5.8 and figure 5.8.

Table 5-8 Means for intrinsic goal structures of the two class groups

Group	N	Mean
Group 1	33	2.5758
Group 2	24	2.3690

The data for the two class groups may be reflected graphically as follows:

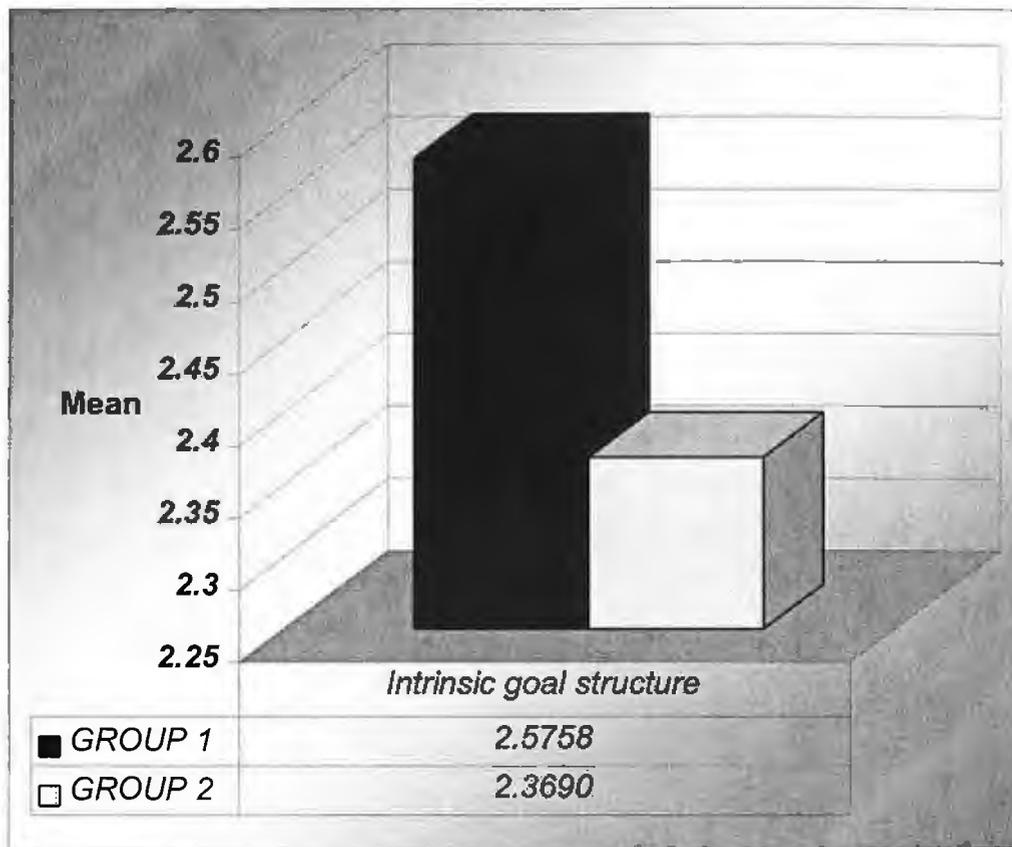


Figure 5-8 Means for intrinsic goal structure for the two class groups

The learners of group one have a more positive attitude towards their intrinsic goal structure when compared with the learners of group two. This implies that learners who were not placed with learners whom they rejected evaluated their intrinsic goal structure more positively.

Considering the moderator variables, the results are reflected in tables 5.9 and 5.10 and figure 5.9.

Table 5-9 Means for intrinsic goal structure of the groups of different gender, age and ethnicity

	Gender			Age			Ethnicity		
		N	Mean		N	Mean		N*	Mean
Group 1	Female	17	2.4853	16	10	2.5875	Asian	1	2.1250
	Male	16	2.6719	17	19	2.5132	Black	7	2.8750
				18 +	4	2.8438	White	23	2.5543
Group 2	Female	10	2.3250	16	6	2.6012	Asian	3	3.0000
	Male	14	2.4005	17	18	2.2917	Black	2	2.7500
				18+	0	-	White	19	2.2293

N* - The ethnic group - "Coloured" was excluded from this summary of the results as Group 2 had no respondents in this category.

a Moderator variable - Gender

With the moderator variable – gender applied, the results reflected the trend previously noted, that is, the females of group one (high achievers grouped together with low achievers) have more positive perceptions regarding their intrinsic goal structure when compared to the females of group two (rejected and rejecters grouped together). This is also true for the males, with the males of group one being more positive with regard to their perceptions of their intrinsic goal structure. This shows that both genders have more positive perceptions of their intrinsic goal structures when they are not placed in a group with learners that they reject.

b Moderator variable – Age

The learners aged 16 and 17 years of group two (rejected and rejecter learners grouped together) have more positive perceptions of their intrinsic goal than the 16 and 17-year-old learners of group one (high and low achievers grouped together). This appears to be contrary to the generalised pattern or trend that is reflected in the main body of data. The difference reflected is, however, not statistically significant at the 95% confidence level, probably due to the small number of respondents.

From the observations made during phase one of the research, it appeared as if the more uncomfortable the learners felt in the group, the more likely they were to revert to a pre-existing goal structure. Thus, within group two, the learners were more likely to become de-motivated by the group's lack of cohesion. This deficit is likely to make the attainment of the group goals unlikely, positive reinforcement is also unlikely to occur within the group, and intrinsic goal directed behaviour might not result. A more precise explanation in this regard would require additional study.

c Moderator Variable – Ethnicity

For White learners there is a significant difference between the two groups regarding their views of their intrinsic goal structure. The White learners of group one have a significantly more positive view of the intrinsic goal structure when compared to the White learners of group two. This difference is statistically significant at the 95% level of confidence. The null hypothesis may be rejected on the 0.05 % level of significance.

This means that White learners who are not placed with learners that they reject have a significantly more positive perception of their intrinsic goal structure than White learners who are placed with learners that they reject.

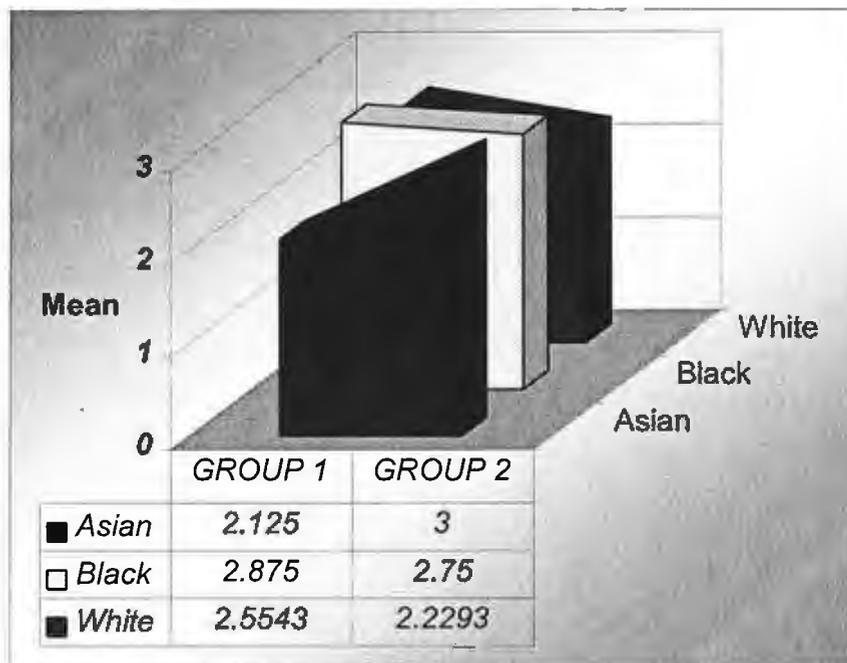


Figure 5-9 Ethnicity moderator variable - Intrinsic goal structure

The results of the t-test are reflected in table 5.11. where the 2-tailed significance figure for White learners is given as 0.041, which is below the 0.05 of the significance level.

Table 5-10 t-test for statistical significance of independent samples - Ethnicity moderator variable, hypothesis 3

Ethnic group	t	df	Significance – 2-tailed
Asian	1.391	2	0.299
Black	0.412	7	0.692
White	2.108	40	0.041

5.5.5 Problem statement and hypothesis 4

Is there a significant difference between the two methods of grouping the learners with regard to the learner's interpretation of the *social relations* within the group?

In this regard the two class groups are:

Group 1 – learners categorised according to the highest and lowest marks in the class group.

Group 2 – rejected learner with the rejecter grouped together.

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's interpretation of the *social relations* within the group.

Null hypothesis

There is no significant difference between the feelings of the learners Group 1 and the learners in Group 2 with regard to the learner's interpretation of the *social relations* within the group.

To test the null hypothesis, means were calculated. Thereafter a t-test and analysis of variance were executed. The results appear in table 5.11.

Table 5-11 Means for social relations for the two class groups

Group	N	Mean
Group 1	33	2.8190
Group 2	24	2.7526

The perceptions of the learners regarding positive social relations were greater, that is more positive, in group one when compared to the perceptions of the learners' in group two. This implies that the learners have a more positive perception of the social relations within the group when they are not placed with learners whom they reject.

If the moderator variables are considered the results are as indicated in table 5.12 and figure 5.10.

Table 5-12 Means of social relations of the groups of different gender, age and ethnicity

	Gender		Age			Ethnicity			
		N	Mean		N	Mean		N*	Mean
Group 1	Female	17	2.8568	16	10	2.8478	Asian	1	2.5217
	Male	16	2.7789	17	19	2.7864	Black	7	2.7453
				18 +	4	2.9022	White	23	2.8538
Group 2	Female	10	2.7565	16	6	2.6812	Asian	3	2.7681
	Male	14	2.7499	17	18	2.7765	Black	2	2.8043
				18+	0	-	White	19	2.7447

N* - The ethnic group - "Coloured" was excluded from this summary of the results as Group 2 had no respondents in this category.

a Moderator variable - Gender

Females of group one have more positive perceptions regarding the social relations within the working groups when compared to the females of group two. Likewise the males of group one have more positive perceptions regarding the social relations of the groups when compared to the males of group two. The learners of both genders perceived the social relations more positively when they were not working with learners whom they reject.

b Moderator variable - Age

The learners aged 16 and 17 years of group one (high and low achievers grouped together) have more positive perceptions of their group's social relations when compared to the 16 and 17-year-old learners of group two.

This reflects the general trend that has been noted, that learners have more positive perceptions of their group's social relations if they are not grouped together with learners whom they reject.

c Moderator variable – Ethnicity

The Asian and Black learners of group one (high and low achievers grouped together) are less positive than the Asian and Black learners of group two (rejected and rejecters grouped together) with regard to their perception of social relations in the working groups. However, the White learners of group one are more positive than the learners of group two in this regard.

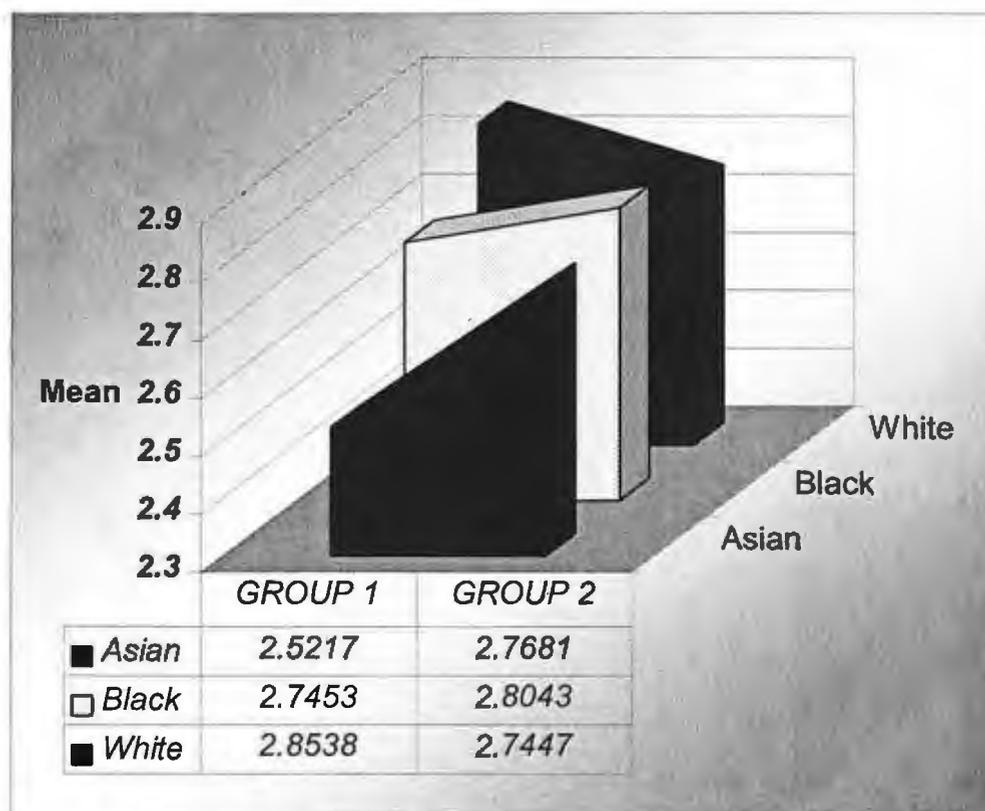


Figure 5-10 Ethnicity moderator variable - Social relations

5.5.6 Problem statement and hypothesis 5

Is there a significant difference between the two methods of grouping the learners with regard to the *learner's self-esteem* in that specific group?

In this regard the two class groups are:

Group 1 – learners categorised according to the highest and lowest marks in the class group.

Group 2 – rejected learner with the rejecter grouped together.

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the *learner's self-esteem* in that specific group.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the *learner's self-esteem* in that specific group.

To test the null hypothesis, means were calculated. Thereafter a t-test and analysis of variance were executed. The results appear in table 5.13.

Table 5-13 Mean for learner's self-esteem for the two class groups

Group	N	Mean
Group 1	33	3.1428
Group 2	24	3.0903

The self-esteem of the learners was greater, that is more positive, in group one when compared to the learner's self-esteem in group two. This implies that the learners who were placed with others whom they rejected evaluated their own self-esteem more negatively.

When the moderator variables are taken into consideration, the results are as reflected in table 5.14.

Table 5-14 Means for learner's self-esteem of groups of different gender, age and ethnicity

	Gender			Age			Ethnicity		
		N	Mean		N	Mean		N*	Mean
Group 1	Female	17	3.0811	16	10	3.1667	Asian	1	3.1667
	Male	16	3.2083	17	19	3.1340	Black	7	2.9405
				18 +	4	3.1250	White	23	3.2339
Group 2	Female	10	3.0500	16	6	3.1944	Asian	3	3.0833
	Male	14	3.1190	17	18	3.0558	Black	2	3.0833
				18+	0	-	White	19	3.0921

N* - The ethnic group - "Coloured" was excluded from this summary of the results as Group 2 had no respondents in this category.

Analysis of the data, with the categorisation according to the moderator variables, indicated that those learners of group one had a more positive self-esteem when compared to the learners of group two. This trend was evident across all three of the categories, with the exception of the Black learners. In this case the learners of group two had a more positive self-esteem than the Black learners of group one. However, the differences are not statistically significant at the 95% confidence level, in all probability due to the small sample size.

5.5.7 Problem statement and hypothesis 6

Is there a significant difference between the two methods of grouping the learners with regard to the learner's *attitude towards cooperative learning*?

In this regard the two class groups are:

Group 1 – learners categorised according to the highest and lowest marks in the class group.

Group 2 – rejected learner with the rejecter grouped together.

Experimental hypothesis

There is a significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's *attitude towards cooperative learning*.

Null hypothesis

There is no significant difference between the feelings of the learners in Group 1 and the learners in Group 2 with regard to the learner's *attitude towards cooperative learning*.

To test the null hypothesis, means were calculated. Thereafter a t-test and analysis of variance were executed. The results appear in table 5.15.

Table 5-15 Mean for the learner's attitude towards cooperative learning

Group	N	Mean
Group 1	33	2.9064
Group 2	24	2.7969

The learners of group one have a more positive attitude towards cooperative learning when compared to the learners of group two. However, these differences are not statistically significant. This may be due to the small number of respondents.

If the moderator variables are considered, the results are as reflected in table 5.16 and figure 5.11.

Table 5-16 Means for learner's attitude towards cooperative learning for groups of different gender, age and ethnicity

	Gender			Age			Ethnicity		
		N	Mean		N	Mean		N*	Mean
Group 1	Female	17	2.9381	16	10	2.9938	Asian	1	2.6250
	Male	16	2.8516	17	19	2.8572	Black	7	2.8839
				18 +	4	2.9219	White	23	2.9446
Group 2	Female	10	2.8375	16	6	2.7396	Asian	3	2.6667
	Male	14	2.7679	17	18	2.8160	Black	2	3.0000
				18+	0	-	White	19	2.7961

N* - The ethnic group - "Coloured" was excluded from this summary of the results as Group 2 had no respondents in this category.

a Moderator Variables - Gender and Age

Analysis of the data, with the categorisation according to the moderator variables of gender and age, indicated that those learners of group one had a more positive attitude towards cooperative learning when compared to the learners of group two. However, the differences are not statistically significant at the 95% confidence level, in all probability due to the small sample size.

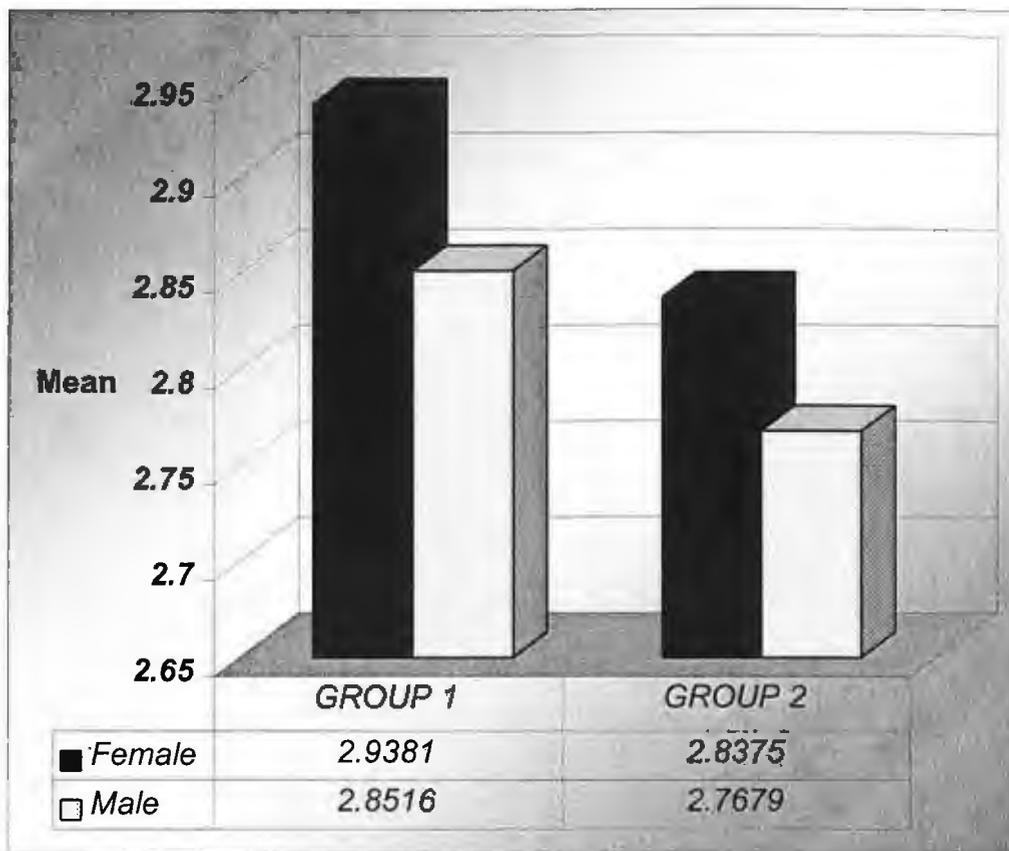


Figure 5-11 Gender moderator variable – learner’s attitude towards cooperative learning

b Moderator Variable - Ethnicity

The Asian and Black learners of groups one (high and low achievers grouped together) are less positive than the Asian and Black learners of group two (rejected and rejecters grouped together) with regard to their attitude towards cooperative learning. However, the White learners of group one are more positive than the learners of group two in this regard.

5.5.8 Summary of the research results

For group one, learners were grouped according to previous achievement in business economics (high and low achievers were put together) and for group two, learner were grouped with others that the rejected. Thereafter the mean scores were calculated for:

- Group interdependence.
- Individual accountability.
- Intrinsic goal structures.
- Social relations within their groups.
- Self-esteem and,
- Attitude towards cooperative learning.

According to the results, it appears as if the learners of group one were generally more positive in their perceptions when compared to the learners of group two. These results follow the expectations indicated in the first qualitative phase of the research, namely that the learners grouped with peers that they disliked assessed the activities that occurred in the cooperative learning groups more negatively.

Thus, in terms of the results of the qualitative study, the findings of the quantitative study appear to as expected. However, the small sample size, which resulted from the limit to the number of learners available, has restricted the significance of the statistical differences.

The quantitative results did, however, highlight a general discrepancy, to the overall trend, in the perceptions of the ethnic groups. The minority ethnic groups in the study – the Asian and Black learners displayed a trend in their perceptions opposite to the perceptions of the White learners. That is the Asian and Black learners of group one were less positive than those of group two, while for the same variables the White learners of group one

were more positive than the White learners of group two. The variables under discussion are the perceptions of group interdependence, individual accountability, social relations and their attitude towards cooperative learning as illustrated in sections 5.5.2; 5.5.3; 5.5.5 and 5.5.7.

The moderator variables of gender, age and ethnicity were included in the research, as previous research (Refer sections 1.5.4.1 – 3) indicated that these variables might have an impact the group results in terms of the dependent and independent variables. Thus, in terms of the research design, ethnicity was anticipated as having a potential bearing on the results. Reasons for these results would be subject to speculation as no defined proposition is available. However, it is possible to propose that the lack of the group's functionality in applying themselves to the activities as they occurred in group two may have not concerned these minority group learners. In this environment they may felt that they were in a position to approach fellow class members where previously this had not necessarily been acceptable. With the activities in the first group, this may not necessarily have been as acceptable as their fellow learners were more preoccupied with their liked peers. The ability to generalise the results in any way is not possible as these results reflect the perceptions of a small number of learners.

5.5.9 Comparison of the literature study and the quantitative results

An impression from the qualitative research, was that cooperative learning as a method of creating an environment for peer assistance and supportive learning may be possible with younger learners, but did not appear to be all that feasible with adolescents. Therefore the quantitative research followed on, within similar parameters, in order to provide illumination on

aspects relating to the use of cooperative learning as a functional teaching method in the senior secondary school.

This phase of the study indicated that where the learners feel socially threatened, that is in this study working with disliked peers, their overall impression of the activities is generally less positive than in the environment where learners were not expected to work with peers they specifically disliked. The dynamic within the group thus appeared to impact on the learner's perceptions of group interdependence, individual accountability, his/her intrinsic goal structures, social relations within his/her group and finally his/her attitude towards cooperative learning.

The affective environment within which the learning activities took place thus appears to have had an impact on the attainment of those aspects that the literature study indicated to result from cooperative learning activities. Within group two, the pre-existing social relationships appeared to have decreased the interactions within the learning groups, thus the monitoring, assistance and encouragement, found to occur by Slavin (1997: 101), and that occurred in class group one, did not occur as readily within the cooperative learning groups in class group two. This presented in the data collected as a less positive perception of the variables assessed, by the learners of class group two when compared to the learners of class group one.

Furthermore, the more negative social environment of class group two appeared to partially replace the forum wherein help-giving and help-seeking are encouraged (behaviour reported by Paris and Newman 1990: 98). However it is not possible to form any conclusions regarding the extent to which this behaviour did occur in either of the two groups. Rather the results indicated less positive perceptions by the learners of group two

at the conclusion of the period of time assigned to the cooperative learning activities.

Mullen and Cooper (1994: 210 – 225) indicate that commitment to the group task was more important than interpersonal attraction when considering the impact of cohesiveness on the performance of the group. However, in the classroom situation where learners are placed into the same group as peers whom they dislike, the apparent lack of desire to engage in conversation with the others of the group was manifest. The pre-existing interpersonal relationships within class group two resulted in a less positive contact between the cooperative learning groups with regard to the quality and quantity of the interactions within the groups. Thus the group's attitude towards the activities completed within the cooperative learning groups was perceived less positively.

5.6 Chapter summary

This chapter focussed on the findings and results of the two phases of the empirical study. A brief comparison of the findings and results with the literature study was also included. In the next chapter conclusions and corresponding recommendations will be made. Finally the limitations of the study will be highlighted.

Chapter 6 Conclusions, recommendations and limitations of the study

6.1 Introduction

The primary goal of this study was to determine whether the method of grouping the learners within an existing stable class group, would have a noticeable influence on the quality and quantity of observable, subject related, academic learning.

The main data collection methods during phase one were observation of the learning activities and the writing of naïve sketches by the learners. This phase was followed by the second phase wherein at the conclusion of the cooperative learning activities the learners completed a survey questionnaire (Appendix F), and their reported perceptions of the cooperative learning activities were analysed.

Considering the requirements of creating heterogeneous groupings, two primary parameters were applied in determining group placing, namely, the learners previously displayed ability in the subject; and their individual likes and dislikes within their peer group as reflected by themselves at the start of the study. The groups formed consisted of four to five members and were heterogeneous with regard to ability, sex and ethnicity. By manipulating the social composition, considering the spread of liked and disliked peers for each of the learners within a group, the learners'

compliance and effort in achieving a cooperative learning goal were assessed.

6.2 Conclusions

The manner in which learners are grouped into learning groups and the impact of such a grouping on the outcomes of the learning activities, were perceived to be of significance in this study.

Primarily, the presence of a disliked peer in close proximity caused visible discomfort for the members of the group. For these groups of adolescents, the creation of the group which included disliked peers resulted in cooperative learning activities that generally did not achieve the same positive outcomes as the groups where the social environment was not as strained or divergent from the start. However, this statement is not totally true; if the moderator variable – ethnicity is utilised in the analysis, the picture presented is different.

The presence of an individual learner, who was liked by all of the group members, who chose to direct, or lead, the group, increased the quality of the learning activity. However, during the qualitative research it was noted that the animosity between the group members was not negated by this action and the leader appeared to serve as a mediator for the other group members. Without the presence of a leader, the group activities became individual or paired activities. The learner's feelings reported in the naïve sketches, in such a group situation, were generally negative.

The academic status of a highly competent learner (classified as an achiever for this study), and perceived as such by the other group members appeared to have a negative effect on the group cohesion,

especially where the other group members saw themselves as inadequate in the subject. The negative impact of the high academic status learners on the group appeared to be enhanced if they were placed with generally disliked or unpopular peers, of low ability.

The manner in which the groups are divided for the tasks, was found to be of significance with the negative effects of hostile group members not being overcome by the need for personal success through the achievement of the group. The specific pre-existing social relationships within a class group did have an impact on the observed outcomes of the cooperative learning activities as well as the learner's perceptions of these events.

6.3 Recommendations

6.3.1 Recommendations for teachers

Outcomes based education requires that the teacher should be the facilitator of learning and as such should arrange the environment in such a way that effective learning takes place. Awareness of the potential problems, and the adequate dealing with the problems when they occur are significant in creating the desired climate where each learner is actively engaged in meaningful learning activities.

An indication from this study was the lack of engagement in the learning activities where previously established social enmity resulted in hostility being present within the group at the start of the activities. It is therefore recommended that the teacher should carefully consider the group placement of a learner that may be considered to be disliked by his/her peers. Such a learner should possibly be placed with a learner who is liked and has the ability to take the position of a leader within the group.

Merely allowing the learners to form their own groups, according to existing friendships did not appear to result in the majority of the learners engaging in meaningful learning activities. The amount of time that was spent on topics that were not related to the learning area increased significantly in this arrangement. The social nature of the grouping appeared to become a substitute for the group achievement of the learning goals. This appeared to be particularly true for the weaker learners. It is therefore recommended that the teacher does not merely allow the learners to form their own groups, but that the learners should rather be specifically assigned to the groups.

Finally, where the learners do not appear to be engaging in the learning activity as was expected, or anticipated in the creation of the lesson plan, it may be necessary to explore the learner's motivation, as what was planned as a goal may not be the same as what the learners perceive their ultimate goal to be. A brief review of the learner's existing goals may avoid the problems created. Redirecting of the learner's motivation may be accomplished by moderating the manner in which the activity is approached so as to ensure that the stated goals of the activity will be perceived by the learners as being a step towards their own goals.

6.3.2 Recommendations for future research

The dynamics presented in the groupings used for this study would indicate a number of areas in cooperative learning activities, for future research. These studies should be relevant to the South African education situation, and should thus approach the inquiry from the perspective of diversity, particularly in terms of culture and the change that is occurring in that field.

The discrepancy in the resulting trend with the moderator variable – ethnicity being taken into consideration poses a number of potential questions:

- Would these discrepancies be consistent in groups where the learners were younger?
- Are these trends that are of significance for a larger group or were they as a result of the individual learner's personality characteristics? That is, would a similar result follow from a study involving a greater number of learners?
- Was the noted change in the trend evident for the learners because they are the minority groups or because they belong to the Asian and Black cultural groups?
- Would a similar study present similar results in a school where another ethnic group was prevalent? Are these results specific to White middle socio-economic class learners?

Of interest in the groupings was the impact of a learner that the other members of the group saw as a natural leader. At the age of approximately sixteen years, leadership as a personality characteristic is stable and known by the members of the class group. Furthermore, his/her peers have assigned each learner an academic status. These two factors directly impact on the relations within the group. The bearing of these characteristics of the learner in a younger group may or may not be the same and may thus influence the outcomes of the learning activities in different ways.

The goal structures of the individual learners appeared to be of great significance in those groupings where the group dynamics were hostile, as these goal structures were observed to replace the group goal. From this observation two questions arise:

- Firstly, would the animosity within the group diminish if the members had a greater similarity in the area of their pre-existing goal structure?
- Secondly, is this observation consistent with a larger group of learners: namely younger learners, learners from different ethnic groups and cultural backgrounds, in different school subject areas, in a different socio-economic environment?

As primarily an exploratory study the results have indicated that additional research focusing on the dynamic of the unique South African education situation is required.

6.4 Limitations

This study observed particular groups of learners. These learners predominantly come from families that may be classified as middle to upper class and receive their education in a well-equipped school. The class groups are of a moderate to small size (25 – 35 learners) on average. The observations of this study are thereby limited. The study was also conducted within the boundaries of the subject content of the business economics syllabus. Conclusions and recommendations made may not necessarily be true for other school subjects.

It was not the intention of this study to formulate universally applicable rules or laws, because of the number of uncontrollable variables. The moderator variables were included in the analysis of the data in order to provide indications of potential discrepancies within the data. The attempt to control or moderate variables impacted on the sample size, with the noteworthy limitation being in the general lack of statistically significant differences between the noted variables. Thus the recommendations from the study need to be considered accordingly.

Finally, the studies were restricted in the time allocated to the group activities. This was primarily as a result of the demands of fitting the study into the normal school timetable. Results from a study where the time frame is extended may thus be different.

6.5 Summary

While it is possible to state that the research has not indicated a clear guideline for the demarcation of the groups within a class, it is possible to indicate what may not be the most successful group allocation.

The study has also indicated that ethnicity may be an important factor in the consideration of the groups' activities. Further study in the area of ethnicity and culture appears to be required.

The cooperative learning activities that were observed did provide positive results for the learners even if it was simply to *get you to communicate with others in the class and Na and Ch are now speaking, so yeah.... (Fr Grade 11).*

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Appendices

Appendix A Social questionnaire

SOCIAL QUESTIONNAIRE GRADE 11

FULL NAME _____

GENDER _____

Important. The information that you provide in this questionnaire is STRICTLY CONFIDENTIAL. No other teacher, learner (or anyone else for that matter) will see what you have written on this piece of paper, and the contents of it will be used for my research project only.

I would therefore like to ask you to be totally honest with all of your answers.

Information.

1. A friend is considered to be someone with whom you enjoy spending your free time, and with whom you feel free to share your feelings with, and with whom you share a number of interests.
2. Your peer group is the other members of your class with whom you have loose associations. You know who he/she is, and you enjoy being in his/her company sometimes.
3. Some of the members of your class may make you feel uncomfortable. You would not really like to be in his/her company for any period of time. You would probably reject this person, and any moves that he/she makes towards friendship.

Sections.

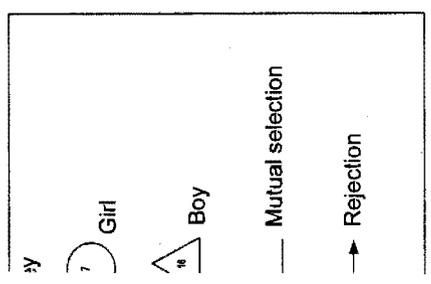
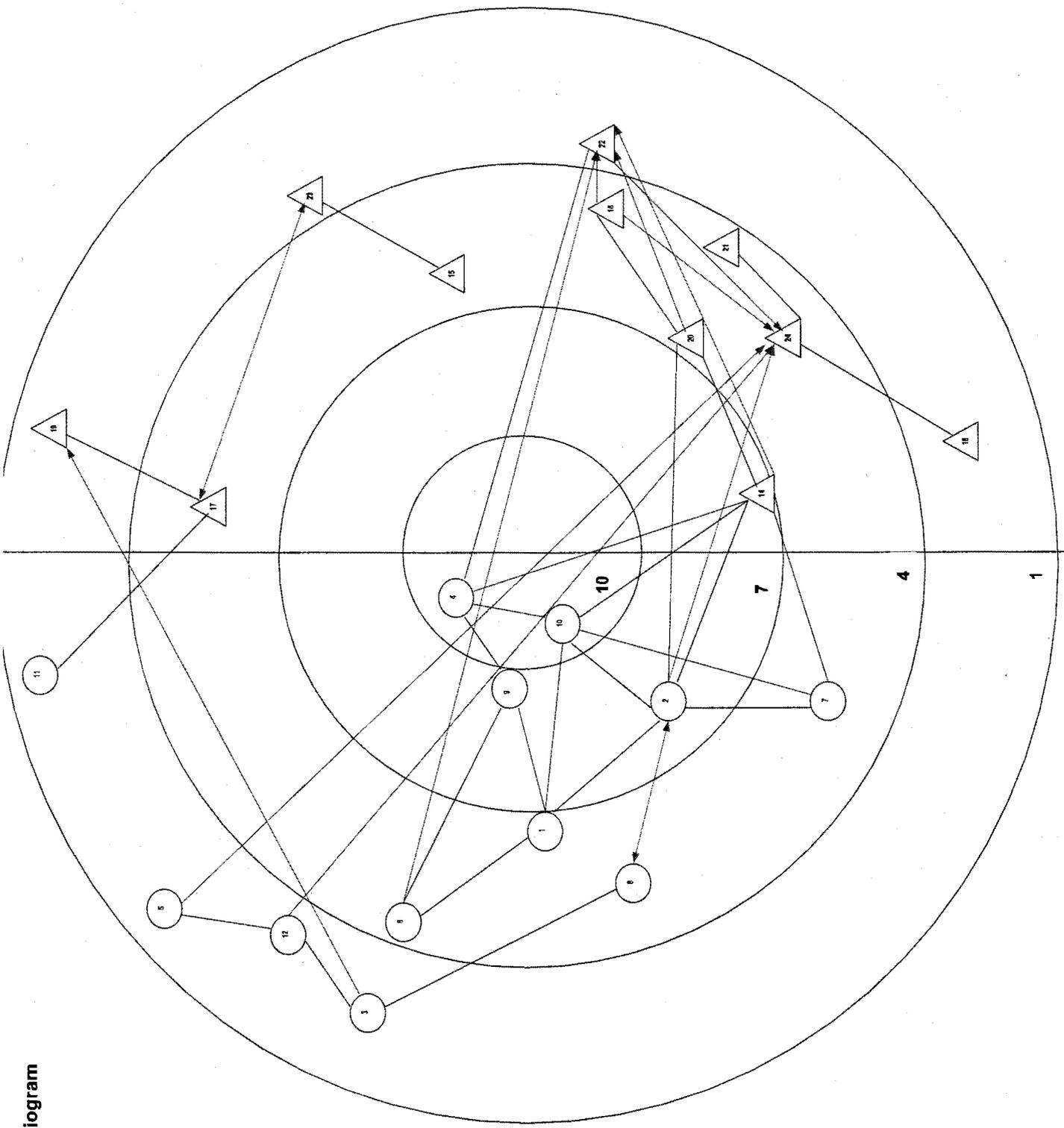
1. Please select, in order of preference, FIVE members of this class, with whom you would choose to work in class:
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
2. Please indicate any member of the class who you feel you could classify as someone who you would reject (see point 3 in the information provided above).
 - a. _____
3. In the next list, please indicate up to THREE members of the class who you would consider to be your friends.
 - a. _____
 - b. _____
 - c. _____

Thank you for your honesty in providing me with this information.

Appendix B Sociometric table and sociogram 1

	Name	Sex	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	21	22	23	24		
1	Oi	F	5			3		2			1	4														15	
2	Ni	F	5						3	R		2			1						4	R			R	15	
3	Le	F	5							2				1		4		3	R							15	
4	Nic	F							5		3	1			2								4			15	
5	Che	F		3	2					4				1	5			R							R	15	
6	Li	F	1			3					2	4				5							R			15	
7	An	F	5	3									1		2						4					15	
8	Sh	F		R	1			3			5											4	2			15	
9	Ay	F	1			4		2								3		5								15	
10	Ca	F	4	3		2			1					R	5											15	
11	Tr	F	4							1	2			5						3						15	
12	Na	F	3		1		5			4		2													R	15	
14	Da	M		1		2			5			4									3		R			15	
15	Ro	M								4	5						2							1	3	15	
16	Ch	M				5			1		3	2													4	15	
17	Si	M				1				4			5				3			2				R		15	
18	Kh	M		4							5				2						1	3	R		R	15	
19	Ju	M														2	5	1				4		3		15	
20	Jo	M		5						4		3			1				2				R			15	
21	Mo	M				2					1							4	R	3					5	15	
22	Ant	M		5		2			4		1											3			R	15	
23	Du	M														1	2	R	3		4				5	15	
24	Cl	M				3			R	5	1						2					4				15	
		SS	8	4	3	4	1	3	3	4	5	6		3	2	2	5	1	3	1	4	4		2			68
		OS		4		6			3	4	4	5	1		5	3		3			2	1	2		4	47	
		Total	8	8	3	10	1	3	6	8	9	11	1	3	7	5	5	4	3	1	6	5	2	2	4		115
		SS		1						1				1				1	1			3	1	2		11	
		OS							1									1	1		1	1		3		8	
		Total	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	2	0	2	0	1	4	1	5		19
		SS	4	3	2	2	1	2	2	1	3	4	0	2	1	1		1	2	1	2	2		1	2		39
		OS		2		2			1		1	1	1		4	1	1	1			1		1				17
		Total	4	5	2	4	1	2	3	1	4	5	1	2	5	2	1	2	2	1	3	2	1	1	2		56

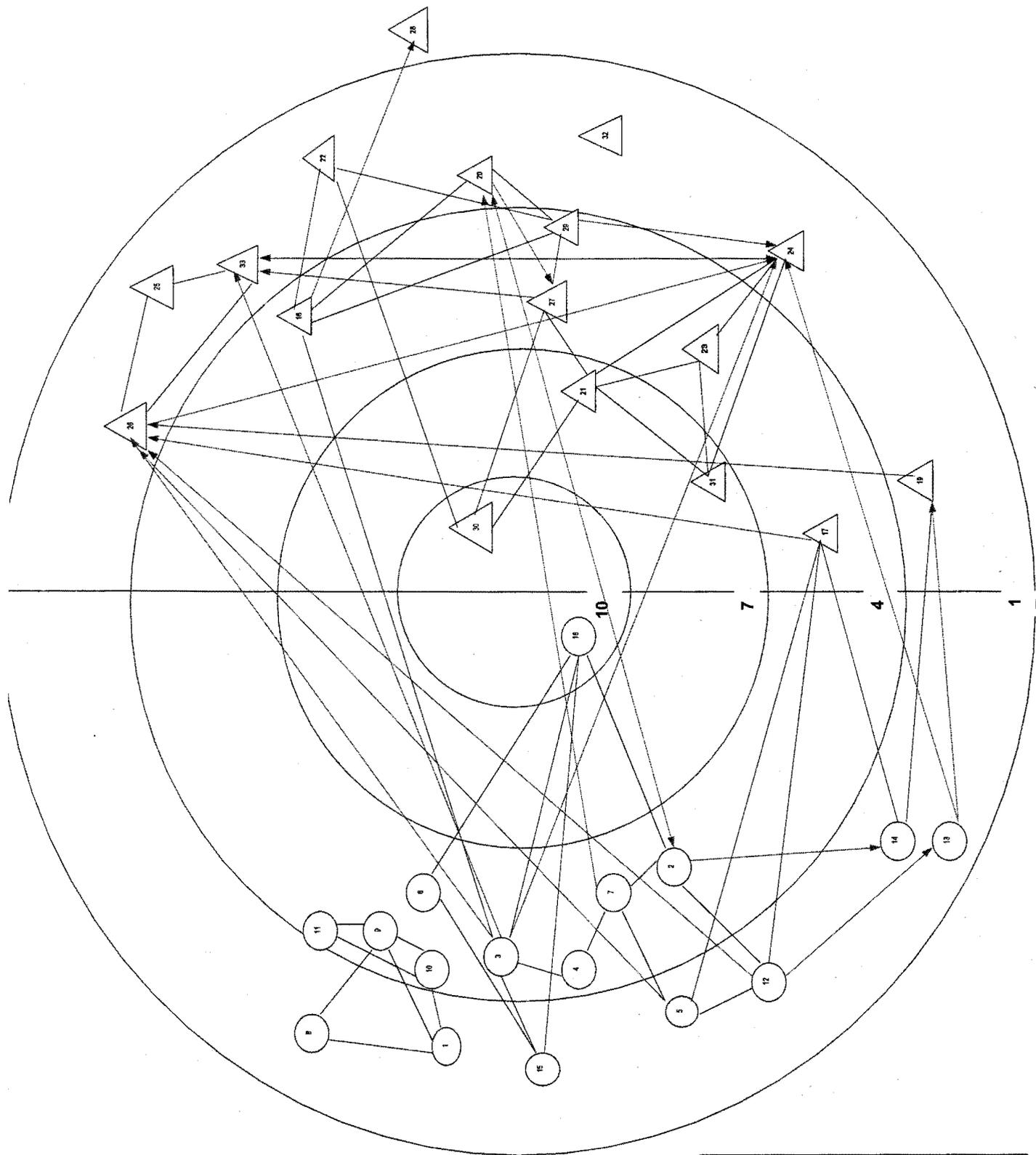
Phase 1 - Sociogram



Appendix C Sociometric table and sociogram 2

	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1	AL								2	1	3	4																						
2	AM						2						5		R	4	1														3			
3	AN				2	4										3	1			5						R		R					R	
4	AT		3	4				2									1																	
5	DP		4		5				3				1					2																
6	DT		5						3								2	1													4			
7	FR		1		5	3								R				2													4			
8	KE	2								1	3	4														5								
9	LO	1							2		4	3														5								
10	MI	4								2		1														3					5			
11	NA									5	1															3	4					2		
12	NI		4		5	1								R				2											R			3		
13	ST				1	R	3									2				R						R								
14	SY			3													1	2		4														
15	TH			5	3		2										1			4														
16	TU		4	5			1	3									2																	
17	BRA					1							2	4													R	5			3			
18	BRY			4													5				3		2					R	1					
19	DU						4							3	2		5	1									R							
20	ED		R	1			4												2									R		3				
21	GE																								2	3		5		4	1			
22	JA																	3	1		4									2	5			
23	JO																				2				3			5		4	1			
24	JU																				2		3								1	4	R	
25	MA						5														3							1			4		2	
26	MX					4			3								5									R	2					1		
27	MI																				4					3				2	1	5	R	
28	NA															1	4											3						
29	PE																		3		4		2		R		1				5			
30	RO																				4		3				1					2		
31	TY																				2		1	3		4						5		
32	ZD																																	
33	ZS																			5		3			R	2	1			4				
Sei	Same Sex	3	6	4	6	3	3	5	2	4	4	4	2	0	0	5	7	2	3	1	3	6	2	4	3	2	3	5	0	4	7	5	1	3
	Op sex.	0	0	2	0	1	3	1	0	1	0	0	1	1	2	1	4	3	1	2	0	2	0	3	0	0	0	0	0	0	3	2	1	0
	Total	3	6	6	6	4	6	6	2	5	4	4	3	1	2	6	11	5	4	3	3	8	2	7	3	2	3	5	0	4	10	7	2	3
Rej	Same Sex	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3	0	2	1	1	0	0	0	0	2
	Op sex.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	3	0	0	0	0	0	0	1
	Total	0	1	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	1	2	0	0	0	5	0	5	1	1	0	0	0	0	3

Group 1 Sociogram



Key

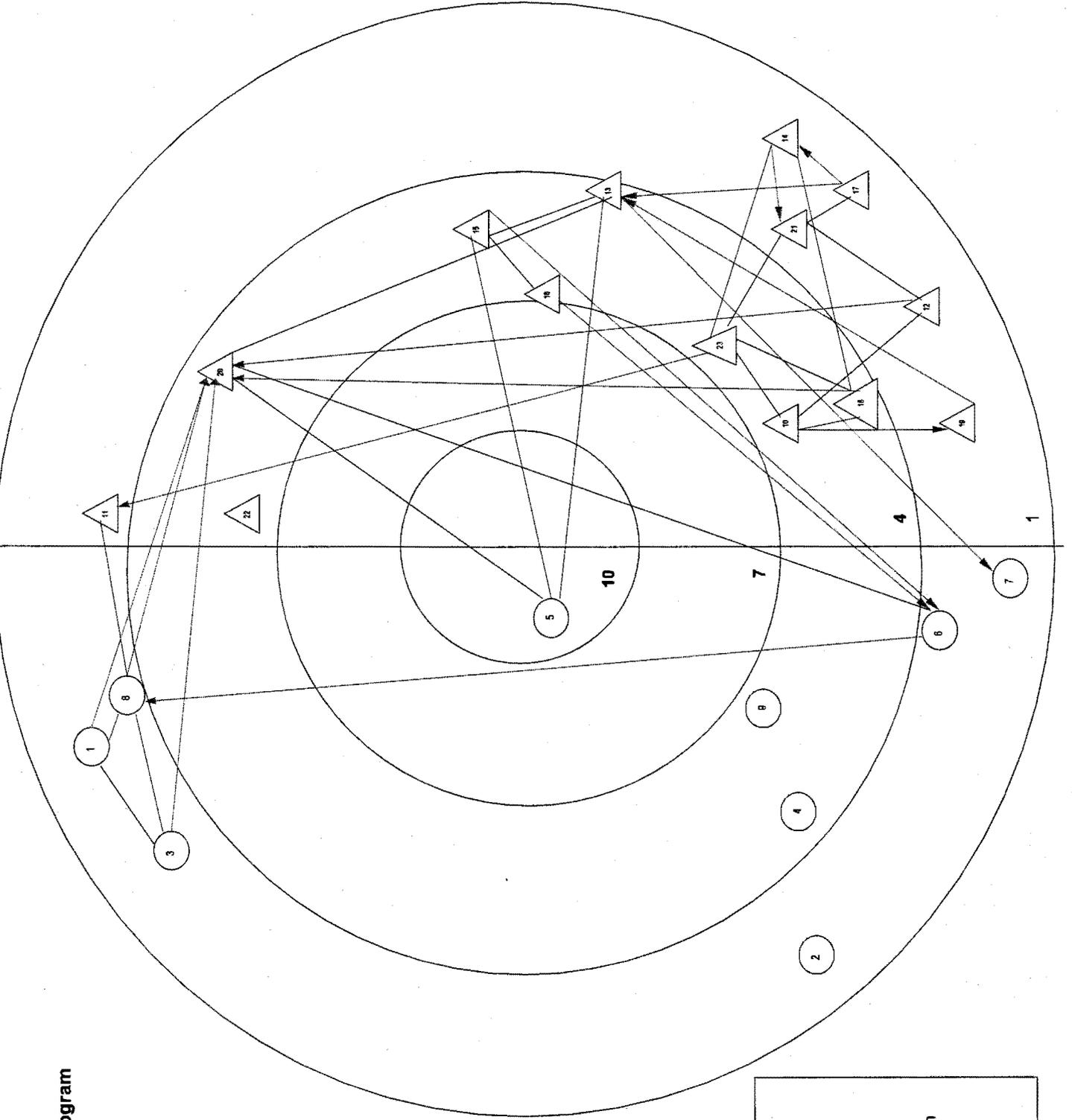
 Girl
 Boy

 Mutual selection
 Rejection

Appendix D Sociometric table and sociogram 3

No	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	Ja																								
1	As			2		3			1	4						5					R				
2	Ch	5		4	1				R	3		2									R				
3	Che	1				3			2	4						5					R				
4	La	R		3	R		5			2	1					4			R						
5	Le						R			3			1		5			4		2					
6	Me					1			R	2					4	5					3				
7	Re						3				1									2					
8	Sc	1		2	4	5					3										R				
9	St	4											5						3		1			2	
10	By												3					2	R		4	5	1		
11	Ch		5		3					2						4							1		
12	De										2						5			R	1	4	3		
13	G La					2		R		5					4			3		1					
14	G Li										4		5					1			R	3	2		
15	Gr				5	2	R						3			1		4							
16	Ja				3	2	R							4	1									5	
17	JH										1		R	R	2					3		4			
18	Mi					4					1			3						R				2	
19	O'B						4	1			5	2	R			3									
20	Ri					3	5			4			1			2									
21	St										3		1					5			R		4	2	
22	Wa										1		5		2					R		3		4	
23	We					4					1	R		3					2			5			
Sel	Same Sex	4	1	3	2	5	1	0	2	6	7	1	3	3	3	3	4	2	4	1	1	4	5	7	
	Opp Sex	0	1	0	3	6	2	1	1	2	0	4	0	2	0	2	3	0	2	1	3	0	0	1	
	Total	4	2	3	5	11	3	1	3	8	7	5	3	5	3	5	7	2	6	2	4	4	5	8	
Rej	Same Sex	0	0	1	0	0	1	0	2	0	0	0	0	2	1	0	0	0	0	0	2	3	1	0	0
	Opp Sex	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	
	Total	0	0	1	0	0	3	1	2	0	0	0	0	2	1	0	0	0	0	3	6	1	0	0	

Group 2 Sociogram



Key

-  Girl
-  Boy
-  Mutual selection
-  Rejection

Appendix E Pilot study sociometric table

	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
1	CA											1		3	2																	6	
2	CH			3		1	4		2	R			5																			15	
3	Fr									1		4		5										3							R	15	
4	He																																0
5	Ja		2	5			4		3	R			1								R										R	15	
6	Je							3						1	2							5	4		R					R	15		
7	Ke	R					4							5	1							2	3		R							15	
8	Le																																0
9	NaJ			1		R						5	R	3		R		2								4						15	
10	Na								4		3					1	2															10	
11	Nt		3	4			R			2								1														10	
12	Ra				1	4	3	2						5							R									R	15		
13	Ro	1		5		4				2								3														15	
14	Sa						1	4				2								R		5			R	3				R	15		
15	Sh	3	2					5	1	R				4																		15	
16	Ta					5	1	4						3						R	R		2									15	
17	Ts			2		4				1		3		5																		15	
18	AK																							2	4		5		3	1	R	15	
19	Ad									5			R							1		2	R		R		4			3	15		
20	Al																																0
21	Ch						4	3						5								2		1						R	15		
22	Cr						4	3						5								2	1							R	15		
23	Ke		3					R		4								1		5		2										15	
24	Ku		2			5				3											R			4			1					15	
25	Lo			4									3								R	1	2					5		R	15		
26	Ma		4					5		3														2	1	R						15	
27	Pa																															1	1
28	St																				2									1	3	6	
29	Te																				1				5		4	3		2	R	15	
30	Tu																				2							1	3		R	6	
31	Wa													3	5							1					R	2	4				15
Sel	Same Sex	2	3	6	0	5	7	5	3	5	0	4	4	3	6	2	2	5		5	0	4	3	1	4	2	0	3	1	2	3	3	
	Opp Sex	0	3	1	0	1	3	2	0	3	1	0	1	0	2	1	1	1		0	0	0	3	3	1	0	0	2	0	0	0	0	
	Total	2	6	7	0	6	10	7	3	8	1	4	5	3	8	3	3	6		5	0	4	6	4	5	2	0	5	1	2	3	3	
Rej	Same Sex	1	0	0	0	1	1	0	0	3	0	0	1	0	0	1	0	0		0	2	0	0	1	0	0	3	0	0	0	0	6	
	Opp Sex	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0		2	3	0	0	0	0	0	3	0	0	0	0	5	
	Total	1	0	0	0	1	1	1	0	3	0	0	1	0	1	1	0	0		2	5	0	0	1	0	0	6	0	0	0	0	11	

Appendix F Questionnaire

This is not a test, but a questionnaire for which there is no right or wrong answer only your own opinion.

Do not write your name on the questionnaire, or the response page provided.

Please make your choice for the statement truthfully, that is according to what you feel or believe.

For each item in the questionnaire, indicate your answer on the response page, by writing the selected number in the square provided.

- | | | |
|---------------------|--------------------------------------|-----|
| 1. Gender: | Female | = 1 |
| | Male | = 2 |
| 2. Age | 15 or below | = 1 |
| | 16 | = 2 |
| | 17 | = 3 |
| | 18 or above | = 4 |
| 3. Ethnicity (Race) | | |
| | Asian (including Chinese and Indian) | = 1 |
| | Black | = 2 |
| | Coloured | = 3 |
| | White | = 4 |

For the following statements the responses are as follows:

- 1 = Definitely disagree.
- 2 = Disagree.
- 3 = Agree.
- 4 = Definitely agree.

4. Working with other learners in this group helped me to improve relations with them.
5. In this group of learners, we all had unequal status.
6. Learners are unhappy when they have to work together within cooperative structures.
7. Having a peer explain something to me that I did not understand made me feel inadequate.
8. When I did not do my best, my teammates were concerned.
9. I found it difficult to express my feelings within this cooperative group.
10. I always felt part of this group.

11. The achievements of the group were more important than my own.
12. Cooperative learning enabled me to get direct assistance from the members of my own cooperative learning group.
13. The other learners in my group made me feel stupid.
14. I felt that if I wanted to get the task done I needed to try to do it all by myself.
15. Cooperative learning made me feel unable to contribute to the success of the group.
16. I felt that I was looking forward to the next business economics lesson so that we could carry on in our group.
17. One of the members of our group spontaneously took over the leadership of the group.
18. If I fail to understand work, I want to keep this a secret.
19. In the cooperative learning group some of the members were unacceptable.
20. I enjoyed being in this particular group.
21. In our group all of the members contributed actively to the activity.
22. It was unimportant if some members of the group were not doing their share of the activity.
23. Working in this cooperative learning group, I realised that my peers like me.
24. I found that some people in the group were lazy and did not participate.
25. Cooperative learning made me feel hopeless.
26. I enjoyed being an active member of a group.
27. Some people spend too much time discussing topics that have nothing to do with the activity.
28. It really bothers me when members of our group talk to one another about our activity.
29. The group members became more dependent on each other for success the longer they were together.

30. I believe that I would have understood this section better if the teacher had used the old methods of instruction.
31. We had difficulty working together in this cooperative learning group.
32. I would rather have peers, from my own cooperative learning group, explain something to me than have the teacher explain it.
33. I disliked the other members of the class looking for assistance from the members of my group during this cooperative learning group activity.
34. Working with members of other ethnic groups (races) strengthened my existing prejudice.
35. I disliked being dependent on the other members of the group for their input.
36. I felt challenged to give my best to my peers within this cooperative learning group.
37. Towards the end of the activity, I felt that all the members of the group were actively contributing to the activity.
38. Problems between learners that created tension at the start of the activity gradually became less of a problem.
39. Cooperative learning groups helped us to solve business economics problems.
40. I felt that I wanted to share the resource that I had with the other members of the group.
41. Cooperative learning made me realise that I was not the only one that was struggling with the subject matter.
42. By completing the activity, I felt that I understood the material better than if I had tried to learn it on my own.
43. Actively working with members of other cultural groups made me realise that we have a lot in common.
44. In a group we automatically each took up a specific role, that is someone was the leader, another the scribe etc.
45. I disliked working in small groups.
46. My own success in the examination, at the end of matric, is more important to me now than the success of the group.
47. The atmosphere in the group tended to exclude effective discussion.

48. Learners who participated in the group activities positively affected progress of the whole group.
49. It was very difficult to reach a decision in a group.
50. Some members of the group seemed to do all of the work themselves, without including the other members.
51. The interaction with the members of another group made it difficult to get to know the other members of my group.
52. I feel that, as a result of the group activity, I have a lot in common with a peer that I previously disliked.
53. This cooperative learning activity would have been more successful if we had completed it in pairs (two learners).
54. The longer that we were together as a group, the better our interactions became.
55. Problems between learners that created tension at the start of the activity became more intense over the period of time.
56. Cooperative learning made me feel that I was the only one who was struggling with the subject matter.
57. The other learners in my group did their best to make me realise that I was a valuable member of the group.
58. I enjoyed being dependent on the other learners when it came to completing the activity.
59. It was interesting to hear the ideas of the other members of this group.
60. The longer that this cooperative learning group activity went on, the more angry I became.
61. I felt that these activities were a waste of time, because at the end of the year I will write an examination on my own.
62. Being taught something by my peers is embarrassing for me.
63. Knowing that I would have to answer questions on my own encouraged me to work harder.
64. Success in a cooperative learning activity will help me to achieve success at the end of the year.

65. Cooperative learning made me realise that I am positively evaluated by my peers.
66. Cooperative learning activities really mean a “free-period” for me.
67. The group is independent of my contribution to the activities.
68. By helping the other members of the group I was really ensuring my own success.
69. Learners in my group discouraged me to come to school everyday.
70. I feel rejected by the group.
71. It is important for me to be academically successful in the group
72. Cooperative learning will help me to achieve my own goals in business economics.
73. My academic position in the group is important to me.
74. I feel an academic failure in a group situation.
75. The group is unable to help me reach my goals in business economics.
76. Group work fails to motivate me to achieve my goals.
77. I find working in a group a problem because I end up doing all the work.
78. I like working in groups because I can rely on others to do all the work.
79. Group work is acceptable if each person is also assessed on what they contribute.
80. I like to work in a group because then I will get the same mark as the rest of the group without having to do too much of the work.

Response sheet

Statement number	My response	Office use
1.		v 2.
2.		v 3.
3.		v 4.
4.		v 5.
5.		v 6.
6.		v 7.
7.		v 8.
8.		v 9.
9.		v 10.
10.		v 11.
11.		v 12.
12.		v 13.
13.		v 14.
14.		v 15.
15.		v 16.
16.		v 17.
17.		v 18.
18.		v 19.
19.		v 20.
20.		v 21.
21.		v 22.
22.		v 23.
23.		v 24.
24.		v 25.
25.		v 26.
26.		v 27.
27.		v 28.
28.		v 29.
29.		v 30.
30.		v 31.
31.		v 32.
32.		v 33.
33.		v 34.
34.		v 35.
35.		v 36.
36.		v 37.
37.		v 38.
38.		v 39.
39.		v 40.
40.		v 41.
41.		v 42.
42.		v 43.

Learner number			
v1			

43.		v 44.
44.		v 45.
45.		v 46.
46.		v 47.
47.		v 48.
48.		v 49.
49.		v 50.
50.		v 51.
51.		v 52.
52.		v 53.
53.		v 54.
54.		v 55.
55.		v 56.
56.		v 57.
57.		v 58.
58.		v 59.
59.		v 60.
60.		v 61.
61.		v 62.
62.		v 63.
63.		v 64.
64.		v 65.
65.		v 66.
66.		v 67.
67.		v 68.
68.		v 69.
69.		v 70.
70.		v 71.
71.		v 72.
72.		v 73.
73.		v 74.
74.		v 75.
75.		v 76.
76.		v 77.
77.		v 78.
78.		v 79.
79.		v 80.
80.		v 81.
81.	Group number	v 82.

82 Class group number 1 or 2	v83
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Summary of the variables included in the questionnaire

<i>Item number</i>	<i>Scoring direction.</i>	<i>Variable</i>
4; 10; 17; 20; 36; 37; 38; 43; 44; 52; 54;	Positive +VE	Social relations
5; 9; 14; 19; 27; 31; 34; 47; 49; 51; 55; 69	Negative -VE	
23; 65; 41; 57	Positive +VE	Self-esteem
7; 13; 18; 25; 56; 62; 70; 74	Negative -VE	
64; 71; 72; 73	Positive +VE	Intrinsic goal structure
46; 61; 75; 76	Negative -VE	
8; 11; 21; 29; 48; 58; 59; 68;	Positive +VE	Perceptions of interdependence
22; 50; 77	Negative -VE	
24; 63; 79	Positive +VE	Individual accountability
66; 67; 78; 80	Negative -VE	
12; 16; 26; 32; 39; 40; 42	Positive +VE	Attitude
6; 15; 28; 30; 33; 35; 45; 53; 60;	Negative -VE	

Appendix G TGT Game rules sheet

Games Rule Sheet

A reader picks up a card from the pile of cards.

Read the corresponding question on the game sheet out loud.

Give the answer to the question.

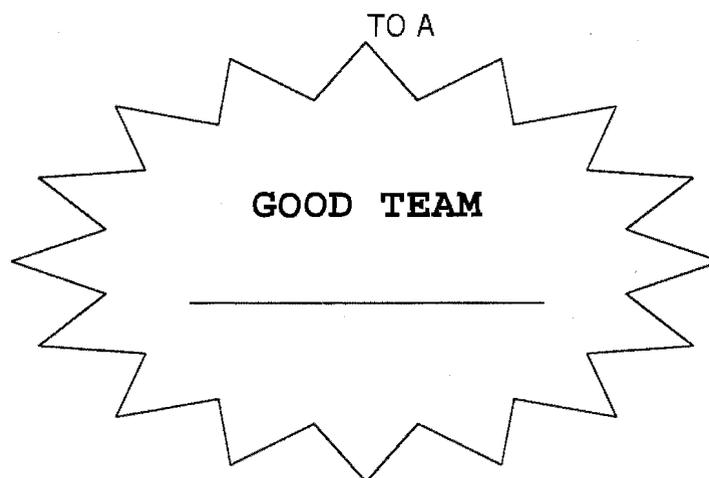
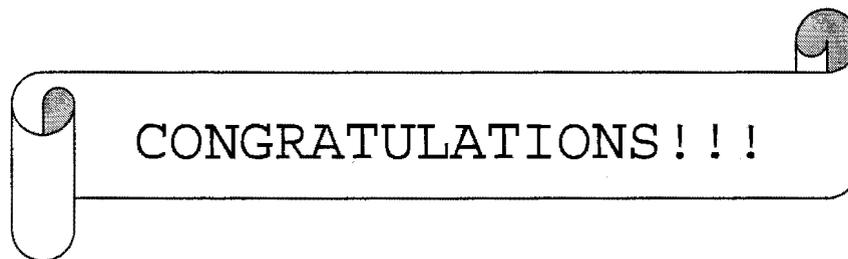
Other members of the game - group may agree or may challenge the answer and give a different answer. (All play must go in a clockwise direction.)

Check the answer sheet.

The person with the correct answer keeps the card.

Play moves to the next person in the group.

Appendix H Team reward certificates



CONGRATULATIONS

TO A

Great Team

RECOGNISING A

SUPER TEAMS

successful team effort



A truly
super team