CHAPTER ONE

STATEMENT OF THE PROBLEM AND METHOD OF INVESTIGATION

1.1 INTRODUCTION

The debate on how students of different academic abilities should be organised and taught is probably as old as the introduction of formal schooling in communities. This debate has divided the world of educational research into two distinct camps: one camp in favour of mixed-ability grouping and the other one for grouping students according to academic ability. On one hand, researchers such as Green (2002:1) and Mann (2002:1) and associations such as the National Association of School Psychologists (2002:1) support mixed-ability grouping. The aforementioned sources put it that mixed-ability grouping affords all students equal educational opportunities regardless of their differences in intellectual abilities, special educational needs, gender, race and social class.

On the other hand, some educators, researchers and scholars draw from different ethical arguments to support ability grouping. They argue that high ability students languish in mixed-ability classes (Loveless 1998:3), and that if grouping programmes entail substantial adjustment of curriculum to meet students' abilities, clear, positive effects are realised by the learners (Kulik 1992:1). However, those educational researchers on the fence, argue that the findings from the opposing camps are not conclusive. They further

point out that whatever benefits or disadvantages a particular grouping method has, cannot be ascribed only to the grouping method in question, since the effects of other variables that cannot be held constant come into play (Gary 1995:1; Ireson, Hallam, Mortimore, Hack, Clark and Plewis 1999:1; Riehl 2000:62). This camp suggests that findings should be viewed with caution. Lamenting on the protracted grouping debate, Farmer (1996:1) states that:

> The tragic extents of the debate are probably epitomized on the one hand by students 'labelled' at enrolment to the point that their educational paths are fully determined, and on the other by students clearly in need of a particular educational program but denied it on the basis that all students, no matter how different they and their needs may be, should be provided with the "same education".

But why this protracted debate on grouping? Esposito (1973:163) writes that it is because of the conjecture that there is a positive correlation between the quality of an educational environment and the degree to which the experiences encouraged in that environment facilitate the achievement of specified educational objectives. However, Esposito (1973:174) argues that many of the issues concerning the relationship between grouping plans and students' performance and development are, at best, polemic, and at worst, meaningless if different grouping patterns are not complemented with programme conditions which change and improve the patterns of the process of teaching and learning. Esposito's argument is that the implicit logic governing the implementation of ability grouping is suspect on both theoretical and practical grounds owing to the following postulations:

- Students differ with respect to patterns of ability across subject areas.

- The reliable and valid estimates of a student's ability do not necessarily determine the conditions under which a particular student is likely to experience success in learning new capabilities.

Basing on this premise, it seems far more promising to shift research time, money and manpower to developing and testing ways and means of establishing more effective educational systems. The proposed systems should support the maintenance of programme conditions that encourage and reinforce activities on the part of teachers, students, parents and administrators, which facilitate the achievement of specified instructional outcomes for individual students. Clearly, this framework would not necessarily require that instructional settings be organised to achieve the practical impossibility of homogeneity with respect to previous achievement, or aptitude, or ability. Hopefully bringing together students who vary with respect to attitudes, learning styles, intellectual abilities, ethnic and socio-economic background, within a structure which encourages flexibility in arranging instructional experiences, could serve as the foundation for innovative and successful approaches to improving and equalising educational opportunities. The whole grouping debate has been put in a focal point because of the world-wide trend towards inclusive education, which assumes that regular class placement is a relevant option for all children, regardless of the degree of severity of their special needs (Westwood 1997:189).

Lockwood and Cleveland (2001:1) state that the problem schools are having is that

reforming education systems (where learners are grouped according to ability) is deceptively simple. Grouping by ability could be abolished in schools, but there are issues and political dynamics concerning the potential harming of high achievers that will have to be dealt with. Seemingly, grouping by ability could be left in place, but there are fears that such a situation tends to harm low achievers.

It therefore appears that the problem is how to come up with a solution for teaching mixed-ability groups. In view of the current movement towards inclusive education and education for all which means having students with special educational needs in the regular classrooms rather than special schooling it has become imperative to find a workable solution that will benefit both low and high achieving students as well as students having varying special educational needs. This present study is about searching for a workable solution. It focuses, from a didactic (teaching and learning) perspective; on how teachers can optimise mixed-ability grouping for effective instruction at the junior secondary school level in Botswana, since mixed-ability grouping at this level is government policy: The Revised National Policy on Education (Republic of Botswana 1994:22).

1.2   AWARENESS OF THE PROBLEM

1.2.1   Background to the problem

Globally, the issue of organising students for instructional purposes is receiving a lot of

attention from researchers, scholars, educators and policymakers. According to Susan (1991:60) questions of whether, when and how to group students for instructional purposes are global and they represent some of the most difficult and frustrating challenges facing educators today. This, as opined by Slavin (1993:13), is because students come into class with different levels of knowledge, skills, learning rates and motivation. They also come from a wide variety of social and cultural backgrounds (Killen 2002:4). Student diversity requires teachers to adopt appropriate levels of instruction. Teachers can always be sure that whole-class teaching may not result in positive learning experiences for all children. Realisation of these institutionally important differences leads many educators to search for alternative ways of taking all students on board during the instructional process. Vivian (2001:1) states that such a scenario imposes strains and hard decisions on the teacher. Likely questions that inundate the teacher's mind are:

- Should one pitch lessons at a basic level so that the slower students can follow, or at a more advanced level to make sure the stronger ones do not get bored?

- Should one pitch lessons at the imaginary average ability student?

- How can one keep the weaker students from feeling frustrated and the proficient students from feeling under-challenged?

- What does one do with students who try hard but still get low marks, or with those who tend to dominate because they know more?

- Should one speak the learners' mother tongue in class so that one does not lose anyone along the way, or try to speak English (the official language of instruction) in

spite of the protests from those who guarantee they cannot understand a word?

- Finally, should one differentiate the instruction so as to cater for individual differences, and if yes, how?

These pervasive questions and many more of this nature can never be answered with finality and dogmatic certainty but must continue to be revisited in each different context of time and place. Attempting to cater for individual differences during instruction is one of the fundamental problems dogging education and often culminates in politically and emotionally charged policies (Shield 1996:295). It is this search for ways to reach all students during instruction, regardless of their abilities that has invariably divided researchers, educators, scholars and policymakers into opposing schools of thought.

At one time, heavy emphasis was on creating homogeneity among students. Effective teaching then emphasised efficiency in moving students through progressive sequences of instructional objectives. In this way, it was argued that maximum efficiency would be achieved (Good and Brophy 1997:405). The body of literature on treating students differently due to their intellectual differences, views this grouping system as meeting the needs of the less able as well as safe-guarding the efficient education of the more able. A number of questions have been raised as to whether or not grouping students by ability for instructional purposes is a good pedagogical practice, whose answers depend on one's position on the ability grouping continuum.

However, some educators are of the view that ability grouping should be maintained.

They contend that the needs of gifted and talented students cannot be adequately addressed in mixed-ability classes (Farmer 1996:1). In support of this view, Dean (1997:3) cogently argues that the move from ability grouping to mixed-ability grouping will have a detrimental effect on the gifted students. He further states that unless such students are freed from the restraints of mediocre classrooms and given the chance to excel they will never be truly able to achieve up to their potential. Hallahan and Kauffman (1997:470) acknowledge that while cooperative learning, peer tutoring, and other arrangements for addressing individual differences in mixed-ability classes may meet the needs of most students, they come short when it comes to addressing the special needs of some students, for example the gifted. They contend that maintaining the challenge for and demanding excellence of all students is an extraordinary challenge in extremely heterogeneous classes, which many teachers may find a daunting and overwhelming task.

Contrary to the prevailing traditional claim that views mixed-ability grouping as problematic, the emerging trend in some realms of education is to view learner diversity as a resource rather than a liability (Good and Brophy 1997:311). Good and Brophy (1997:311) further state that:

> . . . students with different backgrounds can interact with one another and learn how the same text material or concept can be interpreted differently by persons from different backgrounds. Thus teachers can use unique student experiences to make classroom learning richer and more sensitive to differences among students . . . . Although widely diverse groups of learners complicate teaching in some respects, most instruction should occur in heterogeneous settings.

Riehl (2000:62) cites a number of authors on culturally responsive teaching who support the premise that culturally diverse students pose opportunities instead of teaching problems.

1.2.2   Exploration of the problem in the Botswana context

In Botswana, junior secondary education is embraced in the concept of basic education (National Commission on Education 1993:139). The basic education concept entails that primary school completers **automatically** progress into junior secondary schools notwithstanding their primary school leaving examination results. In line with this concept, efforts have been made since 1985 to increase access into form one (the first year of junior secondary education) to achieve the goal of basic education. This has resulted in an increase in the progression rate of standard seven completers into form one. For example, ninety-five percent of the standard seven completers were enrolled into form one in 1995, compared to thirty-five percent in 1977 (National Commission on Education 1993:144; Jones 1996:38). While proponents for equity in education may view this as a giant step towards equalisation of educational opportunities, there may be deep fears in some circles that the quantitative increase may compromise quality.

The National Commission on Education (1993:144) notes with concern that the unprecedented increase in form one intake has drastically changed the academic profile of form one students, resulting in the creation of a wider ability range. This alteration of the academic profile has some organisational and didactic implications. Prior to 1992,

students having grades D and E in the primary school leaving examinations were not admitted into form one. However, this is no longer the case, as progression into form one is now automatic, a sequel of the Revised National Policy on Education of 1994. This policy results in junior secondary school classes populated by students who will have obtained grades A, B, C, D and E, creating mixed-ability classes in terms of academic performance. The table below depicts the academic diversity of students currently populating the junior secondary schools in Botswana (for a discussion on education in Botswana refer to Chapter Four).

Table 1.1: Primary School Leaving Examination Results for 2000, 2001 and 2002

YEAR	GRADES				
	A (80%+)	B (70 - 79%)	C (60 69%)	D (40 - 59%)	E (39 % and below)
2002	3 012 (30.0%)	12 303 (42.2%)	17 288 (19.8%)	8 128 (0.5%)	221 (7.4%)
2001	3 472 (28.1%)	11 306 (41.4%)	16 631 (21.3%)	8 546 (0.6%)	257 (8.6%)
2000	4 453 (32.8%)	12 730 (37.8%)	14 676 (17.2%)	6 663 (0.7%)	254 (11.5%)

Source: Bareng? Newsletter for the Ministry of Education, November 2002, page 1.

Lou, Abrami, Spence, Poulsen, Chambers and d'Apollonia (1996:423) point out that students' academic diversity means that teachers face difficult pedagogical decisions if students are to learn effectively and enjoyably. In the Botswana context, the National Commission on Education (1993:140) acknowledges that:

> Teachers now experience some problems teaching classes with wider ability ranges as they are used to teaching the cream of students selected from primary schools . . . . Pre-service training programs do not prepare teachers adequately for remedial or wider ability teaching. Some schools have tried to solve this problem by streaming students according to ability, contrary to official policy.

Nyagura (1993:22), citing the Zimbabwean experience, argues that the increase in access to secondary education which allowed students of low ability to proceed to secondary schools indiscriminately, whilst the academically biased curriculum remained unchanged, was a recipe for the decline of the quality of education. Writing on educational systems in developing countries, Eisemon (1988:26) reports that recent literature is replete with assertions that the quality of schooling has suffered in consequence of increasing school enrolments. The consequences of educational expansion are aptly captured by Esteve (2000:197) who reports that:

> The change from a system designed to educate an elite to one of mass education that aims to educate the whole of the youth of our countries, not only increased the numbers of teachers and pupils, it also brought perplexing problems related to quality . . . . To teach today is a very different activity to that of 20 years ago. It is very much more difficult to deal with mixed-ability classes that comprise 100% of the children of the area with all the social and psychological conflicts of our present societies, than it was to teach more or less homogeneous classes of children selected for their academic ability.

The researcher being a teacher in one of the junior secondary schools in Botswana has observed and experienced many of the problems emanating from teaching mixed-ability classes. The teachers do not only have difficulties in planning learning activities for the different ability levels in mixed-ability classes, mixed-ability grouping is also an organisational nightmare for most teachers who were used to teaching relatively homogeneous classes. They find it extremely difficult to adapt their teaching strategies to cater for heterogeneous groups. As argued by Jones (1996:38), methods associated with the teaching of mixed-ability classes are vital if students are to benefit from time spent in school. With the realisation that neither streaming nor mixed-ability grouping that negates the differences between high-, medium- and low- ability students are the panacea to students' academic diversity (Harlen 1997:2), the need for instructional alternatives which enable the content, pace and support of classroom work to be adjusted to suit individual needs, cannot be over-emphasised.

The challenge facing educational leaders, researchers, scholars and teachers in Botswana and elsewhere is finding ways for all students to achieve at the limits of their abilities. At the same time that educators will be required to meet the needs of the slow learners, they will also have to be responsive to the needs of highest achieving students and those having special educational needs. Literature shows that both grouping by ability and mixed-ability grouping plans have crippling problems. The bottom line in the grouping debate seems to be a trade-off between excellence and equity. These terms tend to engender a false dualism in that many seem to speak in terms of having either excellence or equity, but not both (refer to section 2.2.2: Grouping and equality in education). The

pro-ability grouping argument has been primarily concerned with the issue of academic excellence, while exponents of mixed-ability grouping have been concerned with equity.

Given the above scenario, perhaps the question begging attention is: '*Is it not possible to achieve both equity and excellence without necessarily grouping students according to some perceived intellectual abilities?*' Oakes (1985) (in Lockwood and Cleveland 2001:1) thinks that this is possible. Protagonists in the grouping debate had better take heed of Hart's (1998:154) advice that as educational leaders, teachers and researchers search for effective methods to achieve equity and excellence in education, they should note that it is not the nature of grouping per se which needs to pre-occupy their minds, but rather how learners and their differing attainments are construed, and how these constructions should be used to inform pedagogy.

The preceding discussion shows that at the junior secondary school level in Botswana, mixed-ability grouping is causing some organisational and instructional problems. As succinctly argued by Esteve (2000:198), many teachers have a feeling of bewilderment from the scholarly world around them, especially if they compare homogeneous groups of students they knew in the past with the heterogeneous classes of today. Therefore questions begging attention are *inter alia*:

- Do teachers have the competences to teach mixed-ability groups effectively?

- What teaching strategies do they employ?

- What strategies **should** they employ?

- Are the curricula and the present norm referenced assessment suitable for mixed-ability classes?

The researcher hopes that this present study will attempt to answer these and numerous other recurring questions, particularly in the Botswana context, focusing at the junior secondary school level.

1.2.3   Statement of the problem

In view of the abolition of streaming, and the creation of mixed-ability classes in junior secondary schools in Botswana, due to the automatic progression of standard seven completers into form one, it is evident that the problem of this proposed investigation revolves around the following key question*: How can teachers optimise mixed-ability grouping for effective instruction at the junior secondary school level?* This problem can be subdivided into the following research questions:

- What is the present practice regarding the teaching of mixed-ability classes in Botswana?
- What teaching strategies should teachers use to optimise mixed-ability grouping for effective instruction?
- What are the constraints being encountered by teachers in an attempt to optimise mixed ability grouping for effective instruction?
- What teaching and organisational competences (skills) do teachers need to optimise

mixed-ability grouping for effective instruction?

1.3   THE AIM OF THE RESEARCH

The principal aim of this research was to come to an understanding of the nature of current classroom practice in Botswana regarding the teaching of mixed-ability classes at the junior secondary school level. A secondary aim was to make recommendations regarding best practices for effective teaching of mixed-ability classes at the junior secondary school level. These aims were subdivided into the following objectives:

- To find out how mixed-ability classes at the junior secondary school are being taught.

- To find out the problems that being experienced by teachers as they teach mixed-ability classes.

- To establish the organisational and teaching competences that teachers need in order to optimise mixed-ability grouping for effective instruction

- To establish the teachers' opinions regarding pre- and in-service teachers' training and the present assessment system in the context of mixed-ability grouping.

- To come up with recommendations on how teachers can optimise mixed-ability grouping for effective instruction at the junior secondary school level.

The above aims and objectives were realised by means of a literature study and an empirical investigation.

1.4   METHOD OF INVESTIGATION

1.4.1   Literature study

The literature study is an important means of acquiring background knowledge relevant to the research topic and of determining what research has already been done as well as exposing research possibilities that have been left out. According to Gall, Borg and Gall (1996:114) some of the reasons for reviewing literature are:

- Literature review enables one to have a deeper understanding of the problem.

- It helps to find out how other researchers have formulated lines of inquiry within a broad field of study (delimiting the problem).

- It helps to avoid fruitless approaches in that it may at times identify several similar studies done over a long period of time, all of which employed approximately the same research methodology and all of which failed to produce significant results.

- It helps one to gain methodological insights.

- After reviewing the literature, one may be able to identify recommendations for further research.

- Literature review is a way of seeking support in grounded theory.

In this study literature review provides an overview of existing research, which in turn provides essential background knowledge for the investigation into the optimisation of mixed-ability grouping for effective instruction in the context of junior secondary school

teaching and learning in Botswana. In order to achieve this objective, relevant policy documents, books, theses and journal articles on the phenomenon of mixed-ability grouping and its effects on the optimisation of learning were consulted. Literature on mixed-ability grouping was reviewed with the view to establish the strategies that can be used for the effective teaching of mixed-ability classes and the competences needed by teachers in order for them to effectively teach them.

1.4.2   Empirical investigation

The study is a qualitative research (where instructional experiences are described as they occur in a real life setting). Owing to a hiatus in literature on classroom life in Botswana, focus group interviews were conducted, to gain insight into how teachers are organising and teaching mixed-ability classes. Lesson observations also exposed difficulties being encountered by teachers in the teaching of mixed-ability classes. This information may be used to inform practice. Details on the empirical investigation are provided in Chapter Five. The qualitative case study approach was adopted, taking cognisance of the methodology's advantages as observed by a number of authors. Gall et al. (1996:549) identify the following two advantages:

- Through a process of thick description, the case study researcher can bring a case of life in a way that is not possible using the statistical methods of quantitative research. This is more beneficial to readers in that they may be in a better position to develop theories, design educational interventions, or take some other action than they would

have from reading only quantitative research reports.

- Case studies have emergent qualities, in that they are flexible. As researchers collect data and gain insight into the particular phenomenon, they can change the case on which the study will focus, adopt new data collection methods, and frame new research questions.

In addition to the above advantages, Hitchcock and Hughes (1989:323) opine that a case study is in many ways the most appropriate format and orientation for school based research. They further argue that a case study reproduces social action in its natural setting, i.e. classrooms and work places. It can also be used to develop new theory or improve and evaluate existing professional practice. Brady (1997:59) credits the case study approach for enabling the use of description and exploration rather than the manipulation of variables.

In choosing the case study research, the researcher was also aware of its disadvantages, which are:

- Findings are difficult to generalise to other situations.
- There is also the possibility of ethical problems where the researcher fails to disguise the identity of the organisation or individuals that were studied when reporting the case study.

1.5   THE SIGNIFICANCE OF THE STUDY

Findings from the study will shed more light on mixed-ability grouping and how it should be managed as well as how teachers can optimise mixed-ability grouping for effective classroom instruction. The study will illuminate the limitations militating against the optimisation of mixed-ability grouping for effective instruction especially at the junior secondary school level in Botswana. Such information will be helpful when conducting needs analysis, mounting of in-service workshops and development of pro-mixed-ability teaching pre-service teachers' training programmes. Findings may also expedite the move towards assessment criteria that is compatible with mixed-ability classes. Finally, like any other research, it is hoped that this present study will contribute to and build knowledge about mixed-ability grouping and mixed-ability teaching. The cumulative significance is that findings will result in better learning experiences for all the students of different abilities presently populating Botswana's junior secondary schools.

1.6   CLARIFICATION OF CONCEPTS

Certain important concepts that recur in the text will be discussed in this section. This discussion serves as a mere **introductory clarification of concepts**. In the text more detail will be provided.

1.6.1   Grouping: This is the assigning of students to classes on the basis of some criteria, for example test scores. According to Esposito (1973:165) grouping is an

organisational plan, which assigns students to teachers, rooms and curricular programmes. Writing on the *modus operandi* of grouping, Lou et al. (1996:426) state that groups can be formed on the basis of (a) common interests, common skills, or friendships or (b) diverse interests, diverse skills, or unfamiliarity. In this study, grouping will be interpreted as the act of assigning students to classes, which may result in the creation of mixed-ability classes, or ability grouped classes.

1.6.2 **Mixed-ability grouping** : The National Middle School Association (NMSA) Research Summary Number 6 (2001:1) defines mixed-ability grouping as a form of grouping which results in students of varying intellectual abilities learning together. In this present study mixed-ability grouping refers to the assigning of students to classes, resulting in the creation of classes having students of wide ability ranges, i.e. high, medium and low achievers, so that each class will have an assortment of students having As, Bs, Cs, and Ds in the Primary School Leaving Examinations.

1.6.3 **Setting** : Setting is a system of grouping students according to their attainment in a particular subject (Ireson et al. 1999:2). In the context of this study, setting will be used interchangeably with *ability grouping, homogeneous grouping, tracking, streaming* and *banding*.

1.6.4 **Instruction** : Gamoran, Nystrand, Berends and LePore (1995:689) view instruction as how teachers and students interact. For the purposes of this study, instruction is interpreted as any purposeful activity on the part of a teacher that is responsible for changing a student's behavioural, cognitive, affective, and/or

perceptual repertoire. Teaching and instruction are thus regarded as synonymous in this study. In this study, teaching is seen in its widest form to include facilitation. Teachers will sometimes have to do direct teaching (transmission of knowledge) and sometimes facilitate (transaction and transformation models). (Refer to Miller and Seller 1985: 7-8; 56; 110; 167.)

1.6.5 **Effective instruction**: According to Kyriacou (1997:5) effective instruction is teaching that successfully achieves the learning by the students intended by the teacher. This is the instruction that creates learning performances that meet reasonable instructional objectives. It may take on a great variety of forms or structures but always must have the function of producing demonstrable learning gains in relation to instructional objectives. In the context of this study, effective instruction refers to effective teaching, i.e. teaching which leads to the achievement of intended educational aims and objectives.

1.6.6 **Teaching methods**: These are teaching strategies chosen and used in the classroom (Bourdillon and Storey 2002:11). For the purposes of this investigation, teaching methods and teaching strategies are considered as being synonymous.

1.6.7 **Junior Secondary School Level**: According to the Revised National Commission on Education: (Republic of Botswana 1994:6) this refers to the first three years of secondary education (forms one, two and three). It is part of basic education in the Botswana context.

1.6.8 **Botswana**: This is an autonomous, democratic country that was once a British protectorate until 1966 (Changu 1998:4). The education structure consists of

seven years of primary schooling, three years of junior secondary schooling and two years of senior secondary schooling. Tertiary education ranges from one to three years for post-secondary diploma courses and from one to four years for undergraduate first degrees. Although the students sit for the Primary School Leaving Examination when they are in standard seven, there is automatic progression into form one. This progression is responsible for the mixed-ability presently prevalent in the junior secondary schools. Progression into form four depends on the Junior Secondary School Examination Results, whose examinations students sit for in form three.   More details on Botswana's education are provided in Chapter Four.

Botswana is now a Middle Human Development country and is one of the fastest growing economies in Africa. The 2001 census pegged the population at one and half million.   Botswana is a landlocked country situated in Southern Africa. Its total area is 582 000 kilometre squared: National Development Plan 8 (Republic of Botswana 1997:3). It shares boundaries with Zimbabwe to the north, South Africa to the south and south east, Namibia to the west and Zambia to the northwest. Citizens of Botswana are called *Batswana* - readers may come across this word in some citations.

1.7   RESEARCH PROGRAMME

The investigation in this study concerns itself with how mixed-ability grouping can be

made use of to achieve effective instruction at the junior secondary school level in Botswana. This study is divided into seven chapters. In Chapter One the researcher discusses the background to the problem. Entailed in the background to the problem, are the issues of students' academic diversity and its organisational implications for instructional purposes and awareness of the problem. After the background to the problem, the statement of the problem, sub-problems that guided the study and the aims and objectives of the study are discussed. The concepts that are used in the study are also clarified in this chapter. These concepts are grouping, mixed-ability grouping, setting, instruction, junior secondary school, teaching methods and Botswana. Finally, the researcher provides details on the methods of investigation that were used in the study.

In Chapter Two the following concepts; ability, mixed-ability grouping and ability grouping are discussed. Attention focuses on the definitions of these terms, the philosophy underpinning the mixed-ability movement, advantages and disadvantages of mixed-ability and ability grouping, and psychometric tests and teacher assessments as placement assessments. Organisational and instructional competences needed by teachers in order for them to teach mixed-ability classes effectively, and teaching strategies that are compatible with mixed-ability classes are also discussed in Chapter Three.

In Chapter Four the researcher focuses on education in Botswana. Discussion centres on the education structure and how it impacts on the learning of students of different abilities and government policy on mixed-ability grouping at the junior secondary school level.

The present practice regarding the teaching of mixed-ability classes in Botswana and the philosophy and aims of education are also examined.

In Chapter Five the empirical investigation is discussed. Details pertaining to sampling, characteristics of teachers whose evidence forms the bulk of the thesis, data collection, and how data were processed are provided in this chapter. The empirical investigation focuses on the following:

- The research methods used, i.e. focus group interviews, follow-up interviews and lesson observations.

- The advantages and disadvantages of mixed-ability grouping as perceived by teachers.

- Teaching methods that teachers use for the teaching of mixed-ability classes.

- Difficulties teachers have encountered in the teaching of mixed-ability classes.

- Teaching methods that teachers think should be used for teaching mixed-ability classes.

Data were collected from teachers who were teaching the following core subjects: Agriculture, Mathematics, Social Studies, English, Science and Setswana. Use was made of focus group interviews, follow-up interviews as well as lesson observations to collect data.

Chapter Six presents the research findings from the empirical phase of the study, while

Chapter Seven concludes the study. Contained in this chapter are the summary of the study, implications, recommendations and conclusions. The contributions and limitations of the study are discussed, and finally, areas for further research are suggested.

CHAPTER TWO

THE GROUPING DEBATE

2.1 INTRODUCTION

One of the most controversial aspects of teaching is dealing with the many individual differences inherent in students in the classroom (Muijis and Reynolds 2001:142). Initial research into individual differences in ability was based on the theory that people possess global intelligence, which is an accurate predictor of students' performance in school subjects. However, Muijis and Reynolds (2001:142) identify two reasons which discredit this initial conceptualisation. First, research has shown that students can exhibit different levels of academic achievement in different subjects, thus challenging the view of the primacy of global intelligence. This has led to the theory of multiple intelligences which posits that rather than there being a single intelligence, which is related mainly to cognitive ability, there exists a variety of intelligences. Second, rather than focusing on intelligence or ability, researchers have increasingly begun to divert attention to differences in learning styles which are posited to affect the way people prefer to learn and hence achievement.

Notwithstanding the above considerations, logic, emotions and research often clash in the longstanding ability grouping debate (Hopkins 1997:1). Researchers and scholars have struggled for decades to get answers to questions pertaining to the organisation of

students for instructional purposes. According to Kulik (1992:1) and Simmonds (1998:3) some of the recurrent questions in this debate are:

- Does anyone benefit from the different grouping approaches?

- Who benefits most?

- Do the different grouping systems harm some students? If they do, how? How much harm is inflicted and why?

- What messages do students get by being placed in low ability classes?

- Why must students in low ability classes operate from a discourse of deficit in a culture committed to empowering all students?

Research reviewers have never reached consensus on answers to the above germane questions. For every reviewer who has concluded that some system of grouping is helpful, another has concluded that it is harmful. Researchers such as Slavin (1990:13), Oakes (1992:15), and Boaler (1997:154) affirm that ability grouping may be discriminatory, elitist, and detrimental to the learning opportunities of other students. Others argue, however, that mixed-ability grouping may relegate academically talented and gifted students to classes in which they may also experience detrimental affective and social effects (Dean 1997:1). These contesting views are consistent with Harlen's (1997:1) observations that:

> Reviewing research on the effects of grouping students by ability could easily generate cynicism about educational research. There is something to please everyone - some studies lend support to grouping by ability, some point in the opposite direction and many show that there is little difference that can be ascribed *only* to the type of grouping.

Why is there so much ambiguity in research findings? Against such a background of empirical controversies, how can readers, educators, policymakers and scholars make sense of conclusions from educational research? Kulik (1992:1) posits that research inconclusiveness depends on how researchers treat the issues of grouping, curriculum and pedagogy in their studies. He points out that the key distinction is among (a) programmes in which all ability groups follow the same curriculum, (b) programmes in which all groups follow curricula adjusted to their ability and (c) programmes that make curricula and other adjustments for the special needs of highly talented learners. Expatiating on the reasons for ambiguity, Harlen (1997:1) notes that:

> . . . much ambiguity arises because this is a very difficult area of research. Studies of setting or streaming generally involve comparison of classes containing a full range of ability with those in which pupils are more similar in ability. However the relative performance of pupils is affected by many variables other than the mix of ability; for example class size, ability range (in some studies, classes labelled mixed-ability may have been more similar in ability than classes labelled as ability based in other studies), teaching methods and materials, the degree of differentiation, the attitude towards mixed-ability teaching and the curriculum content.

It is necessary to become familiar with the concepts that are often encountered in the grouping debate (i.e. understand exactly what these and related concepts entail), before the grouping issue can be investigated and commented on in the context of Botswana education. It is against this backdrop that in this chapter the researcher revisits the grouping debate. Discussion focuses on definitions of ability grouping, mixed-ability grouping, advantages and disadvantages of the two grouping methods as documented in empirical studies. The researcher also considers mechanisms used in grouping students,

as well as the strengths and weaknesses of these mechanisms (i.e. use of psychometric tests and teacher assessments). The relationship between mixed-ability, ability grouping, equality of educational opportunities and equity is also discussed.

2.2 A BRIEF HISTORICAL BACKGROUND TO THE GROUPING OF STUDENTS FOR INSTRUCTIONAL PURPOSES

2.2.1   From ability grouping to mixed-ability grouping

Most literature on grouping has British and American origins, possibly because researchers and scholars from America and the United Kingdom were forerunners followed by the rest of the world in challenging ability grouping. Basing on this logic, the researcher reviews ability grouping's historical developments in the American and British context. It is assumed that grouping developments elsewhere are a replica of the American and British experiences, owing to the influence the education systems of these states have on the global educational arena.

In America, Lockwood and Cleveland (2001:2) point out that ability grouping can be traced back to the pervasive mythology of biological determinism and the advent of IQ testing. They trace ability grouping to the period of World War 1, when Alfred Binet's intelligence testing was embraced by American psychologists and the burgeoning armed forces in America. In 1917, the military used standardised IQ tests to sort potential officers from enlisted men, according to perceived mental capabilities. Shortly thereafter,

schools began to test and group students by ability on the premise that the economy required workers with different knowledge and skills.

Lockwood and Cleveland (2001:2) further point out that as the time passed, schools intensified the use of testing to separate students into different ability levels as a matter of policy, despite the Brown versus the Education Board decisions of the 1950s and the civil rights marches in the 1960s and busing in the 1970s. The basic premise of Brown versus the Education Board case was that desegregation should be used to remedy discrimination (Welner and Oakes 1996:458). According to Spring (2001:71) two important objectives of the Brown case were: First, to show that the climate of the times required an end to segregation laws. Second, to show that the separate but equal doctrine contained a contradiction in terms - that is, separate but equal were inherently unequal. In the 1980s, the policy of ability grouping began to come under scrutiny. With the succession of publications that included *A Nation at Risk (1983), A Nation Prepared (1985), and Workforce 2000 (1987)*, it became clear that the world was changing, and that the education system needed to change with it accordingly (Spring 2001:72).

In 1985, Jeanie Oakes published *Keeping Track*, a scathing condemnation of ability grouping in schools. Lockwood and Cleveland (2001:2) write that Oakes described the problem of ability grouping, i.e. why it was interfering with a quality education for many students, and called for a halt in the practice. Since its publication, Oakes and like-minded educators have been contributing to a gradual change in the policy and practice of ability grouping in the public schools.

Good and Brophy (1997:411) write that history provides evidence that American courts supported the view that schools could deny enrolment to students who might interfere with classroom procedures because of deficiencies in mental or physical functioning, poor health, flagrant misbehaviour, pregnancy, or even unconventional clothes or personal appearance. The view then was that school was a privilege for those who fulfill special criteria, not a right for all. Beginning in the 1960s and increasing in the 1970s, this historical pattern was reversed as courts began to stress public education as a universal right.

These pressures for change culminated in the promulgation of Public Law 94-142, which came into force in 1977 (Good and Brophy 1997:411). The essence was to educate children in less restrictive conditions; minimise the extent to which students will be labelled and treated as different and to maximise the degree to which they function as ordinary students. However, change has been slow in coming as evidenced by the number of court cases for and against grouping involving different individuals and groups of individuals versus the education board in America. According to Welner and Oakes (1996:466) mixed-ability grouping must overcome significant barriers if it is to be successful.

A review of the British grouping literature may result in concluding that it seems as though the grouping of students for instructional purposes could be traced as far back as Plato's times. Holmes (1985:2) states that the 19th century European national systems of education were elitist. In the United Kingdom during the 1950s, almost all schools were

streamed and students were differentiated within, as well as between schools (Boaler 1997:151). The grouping was underpinned by political, psychological and epistemological theories derived from Plato's Republic. For Plato, most individuals inherited the qualities of their parents. They were consequently innately unequal and should fit into niches appropriate to their skills. Translated into European educational policies and practices, Plato's views justified a liberal education for the potential leaders in appropriate subjects, for example, Mathematics, Music and Classical languages. For the rest, training needed to fit individuals efficiently into their occupational niche was all that was necessary.

Boaler (1997:152) writes that findings by Jackson (1964) and the Plowden Report of 1967 recommended the abolition of all forms of ability grouping. The Plowden Report centred on compensatory education, a scheme that was meant to compensate for the perceived cultural deficit of black and working-class students (Kirby, Kidd, Koubel, Barter, Hop, Kirton, Madry, Manning and Triggs 1997:294). The shift towards mixed-ability grouping followed the realisation that ability grouping created and maintained inequalities. The stream or set that students were placed into, at a very young age, almost certainly dictated the opportunities they received for the rest of their lives. Ireson and Hallam (2001:9) aptly capture the grouping development from the British perspective by stating that:

> . . . streaming was the dominant form of pupil organization in secondary schools and large primary schools during the middle part of the twentieth century. Its popularity decreased when findings from research demonstrated that it had a negative impact on pupils' self-esteem, attitudes and engagement without any significant positive impact on

pupil attainment. Educational values also shifted away from concern for the attainment of the most able children towards a concern for equality of opportunity and a desire to break down divisions within society. There was also increasing criticism of the tests used to allocate pupils to ability groups. By the time the National Curriculum was introduced, mixed-ability grouping was the most common practice in primary schools and also in the first year of secondary school. There are now pressures to increase the amount of ability grouping in primary and secondary schools, particularly through the use of setting, rather than streaming. . . . These pressures are fuelled by the introduction of market forces in the education system and by the competitive global market.

Basing on the relationship between Western education and the education systems in most African countries, it can be concluded that the historical developments of the grouping of students for instructional purposes witnessed in the Western countries have been replayed in most African countries. This could be attributed to colonisation. Furthermore, it can also be concluded that despite the amount of research reports chronicling the detrimental effects of ability grouping, and the enactment of pro-mixed-ability grouping policies, ability grouping may still be rife in some educational institutions. Thomas and Loxley (2001:4) point out that critical theorists might view the resilience of ability grouping practices as a clear demonstration of education's inevitable reproduction of the existing social system.

As can be discerned from the brief historical development of grouping, when ability and mixed-ability grouping are discussed one often comes across the following terms: equity and equality of educational opportunities, social justice and fairness. Without a discussion of these concepts, the grouping debate cannot be fully construed and appreciated. As argued by Christopher and John (1999:87), questions of equality in education cannot be a matter of complete indifference to educators. Discussion in the

next section focuses on grouping and equality of opportunities in education.

2.2.2   GROUPING AND EQUALITY IN EDUCATION

The question of equality is an issue in the grouping debate. The issue of equality in education seems to revolve around which organisational approach (i.e. ability grouping or mixed-ability grouping) students in secondary schools should be subjected to. There seems to be an understanding that there is a correlation between the type of grouping that students are subjected to and equality of access to educational opportunities (Esposito 1973:163). This position is supported by Husen (1979:84) who argues that the major argument in favour of ability grouping has been that such an approach caters better for able students and on the whole is conducive to the preservation of standards at all levels of ability. The main argument in favour of mixed-ability grouping has been one of social justice and equity, since it is expected to enhance educational opportunities for all students, including those from lower social strata (Shield 1996:296).

Bishop (1989:115) points out that in the earlier conceptualisation of equality, equality of education tended to be confused with identical education for all students regardless of their individual differences. This form of equality is referred to as social Darwinism: where everyone has the right to compete on equal terms with everybody else for access through the formal educational system to various social positions (Husen 1979:83). However, Bishop (1989:117) argues that even if students received the same pre-school education, and have identical family and social backgrounds, equality of education would

not be achieved because individuals vary, as a result of inborn, inherited, genetic factors; not only in their intellectual capacities but also in their ability to take advantage of the opportunities presented to them.

Basing on the above facts, it can be concluded that instead of providing identical schooling and education, educators should adopt the principle of equality of opportunity in education - where everyone, regardless of social origin and individual differences, should have full access to education within the limits of his/her talents and capabilities. Such an approach may invariably result in preferential treatment of gifted students. However, such preferential treatment of high talent runs counter to some egalitarian doctrines (Loveless 1999:30). According to Dean (1997:1) proponents of mixed-ability grouping object to ability grouping on the pretext that it is being unfair to students who are not placed in high ability classes. Cohen, Manion and Morrison (1996:203) further bolster the cause for mixed-ability grouping and equality by arguing that:

> The evidence is unequivocal in the nature/nurture debate that to prevent the achievement of potential by spurious reference to the nature side of the argument - that students are intrinsically or genetically slow or bright overall - is grossly to reduce by distortion the considerable effects of the nurture side of the argument. . . . excellence and abilities may have genetic limits but we have to go a long way before we reach them.

Grouping of students by ability raises equity concerns in that students from lower socio-economic status backgrounds who tend to perform badly on national tests are likely to be excluded from the chance to participate in academic education and, therefore, in higher education (Cavazos 1997:1; Muijis and Reynolds 2000:143). Because of the glaring

inequalities emanating from ability grouping (Cavazos 1997:1), the debate should shift from whether to group by ability or not, to how all students with their individual differences should be educated.   However, Loveless (1998:12) questions whether inequity and malfeasance are actually inherent in ability grouping or what opponents of ability grouping conceived as such, are just arbitrary manifestations of bad practice and human error.

Having mixed-ability classes ensures equal educational opportunities for all, but is it fair to all students?   Proponents of ability grouping doubt whether mixed-ability grouping will promote social equity. Loveless (1999:29) cites a study by Argys, Rees and Brewer (1996) whose findings were that in mixed-ability classes low ability 10th graders gained about five percent on achievement tests. Average students lost two percent from mixed-ability grouping, and high ability students lost about five percent. Basing on these findings, Loveless (1999:29) wonders whether lowering the achievement of minority students and students from disadvantaged backgrounds who are assigned to and excelling in high and average tracks, should further the cause of equity. Sergiovanni, Burlingame, Coombs and Thurstone (1987:8), Dean (1997:1) and Delisle (1999:80) also argue that mixed-ability grouping is unfair.   Sergiovanni et al. (1987:8) equate mixed-ability grouping to golf handicaps. They point out that some players are done injustice to because they have a better talent or because they practiced more.

After considering the above, one may ask if learners of different social, emotional and academic abilities should be boxed in the same classes or treated equally even though

some will definitely only be able to progress with more attention? Similarly, should some students be relegated to second-class citizens by being denied access to an enriched curriculum, school resources, high quality instruction and learning environments that are conducive due to some subjective and spurious social construct called ability? Basing on these questions, it will seem as if the issue of equality in education throws present systems of education into a dilemma. According to Bishop (1989:119) this dilemma emanates from the fact that while education systems seek to provide equality of opportunity, their very structures are such that they are bound to create inequalities.

It can thus be concluded that perhaps the only way to provide real equality of educational opportunity is to provide multiple options based on different criteria and values that are not ranked along only one dimension. This could be achieved through mixed-ability grouping that is complemented with differentiated instructional strategies as well as an assessment method that takes cognisance of the students' individual differences. As argued by Fiedler, Lange and Winebrenner (2001:93), education should not boil down to a choice between equity and excellence. In similar vein, Thomas and Loxley (2001:118) state that the organisation of institutions such as schools should lighten and reduce those inequalities that arise from birth or circumstances, rather than exaggerate them.

In an attempt to equalise educational opportunities, educators have employed different approaches to grouping. Most commonly used approaches are ability grouping (streaming/tracking), within-class ability grouping, cross-grade grouping (Joplin Plan) and mixed-ability grouping. It is prudent that an overview of these grouping approaches be provided before dwelling in detail on mixed-ability grouping and ability grouping.

The general overview of the commonly used grouping practices is discussed in the following section.

2.3   THE COMMONLY USED GROUPING PRACTICES

2.3.1   Whole-class instruction (Mixed-ability grouping)

In this grouping plan, students are taught as a single, large group (Lou et al. 1996:423). The hallmark of the grouping plan is uniformity of instruction.   In whole-class instruction, the emphasis is on teacher explanations and encouragement, rather than on peer explanations and encouragement. Mosteller, Light and Sachs (1996:800) point out that this grouping plan produces mixed-ability classes, because the ability levels of the students within each class vary considerably.

2.3.2   Between-class grouping (XYZ skill grouping/homogeneous grouping within grades)

According to Mosteller et al. (1996:800), in this grouping approach, students in a grade are stratified, usually into two or three levels of skills, such as high, medium, and low. This grouping approach is achieved by using prior achievement in the subject being taught, or by performance on a general aptitude test, or it may be based on some overall rating by the teacher or school. There is slight adaptation of the curriculum to the ability level of the students in different classes. Good and Brophy (1997:405) refer to this

grouping plan as grouping by ability or achievement level. They further note that while each class is taught the same curriculum, the higher-ranking classes are taught at a greater depth and breadth than the low-ranking classes.

Good and Brophy (1997:405) identify another variation of between-class ability grouping. They call it grouping by curriculum, which is commonly referred to as *tracking* in the United States and *streaming* in Great Britain. In this approach, instead of just introducing variations in the depth and breadth of instruction in the same curriculum, tracking provides different curricula for students in different tracks. Assignment of students to tracks is done on the basis of test scores, grades, accumulated credits in prerequisite courses and at times the wishes of parents and students.

2.3.3   Within-class ability grouping (Homogenous grouping within classes)

This is when students are assigned to ability groups within a class (Hallinan 1992:114; Lou et al. 1996:425; Good and Brophy 1997:415). Mosteller et al. (1996:801) state that while the teacher teaches one ability subgroup a new concept, for example, other ability level subgroups work on their own. The teacher attends to different ability levels separately. After attending to all the different ability levels, the teacher may have little time to discuss the same or new work with the whole class.

2.3.4   Cross-grade grouping (Joplin Plan/homogenous grouping across grades)

According to Mosteller et al. (1996:800), in this approach, teachers may abandon the distinction between grade levels and focus instead on each student's skill level. For example, to handle variation in reading, cross-grade grouping might form classes for nine different levels of reading skill. Working on reading, each student joins other students who have the same skill that he/she has achieved, regardless of original grade level. When the reading lesson is over, students revert to their original grades.

Basing on the above discussion, it can be concluded that whatever grouping approach one employs, the bottom line is that students are either grouped by ability or they are mixed-ability grouped.   These two major approaches are discussed below in more detail. Discussion focuses on the various definitions of the approaches and their respective advantages and disadvantages.

2.4   ABILITY GROUPING

2.4.1   Ability grouping defined

According to Richardson (1993:70) ability grouping is a method of assigning students to separate classrooms, so that students of a particular age and grade who function similarly in learning achievement and capability are placed together for instruction. Simmonds (1998:2) also conceptualises ability grouping as a condition in which stronger and weaker

students are separated into groups for instruction. It is evident that in both practices the underlying assumption is that students will be placed in an appropriate developmental group that is skill specific. All other things being equal, this model allows for students to be moved between groups as warranted by their demonstrated competences. Ability grouping is accomplished basing on previous student performance, test scores and the subjective assessment by educators on students' competences. This grouping plan is sometimes referred to as *homogeneous grouping, tracking, streaming, setting or banding,* although these terms may carry somewhat different meanings.

Setting (referred to as *regrouping* in the American literature) is a system of grouping students according to their attainment in a particular **subject**. A student may be in a high set for one subject and a lower set for another. Setting may be carried out across a whole year group or within ability bands or timetable halves. Setting differs from streaming, a system in which students are allocated to classes on the basis of a test of general ability and remain with their classes for most lessons. It is a system in which students are grouped into academic streams that are differentiated by perceived intellectual rigour. *Honours* and *Advanced* classes are two examples of streamed classes (Ireson et al. 1999:2). Tracking refers to broad, programmatic divisions that separate students for all subjects (Simmonds 1998:2).

Ability grouping may assume a number of forms. In some cases, the classroom of students may be heterogeneous, but within the class students are subdivided according to learning ability (refer to section 2.3.3: Commonly used methods for grouping students).

In other cases, classes are made up of similar ability. But even more rigid grouping systems are obtained in some places where students with different abilities are sent to different schools, for example schools which track students into *academic, general and vocational programmes*.

While acknowledging that the above discussed ability grouping systems hold somewhat different meanings in different schools and educational systems, because they are tied to unique, unspoken, political agendas inherent within respective cultures for learning (Simmonds 1998:2), they are used interchangeably in the context of this study, since they all result in some homogenisation of classes. Basing on the above definitions of ability grouping, it can be concluded that students are grouped according to their attainment or achievement. For example, in the case of Botswana this could be accomplished by basing grouping on the students' Primary School Leaving Examination results, as they are admitted into form one.

2.4.2   Arguments in favour of ability grouping

2.4.2.1   Academic achievement outcomes

According to Turney (1931) (in Slavin 1993:13) ability grouping has the following advantages:

- It permits students to make progress commensurate with their ability.

- It reduces failures.

- It helps to maintain interest and incentive, because bright students are not bored by the participation of the dull students.

- Slower students participate more when not eclipsed by those much brighter than themselves.

- Existing literature supports acceleration programmes and special courses for gifted students.

Ability grouping has support beyond the classroom. This is not surprising in societies where most adhere to a meritocratic philosophy (Marcus and Johnson 1998:1). Parents who have faith in the placement criteria, who view it as fair, reliable and objective, tend to advocate for the approach. They see the positive effects of providing extra help to the slower groups and of pushing the advanced groups. They believe that instruction that sets appropriate challenges to students based on their ability motivates all to achieve. Many students also see the value of the homogeneous approach, for the same reasons.

However, ability grouping on its own cannot reduce failure as argued by proponents of ability grouping. If anything, appropriate teaching and assessment methods should complement grouping strategies (Kulik 1992:1). In addition, the fact that ability grouping has support beyond the school buildings shows that parents whose children are in high ability classes will try to guard this constituency jealously to ensure that those students whom they think do not deserve to be in such classes are excluded. This view is shared by Simmonds (1998:1), who opines that while exponents of ability grouping

legitimise its practice in the context of intellectual merit, there is stronger evidence to suggest that the practice is more a function of parental privilege than student ability.

2.4.2.2   Organisational and instructional strategies

Turney (1931) (in Slavin 1993:13) argues that grouping students by ability makes teaching easier and individualises instruction to small, slow groups. Green. (1999:1) and Boaler (1997:153) corroborate this view by arguing that teachers can adapt their pace, style and content to particular ability groups. This is believed to create homogeneity among students and enable more whole-class teaching.

Marcus and Johnson (1998:1) in their consideration of the ability grouping debate, raise the following as some of the arguments for ability grouping put forth by its proponents:

- Pitching instruction at the level of students permits them to master the content and to develop a positive, success-oriented self-image.
- It helps to orient students to the respective patterns of learning that will be required of them after high school.
- It is an efficient model for teachers and it reduces student anxiety.
- Many students express comfort in learning alongside others who share the same characteristics. High achieving students appreciate that slow learners and students who present disciplinary problems do not stall learning. In the same vein, low achievers appreciate that they are not expected to perform at the same level as high

achievers.

Basing on the above, it can be concluded that the argument that ability grouping makes planning and teaching easier reinforces the perception that most teaching is teacher-centred.   Yet students' differences, needs, styles of learning, aptitudes, among others, should be the central organisers in the teaching-learning process, not the teachers' preferred teaching styles.

2.4.2.3   Affective and social outcomes

Kulik and Kulik (1989:313) point out that in general, effects of grouping by ability on self-esteem are nebulous and vary according to program type. In situations having high-average-low groups, small overall effects on self-esteem were observed, but effects tend to be slightly positive for low-ability groups and slightly negative for high and average ones. Limited studies on remedial programs by Kulik and Kulik (1989:313) provide evidence that ability grouping has positive effects on the self-esteem of slow learners. Kulik and Kulik (1989:313) contrast the relative importance of the effects of labelling versus the effects of daily classroom experiences. They suggest that the labelling (by placement of a student into a low-medium-high group) may have some transitory impact on self-esteem, but that impact may be quickly overshadowed by the effect of comparison that the student makes between him/herself and classmates each day in the class. The public display of academic deficiencies has a similar effect in mixed-ability classes as labelling caused by being placed in low ability classes (Farmer 1996:2; Loveless 98:19).

In fact Farmer (1996:2) argues that ability grouping has positive effects on slow learners receiving instruction in ability-grouped classes.

Three major conclusions can be drawn from the literature reviewed on ability grouping. The first one is that the main argument in favour of ability grouping is academic. Arguments such as grouping narrows the ability range, makes planning and instructional delivery easy and fast learners are not held back by slow learners, imply improved academic performance. The second one is that if teachers can gear instruction to the ability levels of all students and give them challenging work commensurate with their abilities, then all students regardless of their ability will benefit from ability grouping. Unfortunately this ideal is not always the case. Finally, it can also be concluded that teachers advocate for ability grouping not necessarily for the benefits accruing to students, but for the teachers' benefits. Examples of such benefits are reduced range of abilities to deal with, easy preparation and instructional delivery and absence of learners with special needs from the regular classrooms.

2.4.3   Arguments against ability grouping

2.4.3.1   Academic achievement outcomes

Good and Brophy (1997:405) assent that all other things being equal, ability grouping should result in high achievement by all the students in different ability groups. They argue that reducing class heterogeneity should make it possible for teachers to meet more

of their students' needs more often and thus to teach all students more effectively. On the contrary, the practice paints a gloomy scenario, since studies have shown that the effects of ability grouping on achievement are weak and mixed (Kulik and Kulik 1989:312; Oakes 1992:13; Gamoran 1993:3). According to the National Association of School Psychologists (2002:1) and Sukhnandan and Lee (1998:1) extensive research on ability grouping has documented the following negative effects:

- Students with lower ability achieve less in lower track classes than in mixed-ability classes.

- Students with higher ability do not achieve more in tracked classes than in mixed-ability classes.

- Tracking students reduces the likelihood that students placed in lower tracks will choose college preparatory courses.

According to Good and Brophy (1997:407) grouping by ability results in the creation of undesirable peer structures in low-ability classes. The argument is that in normal mixed-ability classes, high achievers as well as socially adjusted students tend to assume academic peer leadership, resulting in each class becoming a learning environment. Ability grouping deprives low-ability classes of such conducive learning environments. Grouped in their own classes, low-achievers may respond to their low status defensively by refusing to apply themselves fully to their studies (Gamoran and Berends 1987:430).

Mason (2001:3) puts it that where schools group according to ability, two processes are at

work: On one hand teachers differentiate by grouping students according to their ability, on the other hand as a reaction to this process, the students themselves polarise - they divide themselves among those who accept the normative culture of the school, and those who reject it. Related to the above argument is the question of climate in the different ability school tracks. The prevailing situation is that in low-achieving classes, tight controls, observation of does and don'ts and restrictive climates prevail. Contrary to this, the atmosphere in high-ability classes is more facilitative and conducive to learning.

The absence of gains in ability grouped classes may be attributed to the *masking effect* of ability grouping (John 1984:165; Oakes and Lipton 1999:141). This effect manifests itself where teachers take it that the organisational process 'ability grouping' has also solved the pedagogical process, the actual 'instructional delivery'. As a result, teachers may no longer individualise their instruction or pitch the instruction to a given ability level. It can therefore be concluded that some students may lag behind due to differences in motivation, readiness and learning styles. In addition, achievement depends on other variables like the social context of teaching and learning, which if not catered for might impact negatively on the effectiveness of instructional delivery. As argued by Green (1999:1), ability grouping does not have a strong or uniform impact on students' achievement, there appears to be a complex set of interactions between ability grouping, teachers' attitudes, curriculum subject and pedagogy.

2.4.3.2   Organisational and instructional strategies

Gamoran et al. (1995:688) argue that sociologists conceive grouping students by ability as a response to diversity among students. They cite Thompson (1967:70) who explains that under norms of rationality, organisations facing heterogeneous task environments seek to identify homogeneous segments and establish structural units to deal with each. While Thompson's argument may apply to some organisations, this logic creates two problems for educational organisations. According to Gamoran et al. (1995:689) the first problem, is equating students to raw materials to be processed by the school system (the education factory).   When these students are grouped into ability groups, the act of dividing them is not a neutral act, in addition to being divided on the basis of academic achievement; they are also divided according to family background, race and ethnicity. The ultimate result will be that differentiation for the sake of organisational efficiency, conflicts with the ideal for social integration in schools.

The second problem concerns equating instruction with technology, where grouping is purported to result in appropriate instruction. It should be noted that teaching is a complex technology, which should not be narrowly construed as a one-way act in which teachers merely apply treatment to objects, similar to laboratory experiments.   In teaching, teachers interact with students, who are not inert raw material, but sentient, intentional beings (Gamoran et al. 1995:689). The widely held notion that grouping students according to their ability makes it possible for teachers to modify instruction as per the dictates of the groups does not hold water, since studies show that students in

low-ability classes may not be taught at all (Good and Brophy 1997:264). They further contend that:

> . . . teachers tend to teach high and low classes differently, compared with their behavior in high-track classes, many teachers in low-track classes are less clear about objectives, introduce content less clearly or completely, make fewer attempts to relate content to students' interests or background and are less receptive of students' views.

Gamoran and Weinstein (1998:387) doubt whether it is possible to create classes that actually contain a narrow range of student ability. Their ambivalence stems from the observation by Reid, Clunies, Goacher and Vile (1981:25), that there is substantial variability within groups and overlap between groups, rendering problematic the idea that ability grouping makes it possible to target instruction to students' ability levels. In recent years, teaching and learning approaches are informed by the findings of cognitive psychologists that emphasise the social nature of learning (Armstrong, Henson and Savage 2001:23). According to Shield (1996:296) learning may be more successful in cooperative, natural and social situations.

Good and Brophy (1987) (in Simmonds 1998:5) have documented a myriad of behaviours in which teachers differentiate low from high achieving students: (1) giving less time to low achieving students to respond to teachers' questions, (2) giving low achievers answers, (3) calling on someone else when low achievers are slow to respond, (4) failing to repeat or rephrase questions, (5) rewarding inappropriate behaviour or incorrect answers, (6) criticising low achievers more often for failure, (7) praising low achievers less frequently, (8) interacting less frequently with low achievers, (9) calling on

low achievers less frequently in class, (10) demanding less from low achievers, (11) interacting with low achievers more privately than publicly, (12) having less friendly interactions with low achievers; including less smiling and fewer other nonverbal indicators of support, (13) providing briefer and less informative feedback to the questions of low achievers, (14) evidencing less use of effective but time consuming instructional methods with low achievers when time is limited, and (15) evidencing less acceptance and use of low achievers' ideas. These practices constitute what Simmonds (1998:5) calls pedagogy of shame. Simmonds (1998:5) goes on to argue that:

> While these behaviors (in-and-of-themselves) do not necessarily characterize ineffective teaching (there is no reason to assume that master teachers *do* [or should] respond to *all* students equally) they do provide a frame of reference that helps teachers be cognizant of their part in communicating a learned pedagogy of shame to "undeserving" students.

Mason (2001:4) wonders whether educators should continue to divide students into different classes according to ability, given that ability grouping appears to have costs that are particularly heavy for the least academic. Perhaps as educators debate on how best to cater for individual differences they should take note of Davies's (1975:36) suggestion that theorising is pointless, however strong the case put forward is, if educators are unable to translate their theories into effective practice at classroom level. It is insufficient merely to change the structure if educators cannot adapt their teaching and organisation in order to gain the maximum possibilities from the change. Methods used formerly will not invariably be useful in the new situation; educators must rethink what they are trying to do and ask themselves honestly whether what they are doing when they are with a class, when they mark, when they report on their students, when they

organise their schools really does marry with their objectives.

2.4.3.3   Affective and social outcomes

Literature is replete with evidence that ability grouping is linked to social labelling, negative teacher attitudes and low expectations (Good and Brophy 1997:407). The low expectations that teachers have of their students are not without their effects. Mason (2001:7) cites Rosenthal and Jacobson who were able to demonstrate these effects in their experiment. Mason (2001:2) further states that:

> . . . it is not clear that the labelling process works in the same way everywhere - variables such as family background, the relationship between teachers and students, the structure of the establishment, may all play a role; nevertheless, it has become one of the best established axioms of the sociology of education that pupils have a greater chance of succeeding when their teachers have high expectations.

Grouping by ability shapes students' identities, status and expectations of themselves. Both students and adults mistake labels such as 'gifted', 'average', 'remedial' and 'learning disabled' for certification of overall ability or worth (Oakes and Lipton 1999:141; Green 1999:1). These labels seem to teach students that if the school does not identify them as capable in earlier grades, they should not expect to do well later. Everyone without the 'gifted' label has the *de facto* label of not 'gifted'. The result is that most students, who could have otherwise excelled, have needlessly low self-concepts and schools have lower expectations. Oakes and Lipton (1999:141) are of the view that very few students or teachers can defy these identities and expectations. In fact, Oakes and

Lipton (1999:140) argue that assigning low-ability students to lower streams becomes a self-fulfilling prophecy - a cycle of low expectations, fewer education opportunities, and poor academic performance. Poor performance then begins the cycle anew, giving additional impetus and justification to the schools to lower expectations and further reduce opportunities. As noted by Marcus and Johnson (1998:1), ability grouping unfairly limits opportunities and creates barriers between children along the lines of race and class.

The relationship between achievement, labelling, self-esteem and self-fulfilling prophecy is aptly captured in the film *'Stand and Deliver'*, directed by Law (1981), which is based on a true story. Prior to the arrival of a new calculus teacher, minority students in an American High School were made to think that they could not do Calculus. The students believed this and made no effort to pass. When the new calculus teacher arrived, he told the students that they could do Calculus and pass like any other students. Initially, students had a negative attitude towards the teacher and the subject. In one lesson, one student is heard saying *'I can't do Calculus, it is not meant for me. You guys you have been with me for two years, you know that I can't handle Calculus'*. The teacher kept on encouraging the class, conveying high expectations, telling the class that Mathematics is the greatest equaliser as well as employing a variety of teaching strategies. In the end, the whole class passed Calculus. As a result, more and more minority students in that particular high school enrolled for Calculus in subsequent years.

Basing on the above, it can be concluded that being placed in a low ability class weighs

heavily on the child. Apart from the label, this act lowers the self-esteem and the morale of the student. It can further be concluded that the negative social effects may culminate in reduced performance in co-curricula activities and other subjects that require dexterity, for example Design and Technology. To compound the situation, the negative social and affective effects impact negatively on teachers as well. Teachers might not be enthusiastic when going to teach low ability classes. It is not uncommon to hear teachers sighing and complaining each time the bell rings signaling the beginning of the lesson to be taught to a low ability class. The net result is an ever-widening academic gap between streams. Unfortunately more often than not, low performance by students in low ability classes is blamed on students' negative attitudes, lack of ability and motivation, but not on organisational, pedagogic and didactic limitations inherent in the school system. Tomlinson (1987:34) explicitly captures this thinking by stating that:

> Critical theorists have suggested that the answers to questions about 'why children fail' might lie as much in the social, economic and political structures of a society as in anything intrinsic to children or 'lacking' in a child. From a critical theorist's viewpoint, it becomes easier to question the deficit model of children, which assumes that negative properties intrinsic to children - low IQ, disability, inability - are wholly responsible for his or her educational failure. It becomes easier to examine the social processes by which 'achievement' is defined. Who for example, decides what achievement is in a society where the highest achievers are almost always white, upper- or middle-class males? Why does being a poor reader *and* working class seem to have much more serious and long-term social consequences than being a poor reader and upper or middle class?

The preceding discussion shows that ability grouping is indeed one of the most controversial topics related to school reform, largely because it is seen by some as a way of perpetuating racial or ethnic inequalities in achievement and social class. Some

researchers suggest that ability grouping of virtually any kind is discriminatory and ineffective and should be abolished. Because of these problems, Hallahan and Kauffman (1997:470) point out that many reformers have suggested that students of all ability levels learn best in mixed-ability classes, in which cooperative learning and peer tutoring, and other arrangements for addressing individual differences in heterogeneous settings may meet the needs of most students. In the following section, mixed-ability grouping, the corollary of ability grouping, is discussed.

2.5   MIXED-ABILITY GROUPING

2.5.1   Mixed-ability grouping defined

The Schools Council Working Group on Mixed-ability Teaching in Mathematics (1977:13) defines mixed-ability grouping as forming classes covering the full ability range, roughly matching that found in the population of the school. It suggests that since any group of students will constitute a 'mixed-ability group', a better term might be '*all-ability range*'. According to the Inner London Education Authority (1976:10) mixed-ability grouping is the organisation of students in such a way that each class in the year group is assumed to have an equal range of attainment. Each class remains together for all subjects, except when separately grouped by sex, (as in physical education), or divided into sub-groups, (as in craftwork). The term mixed-ability is frequently used synonymously with *heterogeneous, unstreamed, non-streamed, natural or unselected groups* (Reid et al. 1981:5).

Esposito (1973:165) defines mixed-ability grouping as the organisation of instructional classes such that a rich mixture of students who differ with respect to test performance level is assured, while Dean (1997:1) views mixed-ability grouping as the opposite of ability grouping, which is the mainstreaming of many students who had previously been labelled 'gifted'. According to Vivian (2001:1) if one teaches a class in which there is a noticeable difference in language level among students or where students have a clear difference in either aptitude, background knowledge, pace of learning or motivation (sometimes all these), one can say he/she is teaching a mixed-ability class.

The cited sources underscore the fact that mixed-ability grouping is the assigning of students to instructional units, which results in each unit having students of varying intellectual abilities. Esposito (1973:165) comments that principles of ability grouping and mixed-ability grouping are essentially at opposite ends of the same yardstick or ability continuum. Inasmuch as ability can theoretically occur only with respect to nominal variables, for example sex, it seems evident that ability grouping serves merely to restrict the range of individual differences with respect to certain continuous or ordinal criterion dimensions, for example reading achievement, mathematics achievement, IQ scores), while mixed-ability grouping tends to expand the range of individual differences on these dimensions.

According to Cohen et al. (1996:202) the notion of mixed-abilities is undergirded by the view that each student possesses multiple abilities in different subject areas. This moves educators away from the psychometric paradigm of a single overall ability in students

that permeates every activity in which they are involved - such that placement in a stream or band fairly reflects a student's overall ability. On the contrary, the argument for mixed-ability grouping is based on the premise that one student may be excellent in Mathematics but having problems in English, therefore to confine students in one stream is to underestimate their many diverse abilities. The argument transcending this study is that mixed-ability grouping can bring about effective instruction since students endowed with different abilities might be in a position to enrich the learning experiences in mixed-ability classes, all other things being equal.

2.5.2   Arguments in favour of mixed-ability grouping

Esposito (1973:166) opines that the bone of contention between proponents of mixed-ability grouping and ability grouping has been in effect, over the question of which grouping plan results in better conditions for teaching and learning. Studies of grouping have focused on academic achievement, social and affective outcomes and classroom instructional strategies in an attempt to determine to what extent different grouping arrangements may be associated with different student outcomes. As noted elsewhere in this study (refer to section 2.2.1: From ability grouping to mixed-ability grouping), grouping by ability used to be the norm, however recent years have witnessed a shift from this segregationist thinking.

Many educators object to creating homogeneity among students on philosophical grounds. Educators who subscribe to this notion are of the view that educational

outcomes should be assessed not only in terms of their efficiency, but also in terms of equity. These educators value diversity, policies of inclusion and practices that meet the needs of all students (refer to section 2.2.2: Grouping and equality in education).

2.5.2.1   Academic achievement outcomes

According to Good and Brophy (1997:412) the arguments raised by proponents of mixed-ability grouping are that:

- Mixed-ability classes are just as effective as homogeneous classes for accomplishing the achievement of other cognitive objectives.
- Mixed-ability classes achieve student-student interaction, which according to social constructivist theories of teaching and learning view learning as a social construction of new understandings accomplished primarily through sustained discussion.

Advocates of mixed-ability grouping argue that seemingly high academic outcomes by students in high ability classes result from enriched curriculum, which if availed to students in low ability classes will yield high achievements, as well. The National Association of School Psychologists (2002:1) states that if properly implemented, mixed-ability grouping offers advantages that are not available in ability-grouped schools. The said association identifies the following academic related benefits that accrue as a result of mixed-ability grouping: First, it promotes higher expectations for student achievement. Second, it enables students to learn from their peers, including students whose

background maybe very different from their own. Third, it emphasises effort more than ability.

Basing on the above it can be concluded that mixed-ability classes appear to provide a favourable teaching-learning context. Students from different experiential backgrounds, with divergent views can undoubtedly enrich discussions and raise the discourse to high academic levels for the benefit of all. The cumulative effect will be that the achievement of students of all levels will improve. The researcher concurs with the documented academic achievement outcomes of mixed-ability grouping and would like to point out that enriched curriculum alone is not responsible for high achievement.   Such a curriculum should be complemented with appropriate teaching strategies that take into cognisance the students' needs as well as learning styles.

2.5.2.2   Organisational and instructional strategies

The National Association of School Psychologists (2002:2) identifies two benefits that mixed-ability grouping has on organisation and instructional delivery: First, all students have equal access to an enriched curriculum and the highest quality instruction schools have to offer. Second, it encourages teachers to accommodate individual differences in students' instructional and social needs. This is contrary to teachers' behaviour in low ability classes where they give students less exposure to essential knowledge and skills (Lockwood and Cleveland 2001:3).

The researcher assents with Gamoran et al.'s (1995:689) argument that there is no

consensus as to what is the best method of teaching. Therefore, it does not necessarily follow that students of the same ability ought to be taught using the same teaching method. On the same note, it is not always the case that students who perform at the same level have the same learning styles and speeds. These variables mean that students must be taught differently. This realisation strengthens the cause of mixed-ability grouping, since this grouping approach encourages teachers to accommodate individual differences in students' instructional and social needs (National Association of School Psychologists 2002:1). This ensures a learner-centred approach which may result in optimising mixed-ability grouping.

The myriad of behaviours documented by Simmonds (1998:5) (refer to section 2.4.3: Arguments against ability grouping), may be responsible for the anti-school culture prevalent in most low ability classes. Therefore it can be concluded that in the absence of low ability classes, teachers will not display such behaviours in mixed-ability classes, if anything, they will behave in a way that will motivate all learners. Probably teacher stress, frustration, burnout and anger at teaching low ability classes are responsible for such behaviours. On a brighter note, one can conclude that mixed-ability grouping affords teachers the opportunity to make their teaching learner-centred, by employing strategies like project method, cooperative learning, and peer teaching. Thus it is presumptive that these teaching strategies may assist students to own the information, process it and transfer it to their long-term memories, resulting in improved academic performance across all the different ability levels (refer to Chapter Three for the discussion on teaching strategies).

2.5.2.3   Affective and social outcomes

Commenting on labelling, Reid et al. (1981:72) report that mixed-ability grouping has the advantages for teachers too in that, without 'bottom' classes you avoid 'bottom' teachers. This may in effect, improve teacher morale and general attitudes towards work, since it has been observed that labelling effects permeate the entire school and social culture (Oakes and Lipton 1999:141). Mixed-ability grouping removes from some teachers the feeling that they were considered within their schools as inferior, as well as providing for them the opportunity of meeting a full range of ability. Teachers dislike teaching low-ability classes, spend less time preparing for them, and give them less varied interesting and challenging activities (Oakes 1992:15).

Mixed-ability classes are more effective for accomplishing affective and social outcomes, such as promoting cultural understanding and pro-social and affective goals (Good and Brophy 1997:412). According to Ireson and Hallam (2001:180) such goals include: encouraging cooperative behaviour and social integration, promoting good relations between students, enhancing student-teacher interactions, reducing some of the competition engendered by structured grouping and providing a sense of continuity and security for primary students when they proceed to secondary school.

Reid et al. (1981:25) point out that the most common reasons cited by school heads who subscribe to mixed-ability grouping concerned the concept of a 'fresh start' and the avoidance of labelling in the early years of children's education. Reference is also made

to results of teacher expectation and attempting to predict performance at this stage, the halo effect, self-fulfilling prophecies, self-perpetuating labelling, writing children off, children's acceptance of a social pattern following labelling, and the need to delay emphasising differences until as late as possible.

From a macro social perspective, Marcus and Johnson (1998:2) and Shield (1996:296) accentuate that in this ever increasingly diverse society, it hardly makes sense to keep young children from developing interpersonal and intergroup understanding that come from the experience and close working relationship with those who are different. The National Association of School Psychologists (2002:2) notes that mixed-ability grouping avoids stigmatising students with lower ability and reduces in-school segregation based on socio-economic status, race, gender, ethnicity, or disability. The main economic argument for mixed-ability grouping is that all children need strengthened education to meet the challenges of the twenty-first century (Marcus and Johnson 1998:2).

The conclusion that can be arrived at from the above discussion is that mixed-ability grouping takes care of the negative effects emanating from ability grouping. Such a grouping approach will breed tolerance; students will appreciate those who are different from them. The approach will also cultivate cooperation, especially if tasks requiring multiple talents and abilities are assigned to students, so that even those viewed as of low academic ability, will at times play leading roles in having tasks accomplished. From the above facts, it can also be concluded that mixed-ability grouping acknowledges and caters for differences among students. This grouping approach is compatible with the

concept of multiple intelligences as propounded by Gardner (Wilson 1998:225). This ensures a learner-centred approach where the teacher may use the students' diversities to make teaching effective. (Refer to section 2.6.3: Grouping and students with special educational needs for a discussion of multiple intelligences.)

2.5.3   Arguments against mixed-ability grouping

2.5.3.1   Academic achievement outcomes

Exponents of ability grouping are of the view that low ability students experience tragic mental and physical elimination in the mixed-ability classes. Such students may fail to make progress (Fuchs, Fuchs and Fernstrom 1993:123). The end result is an ever-increasing gap between student achievements at different performance levels. Generally educators may not feel comfortable about this. The situation becomes hopeless because educators are inclined to think that they are ill-equipped to stand up to the task of dealing competently with the diversity that demographic and policy changes are ushering into the classrooms, they consider themselves unarmed to salvage the situation.

Proponents of ability grouping are concerned by a lack of academic texture and the view that in mixed-ability classes, able students would not be extended (Reid et al. 1981:82). They think that without the stimulation of able peers, the faster ones soon slow down, and the outcome will be that the most able sink to a happy mean and, soon learn to accept a lower standard of work. In support of ability grouping, Collier (1982:48) sums the

shortfalls of mixed-ability grouping as that:

- Teaching mixed-ability classes can only be successful where resources are adequate, without which attempting it results in paying lip service.

- During class discussion, a highly intelligent student can take the discussion beyond the intellectual level of the less able.

- Teaching mixed-ability classes needs substantial extra effort in preparation, working with students individually, and simultaneously monitoring multiple groups or activities within the classroom.

- There is a danger of overrating neat and well-presented work, while it is pedestrian in content, due to the striking contrast with the struggling efforts of the less able.

While not refuting the prevalence of physical and mental elimination in mixed-ability classes as presumed by Fuchs et al. (1993:123), it can be argued that this phenomenon is a result of the teachers' ineptitudeness in handling diversity among learners, and not a result of malfeasance imbedded in mixed-ability grouping as suggested by proponents of ability grouping. If this is the case, students should not be denied valuable learning opportunities in order to cover up for the teachers' lack of appropriate teaching skills. If anything, teachers should acquire the repertoire of teaching skills that are learner-centred, not teacher-centred and will make them function effectively in mixed-ability classes.

2.5.3.2　Organisational and instructional strategies

According to Dean (1997:1), basic to mixed-ability grouping, is the idea that teachers will be in a position to tailor lessons to individual levels of the students in their classes. Dean contends that if done according to book, this can be an effective method of classroom instruction. However, it is rarely, if ever, successful. Most often, teachers end up slowing down their instruction so that all of their students can keep up. In a mixed-ability class, the range of students' cultural and experiential backgrounds, knowledge and skills to which a conventional teacher must respond to is both breathtaking and befuddling. An unavoidable pedagogical question is how the teacher can reach out to everyone? Dean (1997:1) thinks that the teacher does not reach all the students. In fact, inherent in a mixed-ability class is what Gerber and Semmel (1984:141) refer to as a zero-game. By design, in the zero-game, there will be losers and winners. Gerber and Semmel (1984:141) are of the view that:

> . . . teachers aim their instruction 'plans' at. . . relatively homogeneous groups in an apparent attempt to reduce the sheer cognitive complexity of planning and instruction associated with broad ranges of student characteristics and abilities.

In an attempt to tackle what teachers view as the impossible, they may choose whom they will and will not teach. They may concentrate on those who require the most help, with the assumption that the more skillful will find their footing. The other alternative is that they can resort to the accepted medical strategy of triage, which dictates that help is afforded to those having greater chances of survival in the long run. If the observation by Gerber and Semmel (1984:141) holds water, one may assume that students at both

extremes of the ability continuum are not adequately catered for academically. One may also conclude that teachers create homogeneity by design, by eliminating difficult-to-teach children.

Harlen (1997:3) alludes to the above postulation in her argument that at times mixed-ability groups are treated as low-ability streams; teachers frequently use whole-class teaching methods, which are inappropriate for mixed-ability classes. Such classes are hard to manage. According to a study from the London University's Institute of Education, mixed-ability grouping is problematic in subjects that require correct answers and a grasp of abstract concepts and where all students have to learn the same material before they can move on (Green, H. 2001:1).

The fact that mixed-ability grouping poses a number of challenges, which if not properly addressed may result in negative learning outcomes is uncontested. However, teachers should view the students' cultural, experiential background, knowledge and skill diversity as offering opportunities for effective instruction, rather than as causing pedagogical problems. One can also conclude that contrary to the axiom that mixed-ability grouping narrows the curriculum, it exposes students of different abilities to the curriculum material they could have been exposed to in any other grouping systems, all other things being equal.

2.5.3.3   Affective and social outcomes

Proponents of ability grouping put forward the argument that mixed-ability grouping may in fact have a negative impact on the self-esteem of low achievers. According to Loveless (1999:30) the mixed-ability classroom may force low achievers into daily comparisons with their more able peers, conditions hostile to the development of self-confidence. They concede that ability grouping does impact on self-esteem, but it is transitory in nature, as compared to the daily comparisons between high achievers and low achievers in mixed-ability classes.

Furthermore, there are some who doubt the effectiveness of mixed-ability grouping in catering for students with special educational needs, i.e. the gifted and those with learning disabilities and difficulties. On the other hand, proponents of mixed-ability grouping argue that using ability as a basis for grouping students is problematic. These contested issues; problems of using ability as a basis for grouping, grouping and education of the gifted, and students with learning disabilities and difficulties are discussed in the following section.

2.6   PROBLEMS ASSOCIATED WITH USING ABILITY AS A BASIS FOR GROUPING STUDENTS

The plethora of definitions of *ability* shows that there is no consensus on what constitutes ability. In addition, the presence of ability in students does not necessarily mean that

students graded as such have the same learning pace, style, and motivation, and should therefore be treated as a group, and not as individuals. As a result, when grouped according to ability some students may fail to excel because of a number of variables that affect achievement.

Another problem emanates from the fact that it is not easy to sort students into purely homogeneous academic groups, overlaps cannot be done away with (Reid et al. 1981:25; Gamoran and Weinstein 1998:387). According to Young (in Thomas and Loxley 2001:3) the groups in question are cross-cutting, fluid and shifting. Furthermore, most students are not all-rounders in academic performance, for example a student may be gifted in Mathematics and Sciences, but average in Arts. How then should such a student be classified? These and other dilemmas associated with using ability as a basis for grouping students and problems with defining ability are discussed in this section.

According to Hart (1998:153) ability grouping reaffirms assumptions of differential fixed abilities, which is reinforced by the burgeoning science of psychometrics, associated ideas of eugenics and the conviction that intelligence is both fixed and inherited. This undermines school effectiveness by limiting teachers' senses of the extent of their power to influence educational outcomes. Hart (1998:154) further identifies four consequences associated with the notion of fixed ability in students. The first consequence is that it creates a disposition to accept the inevitability of limited achievement on the part of a significant portion of the school population. It makes teachers pessimistic about students' capabilities, and about their power as teachers to intervene effectively to

promote learning. Kelly (1955) (in Hart 1998:454) argues that:

> The child who is nailed down to the IQ continuum has just that much less chance of changing his teacher's opinion about him. If he is 'low', his unorthodox constructive ventures will never be given a thoughtful hearing; if he is 'high' his stupidities will be indulged as the eccentricities of genius. In formulating the construct of IQ we may have been caught in the web of our own construct system. Having been so careful to pin all persons down to a continuum with respect to which they can never change, we may now be confronted with a product of our own handiwork - a world full of people whom we cannot conceive of as changing, whom we can do nothing about! Is not IQ a distressingly unfertile construct after all?

The second consequence is associated with students themselves. If they know what teachers think and expect from them, they can develop feelings of hopelessness that may become self-fulfilling. The third consequence is that the definition of ability is not neutral; it has social and cultural biases, for example what counts as ability in one culture, may not necessarily be viewed as such in a different culture. Finally, the notion of fixed differential ability deprives schools of the conviction that they can play a significant role in the effective learning of all students, regardless of their initial abilities.

2.6.1   Problems with defining ability

Reid et al. (1981:2) state that consensus on what constitutes ability has consistently eluded social scientists and educationists. Arguments centre on what is be being mixed in a mixed-ability class. Is it ability or attainment? This controversy requires clarification. Grouping may be done on the basis of students' scores on psychometric tests (i.e. ability) but frequently these are supplanted by primary teachers' assessments

(adding factors concerned with achievement, motivation and attitudes), by performance on reading tests (skills) or groups may simply be formed by random sampling, alphabetical ordering, or on a friendship or neighbourhood basis. Whatever criteria is used, the difference will be in the range of ability, otherwise the end product will be a mixed-ability group in the sense that all groups, even the most rigorously streamed, will contain a range of ability and also a range of attainments. Richards (2001:1) supports this view by arguing that every class we shall ever teach is mixed-ability.

Ability can be conceived as the potential, or the capability to perform a task, or to excel in academic work. Probably avid proponents of the use of psychometric tests believe in the power of such tests to measure one's ability to do well in school. Attainment on the other hand, is achievement. It shows one's actual performance. However, while the fact that there is a correlation between ability and achievement cannot be disputed, it is not always the case that the correlation is positive, because actual attainment is influenced by the social context of teaching and learning. For argument's sake, if an able student performs below par in an aptitude test, should he/she be placed in a low ability class because of the attainment? Different people will respond differently to this question, depending on their disposition on aptitude tests. The researcher would like to posit that in literature, the dividing line between the two concepts is very thin, hence most writers appear to employ both terms as synonymous. Stradling and Saunders (1993:127) are of the view that ability is a relative term, since there are no universally accepted criteria for determining what counts as ability. Consequently, the researcher is of the view that it makes more sense to think in terms of how to respond to the different challenges posed

by students' individual differences, rather than to search for an organisational solution.

Students who display a lot of ability are normally referred to as gifted. Kirk, Gallagher and Anastasiow (2000:120) define giftedness as exceptional ability in academic areas and exceptional creativity, artistic talent, leadership capacity and problem solving. Psychologists like Robert Sternberg (1990), Howard Gardner (1993) and Coleman (1995) have brought the dimension that viewing giftedness as displaying exceptional academic prowess only, is a narrow conceptualisation of giftedness, because students have multiple intelligences (Armstrong et al. 2001:24). Notwithstanding the conceptualisation of giftedness one subscribes to, the fact still remains that such children will be found in mixed-ability classes therefore their inclusion in such classes warrants attention.

2.6.2   Grouping and gifted students

The mixed-ability grouping approach means that gifted students are grouped together with average as well as slow learners. This raises the following question: *Do mixed-ability classes adequately meet the academic, social and psychological needs of gifted students?* Delisle (1999:80) is of the opinion that it does not. He raises a number of reasons why mixed-ability classes fail to adequately cater for gifted students. First, inclusionary practices for gifted students and school wide plans to upgrade curriculum for all students may make the idea of gifted education more palatable to its many critics, but they have actually caused a decline in the rigor of academic options for the school's most able students.

Second, with many gifted students now being served in general education settings rather than in pullout programmes or ability grouped classes, they have fewer opportunities to challenge one another intellectually. Just as important, today's inclusionary classrooms allow virtually no time for gifted students and their teachers to discuss growing up gifted in a world that often values brawn over brains. Delisle (1999:80) argues that only a rare teacher would be able to personalise the learning needs of gifted children in a mixed-ability class. In the absence of such rare teachers in the schools, gifted students' insights and abilities often find themselves languishing intellectually, because their personal reach surpasses the grasp of curricular built for competency instead of for accomplishment. Gallagher (1975:9) captures the net result of failure to meet the learning needs of the gifted by arguing that:

> Failure to help the gifted child reach his potential is a societal tragedy, the extent of which is difficult to measure but which is surely great. How can we measure the sonata unwritten, the curative drug undiscovered, the absence of political insight? They are the difference between what we are and what we could be as a society.

Gallagher's sentiments are echoed by Gearheart, Weishan and Gearheart (1992:354) who put it that ignoring the special needs of gifted students may lead to even more severe problems in terms of national leadership, perhaps even national survival. In a meta-analyses and best-evidence synthesis on mixed-ability cooperative learning, Rogers (1991:1) concluded that claims for the academic superiority of mixed-ability grouping or for whole group instructional practices were not substantiated for gifted and talented students. The need to group gifted students separately, to allow for more appropriate, advanced instruction, which matches the rapidly developing skills and capabilities of

gifted students is further reinforced by the National Association for Gifted Children (NAGC) (2002:2). This association asserts that strong research evidence supports the effectiveness of ability grouping for gifted students in accelerated, enrichment programmes and advanced programmes (NAGC 2002:3).

However, the opposing view is not without its proponents. In support of including gifted students in mixed-ability classes, Green (2001:1) argues that:

> There is no evidence that standards are automatically raised when pupils are grouped by ability, says a new review of research on ability grouping in the UK and other countries. What is important is the quality of teaching and whether pupils have access to the full curriculum, says the study by Susan Hallan of London University's Institute of Education.

From the above discussion on grouping and the gifted, it is evident that there is no consensus regarding how the gifted should be treated in schools. However, it can be surmised that the gifted can be adequately catered for academically in mixed-ability classes, provided teachers have the competences to provide for such children through extension work and enrichment programmes. Perhaps educators need to take a cue from Fiedler et al.'s (2001:94) suggestion that while the educational community moves toward heterogeneity for students who would benefit more from working in mixed-ability groups, it should not deny gifted students the right to educational arrangements that maximize their learning. The goal of an appropriate education must be to create optimal learning experiences for all. However, it can be argued that this ideal could still be realised in a mixed-ability class, depending on the teachers' repertoire of teaching skills.

Kirk et al. (2000:143) support this view by suggesting that gifted students can be efficiently catered for through adapting the learning environment, adapting the curriculum and adapting cognitive strategies.   How these adaptations could be accomplished is discussed in Chapter Three, under teaching strategies.

2.6.3   Grouping and students with special educational needs

When students having special educational needs are part of the regular class, it is referred to as inclusion (Slavin 1994:472; Burden 1995:45; Wilson 1998:208). Hardman, Drew and Egan (1999:38) point out that while definitions of inclusion are similar to those of integration, they go beyond the rhetoric of educating students with disabilities side by side with their non-disabled peers. They suggest that the first approach to inclusion should be promoting the value of acceptance and belonging. Similarly, Thomas and Loxley (2001:119) are of the opinion that the notion of inclusion does not set boundaries (as the notion on integration did) around particular kinds of supposed disability. Instead, it is about providing a framework within which all children, regardless of ability, gender, language, ethnic or cultural origin, can be valued equally, treated with respect and provided with real opportunities at school. According to the Council for Exceptional Children (2002:1) the term inclusion may refer to schools, classrooms or even curricular. It is both a philosophical approach and an instructional method.

From the foregoing discussion, it is evident that inclusion will by design result in classes composed of students having an array of individual differences. Students' individual

differences can create serious problems for the classroom teachers, since it is not easy for teachers to provide a learning environment where each child is working at his or her level of challenge (Council for Exceptional Children 2002:1). The teach-to-the-middle approach will leave out some of the students. The lesson might be too easy for a section of the class, and too difficult for the other section, while another section may cause disciplinary problems due to their failure to comprehend the content being taught. Because of the above, Kirk et al. (2000:50) state that:

> When youngsters in the same classroom are markedly different from one another, it is difficult for the teachers to help them reach their academic potential without some kind of assistance. The differentiated program and services that the schools devise for children who differ significantly from the norm is called special education.

Regarding the prevalence of disabilities that bring about special needs education, Haggis (1995:10) notes that 10% of any population has some form of physical, mental or sensory disability, and would benefit from some form of intervention. However, literature shows that at present no more than 1% of disabled people in developing countries benefit from any active intervention services including education. Zindi (1996:2) states that underpinning the debate on inclusion are two views. One view takes a humanistic and altruistic perspective, while the other suggests the marginalisation of students with special needs. Advocates of human rights argue that any practice that restricts a person's equal access to an opportunity is detrimental to equal rights. Contesting this view, Oliver (1992) (in Zindi 1996:2) points out that while special needs education is a human right issue, it is not so much the right to be in the same school, but rather, a right to an appropriate education that values all as individuals.

World bodies such as UNESCO and United Nations Development Programme (UNDP) have joined in the clarion for inclusive education. These bodies argue that such a move will enable students with disabilities to have equal educational opportunities. Proponents of full inclusion argue that pull-out programmes discourage effective partnerships between regular and special education teachers in implementing individualised education plans and that students in pull-out programmes are stigmatised when segregated from other students. Opponents of full inclusion argue that regular classroom teachers lack appropriate training and materials and are already over-burdened with large class sizes and inadequate support services (Slavin 1994:472). The lack of unanimity shrouding inclusion is clearly highlighted by McNergney and Keller (1999:5) who report that:

> On a policy level some have argued that mainstreaming is a blueprint for failure - too many needy students, too many ill-prepared teachers, too little support for those teachers who are efficacious in their classroom behavior. For them, the answer is to avoid mainstreaming by placing students with disabilities in self-contained special education classrooms. For still others, the answer is to try to boost the skills of general education teachers so that they can handle whatever problems these "special" children may present. . . . In the main, policymakers have concerned themselves with issues of placement first and with issues of teaching and teacher education only a distant second.

Christopher and John (1999:85) suggest that in order to achieve equity, students identified as having special needs should be given additional support in the areas in which they are experiencing difficulties in the context of inclusive schooling. Such additional support amounts to high quality instruction, which can dramatically improve the achievement and self-confidence of students with special needs (Slavin 1994:473). Notwithstanding the lack of unanimity surrounding inclusion, its cause seems to be

bolstered by the theory of multiple intelligences as propounded by Gardner. Wilson (1998:225) notes that:

> Gardner's work has led to an increased understanding of the fact that all children are intelligent. A question that should guide educational programming for an individual child is not whether that child can learn, but how he or she learns best. To do justice to the different ways in which children learn, frequent opportunities relating to the development of each type of intelligence must be provided. This can be especially important for children with special educational needs. Just as their disability will tend to impede learning in some area(s) of development, their individual intelligence will enhance learning if appropriate opportunities are provided. . . . to individualize a program means more than accommodating for areas of weakness. It also means providing opportunities for areas of strength.

The theory of multiple intelligences raises several significant issues related to the education of students having special needs. According to Goldman and Gardner (1998) (in Wilson 1998:228) one such issue that relates to the teaching of mixed-ability classes is that: The theory of multiple intelligences suggests that curriculum and instruction should be tailored as much as possible to the inclinations, working styles, and profiles of intelligence for each individual student. The theory also suggests that instructional programmes should provide students with a wide range of materials and activities - i.e. a variety that fosters development across multiple intelligences versus the development of intelligence as a single entity. A classroom reflecting the theory of multiple intelligences would be furnished with engaging materials and activities that span the many realms of intelligence. Such material would be open-ended in design so that children have the opportunity to express themselves in their preferred form of expression. A classroom so equipped would maximize the chance of eliciting and fostering children's special

abilities.   It would expand and individualise the curriculum and thus create an environment that welcomes children with special needs. In summary, it would give all children the opportunity to develop and be recognised for their special abilities.

However, Wilson (1998:209) cautions that for the student with special needs, it is critical to consider that the nature of a disability can interfere with his/her learning. Therefore, educators cannot take for granted that the needs of all the students are met by creating a stimulating classroom environment. No matter how enriching the environment appears to be, it is not enriching for the child who cannot access it for one reason or another. Slavin (1994:473) argues that inclusion raises two contentious issues that can militate against effective learning if not addressed. First, when mainstreamed students are performing below the level of the rest of the class, some teachers struggle to adapt instruction to the mainstreamed students' needs and to cope with the attitudes of the nondisabled students towards their disabled classmates, which are often negative and defeats attempts at social integration. Second, some regular teachers are uncomfortable about having students with disabilities in their classes, and may feel poorly prepared to accommodate their needs.

Basing on the above perceptions, the following questions beg attention:

- Do teachers in the mainstream secondary schools have the skills to diagnose different forms of learning disabilities and difficulties?
- Can teachers in the mainstream secondary schools devise appropriate early intervention practices to enable children with learning difficulties and disabilities to

learn effectively in mixed-ability classes?

- Owing to maturational bias prevalent in most students with disabilities, does the present education structure (in the case of Botswana) accommodate such students?

- In their present form, do facilities in most mainstream secondary schools make it possible for students with disabilities to access their educational environment?

- Can teachers in mainstream secondary schools discover the special abilities in children with special needs so that they emphasise these strengths during instruction?

The above issues require critical consideration before the effective inclusion of special needs students in mixed-ability classes. Currently special needs students and students with disabilities are not accommodated in regular schools. Taking the world-wide trend of inclusion into consideration, it could be assumed that this will become practice in Botswana in the near future. However, the researcher opines that presently regular schools in Botswana may not be ready yet to effectively cope with special needs of students with multiple, severe and profound disabilities. Therefore, while students having mild disabilities and learning difficulties can be effectively taught in mixed-ability classes, severe cases of disabilities may be better served in special schools or pull-out programmes in the mainstream schools.

Deciding which student goes into which group or stream entails some form of assessment. The commonly used strategies are psychometric tests and teachers' assessments. These two strategies are the subjects of discussion in the following two sections.

2.6.4   The use of psychometric tests to group students

Thorndike and Hagen (1977:297) point out that very early in the history of psychological measurement, psychologists became interested in assessing ways to deal with and manipulate the domain of ideas and relationships among ideas. Though the interest was motivated by a scientific concern to understand and describe intellectual functioning, it was also motivated by very practical needs to identify children with intellectual deficits that would make it difficult for them to progress normally in school, or, at a more severe level, individuals who would have difficulty in meeting the basic intellectual demands of life - in an extreme case, people who would not have sense enough to come in when it rains.

Tests designed to assess the level of general cognitive functioning have been called intelligence tests or IQ tests in popular literature (Thorndike and Hagen 1977:297; Angelo and Cross 1993:116; Hallahan and Kauffman 1997:135). Thorndike and Hagen (1977:298) further state that psychologists have never been able to agree very precisely on a definition of 'intelligence' or on exactly what it does and does not include. As cogently argued by Angelo and Cross (1993:116) there is no comprehensive and universally accepted theory capturing complex human intellectual functions in a single conceptual framework.

Some educators are against the use of IQ tests for grouping purposes. According to Thorndike and Hagen (1977:331) these educators raise the following questions:

- What do any test result signify, in the case of persons from a deprived group, so far as potential for future achievement is concerned?

- Are the relationships between measures of present ability and future outcomes as high for students from limited backgrounds as for the generality of the students?

- For a given score, how should the prognosis be modified, if at all, by knowledge that the score was earned by a student from a meagre environment?

- Since his/her score may have been held down by his/her environmental limitations, should we predict a higher school or job performance for him/her than his/her more favoured classmates who match his/her initial score?

- Should we predict essentially the same outcome for both?

- Or does experience indicate that the child from the more limited background will lapse back to a lower final level?

There are no easy and precise answers to the above germane questions. However, the weaknesses of psychometric tests as a means of grouping students have far reaching implications, since results from such testing may relegate students into streams that may deny them an opportunity to enroll for certain courses at tertiary levels of education. Such an approach is against egalitarianism, whose tenets are social justice and access to equal educational opportunities.

Basing on the above, it can be argued that where people really feel that grouping is indispensable, they should adopt a flexible grouping approach which allows for

movement from one stream to another, to cater for the late bloomers, who might have performed badly in the IQ test, only to catch up later on during the enriched schooling programme.   Unfortunately, history has it that such mobility between streams is not always possible, since students in different streams are likely to be pursuing different educational programmes. Perhaps, in the absence of mobility between academic streams, psychometric tests as an instrument for grouping purposes should just be abandoned in search of new alternatives that are sensitive to the needs of students, notwithstanding their background and individual differences. One such alternative assessment is grouping of students basing on teachers' assessments. This approach is discussed in the next section.

2.6.5   The use of teachers' assessments for grouping students

Schools use assessment results in a formative way for a number of purposes among others: to determine how well they are meeting instructional goals, how to alter curriculum and instruction so that goals can be better met and to group students for instructional purposes.   Teachers can use five general approaches to provide an assessment of a child: norm-referenced tests, diagnostic achievement tests, interviews, observations and informal assessments (Kirk et al. 2000:51).   When teachers' assessments are used for grouping students into teaching units, they are referred to as placement assessment.

However, Porter (1995:1) warns that unless the content of assessment (what schools

assess) and the format of assessment (how schools assess) match what is taught and how it is taught, the results are meaningless, if not potentially harmful. The same is true if assessment tools are not of high quality. There is also potential for harm when decisions affecting students' futures are being made based on results of assessment made with tools that are not appropriate for the purpose. If the quality of assessment is not ensured, grouping practices, and coverage and pacing decisions may be based on invalid estimates of students' capabilities, for example, sometimes grouping decisions reflect or reinforce racial and socio-economic inequities, or the decisions might be based on prior achievement that was artificially low due to past limited opportunities to learn. Similarly, grouping and placing decisions based on test results are unfair if all students have not had an equal opportunity to learn. Porter (1995:2) and Brady (1997:60) identify two other implementation pitfalls: The first one is that most teachers lack the skills and knowledge that are needed to carry out quality assessment. The second one is that teachers will need time to produce and implement the assessment, and assessment will not be effective if it is viewed as an added responsibility for teachers.

The use of teachers' assessments for grouping purposes raises the following dilemmas:

- Should junior secondary schools rely on assessment records from their primary feeder schools? Reid et al. (1981:57) state that some assessment records from primary schools are likely to have problems of quality, clarity and consistence. Therefore, where teachers in secondary schools opt to use these records for placement, how are they to circumvent the problems posed by such records?

- Should junior secondary schools carry out their own assessment? If so, when? On the first day in term one of form one, at the end of first term or at the end of year? Will the students have covered substantial information to be assessed on, for such profound decisions to be made?

Basing on the above questions and the preceding discussion, it can be concluded that the use of IQ tests and teachers' assessments for placement purposes have crippling problems whose effects have far reaching repercussions. The two mechanisms have the same biases, and hence the same limitations. The only difference between the two mechanisms is perhaps the source, in that one is internal, while the other one is external to the school system. It can therefore be argued that students who will perform well in one, will likely perform well in the other and the reverse is true. In light of this realisation, and in the absence of fresh evidence to the contrary, it can be concluded that neither of the two methods should be employed for grouping purposes. In fact, since literature has it that whatever approach is used for grouping students, the end result will be a mixed-ability class (Reid et al. 1981:5), a random grouping approach not based on any perceived academic ability would be the best approach for assigning students to teaching and learning units. This should be complemented by teaching strategies that are sensitive to the students' individual differences and needs.

2.7   DEDUCTIONS FROM THE GROUPING DEBATE

Literature on the grouping of students for instructional purposes shows that the main

argument in favour of grouping by ability has been that such a system caters better for able students, easier for teachers to teach and on the whole is conducive to the preservation of standards at all levels of ability. The argument for mixed-ability grouping seems to be fueled by philosophic considerations; where the need for equity, access to equal educational opportunities, social justice and fairness take centre stage. Exponents of mixed-ability grouping argue that it enhances educational opportunities for students from the whole social strata, while proponents of ability grouping argue that mixed-ability grouping will compromise quality, their argument revolves around academic excellence and merit. They view equity and academic excellence as immiscible as water and oil, while ardent believers in mixed-ability grouping are adamant that it is possible to have both equity and academic excellence as one package.

The following deductions can be made from the literature study on grouping:

- The definitions of mixed-ability and ability grouping show that the two concepts occupy different loci on the ability continuum. With its emphasis on past achievement and the presence of fixed ability in students, one can conclude that ability grouping is an unjust system of organising students for instructional purposes. With its fixed-ability notion, the approach fails to cater for late bloomers.
- It is not possible to come up with classes or teaching units where all students are homogeneous in terms of learning achievement, motivation, readiness, aptitude, attitudes, disposition, attitude and experiential background. Therefore any class that confronts teachers should be treated as a mixed-ability class.

- Both forms of grouping (mixed-ability and ability grouping) have their advantages and disadvantages. However, the advantages of mixed-ability grouping outweigh its disadvantages as well as the advantages of ability grouping. But mixed-ability teaching makes demands on techniques, methods, materials and standards markedly different from those operating in the schools in which teachers themselves were educated; different from those usually acquired in Colleges of Education and University Departments, at least until recently; and different from those practised in schools where ability grouping is the order of the day.

- Prevailing definitions of educational success and failure are narrow and remain overly occupied with standardised test scores. The mixed-ability grouping paradigm's alternative is underpinned by standards of equity and social justice, including high expectations and educational excellence for all. If schools do away with ability grouping and endeavour to challenge all students in mixed-ability settings, the only loss students would incur is their labels.

- Grouping on its own is not responsible for achievement. It should be complemented by appropriate pedagogy, teacher attitudes and expectations and curricular adjustments.

2.8 CONCLUSION

In this chapter the researcher revisited the ability grouping debate, specifically focusing on meanings of ability, ability grouping and mixed-ability grouping; the history and philosophy of grouping of students in schools, and the advantages and disadvantages of

ability and mixed-ability grouping. Basing on the reviewed literature, it can be concluded that there is still a great divide in the field of educational research regarding how the problem of learner diversity should be addressed in educational institutions. However, there is unequivocal evidence that no matter how rigorous the selection process used in grouping students is, it is not possible to come up with classes containing individuals who are the same in all respects. Such an exercise will only manage to reduce the range of ability. It was further noted that strategies being used to group students; psychometric tests and teacher assessments have limitations. More often than not, students are not only grouped according to their abilities, but according to race, social background and economic status of the parents.

Literature is replete with evidence to the fact that pedagogical proceedings in different ability groups are different, and that these differences account for the differences in achievement. Proponents of ability grouping forward the case that this grouping strategy ensures that all students achieve equity and excellence. They further argue that the approach is manageable, because teachers will not be required to cater for the wide ability range in the same class. The bottom line in this camp's argument is about efficiency and academic excellence. On the other hand, the opposing camp argues that it is possible to achieve good academic results in a mixed-ability class. The argument for mixed-ability grouping seems to be fueled by philosophic considerations; where the need for equity, equality of educational opportunities, social justice and fairness are the focal point.

However, teaching mixed-ability classes has got a number of problems and places a lot of demands on teachers, which if not addressed will result in teachers in mixed-ability classes aiming their instruction at the imaginary average student, at the expense of students at both extremes of the ability continuum. Decisions on how students should be taught should not be based on which method suits the teacher best, but rather on what works for the students. In addition, it is not possible to organise students such that one obtains a truly homogeneous group. With this realisation, whether the students are grouped or not grouped by ability, teachers should not lose sight of the fact that students are individuals, and therefore should be treated as such, and not as groups. In some educational circles, this realisation is responsible for an emerging trend regarding how teachers should conceptualise mixed-ability grouping and its educational implications.

Basing on the facts from the reviewed literature, it can be concluded that problems affecting using ability as an organiser, make ability grouping an unjust system since it denies some students equal educational opportunities. On the other hand, it can also be concluded that mixed-ability grouping complemented with effective instructional practices and proper assessment procedures could result in positive academic, affective and social outcomes for students of all ability levels.

In the next chapter, mixed-ability teaching strategies will be discussed. The discussion will include definition of the following terms; mixed-ability teaching, teaching and teaching strategies, factors affecting the choice of teaching strategies, teaching strategies that are suitable for teaching mixed-ability classes and teacher competences that are a

prerequisite for the effective teaching of mixed-ability classes.

CHAPTER THREE

OPTIMISING MIXED-ABILITY GROUPING THROUGH THE USE OF

SUITABLE TEACHING STRATEGIES

3.1   INTRODUCTION

Teaching mixed-ability classes is not easy; it is confounded by a number of problems. It is difficult to find a pace to work at that keeps more able students interested and does not lose those who find it difficult. The problems that are encountered by teachers are related to teacher-pupil ratio (McGarvey, Marriot, Morgan and Abbot 1997:353), expectations of parents, school heads and students, and the content-laden syllabi (Prophet and Rowell 1990:29). These aforementioned problems might cause teachers to utilise a set of teaching strategies that ensure their survival in the classroom but fail to take cognisance of individual students and their developmental differences.

Gamoran and Weinstein (1998:399) point out that teaching mixed-ability classes requires substantial extra effort in preparation, working with students individually, and simultaneously monitoring multiple groups or activities within the classroom. In similar vein, Ainscon and Muncey (1989) (in McGarvey et. al. 1997:353) note that the most difficult aspects of a teacher's work are setting tasks and organising activities that take account of the individual needs of all members of the class. This is a source of pressure to most teachers. According to Mann (2002:1) teachers must learn to use instructional

methods and learning strategies that are highly effective and well suited to mixed-ability groups if the goals of untracking are to be met. This is a big adjustment for most teachers not only because it involves a new approach to teaching, but also because it is a somewhat more complicated way to teach. In addition, resources may be limited to deliver a wide curriculum where time to do so appears short.

Some people fear that there is development of status inequalities during student interaction in a mixed-ability class. Cohen and Lotan (1995:101) state that when the teacher assigns a collective, cooperative task to a group of students, status differences based on academic ability become activated and relevant to the new situation, even if the task does not require the academic ability on which the group members differ. Because of differences in perceived academic ability, the high-status student will be expected to be more competent by others. The net effect is a self-fulfilling prophecy, whereby those who are seen as having more ability relative to the group in schoolwork or in reading tend to dominate those who are seen as having less ability relative to the group in schoolwork or reading.

Mixed-ability grouping is haunted by a host of problems is, even proponents of this grouping method allude to this fact (Cohen et al. 1996:204). However, teachers should view these as challenges rather than problems. These challenges are not insurmountable. It could be argued that the academic and social benefits accruing to students of different abilities in mixed-ability classes are worth the efforts that should be spent addressing these resultant problems. There is also likelihood that most of these

problems are a result of the teachers' limited repertoire of teaching skills, lack of support from instructional supervisors, rigid educational structures and unsuitable assessment methods. In light of these problems, what are the effective teaching strategies for use in mixed-ability classes? This question is the focus of attention in this chapter.

3.2   MIXED-ABILITY TEACHING DEFINED

Literature draws a distinction between 'teaching mixed-ability groups' and 'mixed-ability teaching'. Mixed-ability teaching implies a certain kind of teaching, whereas any kind of teaching can go on in mixed-ability classes (Reid et al. 1981:6). Cohen et al. (1996:205) put it that any form of teaching that dispenses with the idea that groups of students can learn things at the same time and at the same rate and pass onto other topics at the same time as another, is mixed-ability teaching. Similarly, Tomlinson (1995:2) cogently argues that students of the same age are not all alike when it comes to learning, any more than they are alike in terms of size, hobbies, personality, or likes and dislikes. Commenting on the relationship between teaching and grouping, the Schools Council Working Group on Mixed-ability Teaching in Mathematics (1977:17) notes that:

> It is important to appreciate that, whatever type of grouping chosen, it is the philosophy, attitudes and responsiveness of the teacher that are important; good classroom practice depends much more on the teacher than on the particular grouping adopted. A mixed-ability class can be taught in a variety of ways, but good teaching will focus on the needs of the individual pupil and will not be based on an assumption that every member of the class will learn a topic at the same time or same rate.

While students do have many things in common, they also have important differences. Teaching which does not cater for these differences only acknowledges student similarities. It is thus clear that teaching which acknowledges commonalities and builds upon them, and which makes student differences important organisers in teaching and learning, is mixed-ability teaching. This thesis concerns itself with the effective teaching of mixed-ability classes, which is thus mixed-ability teaching. Before delving on the various teaching strategies and their suitability for teaching mixed-ability classes, it is imperative that factors affecting the choice of teaching strategies to be used in any particular lesson be addressed. These factors are discussed below.

3.3   FACTORS AFFECTING THE CHOICE OF TEACHING STRATEGIES

Reece and Walker (1998:129) point out that the teacher's choice of teaching strategies is often related to his or her individual style. In addition, the choice hinges on a number of factors *inter alia;* objectives to be achieved, group size, needs and characteristics of students, ability of students and motivation of students. What follows is a synopsis of how some of the identified factors affect the teacher's choice of teaching strategies to use.

3.3.1   Students' individual abilities and motivation differences

Tomlinson (1995:1) argues that students populating classrooms today are a diverse lot. They come from different cultures and have different learning styles. They arrive at

school with different levels of emotional and social maturity. Their interests differ greatly, both in topic and intensity. At any given time, they reflect differing levels of academic readiness in various subjects - and in various facets of a single subject. Readiness and interest can vary for a given student over time and depending on the subject matter. Needless to point out that these individual differences have implications on teaching as alluded to under section 1.2 (Awareness of the problem).

According to Borich (2000:40) there are two major reasons why teachers should be aware of individual differences among learners in their classrooms. First, by recognising individual differences, teachers can help their students use their own experiences and learning histories to derive meaning and understanding from what they will be teaching. With that knowledge, the teachers will be able to adapt their instructional methods to the individual learning needs of their students. Second, when counselling students and talking with parents about the achievement and behaviour of the learners, teachers will be able to convey some of the reasons for what they will be describing. Understanding students' individual differences can provide perspectives for parents, counsellors, and other teachers when they wonder why some students learn better and faster than others.

Adapting instructional strategies to the strengths of learners significantly improves their performance. Borich (2000:41) puts it that the general approach to achieving a common instructional goal with learners whose individual differences, such as prior achievement, aptitude, or learning styles differ widely is called adaptive teaching. Adaptive teaching techniques employ varied teaching approaches so that the natural diversity prevailing in

the classroom does not prevent any learner from achieving success. Basing on the above, it could be posited that mixed-ability teaching is synonymous with adaptive teaching.

3.3.2 Students' learning styles

The question of how learning takes place has been a topic of interest for centuries. There is still much not known about the human brain and what causes learning to take place (Amstrong et al. 2001:23). However the Centre for Applied Special Technology (CAST) (2002:1) suggests that different learners aiming for the same goal generate different plans and steps to get there. These different plans and steps to learn new information constitute learning styles. According to Richardson (1993:69) learning styles is a term that refers to the peculiar combination of strategies and processes students habitually employ when trying to learn new material.

One of the causes motivating the rapid expanding interest in learning styles is the search for effective strategies to deal with the increasingly large numbers of academically under-prepared or disadvantaged students populating secondary and post-secondary institutions (Richardson 1993:70). Commenting on why teachers should be aware of the students' different learning styles, Bisset (2001:73) states that the knowledge of learning underpins the knowledge of models of teaching, and gives rise to the employment of a wide range of teaching approaches and strategies. Because individuals have their own optimal pathways for learning, teaching approaches and tools should be varied (CAST 2002:1; Kyriacou 1998:41).

It can be concluded that the above argument implies that while it is preferable to take into account students' varied learning styles when teaching, the situation on the ground may make it difficult to always achieve this ideal. However, where this ideal proves difficult to achieve, teachers should offer necessary scaffolding to students facing difficulties. Rich resources and tools enable teachers to diversify instructional strategies. By combining traditional tools, multimedia and networked resources, teachers can provide every student with customised models, expressive options, supports and feedback. These options may give diverse learners populating mixed-ability classes a much better chance to succeed, true to the adage that: *The more teaching strategies teachers use to teach, the more students they reach.*

3.3.3   Lesson objectives to be achieved

Lesson objectives are at the heart of teaching and all other aspects flow from them (Reece and Walker 1998:129). Basing on this postulation, it is implicit that when a teacher is choosing his/her teaching strategies, he/she should make the domain and level of objectives he/she is seeking to achieve the basis for the choice. For example, if the objective is to aid students learn motor skills, this could be achieved through demonstration and individual practice; to gain knowledge and understanding, a question and answer method is appropriate; and to develop students' attitudes towards issues then one might use the discussion method to best achieve the objective.

The above discussion on factors affecting the teacher's choice of teaching strategies

underscores the need for adaptive instruction. The need for adaptive instruction is further emphasised by Cohen et al. (1996:203) who believe that:

> . . . it is not enough simply to provide access for all students to a common curriculum (e.g. the national curriculum): by dint of their home and outside-school circumstances and situations, students will have a differential uptake of this curriculum. This is the 'cultural capital' thesis. It argues that some students have the background cultural and linguistic capital and the necessary dispositions, together with the positive attitudes to school, motivations to learning, parental support, social advantage, ease in dealing with authority figures so that when they meet schooling and school knowledge they can engage it comfortably and take advantage of it. For other students, schools and school knowledge represents an unfamiliar or alien culture and methodology, they cannot engage it as easily and hence are disadvantaged. For them, schools and the curriculum represent a culture shock.

From the above observation it becomes imperative that teachers should employ instructional strategies that cater for the students from the diverse backgrounds - this invariably makes the argument for mixed-ability teaching powerful.   Harlen (1997:2) reviewed a number of studies on the grouping of students for instructional purposes. She concluded that:

> A common theme in the conclusions from studies was that what goes on in classrooms seems likely to have more impact on achievement than how pupils are grouped. Differences in classroom materials and learning activities often explained differences in achievement. For example, in a study where pupils in the high-ability group were found to benefit over similar pupils in mixed-ability classes, the difference was ascribed to the former using classroom materials (in maths) which took them far beyond what was expected for their age or grade.

If Harlen's conclusions hold water, it is therefore incumbent upon educators to find some

ways of catering for students' individual needs. As noted by Harlen (1997:3) most of the research lends no support to grouping students by ability as a solution to individual differences. For many, such an approach reduces both their motivation and the quality of the education they receive. Seemingly, mixed-ability grouping that negates individuality has got its own crippling problems. Harlen (1997:3) is of the view that there are alternatives, which enable the content, pace and support of classroom work to be adjusted to suit individual needs that educators should find and study urgently. These alternatives constitute 'mixed-ability teaching strategies' and are the focal point in the following sections. Before examining the various teaching strategies and their suitability for the teaching of mixed-ability classes, it is important to have an understanding of the meaning of 'teaching strategies'.

3.4   TEACHING STRATEGIES AND THEIR SUITABILITY FOR TEACHING MIXED-ABILITY CLASSES

3.4.1   Teaching strategies defined

Teaching is a complex matter that requires a high degree of decision-making skills and judgment on the part of the teacher (Pregent 2002:1). For teaching to be effective, the teacher must be well informed regarding the various strategies and the conditions under which they can be used most effectively. Arends (1997:7) states that the term *teaching strategy* is known by several other terms in literature such as teaching model, teaching method, or teaching principle. The term refers to a particular approach to instruction that

includes its goals, syntax, environment and management system. Similarly, Brown, Oke and Brown (1992:3) simply define a *teaching strategy* as the manner in which the content is presented to the students. Related to this view, is the definition by Mutasa and Wills (1994:39), who conceive a *teaching strategy* as a way that is designed to assist a learner to learn.

Inherent in the above definitions of a teaching strategy is the existence of a body of knowledge on one side, and the students on the other side, with the teacher being the catalyst. This relationship is aptly captured by Uljens (1997:23), who notes that in teaching there is always somebody *(who?)* that teaches somebody else *(who?)* some subject matter *(what?)* in some way *(how?)* some time *(when?)* somewhere *(where?)* for some reason *(why?)* towards some goal *(which?).* From the facts presented, it could be concluded that the mechanism through which the body of knowledge is availed to the students constitutes *teaching strategies*. Basing on Uljens's conceptualisation of teaching, this section concerns itself with the '*in some way (how?)*' aspect.

Commenting on teaching and choice of teaching strategies ADPRIMA (2002:2) notes that:

> Any instructional method a teacher uses has advantages, disadvantages, and requires some preliminary preparation. Often times, a particular method will naturally flow into another, all within the same lesson, and excellent teachers have the skills to make the process seamless. . . .There is no one right method for teaching a particular lesson, but there are some criteria to each that can help a teacher make the best decision possible.

It is with the above observation in mind that this chapter focuses on most of the commonly employed teaching strategies and their suitability for mixed-ability teaching. Good and Brophy (1997:311) argue that schools and teachers must view learner diversity as offering opportunities for achieving effective instruction, not as posing instructional problems. Implied in Good and Brophy's argument is that teachers should generate effective teaching strategies from the diversity offered by their classes' compositions. The following discussion covers some of the teaching strategies, which the researcher views as having a place in mixed-ability teaching, depending on how and when they are used during the lessons. Discussion will be limited to definitions of the strategies, advantages and disadvantages of the strategies. In addition, each strategy will be analysed and evaluated in terms of its suitability for use in the teaching of mixed-ability classes.

3.4.2   The lecture teaching strategy

According to Obanya (1994:68) the lecture teaching strategy is a process of delivering verbally a body of knowledge according to a pre-planned scheme. It is characterised by one-way communication. The teacher presents ideas or concepts, develops and evaluates them and summarises the main points at the end, while students listen and write notes. Students' questions are not normally encouraged during the lesson, and in cases where questions arise they are usually intended for clarification of facts and information and not for higher-level discussion (Walklin 1994:233).

3.4.2.1 Advantages of the lecture teaching strategy

The lecture teaching strategy is acclaimed for its high motivational and inspirational value (Brown et al. 1992:45). It is therefore an effective strategy for creating interest and appreciation. The other advantage of the strategy is that the teacher has complete control over the choice of knowledge the students learn. The teacher can present exactly what he/she wants in the ways desired by the teacher. McNeil and Wiles (1990:202) identify the following as some of the advantages of the lecture teaching strategy:

- Provides an economical and efficient method for delivering substantial amounts of information to large numbers of students.
- Affords a necessary framework or overview for subsequent learning, for example reading assignments, small-group activities, and discussion.
- Offers current information (more up to date than most texts) from many sources.
- Provides a summary or synthesis of information from different sources.

3.4.2.2 Disadvantages of the lecture teaching strategy

The lecture teaching strategy has a number of disadvantages which may make it less effective (Obanya 1994:69); Walklin 1994:233; Challen and Brazdil 1999:1). Three such disadvantages having a direct bearing on mixed-ability grouping are:

- It does not provide students with enough opportunities to practise their oral

communication skills; it seems to benefit auditory learners.

- During the lecture, the teacher is limited in his/her judgment of the students' understanding, since there is no room for application of the information by the students.

- The cost of this teacher-centred approach is often an uncomfortably high percentage of students who are left unmotivated; unable to reason for themselves and for whom the material covered by the teacher remains obscure and undigested.

3.4.2.3 Evaluating the lecture strategy for mixed-ability teaching

Owing to the disadvantages of this strategy, it should be sparingly used in mixed-ability classes, since it negates the uniqueness of individual learners. Employing it as the only teaching strategy in a forty-minute lesson may mean that the teacher is pitching instruction at an imaginary average student, at the expense of students at opposing ends of the ability continuum as discussed under section 2.5.3 (Arguments against mixed-ability grouping). It can also be concluded that lessons that are taught using the lecture strategy may only be benefiting auditory learners at the expense of other students whose learning styles are not auditory as discussed under 3.3.2 (Students' learning styles). In a mixed-ability class, the purpose of this teaching strategy should be limited to information dissemination prior to group activities or other related student-centred teaching strategies, summarising of lessons for example after group presentations, sharing of information unavailable elsewhere, tailoring information for a particular purpose or to a particular group, arousing interest in a subject and giving directions where clarity may be a problem.   It is therefore suggested that the lecture teaching strategy be used in

conjunction with other teaching strategies that cater for individual differences and are student-centred.

3.4.3   The discussion strategy

Pregent (2002:4) states that the *discussion strategy* covers classroom-learning activities involving active and cooperative consideration of a problem or topic under study. It is characterised by increased involvement and active participation of members of the class. It is a strategy where students are actively involved in talking to each other about an issue of mutual concern. In the discussion strategy the teacher is not dominant, he/she stays in the background (Reece and Walker 1998:146; Challen and Brazdil 1999:7), managing the situation so that learning takes place. He/she poses the problem, initiates interaction, and allows students to pursue the discussion towards the attainment of the goal. The students carefully consider the topic, react to it, debate with one another, suggest solutions, evaluate alternatives and draw conclusions or generalisations. The students become creators rather than passive recipients of ideas. From time to time, the teacher may clarify points to ensure that the discussion is proceeding in the right direction. When the discussion strategy is employed, the teacher becomes the facilitator of a group that shares ideas, information and opinions in order to clarify issues, relate the input to prior knowledge, to attempt to resolve some question or problem having more than one solution (Arends 1997:216).

3.4.3.1 Advantages of the discussion strategy

According to Challen and Brazdil (1999:7) and Walklin (1994:254) the discussion strategy provides a format in which students can apply newly acquired knowledge, thereby consolidating and deepening their understanding of it. In addition, students develop their skills in communicating, exercise and strengthen their problem-solving abilities, learn to appreciate the connection between apparently isolated chunks of material and see the utility of what they have learnt in realistic situations. The student-to-teacher and student-to-student dialogue that are part of a good discussion provides valuable feedback to the teacher on the status of student comprehension and is particularly valuable in drawing out and exposing misconceptions, many of which would otherwise remain buried, only to surface in later parts of the syllabus, if at all. This strategy is effective since students are more motivated and internalise material more effectively when they participate actively as learners in the classroom (Challen and Brazdil 1999:1). Armstrong et al. (2001:23) point out that this strategy is consistent with the notion of learning as conceptualised by constructivist theorists.

3.4.3.2 Disadvantages of the discussion strategy

The strategy has a number of disadvantages which if not circumvented may reduce its effectiveness. Some of these disadvantages according to Turner (2002:215) and Arends (1997:85) are: The strategy does not easily lend itself to all types of subjects or topics. When the group is large, it may be difficult to achieve maximum cooperation. The

strategy may give opportunities to higher ability students to show off. When the teacher is not firm the discussion may degenerate into an unorganised and unproductive activity. ADPRIMA (2002:3) identifies three other disadvantages of the discussion strategy, these are: First, time constraints may affect discussion opportunities. Second, effectiveness is connected to appropriate questions brought in for discussion. Third, the strategy often requires the teacher to constantly bring the discussion on track.

3.4.3.3 Evaluating the discussion strategy for mixed-ability teaching

From the literature review on the discussion strategy, it could be concluded that the strategy is a student-centred approach, therefore if properly used it could cater for learners of diverse abilities, since students may use the language level that will be within the grasp of other students. As students discuss, information learnt is likely to be transferred to the long-term memory for retrieval when needed. Each learner can contribute to the discussion according to his/her ability; this makes the method to have wider applications in mixed-ability classes. This notion is consistent with the philosophy behind multiple intelligences as discussed under 2.6.3 (Grouping and students with special educational needs).

In addition, there are two other reasons why this strategy is suitable for mixed-ability teaching. First, it improves students' thinking and helps them construct their own understanding of academic content. It helps students strengthen and extend their existing knowledge of the topic and increase their ability to think about it. Second, it promotes

student engagement. For true learning to take place students must take responsibility for their own learning and not depend solely on the teacher. Using discussion is one of the means of doing this. It gives students public opportunities to talk about and play with their own ideas and provides motivation to engage in discourse beyond the classroom. Since the strategy provides valuable feedback to the teacher, it will let the teacher realise learners' abilities, potentials and differences so that he/she can cater for these when teaching.

The teacher's competence in organising students into groups and providing assignments amenable to discussion is central to success when using this strategy. The teacher should be prepared and able to redirect or refocus the discussion in order to achieve the intended objectives. In mixed-ability classes, the teacher can foster discussions through assigning work of varying difficulties commensurate with the learners' levels of ability.

3.4.4   The demonstration strategy

Walklin (1994:234) describes *demonstration* as practical display or exhibition of a process that serves to show or point out clearly the fundamental principles or actions involved. The effective demonstration involves telling, showing, questioning, and application. When skill development is the desired end product, practice must be a major component of the strategy (Pregent 2002:2). This strategy can find application in subjects involving skill learning such as Agriculture, Home Economics, Technical Graphics and Accounting. Although it may seem that this strategy is often used with

material objects, one should not discount the fact that even abstract things like concepts, ideas and attitudes can be demonstrated. According to Burden and Byrd (2003:173) for many students demonstrations conducted by teachers provide models of actions and establish expectations.

3.4.4.1 Advantages of the demonstration strategy

This strategy has a number of advantages. According to Reece and Walker (1998:146) and Wilen, Ishler, Hutchison Kindsvatter (2000:236-237) some of these advantages are that the strategy trains students to be good observers, as well as stimulating thinking and the formulation of concepts. The strategy has high interest value since it involves the use of gadgets and equipment, which may be new to the students, as a result, students are likely to be attentive during the demonstration. It is economic in terms of time and money as well as being effective as an introduction to skill learning. CAST (2002:3) notes that where students are given opportunities to demonstrate the processes and skills being taught, they are challenged to consolidate and apply all parts of the processes. Demonstration also elicits feedback from a broader audience. In addition, demonstrating skills and knowledge can motivate learners, helping learners experience the 'why' of learning. The method may be used to enrich and increase the learners' understanding.

3.4.4.2 Disadvantages of the demonstration strategy

The demonstration strategy has a number of limitations that may limit its effectiveness.

Where resources are limiting, the method provides less opportunities for children to discover things or solve problems on their own (Brown et al. 1992:55).   This is compounded by the fact that active participation is minimal, since more often than not, students act as observers. The method has the following problems: poor demonstrations can be frustrating for the students, can be too fast or too slow for the students, may be long leading to loss of concentration and students may learn bad habits or techniques. Similarly, Arends (1997:85) states that it is exceedingly difficult to demonstrate anything with complete accuracy.   To ensure correct demonstration and modelling requires practice ahead of time, yet teachers are already pressed for time (Esteve 2000:206).

3.4.4.3 Evaluating the demonstration strategy for mixed-ability teaching

From the above one can infer that the demonstration strategy transcends all teaching strategies. The strategy goes a long way at helping students who are not yet at the stage of abstract conceptualisation of information. It also caters for learners whose learning modes are visual and kinesthetic biased, in instances where students are afforded the opportunity to practice the skills.   Using the demonstration strategy in a mixed-ability class is consistent with Muijis and Reynolds' (2001:152) suggestion that varying teaching styles in different lessons according to lesson objectives and topics will automatically cater for different learning styles (refer to section 3.3.2: Students' learning styles). Chances are high that many slow learners will be in a position to benefit from the demonstration approach, therefore it is suggested that teachers teaching mixed-ability classes should attempt to lace other teaching approaches with demonstrations.

The suitability of this strategy for mixed-ability teaching is further underscored by the instances in which this method could be used. Pregent (2002:3) identifies two such instances. First, teachers can use demonstration when teaching manipulative operations or motor skills. While students may learn skills on their own, they may adopt a poor style or an incorrect technique if not taught, and it becomes difficult to modify a faulty skill that has become a habit. Second, this method is also appropriate when experimenting with dangerous chemicals. In Chemistry and Physics for example, the use of high voltages or of dangerous chemicals such as concentrated sulphuric acid could be harmful to the students. The above instances make the case for the use of this strategy in mixed-ability classes stronger since some students may not be able to read and follow instructions due to their limited proficiency in English (the language of instruction).

3.4.5 The project strategy

A *project* is a unit of activity carried out by the learner in a natural and life-like manner and in a spirit of purpose to accomplish a definite, attractive and seemingly attainable goal (Brown et al. 1992:59). It is essentially a learning unit designed and conducted by students under the guidance of the teacher. The students basing on their own background experience establish project goals, and are encouraged by the teacher to work through study activities towards the attainment of these goals. The students have much more autonomy in deciding what and how they are to learn. The method also allows the students more freedom to investigate and gather data, analyse and come to some conclusion. Richards (2001:2) says the following about project work:

> When working on presenting information on a subject relevant to themselves, children can work at their own pace in an uncompetitive environment. Many times, a child who has felt unsuccessful in a language-learning environment will be able to contribute a drawing, a map, or a graph to the project and feel that he has a stake in what is happening. Perhaps for the first time he feels that his work is appreciated and useful.

According to Vivian (2001:2) the project approach was born out of Howard Gardner's claim that there is not one, but in fact eight different types of intelligences. Vivian further points out that elsewhere teachers have become more aware of talents their students have that are not necessarily related to the subjects they teach. A student who does not have a born aptitude for languages, for example, can be a gifted artist, an exceptional musician or a great athlete. This underscores why as much as possible, teachers should promote cooperative games and learning activities in which good performance in one attribute is not enough to win, and the academically weaker students can contribute in the group with other talents or with their knowledge of the world.

3.4.5.1 Advantages of the project strategy

The George Lucas Educational Foundation (2003:3) notes that there is a growing body of research that supports the use of project-based learning. Schools using this approach report a decline in absenteeism, an increase in cooperative learning skills and improvement in student achievement. When technology is used to promote critical thinking and communication, these benefits are enhanced. The project strategy encourages creativity, freedom of expression, cooperation and initiative. It also applies the philosophy of learning by doing. The strategy gives students experience in planning

and organising and it provides a natural approach to learning that is not confined to artificial subject area barriers (Reece and Walker 1998:168). Some of the advantages of the project strategy according to the George Lucas Educational Foundation (2003:1) are:

- The strategy lends itself to authentic assessment. Authentic assessment and evaluation allow teachers to systematically document a child's progress and development. The strategy affords the teacher multiple assessment opportunities. It allows a child to demonstrate his/her capabilities while working independently. It shows the child's ability to apply desired skills such as doing research. The strategy also develops the child's ability to work with his/her peers, building teamwork and group skills. The teacher learns more about the child as a person. It assists the teacher to communicate in progressive and meaningful ways with the child or a group of children on a range of issues.

- The strategy promotes lifelong learning in that project-based learning enables students, teachers and administrators to reach out beyond the school buildings. Students become engaged builders of a new knowledge base and become active, lifelong learners. The method teaches students to take control of their learning, which is the first step as lifelong learners. In that pursuit of knowledge, technology allows students access to research and experts.

- The strategy accommodates students with varying learning styles. Children have a broader range of capabilities than they are permitted to show in regular classrooms with the traditional text-based focus. The project approach addresses these

differences because students must use all modalities in the process of researching and solving a problem, then communicating the solutions. When children are interested in what they are doing and able to use their strengths, they achieve at a higher level. *Allowing students to use their strengths amounts to optimising mixed-ability grouping for effective instruction* (emphasis researcher's).

3.4.5.2   Disadvantages of the project strategy

The expense, effort and time given to complete a project are sometimes not justifiable in terms of what is learnt (Brown et al. 1992:62; Walklin 1994:236). Choosing a project that will interest all the students in the class at the same time is also difficult. During project activities order and discipline are sometimes difficult to maintain. At times, it is difficult to schedule the project. In addition, Schultz (2001:51) notes that if students fail to accomplish the projects they may be hurt and become demotivated.

3.4.5.3   Evaluating the project teaching strategy for mixed-ability teaching

Despite the documented disadvantages of the project teaching strategy, it appears to be a viable alternative for use in mixed-ability classes because of the following reasons: First, since the approach depends much on the students' own backgrounds, it is ideal in mixed-ability classes where students have varying backgrounds, the students' different backgrounds will not be mitigating factors, instead they will help enrich learning experiences as propounded by exponents of multiple intelligences (refer to section 2.6.3:

Grouping and students with special educational needs).   Second, group projects will ensure that students will use their individual endowments (academic skills, analytic skills, synthetic skills, data gathering skills, inferential skills, and evaluative skills) for the benefit of the group members.   No student will feel left out of the learning process. Third, since the strategy trains students to take control of their learning (George Lucas Foundation 2003:1), it is differential in nature.   Fast learners do not have to be held back by slow learners, on the same token, slow learners do not have to be rushed through the syllabi to keep pace with fast learners, a problem often cited by proponents of ability grouping (refer to section 2.4.2: Arguments in favour of ability grouping).

When students are in control of their own learning, they will be at liberty to employ the learning styles they prefer, instead of being confined to learning styles that are congruous to the teachers' preferred teaching styles.   The need to consider the students' learning styles as a factor when choosing teaching strategies was alluded to under 3.3.2 (Students' learning styles).   As discussed under 1.2.1 (Background to the problem), students come into class with different levels of knowledge, skills, learning rates, motivation and are from a wide variety of social and cultural backgrounds; these students' differences have didactic implications that make the case for the use of the project strategy in mixed-ability classes stronger.

Problems associated with the project strategy can be ameliorated through forward planning by the teachers, teamwork and cooperation between the teachers, school administrators, parents and students.

3.4.6   Study trips

Study trips consist of planned organised visits to sites of interest outside the classroom such as factories, universities, agricultural projects, museums and parliament buildings (Brown et al. 1992:63). Study trips offer unique opportunities to investigate the natural world of students' everyday lives.

3.4.6.1   Advantages of study trips

A number of writers among them Gair (1997:2) and Landis (1996:1) credit study trips for having many advantages, especially when used in mixed-ability classes. Some of the advantages of using study trips as a teaching strategy are:

- They encourage constructivism, which is a key idea in the current educational reforms, for example, the interactions that are likely to occur as a small group of students experiments with an interactive museum exhibit. Students will talk about what they see and what they know, relating what they are doing in the museum to what they have learnt in and out of class. They experience, create, and solve problems together. Social discourse and direct experience help students construct an understanding of the phenomena. The exhibit puts constructivism in action.

- Study trips provide shared memories for the class. As teachers and students talk about the trips and think about them after they are over, they are building shared understanding. The events become part of the common knowledge of the classes and

can be referred to in subsequent lessons. What was learnt is thus reinforced and extended in discussions as the teachers and students refer to field observations.

- Teachers can effectively develop interdisciplinary units with their students outside of the classrooms. Such an approach dispenses with the notion of the world being made of discrete disciplines. For example, students working on a city street, could be doing Social studies (e.g. making a survey of how a building is used today and how it has been used over the years), Language arts (e.g. writing a short story about the building), Mathematics (e.g. devising ways to measure the height of the building), Science (e.g. observing the materials used in the building for signs of weathering). Subject matter barriers dissolve as children learn from their environment.

- Out of school visits increase students' social and personal development and offer them opportunities to demonstrate their inherent qualities of self-reliance, initiative and the ability to get along with peers.

3.4.6.2   Disadvantages of study trips

However, study trips have a number of disadvantages. Commonly cited disadvantages according to Landis (1996:1) are that:

- Study trips can be very time consuming in terms of organisation and planning as well as in what is learnt.
- Undertaking such trips involves additional costs (transport, accommodation and

feeding), and can increase the risk of accidents.

3.4.6.3   Evaluating study trips for mixed-ability teaching

Though study trips cannot be undertaken on a daily basis, if well planned they have a pivotal role in mixed-ability teaching. Teachers can organise such trips at the end of a topic or unit, to consolidate the theory covered in class. They do not necessarily have to be trips to far away places, even the immediate environs of the school may suffice as sites for study trips. For example, after covering the topic *soil erosion* in Agriculture in class, the teacher can at the end of the topic take students on a tour of the village, and let them identify signs of erosion, types of erosion and effects of erosion. Students can then suggest how to reclaim the eroded land, or even carry out a project on land reclamation.

Study trips appeal to students' different learning styles, and break the dichotomy between school life and real life problems. The possibility of slow learners being able to explain events, scenarios and phenomena observed during study trips better than their academically gifted classmates, due to their different backgrounds should not be ruled out. This may boost the self-esteem of the slow learners, which may eventually translate into improved academic achievement.

There are four other reasons why study trips are suitable for mixed-ability teaching. First, trips offer superior training ground for divergent thinking by utilising the skills of comparing, summarising, scrutinising, observing, classifying, interpreting, critiquing and

imagining. Second, students take ownership of their learning. Third, teachers can use study trips to enrich subjects in the school curriculum and to integrate instruction across a number of subjects. It can be argued that presently most students have problems transferring knowledge from other subjects to solve new situations in related subjects, for example, applying Science concepts like photosynthesis and respiration when solving problems in Agriculture. On the positive side, trips may assist with skills needed to break down the barriers between subjects. Fourth, the abstract concepts and broad issues that students study in their textbooks are transformed into tangible realities and intriguing stories about their everyday world. Such an approach helps to cater for the students' varied learning styles as discussed under section 3.3.2 (Students' learning styles), whose cumulative result will be improved academic achievement. The close cooperation and interaction between teachers and students and between students and students during the study trip may result in the realisation of affective and social benefits of mixed-ability grouping as discussed under section 2.5.2.3 (Affective and social outcomes).

3.4.7   The discovery strategy

Discovery learning emphasizes active, student-centred learning experiences from which students discover their own ideas and derive their own meaning (Arends 1997:164). Petty (1998:263) puts it that in this strategy the teacher asks questions or sets tasks that require students to work out the new learning for themselves with some guidance from the teacher. This makes questioning skills an integral part of the approach (Jacobsen, Eggen and Kauchak 2002:193). The discovery strategy is applicable to all areas of

teaching.

3.4.7.1 Advantages of the discovery strategy

The discovery strategy has certain advantages that make it suitable for mixed-ability teaching (Morrison 1997:165; Manning and Butcher 2001:185). Some of these advantages are:

- It fosters student participation. The questioning fosters curiosity and intrinsic interest in the subject matter.
- Students must make their own meaning, that is create their own understanding of the subject matter. Consequently they will understand it, and its links to their prior learning. They are also most likely to remember it.
- It involves students in higher-order thinking, evaluation, creative thinking, problem solving, analysis and synthesis.

3.4.7.2 Disadvantages of the discovery strategy

However, Petty (1998:267) and Mutasa and Wills (1995:480 point out that the discovery strategy has a number of limitations. Below are some of the disadvantages:

- The strategy can be slow, which makes it problematic where subjects are content laden and there is no practical way for using it for some topics.

- There is also a danger of having students who watch rather than being involved in the discovery.

- Left on their own, students can discover wrong things, and left confused at the end of the lesson.

- Teachers can avoid this by summarising what students should have learnt with particular care.

- It demands a lot of management and organisational skills from the teacher.

- Unruly students can exploit this approach.

- It can also prove to be difficult for the teacher if the class is of wide ability.

3.4.7.3 Evaluating the discovery strategy for mixed-ability teaching

The strategy's thrust on students discovering knowledge on their own affords students the opportunity to use their preferred learning styles. The strategy takes cognisance of the students' varying learning speeds and varied academic abilities. It is further suggested that in mixed-ability classes, teachers could use this approach in conjunction with other child-centred teaching strategies. To avoid frustration, the assignments given to students should be just above the students' academic comfort zones. There are three other reasons why this strategy is considered suitable for mixed-ability teaching: First, since the strategy fosters student participation, curiosity and intrinsic motivation, it is appropriate in mixed-ability classes, as some of the students in such classes may be having low motivational levels. Second, learning may become more interesting when students are actively involved in the learning process. More often than not, students are likely to remember better and longer information that they actively discover for themselves as

compared to teacher-given information.   When this happens, the academic benefits alluded to by proponents of mixed-ability grouping are likely to be realised (refer to section 2.5.2.1: Academic achievement outcomes).   Third, the strategy appears to be a conglomeration of other student-centred strategies such as problem solving, project strategy and student research.   Assuming that this is true, it can be argued that the strategy takes cognisance of the students' different learning styles that were underscored as central organisers in the teaching-learning process (refer to section 3.3.2: Students' learning styles).

3.4.8   The problem solving strategy

Turner (2001:62) states that:

> Problem solving is fundamentally a variety of concept learning, but tends to mean the learning of complex concepts with less information than is normally available. It may involve the application of previous learning, of concepts, skills and strategies, or processes of elimination in finding a fault or a possible answer. It may simply be finding the best way to go about a task.

Similarly, Arends (1997:169) conceives problem-based instruction as being characterised by students working in pairs or small groups to investigate real life problems. It is based on the premise that puzzling and real life problem situations arouse students' curiosity and thus engage them in inquiry. It is discernible from both conceptualisations that when the strategy is being used, students are confronted with a situation/problem, but armed

with insufficient information to solve the particular problem.

Teaching *problem solving* and using *problem solving* as a teaching strategy are different entities (Killen 1996:98). Teaching problem solving is teaching students how to solve problems, while problem solving as a teaching strategy is a method in which problems are used by design to help students to understand or gain insight into the subject they are studying. According to Jacobsen et al. (2002:215) problem-based teaching strategy is an approach in which teachers assist students to learn how to solve problems through hands-on learning experience. In this teaching strategy, the students inquire into a problem with a view to finding some answers or reasons why the problem exists. Inquiry and problem solving go beyond discovery learning, although a student must use all of his/her discovery capabilities and many more in this approach. An inquiry-oriented teaching strategy must provide an opportunity for the learners to identify and clarify a purpose for inquiry, formulate a hypothesis, test the hypothesis by collecting data, draw conclusions, apply conclusions in new situations to new data and develop meaningful generalisations (Petty 1998:252).

3.4.8.1 Advantages of the problem solving teaching strategy

The Global Crisis Solution Center (2003:3) and Huitt (1997: 7) point out that the problem solving teaching strategy has a number of advantages which make it suitable for mixed-ability teaching. Some of these advantages are:

- Engages students actively in learning.

- Teaches students that their solutions should be explainable and justifiable.

- Develops students' critical thinking skills and their ability to adapt to new learning situations.

- Helps to keep alive students' natural curiosity (which often seems to get lost as they grow older).

- Encourages students to talk about the concepts they are trying to understand. This helps students to evaluate their own understanding and to identify flaws in their thinking.

- Helps students to develop qualities such as resourcefulness, independence, patience and tenacity. When they are successful, it develops their self-confidence and self-esteem.

- Helps increase retention and provides a sound foundation from which students can transfer their knowledge to other situations.

- Problem solving can create three conditions that assist in subsequent retrieval and appropriate use of new information: activation of prior knowledge, similarity between the contexts in which information is learnt and later applied, and opportunity to elaborate on that information.

3.4.8.2 Disadvantages of the problem solving strategy

Notwithstanding the above benefits of the problem solving teaching strategy, there are certain disadvantages that can militate against the realisation of the above advantages

(Killen 1996:102; Huitt 1997:6; the Global Crisis Solution Center 2003:1). Some of the frequently cited disadvantages are:

- Unless the problems are motivating, students may see them as simply busywork.

- Unless students are interested and believe that they can solve the problems, they may be reluctant to try.

- Appropriate problems take time to develop since each problem needs to be carefully structured to produce specific student learning outcomes.

- Unless students understand why they are attempting to solve a particular problem, they may not learn what the teacher wants them to learn.

3.4.8.3 Evaluating the problem solving strategy for mixed-ability teaching

The above facts on the problem solving strategy satisfy one of the tenets of child-centred teaching, that of learning as an active process. There are a number of reasons why the problem solving strategy is appropriate for teaching mixed-ability classes *inter alia:* First, investigating real life problems may make some students especially in mixed-ability classes realise the importance of education as well as its relevance to real life situations. Furthermore, dealing with real life situations negates the cultural capital thesis whose proposition is that different students' backgrounds may disadvantage some students in school (Cohen et al. 1996:203). Second, the ability to transfer knowledge to new situations, a skill developed by this strategy, is a skill many students in mixed-ability classes may be deficient in. Where students have developed this skill, they may be in a

position to apply this new knowledge in examination situations, resulting in improved academic performance. Third, the strategy seems to be a multifaceted approach, which calls upon students to make use of a number of learning styles. It can thus be concluded that the strategy's suitability in mixed-ability classes lies in recognising that students have different learning styles. Fourth, individual problem solving tasks may ensure that students tackle the assignments at their own pace, while group problem solving tasks may capitalise on the benefits of multiple intelligences and in addition foster the affective and social benefits discussed under section 2.5.2.3 (Affective and social outcomes).

While it can be argued that this method will benefit learners of different abilities, the teacher may need to work more closely with some students, especially those having learning difficulties and invest some time and thought in the setting of tasks if the purported advantages are to be realised.

3.4.9   The small-group work teaching strategy

Lou et al. (1996:425) view small-group work teaching strategy as a strategy where a class of students is taught in several small groups. While acknowledging that there are many variations to group work, Killen (1996:60) notes that the distinguishing feature in all the variations is that students are working together without direct intervention by the teacher for part of the lesson. According to Killen (1996:60) the rationale behind the use of group work as a teaching strategy is that, at times the strategy affords greater opportunities for students to learn than would be possible in whole-class instruction.

However, teachers should be cognisant of the fact that simply grouping students in different parts of the room, and having them work individually is not group work.

3.4.9.1 Advantages of the small-group work teaching strategy

When this strategy is used properly, a number of benefits accrue to the students. Race (2000:1-4) and ADPRIMA (2002:3) summarise these advantages as follows:

- It allows students to experience roles as leaders, peers and subordinates and to experience a range of social contacts.

- Group work can be fun and therefore motivating for students.

- It is a very useful way of activating students' prior knowledge and helping them to reconstruct their understanding of the subject matter.

- The strategy gives the teacher a chance to circulate and check individual students' understanding, without placing the students in a testing situation.

- Students are often comfortable in small groups.

3.4.9.2   Disadvantages of the small-group work teaching strategy

Just like any other teaching approach, small-group work has got its own limitations. According to Jaques (2001:193) and Killen (1996:62) disadvantages of this teaching strategy include:

- Students have to learn how to learn in this environment, something which may not be easy for students who are accustomed to teacher-directed methods of learning.

- Some students may initially find it difficult to be accepted as group members possibly because they are unpopular or different in some way from other members of the group.

- Unless the teacher monitors carefully student interaction in each group, some students may waste time discussing irrelevant issues.

- If group work is a major part of the teacher's instruction, formal assessment of student learning can cause some problems. It is often difficult to assess individual work fairly, and some students may feel uneasy about being judged on the basis of group effort.

- Some students prefer direct instruction and are not happy when the teacher requires them to teach themselves.

- If it is to be used effectively, group work requires a lot of preparation, probably more than an equivalent lesson delivered by direct instruction.

- The physical arrangement of many classrooms is not suitable for small-group work. To be effective, the groups must be able to function without interfering with one another.

3.4.9.3 Evaluating small-group work teaching strategy for mixed-ability teaching

Basing on the advantages of the small-group work teaching strategy, it can be argued that the diversity found in mixed-ability classes makes small-group instruction very

appropriate for such classes. According to Lou et al. (1996:425) there are a number of reasons for utilising small-group work instruction in mixed-ability classes. First, the emphasis on peer learning means that the teacher may have more time to provide either remedial assistance to students having difficulties or enrichment activities to students who have already mastered prescribed content. Second, using within-class grouping means that teachers may have greater flexibility in adjusting the learning objectives and the pace of instruction to meet individual needs. Using within-class ability grouping means that the teacher can increase the pace and level of instruction for high achievers and provide more individual attention, repetition and review for low achievers. Third, students in small groups may engage in such activities as orally rehearsing material, explaining material to others, discovering solutions, and debating and discussing content and procedural issues. Thus, teachers may capitalise on the social aspects of cognitive growth, emphasising the development of higher-order thinking skills. Fourth, students who learn together in small groups may be motivated by cooperative, as opposed to competitive, incentive structures. Fifth, small group-work instruction means that students may have the opportunity to develop social and communicative skills because of the need and opportunity to work with others to learn.

The above facts show that the strategy takes cognisance of the students' different abilities, learning rate and learning styles as discussed under 3.3 (Factors affecting the choice of teaching strategies). The fact that almost all members of the class are productively occupied during instructional times suggests effective instruction. It should be remembered that meeting the varied educational needs of students in mixed-ability

classes is not easy for most teachers, as noted by Ainscon and Muncey in (McGarvey et al. 1997:353), yet this strategy makes it possible for teachers to reach all students notwithstanding their individual differences. Small-group work may make it possible to realise the benefits of mixed-ability grouping that were discussed under section 2.5.2 (Arguments in favour of mixed-ability grouping).

Disadvantages that are likely to erode the effectiveness of the strategy may be countered by teaching students small-group work learning skills, assigning tasks whereby academic prowess is not enough to have tasks done so that those who are academically challenged can also contribute positively to the task using their general knowledge of the world. The adoption of such strategies by teachers in a given school as school-wide strategies will help students appreciate the small-group work strategy as a teaching strategy.

3.4.10 Cooperative learning

Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning (Smith 1996:71; Johnson and Johnson 1999:1). Cooperative learning is a generic term for a number of teaching strategies designed to foster group cooperation and interaction among students. A common trait in all these strategies is students working together in small groups (Jacobsen et al. 2002:231). Commenting on the composition of cooperative groups, Killen (1996:79) notes that;

> . . . the achievement of social goals through student involvement in co-operative learning
> is dependent upon each group being heterogeneous, with students of both sexes, mixed

races or cultures, and mixed-abilities.

Some writers like Lou et al. (1996:425) and Good and Brophy (1997:431) point out that there is a distinction between small-group work instruction and cooperative learning. The major difference seems to be in group composition, while in cooperative learning groups should be always of mixed-abilities (Killen 1996:79), this is not always the case as groups in small-group work instruction may at times be homogeneous (Lou et al. 1996:425).

3.4.10.1   Advantages of cooperative learning

A number of writers among them Slavin (1994:288), Richards (2001:1), Jacobsen et al. (2002:235), Joyce and Weils (1986:216), Johnson and Johnson (1999:2) and Killen (1996:82) allude to the fact that cooperative learning has a number of advantages for mixed-ability classes. Some of the often-cited advantages are:

- Cooperative learning eliminates competition found in most classrooms, which tends to produce winners and losers and classroom pecking order, which discourages students from helping one another.

- It encourages students to work together and help each other towards common goals, and because of this, cooperative learning has been found to foster positive inter-group attitudes.

- Classrooms organised so that students work in pairs and larger groups, tutor each other and share rewards are characterised by greater mastery of material than the common individual-study cum recitation pattern. This is because people understand

and remember things better if they talk about them with others. This cognitive process helps transfer information from short term to long-term memory.   The shared responsibility and interaction produces more positive feelings toward tasks and others, generates better inter-group relations, and results in better self-images for students of low ability.

- Cooperative learning teaches students to be less reliant on the teacher and more reliant on their own ability to think, to seek information from other sources, and to learn from other students.

- Cooperative learning helps students to learn respect for one another's strengths and limitations and to accept these differences.

- It fosters positive interdependence among students, and it can promote cross-racial and cross-cultural friendships.

- Students who might otherwise feel stressed by participating in whole-class discussions can learn in a more relaxed atmosphere.

- Cooperative learning can help students to see that their perceived lack of talent for a particular subject is actually a problem of lack of thorough understanding of the material. The interactions that occur during cooperative learning help to motivate students and stimulate their thinking.

3.4.10.2 Disadvantages of cooperative learning

Studies have shown that a primary source of difficulty in using cooperative teaching approaches lies in students' inability to actively monitor and subsequently regulate the

cognitive processes engaged in during collaborative problem solving (Mevarech and Kramarski 1997:366). As cogently argued by Johnson and Johnson (1999:2), placing students in groups and telling them to work together does not in and of itself result in cooperation. Mevarech and Kramarski (1997:367) suggest that students should be given special training to facilitate the activation of metacognitive processes within the cooperative settings. Some of the disadvantages of cooperative learning according to Johnson and Johnson (1999:2) and Mevarech and Kramarski (1997:367) are that:

- Some students may initially object to the idea that their assessment depends on the learning of other students in their group.

- To be successful, cooperative learning needs to be used over an extended period of time so that students develop the necessary group interdependence. It is not a strategy that a teacher can use very successfully just once in a while.

- To teach cooperative learning properly the teacher has to keep very detailed records of each student's performance on each learning task, and spend considerable time calculating group achievement scores.

- Because cooperative learning relies heavily on group incentives to motivate students, there is some concern that students' learning may not transfer to situations in which these structures are not present.

- The functioning of cooperative groups can be influenced by the students' perceptions of the ability and social standing of group members. The teacher will need to emphasise that each student has unique abilities that contribute to the overall functioning of the group.

3.4.10.3 Evaluating cooperative learning for mixed-ability teaching

From the above information on cooperative learning, it can be concluded that cooperative learning is compatible with mixed-ability grouping, owing to the diversity found in such classes. A properly implemented cooperative approach can enhance the realisation of benefits purported by proponents of both ability grouping (refer to section 2.4.2: Arguments in favour of ability grouping), and mixed-ability grouping (refer to section 2.5.2: Arguments in favour of mixed-ability grouping). The approach makes it possible for teachers and students to exploit the students' unique individual differences in order to achieve effective instruction and learning. Basing on these research findings, it can be argued that the positive effects that cooperation has on so many important outcomes makes cooperative learning one of the most valuable assets at the educators' disposal.

The myriad of outcomes from cooperative learning lend credence to the postulation that the strategy results in the total development of the students, since outcomes are not only limited to academics. The strategy is also very suitable for mixed-ability classes, since it recognises and celebrates students' strengths and weaknesses. It can further be argued that this strategy caters for multiple intelligences by encouraging students from different experiential backgrounds and of different abilities to learn from one another.

Lyman and Foyle (1988:1) cite two other reasons lending credence to the use of cooperative learning in mixed-ability classes. First, it helps students feel successful at every academic level.   In cooperative learning, low-achieving students can make

contributions to a group and experience success, and all students can increase their understanding of ideas by explaining them to others. This fact is consistent with the argument that mixed-ability grouping results in improved academic achievement for students of different abilities (refer to section 2.5.2: Arguments in favour of mixed-ability grouping). Second, students' motivation to work in school is dependent on the extent to which their basic psychological needs are met. Cooperative learning increases student motivation by providing peer support (refer to section 2.5.2.3: Affective and social outcomes). As part of a learning team, students can achieve success by working well with others.

3.4.11   Using student research as a teaching strategy

Commenting on how teachers can use *student research* as a teaching strategy, Murray (1984) (in Killen 1996:132) writes thus:

> The research process for school students, especially in the lower secondary school, should be primarily a guided, structured experience. It is not something that just happens or students just do. Neither is it the mindless copying of material from encyclopedias that is often described as "project" work in primary schools. It is the systematic use of available data sources. "Interpretation" in the sense that students are left to make their own conclusions from data needs to be carefully mediated by the teacher and controlled by purposes and objectives of the individual lesson plan and units of work. Interpretation and imaginative use of data is important but it is unreasonable to expect it to occur randomly outside of a structured learning experience.

3.4.11.1 Advantages of the student research strategy

The use of student research has a number of advantages when used effectively. When the strategy is used in conjunction with group work, cooperative learning, discussion or problem solving, it can also incorporate the advantages of those teaching strategies. Killen (1996:134) identifies the following as some of the advantages of student research as:

- Enables students to develop a much deeper level of understanding of the subject matter than would be possible if the teacher used strategies such as direct instruction or discussion.
- Helps students to develop their organisational and time-management skills.
- Helps students to become more responsible for their own learning.
- It can be a fun and motivating way for students to learn, particularly for gifted students.
- Teaches students how to make use of the sources of information that are available in their local community.

3.4.11.2 Disadvantages of the student research strategy

Just like any other teaching strategies, student research is not suitable in all teaching situations. According to Killen (1996:135) some of the disadvantages of this teaching strategy are:

- Not all students will enjoy learning in this way. Students who lack confidence in their own ability may initially be very reluctant to participate, particularly in individual research projects.

- Students who have poor reading skills may be disadvantaged by a research project that requires them to make extensive use of written materials.

- Students who have poor writing skills may learn a lot from a research project, but may have difficulty demonstrating what they have learnt.

- Unless the teacher plans the student research projects very carefully, they may become unmanageable. If this happens, and students are unable to complete a project, they may become disillusioned and discouraged from participating in this form of learning.

3.4.11.3 Evaluating the student research strategy for mixed-ability teaching

Notwithstanding the documented disadvantages of using student research as a teaching strategy, the strategy is very appropriate for use in mixed-ability classes because of the following reasons: First, the fact that when this method is used effectively may result in the use of other student-centred strategies such as problem solving, discovery learning and cooperative learning, means that benefits that are unique to these other methods will also be achieved. Second, when students develop a much deeper level of understanding of the subject matter, as is the case when using this method, it may translate into improved academic performance. Such a development is more welcome in mixed-ability classes than in ability grouped classes since in the former teachers may be teaching students who

take longer to understand than in ability grouped high-achieving classes. Third, when students learn to make use of information and resources in their local communities, the dichotomy between schools and community is deleted. Such an approach affords students opportunities to exploit their varied backgrounds for the academic benefits of the whole class, especially in situations where presentations are made to the whole class after the completion of the research. Fourth, the strategy affords teachers opportunities to work closely with those students needing more scaffolding, extension and enrichment. Just like any other teaching strategy, it should be remembered that proper planning might minimise the limiting effects of the strategy's disadvantages.

The strategies discussed above have room in mixed-ability teaching. Which strategy to use will depend on the factors that were discussed under section 3.3 (Factors affecting the choice of teaching strategies). Owing to the fact that students have different learning styles, it is here suggested that teaching may be more effective if teachers employ different strategies in any one lesson. Teachers should take cognisance of the fact that whatever teaching strategies they choose to use; they should differentiate when teaching mixed-ability classes. Differentiation should in other words form part of all teaching strategies. The following section discusses differentiation: what it is and how it can be accomplished in a mixed-ability class.

3.5   DIFFERENTIATION AS A PREREQUISITE FOR EFFECTIVE MIXED-ABILITY TEACHING

3.5.1 Differentiation defined

Hess (1999:1) and Tomlison (1995:1) suggest that the solution to learner diversity is differentiation. They both define differentiation as a means of providing students with different avenues to acquire content, process or make sense of ideas and to develop products. In the same vein, Stradling and Saunders (1993:129) view differentiation as a pedagogical rather than an organisational strategy; as a process of matching learning targets, tasks, activities, resources and learning support to individual learners' needs, styles and rates of learning. From the above definitions of differentiation it is evident that the matching of learning content, pacing, methodology and assessment of learning outcomes to students' individual needs are central to differentiation. Tomlinson (1995:1) justifies the need for differentiation by stating that:

> We know huge amounts about how individuals learn. Most of us have memories of being in places where we thought we were going to scream if someone repeated one more time something we'd understood seemingly forever - and places where we were about to explode with frustration because we simply could not grasp the ideas at the pace they were presented. We also all know what a difference it makes if we can work alone when we need space to think through by ourselves, or work in a group when we need sounding boards.

Tomlinson (1995:5) views differentiation as a blend of whole-class, group and individual

instruction. There are times when it is more effective or efficient to share information or use the same activity with the whole class. Such whole-class instruction establishes common understandings and a sense of community for students by sharing and review.

3.5.2 How to achieve differentiation

Differentiation can be achieved through the preparation of self-access materials, when the syllabi forces teachers to move forward, while they feel that there are students who are not yet ready to go on (Vivian 2001:2). Such an approach will enable students to do work at their own pace. Self-access materials should contain a very clear explanation of a given topic, followed by an exercise and an answer key. Preparing extra materials for the students may be an extra burden on the teachers during initial stages, but not all of these materials have to be done from scratch.   Textbooks can be used as sources of materials, and a bank of activities organised by a group of teachers, will save a lot of work on future occasions. In a system where the syllabi are content-laden, self-access materials can ensure that learners of different abilities move through the syllabi at their own comfortable paces. Harrison (1992:142) and Stradling and Saunders (1993:130) note that differentiation may be accomplished in a number of ways, *inter alia*: differentiation by task, differentiation by materials, differentiation by outcome, differentiation by learning activity, differentiation by pacing and differentiation by dialogue.

With the introduction of computers in Botswana's junior secondary schools, self-access

materials may be improved upon to individualise instruction through the application of technology in the classroom through computer-assisted teaching (CAT). Marcus and Johnson (1999:3) state that the computer can diagnose the individual student's level of achievement and can call up a curriculum that will move the student forward in an appropriate and challenging manner. In fact Smit, Oosterhout and Wolf (1996:153) conducted a study on the use of computers in remedial Mathematics at the University of Botswana. Their findings were that computer-assisted learning improves students' achievement. Therefore, with the possibility of having all junior secondary schools equipped with computers by the year 2004 (Department of Secondary Education 2002:38), this strategy is worth considering.

3.5.3 Factors that affect differentiation

According to Stradling and Saunders (1993:130) differentiation is affected by a number of factors, *inter alia:*

- Student records are needed which have diagnostic potential. Teachers need to be encouraged to make full use of such records and to consult with colleagues who previously taught these students. More thought needs to be given to the development and use of practical diagnostic activities, such as brainstorming, concept maps, experiments and exploratory activities.

- Teachers exchanging information about teaching and learning methods, which had been used, and which methods and approaches worked best with different students.

- Tailoring teaching to the different styles and strategies of learning adopted by students.

- Reviewing teaching materials, learning activities and tasks to see if they are flexible enough to ensure access and a sense of achievement for all students, whilst at the same time stretching and challenging them all.

- Recognising students' achievements, building upon them, and challenging students to extend what they know, understand and can do.

- Organising space in the classroom and also school, to support group work and collaborative learning, as well as individualised learning, for example, through developing flexible learning strategies and open learning areas.

- Implementing strategies and mechanisms for ensuring effective coordination of teaching and learning responses to students' needs.

- Monitoring and reviewing of students' learning experiences.

- Recognising that talking to students about their work, setting them new targets and diagnosing their learning difficulties are an integral part of the teaching process and not something which gets in the way of real teaching.

- School heads, deputies, heads of departments, senior teachers and the rest of the teaching staff should bear in mind that shifting from the traditional teaching to differentiation calls for a school-wide strategy. This is a strategy which involves all teachers through consultation and wider participation in curriculum planning and organising staff development programs, thereby encouraging a greater sense of ownership not just of their own teaching but of the school's curriculum as a whole. In addition this strategy reviews the whole curriculum of all students in the school

and establishes effective procedures for ensuring continuity and progression. Without a curriculum audit, school-wide change is not feasible. But in many schools the only people who know the whole curriculum are the students, and their knowledge is partial. This strategy also takes account of students' earlier learning and responds flexibly to the different and changing needs of each student, these learning needs being monitored across each student's curriculum.

From the above, one can conclude that differentiation is an approach which is student-centred, where individual differences are the central organisers in teaching. However, successful differentiation hinges on a number of factors *inter alia*: teachers' knowledge on child development and its implication for teaching and learning, teachers' depth and breadth of the repertoire of instructional skills, availability of instructional materials and support services and a paradigm shift on what constitutes good teaching by teachers, instructional supervisors, parents and their children.

Success in the use of any strategy hinges on clear instructions (Richards, 2001:2). Group work, pair work and individual work can only be effective if all concerned understand what they are doing, why and what is expected of them. The strategies discussed in this study are not definitive, there are many more. These strategies are not used in isolation. It is not uncommon to employ two or more strategies in a single lesson. As opined by Richards (2001:2), teachers need to vary their lesson presentations, taking into account the student's different learning styles and abilities. It is further reiterated here that each of the discussed strategies is effective in mixed-ability classes depending on the teachers'

competences, and the stage in the lesson when the strategy is used.

It could be argued that the best empirically investigated teaching strategy on its own is not enough to bring about academic success. The other component in the teaching-learning equation is arguably the teacher's ability to select appropriate teaching strategies, plan the instruction, motivate students, deliver the instruction and assess the students. All these attributes and many more not mentioned add up to teacher competences that are needed for effective mixed-ability teaching. The following section focuses on some of the teacher competences that are needed for effective mixed-ability teaching.

3.6   TEACHING COMPETENCES FOR MIXED-ABILITY TEACHING

Literature on classroom life in Botswana singles out the automatic progression of standard seven completers into form one, high teacher-student ratio, examination oriented curricula and the present educational structure, as problems limiting teaching effectiveness (Prophet and Rowell 1990:29). While the highlighted issues constitute constraints for the teachers, they are policy issues. Teachers cannot do much to change these; they are like a straight iron jacket, which teachers are put in. These issues form the context in which teachers are supposed to operate in. They are like the proverbial 'burning platform' that teachers find themselves on. Therefore one of the pertinent questions, which beg for attention, is: *What competences do teachers need for them to survive the burning platform?* This question is the subject of this section.

3.6.1   Understanding students

Tomlinson (1995:6) suggests that the effective teaching of mixed-ability classes requires a paradigm shift in teachers. She argues that when teachers engage in mixed-ability teaching, they move away from viewing themselves as custodians and dispensers of knowledge and move towards perceiving themselves as organisers of learning opportunities. While the importance of content knowledge cannot be over emphasised, mixed-ability teachers focus less on knowing all answers, but focus more on understanding their students. After understanding their students fully, they then create ways to learn that both capture students' attention and lead to understanding. Organising students for effective activity and exploration becomes the highest priority. Commenting on this competence, Brown et al. (1992:9) point out that:

> In order to guide learning effectively the teacher should know how much the students are capable of grasping at their various levels of maturity, and their interests and previous experiences, so that he will be in a position to motivate them.

Teachers need to learn how to learn about their students. They need to learn to use the available data from test scores and analytic records kept on each student, and use this information to inform their teaching. Basing on the researcher's experience as a teacher in Botswana, more often than not, teachers build lessons and activities without regard for the students themselves. It is during such instances that teachers need help from their instructional supervisors regarding how to use students' differences as organisers in selecting teaching strategies. Lack of support diminishes the teachers' ability to learn deeply (Wasley 1999:9).

3.6.2   Mentoring ability

Teachers who teach mixed-ability classes effectively focus on their roles as mentors, and give students as much responsibility for learning as they can handle. Tomlinson (1995:7) opines that such teachers grow in their ability to:

- Assess students' readiness through a variety of means.

- Read and interpret students' clues about learning needs and preferences.

- Create a variety of ways students can gather information and ideas.

- Develop varied ways in which students can explore and own ideas.

- Present varied channels through which students can express and expand understanding. Covering information takes a back seat to making meaning out of important ideas.

3.6.3   Flexibility

Arguelles, Hughs and Schumm (2000:50) suggest two other important competences namely flexibility and being prepared to take risks. They point out that teachers in mixed-ability classes must have the philosophy of making the classroom big enough for everyone. Both teachers and school administrators must be flexible if mixed-ability teaching is to be effective. School administrators have to be open to new ways of doing routine tasks, such as timetabling and allocation of personnel. Teachers in turn need to be flexible with their instructional styles and classroom management, that is, knowing

when to employ whole-class approach, within-class grouping, individualising instruction and peer work. All these approaches have their places in mixed-ability teaching if properly used.

Making significant changes in the way services are delivered to students requires school administrators and teachers who are willing to take chances. Mixed-ability teaching often leads to teachers challenging themselves to improve their teaching and actively work to include all students. In addition, teachers need administrative support and ideas. Mixed-ability teaching requires direction from school administrators who must be willing to listen and learn, and to help overcome obstacles such as timetabling and personnel allocation. This premise is consistent with Argulles et al.'s (2000:51) argument that:

> Many teachers will be entering uncharted territory and may be apprehensive about their changing responsibilities. Administrators can help them by creating an atmosphere where mistakes and changes are accepted as normal part of the process.

3.6.4   Developing skills that are beyond subject area content

Teachers need to develop their skills and knowledge beyond those that are subject related (Marcus and Johnson 1998:3; Wasley 1999:13). Teachers will require computer skills to be able to develop individualised instructional materials. They will also require sharp diagnostic skills and a social background in learning support and human development potential. Teachers will need to learn how to break through the stereotypes and patterned thinking that haunts many, if not most, even subconsciously. This is a two-fold challenge, inasmuch as most teachers will first need to overcome their own stereotypical

presumptions before helping students to move beyond theirs (Marcus and Johnson 1989:3).

Weinstein (1993:16) believes that the focus must be on changing limiting beliefs about differential ability to learn and self-defeating teaching strategies that are a result of such beliefs. These beliefs have culminated into inappropriate adjustments of teaching methods for certain groups of learners, thereby creating enormous inequalities. According to Weinstein (1993:16) confronting entrenched beliefs, implementing effective teaching methods and engaging in a change process are important to ensuring the fulfillment of the declared prophecy of high attainment for all learners. These observations stem from the realisation that teacher expectations have a profound effect on student achievement. Glanz (1997:181) corroborates the effect of teacher expectation on student achievement by arguing that:

> Expecting students to pass is one such important disposition. Teachers who communicate high and affirming expectations to their students help them become self-confident, successful learners. Conversely; communicating negative expectations often produces disinterested students. The literature is unequivocal; teachers' expectations of student performance is a major determinant for academic success and social adjustment to school/classroom life. . . . What we expect, all too often, is exactly what we get. Nowhere is this more true than in education, where teachers' expectations are crucial.

The preceding discussion shows that teaching and learning are reciprocal processes. If a student knows that the teacher expects him/her to do well, he/she will strive to do well so as not to disappoint the teacher. Seemingly, where the teacher shows no concern and has low expectations of the students, students tend not to do well (Oakes and Lipton

1999:141). Weinstein (1993:16) opines that beliefs without actions, is half the expectancy equation. Higher expectations should be accompanied by attention to effective teaching methods. In other words, positive expectations of teachers must be communicated and acted upon if they are to have a positive impact on students' academic achievement. This fact was underscored under section 2.4.3 (Arguments against ability grouping). Basing on the above, it can be argued that teacher competences discussed above will play a pivotal role in assisting teachers to make decisions regarding the teaching strategies to employ in their classes as well as making effective use of the teaching strategies.

3.7   CONCLUSION

In this chapter, the teaching of mixed-ability classes was brought into focus. Definitions of mixed-ability teaching and teaching strategies were provided, before examining a number of teaching strategies that can be employed for the effective teaching of mixed-ability classes. Each strategy was evaluated on its suitability for teaching mixed-ability classes. Factors affecting the choice of teaching strategies were also considered. The assumption is that if teachers are aware of such factors, they are likely to come up with varied teaching strategies that are likely to appeal to students' different learning styles, abilities, motivational levels, emotional differences as well as readiness levels. The discussion then focused on differentiation since it should be an integral part of whatever teaching strategy that a teacher uses when teaching mixed-ability classes.

Teaching competences that are a prerequisite for the effective teaching of mixed-ability

classes were examined. This was deemed necessary because the effectiveness of any teaching strategy will to a greater extent depend on the teacher's pedagogy repertoire. The considerations in this chapter, underscored the truism that: ***The more teaching methods teachers use to teach, the more students they reach.*** It should also be realised that most mixed-ability teaching strategies are a departure from the 'banking' teacher-centred teaching approaches, the strategies involve students actively in the learning process. As a result, students may initially distaste being actively involved in navigating the academic terrain, since they were used to being spoon-fed. In order to ameliorate this problem, teachers should adopt school-wide approaches when they are moving away from the traditional teacher-centred strategies to student-centred strategies. Where such school-wide approaches are not embraced, those teachers giving students a leading role in their learning may be viewed as being lazy since they might not be giving students volumes of notes for regurgitation during examinations as may be the norm in most schools.

The following conclusions can be arrived at from the discussion on teaching strategies and their suitability for teaching mixed-ability classes: Teaching is a complex activity requiring prudent decision-making by the teachers, decisions regarding the suitability of strategies to particular students, to cover certain topics and to meet given objectives. There is a difference between teaching mixed-ability classes and mixed-ability teaching. While teaching mixed-ability classes may refer to the use of any teaching strategy to teach mixed-ability classes, mixed-ability teaching is adaptive teaching, it is teaching which makes students' individual differences central organisers in the teaching - learning

process. Decisions regarding which teaching strategy to use when teaching mixed-ability classes are dependent on a number of factors. These factors are student factors, curriculum factors and teacher factors. Most mixed-ability teaching strategies are student centred. If effectively used, these strategies may play a pivotal role in achieving academic, instructional and organisational benefits as well as social and affective outcomes that were discussed under section 2.5.2 (Arguments in favour of mixed-ability grouping). Furthermore, these strategies may circumvent the arduous task of attempting to solve pedagogical problems through organisational means, i.e. trying to solve the problems of students' differential abilities and other individual differences through ability grouping. If anything, these strategies may assist teachers to optimise mixed-ability grouping for effective instruction.

Differentiation, an approach where content, pacing, teaching methodology and assessment should match students' individual differences should be viewed as a thread that runs through all the mixed-ability teaching strategies. The discussion also underscored the fact that teachers need to have organisational and instructional skills spanning beyond the mere knowledge of instructional strategies if they are to teach mixed-ability classes effectively.

In the next chapter, the researcher focuses on education in Botswana. A number of issues discussed in Chapters One, Two, Three and Four will be revisited in the context of Botswana.

CHAPTER FOUR

SCHOOLING IN BOTSWANA

4.1   INTRODUCTION

Botswana's education system has undergone unprecedented expansion since 1985, especially at the junior secondary school level owing to the move towards ten years of basic education for all (Jones 1996:37). This is a phenomenal achievement, if one considers that only 36% percent of the standard seven completers were admitted into form one in 1985 (National Development Plan 7 1991-1997: Republic of Botswana 1991:232). The National Commission on Education (1993:140) notes that this expansion has heralded into the system a plethora of problems and challenges notably the creation of mixed-ability classes at the junior secondary school level. Undoubtedly, this has implications on the organisation and instruction of students as alluded to under section 1.2 (Awareness of the problem).

In this chapter schooling in Botswana is discussed. The chapter focuses on what is happening now in the classrooms in light of mixed-ability grouping, which is prevalent at primary, junior and to some extent senior secondary school level. Before dwelling on the current schooling practice, the section discusses the philosophy informing practice, the education structure and the general aims of education as spelt out in the Revised National Policy on Education of 1994. While the major focus of the study is the junior secondary

level, it will not ignore the other levels of education, i.e. pre-primary, primary and senior secondary education as the various levels of education are interfaced. Whatever happens at the primary school level impacts on the junior secondary level, in the same vein, developments at the junior secondary school level have ramifications on events at the senior secondary school level.

It is hoped that an examination of the current schooling practice in Botswana will illuminate the following:

- The curriculum in the classroom, i.e. how teachers are attempting to transmute the curriculum into reality and what classroom research says about teaching in Botswana.

- The education structure, aims and objectives of the Botswana Three-Year Junior Certificate Curriculum and assessment of the junior secondary school curriculum, special educational at the junior secondary school. These issues are considered in the context of mixed-ability grouping.

4.2   THE QUEST FOR EDUCATIONAL EQUALITY: THE BOTSWANA CASE

Literature on the evolution of the concept of equality of educational opportunities is synonymous with the Western world as alluded to under section 2.2.2 (Grouping and equality in education). Does this Western conceptualisation of equality have anything to do with the quest for educational equality in Africa? Pandey and Moorad (1984:3) are of the opinion that since education in developing countries is influenced by Western

educational concepts, the Western equality implications are of great significance to Africa.

In Botswana, the question of educational equality can be traced back to the early post-independence years. The National Commission on Education (1977:18) underscores the need for all Batswana to have equal access to services such as education. While acknowledging that the post-primary education was exclusive, the Republic of Botswana emphasizes the need to ensure equality of opportunity through the fair distribution of facilities, the provision of bursaries and the use of an objective national selection system.

Since geographical and regional disparities are major causes of educational inequality in Botswana, the National Commission on Education (1977:18) suggests that:

> True equality implies that schools will be as far as possible made geographically accessible to all, that they will be approximately equal in quality, and that scarce qualified teachers, books, materials and permanent buildings be distributed throughout the system so that Batswana children are actually treated equally in schools.

While not being very explicit on organisational and instructional issues, the National Commission on Education (1977:33) reiterates the need for creating an environment of equality in the school and the classroom. The need for ensuring that learners of different abilities benefit from the instruction is also emphasized by the National Commission on Education (1977:33).

From the above, one can conclude that the National Commission on Education of 1977

recognised, acknowledged and celebrated differences among learners. It can also be concluded that the National Commission on Education of 1977 realised that mere provision of access to education was not equality, as discussed under section 2.2.2 (Grouping and Equality in education). Instead, equal access should be complemented by instructional and assessment strategies that are compatible with the learners' individual differences. This premise is consistent with progressive thinking in education as postulated by Oakes and Lipton (1999:145).

4.2.1   The post-independence educational developments

At independence, the Botswana government inherited a Western type educational system that was poor in quality and catered for a very small proportion of the population. The school curriculum did not address the needs of the society, especially its children. Studies on learning achievement revealed that a majority of primary school leavers lacked minimal competency in reading and writing. It is against this backdrop that Changu (1998:6) writes that immediately after independence the government of the day was confronted with the stark challenge of finding funds to finance the impoverished education system. It was faced with two options:

- To provide education for the majority of the population with the long-term goal of creating a literate society.
- To provide limited educational facilities for a few that could occupy civil service jobs at the time dominated by expatriates.

The Botswana government opted for the second option. As a result of this choice, income distribution became highly skewed. Colclough and McCarthy (1980) (in Changu and Chilisa 1997:4) state that critics argued that the effect of the education policy was to create a small but privileged educational and occupational group. From this observation, it can be concluded that this commodification of education was tantamount to creating inequalities. The researcher is of the view that basing access to education on manpower needs is unjust, since many who deserve, may not get the opportunity to acquire education.

To address these social inequalities the Government commissioned the first National Commission on Education in 1977. The Republic of Botswana (1977) (in Changu 1998:6) notes that following the recommendations of the 1977 National Commission on Education, the 1977 National Development Plan 5 gave top priority to providing universal access to primary education and ensuring equality of educational opportunities at secondary and tertiary levels through the fair distribution of facilities, the provision of bursaries and the use of an objective national selection system.

The 1977 National Commission on Education recommended that there should be universal access to primary education. The government accepted this recommendation and facilitated its realisation by abolishing school fees in 1980. However, parents still had to pay for school uniforms, a pot fee (lunch money) and development levy. Universal access to primary education resulted in a big increase in the number of children enrolled in primary schools. Nevertheless, this does not mean that the country attained

universal access to primary education because by 1993, 17% of primary school age children were still out of school (Changu 1998:7). In 2001 at primary school level, the enrollment figures for girls and boys were the same (Ministry of Education 2001:145), whereas in the past more girls than boys were enrolled as argued by Parsons (1985) (in Changu 1998:7). The Ministry of Education (2001:146) points out that the government of Botswana has scored considerable achievement with respect to providing equal opportunities for boys and girls to basic education.

The National Commission on Education (1977:101) acknowledges that admission into the secondary schools was exclusive, which implies that only those who were successful in the primary school leaving examinations were proceeding into form one. While the 1977 National Commission is silent on the organisation of learners for instructional purposes then, one can only surmise that schools were streaming students according to ability. Teachers who were teaching streamed classes also recall grouping students according to ability and reminiscent of how easy it was to teach such classes. This position is consistent with the second National Commission on Education's (1993:140) argument that presently teachers are finding it difficult to teach mixed-ability classes, as they were used to teach the best students selected from primary schools as discussed under section 1.2 (Background to the problem). In addition, Jones's (1996:39) observation that the inclusion of D grades into form one in 1992 became the final assault on the elitist history of secondary education in Botswana bears testimony to the prevalence of streaming prior to 1992. However, there has been a shift in this thinking following the findings of the second National Commission on Education (1993:160),

which called for mixed-ability grouping at the junior secondary school level.

4.2.2   The philosophy and general aims of education

In a report on the monitoring of learning achievement, the Ministry of Education (2001:2) points out that the first National Commission on Education identified four national principles that were to inform the national education system. These principles are:

- *Puso ya batho ka batho:* This refers to Democracy, which signifies a voice for all in building the future.

- *Ditiro tsa ditlhabololo:* Development of human and physical resources in the country.

- *Boipelego:* Self-reliance at national and individual levels.

- *Popagano ya sechaba:* Unity, national identity and pride.

The four principles combined to produce the Philosophy of *Kagisano*: social harmony, which embraces the concepts of social justice and interdependence. According to Changu and Chilisa (1997:3) encapsulated in the principle of social harmony are the ideas of social justice (which entails fairness and equity) and that of equality of opportunity (which entails provision of access). The Education Commission's report of 1977 was thus entitled Education for Kagisano. Recently, a fifth principle, *Botho* was included in the philosophy. *Botho* refers to a person with a well-rounded character: good manners, politeness, discipline, courtesy, appreciation of the success of others and a

yearning to serve rather than be served. These five principles still inform Botswana's education system up to this day (Ministry of Education 2001:2).

The implementation phase of the education expounded by the 1977 National Commission on Education lasted for fifteen years. According to the Ministry of Education (2001:3) during this implementation phase, the socio-economic situation of the country changed drastically, owing largely to the discovery of mining as the new economic growth engine. These changes invariably called for revisiting of the education system. This culminated in the appointment of the second National Commission on Education in April of 1992. The Commission's terms of reference included the review of the education system and its relevance, identification of problems and strategies for further development; establishing a structure for access to basic education and consolidating and vocationalising the school curriculum (National Commission on Education 1993:1).

The findings of the 1993 National Commission on Education culminated into the Revised National Policy on Education of 1994 whose goals were to prepare Batswana for the transition from an agro-based economy to the industrial economy that the country visions. The guidelines formulated by 1993 National Commission on Education and contained in the Revised National Policy on Education of 1994 are still valid and are presently informing practice. The education and training strategy as outlined in the Revised National Policy on Education (Republic of Botswana 1994:5) aims at ensuring that the people of Botswana, as a major national resource, will have invested in them an education necessary for national development. In addition, the Government of Botswana

considers access to basic education a fundamental human right. The education system is tasked with the development of moral and social values, cultural identity and self-esteem, good citizenship and desirable work ethics. According to the Revised National Policy on Education of 1994 (Republic of Botswana 1994:5) the educational philosophy and the general aims are operationalised into objectives as follows:

- To raise educational standards at all levels.

- To emphasise science and technology in the education system.

- To make further education and training more relevant and available to larger numbers of people.

- To improve the partnership between school and community in the development of education.

- To provide life-long education to all sections of the population.

- To assume more effective control of the examination mechanism in order to ensure that the broad objectives of the curriculum are realized.

- To achieve efficiency in educational development.

The Revised National Policy on Education (Republic of Botswana 1994:6) states that at the school (micro) level the specific aims will be to:

- Improve management and administration to ensure higher learning achievement.

- Improve quality of instruction.

- Implement broader and balanced curricula geared towards developing qualities and
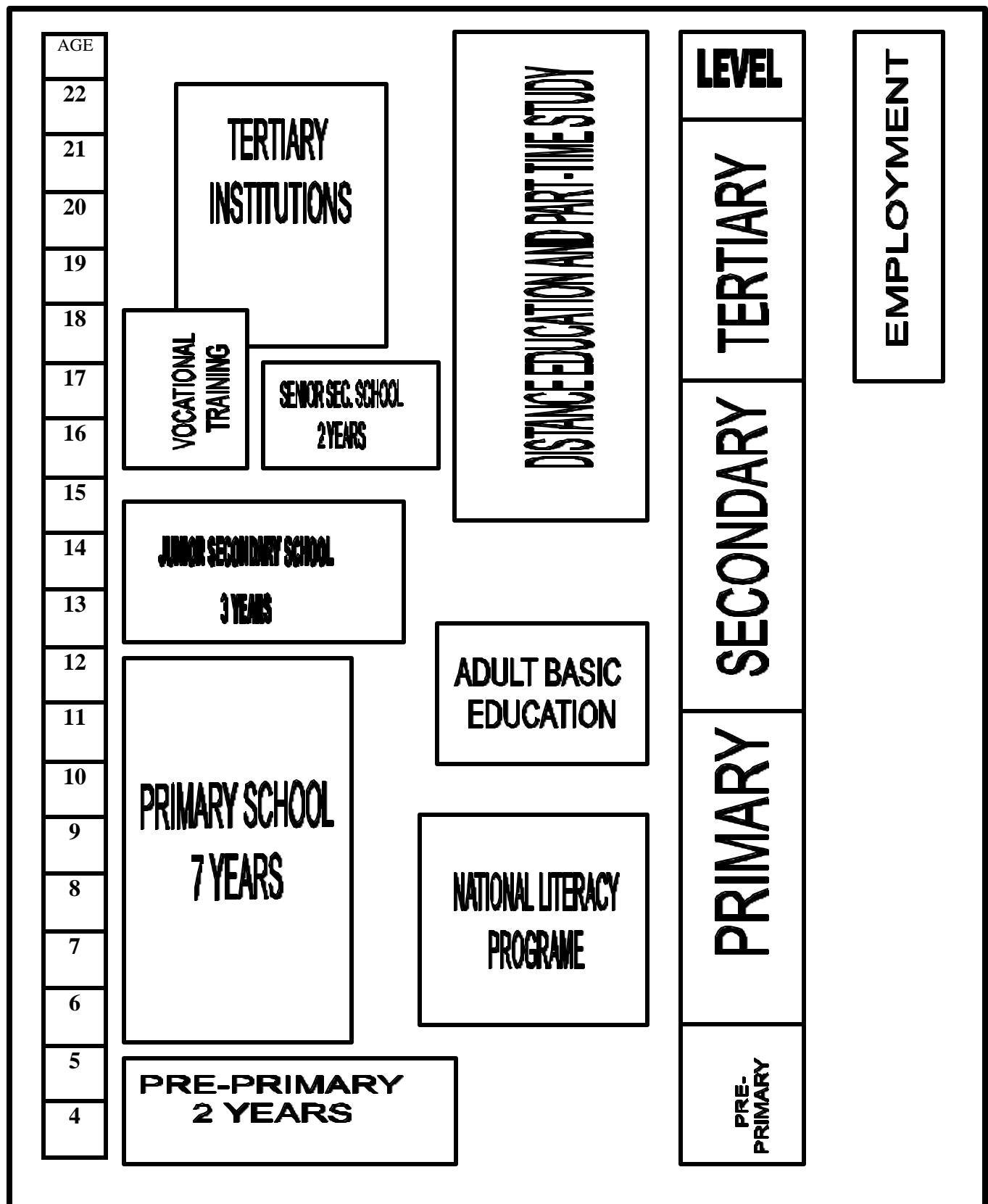
skills needed for the world of work.

- Emphasize pre-vocational orientation in preparation for a strengthened post-school technical and vocational education and training.

- Improve the response of schools to the needs of different ethnic groups in the society.

It can be argued that broadening the curricula as proposed by the third aim could impact negatively on teaching time allocated for each subject on the timetable. There is a possibility that time on task may have a bearing on students' learning and comprehension of the content. In a way broadening the curricula may be counterproductive. Broadening the curricula is like biting more than one can swallow, which may result in just paying lip service to the educational objectives. In a mixed-ability class, a broader curriculum to be covered in a fixed time may mean that slow learners will probably find it difficult to perform well in all the subjects. This may be exacerbated by the present structure of the country's education system, whose details are provided below.

4.3 THE STRUCTURE OF THE EDUCATION SYSTEM

The structure of the education system is $7 + 3 + 2 + 4$. This means the system comprises of seven years of primary education (standard one to seven), three years of junior secondary education (form one to three), two years of senior secondary education (form four and five) and four years of tertiary education. Those students who pass form five may pursue further education at tertiary level made up of the University of Botswana, Botswana College of Agriculture, Botswana Institute of Administration, Commerce and

Accounts, colleges of teacher education and vocational training centers. However, this is not always the case, as some form three and form five graduates join the world of work without prior training. In addition, a good number of dropouts throughout the education system end up in the non-formal educational institutions. Changu and Chilisa (1997:4) point out that the government is of the view that the new educational structure will be organizationally simpler and will solve a plethora of educational problems confronting the present education system, among others, improving the quality of education whilst maintaining the current level of access. For a diagrammatic presentation of Botswana's educational structure see figure 4.1 below (National Commission on Education 1993:55).

FIGURE 1: The Structure of Botswana's Education and Training

AGE			LEVEL	
22	TERTIARY INSTITUTIONS	DISTANCE EDUCATION AND PART-TIME STUDY	TERTIARY	EMPLOYMENT
21				
20				
19				
18				
17	VOCATIONAL TRAINING / SENIOR SEC. SCHOOL 2 YEARS		SECONDARY	
16				
15				
14	JUNIOR SECONDARY SCHOOL 3 YEARS			
13				
12		ADULT BASIC EDUCATION		
11			PRIMARY	
10	PRIMARY SCHOOL 7 YEARS			
9				
8		NATIONAL LITERACY PROGRAME		
7				
6				
5	PRE-PRIMARY 2 YEARS		PRE-PRIMARY	
4				

Source: Report of the National Commission on Education (1993:55)

The primary and junior secondary school levels form the ten years of basic education (the Revised National Policy on Education: Republic of Botswana 1994:6).   While the students sit for the Primary School Leaving Examination in their seventh year of primary education, this examination is of no significance in the sense that its outcome has no bearing on the students' admission into form one in the country's community junior secondary schools. Commenting on the structure of education the National Commission on Education (1993:46) notes that:

> The concept of structure in relation to an education and training system refers to the way in which the different levels of the system relate to each other. The diagrammatic presentation of a structure indicates how an individual may progress from the earliest entry point to the most advanced stage of learning. It shows how the system offers a variety of learning opportunities to individuals of different abilities and aptitudes at different times in their educational careers. Thus the structure embraces the primary, secondary, and tertiary levels of education, including formal education and out-of-school education as well as training. It shows the different types of institutions within these levels and the linkages between both vertically and horizontally.

According to the Revised National Policy on Education (Republic of Botswana 1994:7) it is envisaged that the recommended education structure will:

- Afford effective teaching and learning to take place particularly with the wide range of abilities of students.

- Raise the standard of achievement at junior certificate level to levels acceptable to employers.

After a careful study of the recommended education structure, it can be concluded that

the structure seems to be too rigid and unsuitable for students of mixed-ability contrary to the claims of the National Commission on Education. The structure as presented, assumes that students of mixed-ability will progress through the curriculum at the same pace, yet this is not the case. Given a chance, some students may be ready for the junior certificate examination after two years, while others may require more than the stipulated three years to complete the junior certificate syllabi. Underscoring the prevalence of differences in students, Stradling and Saunders (1993:129) opine that most teachers would probably accept that their students tend to learn in different ways and at different speeds (refer to section 3.3.2: Students' learning styles), and that within any year group, and even within any class, there will be marked variations in the levels of attainment they achieve and the kinds of learning difficulties and problems they experience. Therefore, it is unrealistic that the mixed-ability students currently populating the community junior secondary schools will cover the syllabi to the same levels of understanding in the stipulated three-year period.

4.3.1   Pre-primary education

Letsabo (2000:2) points out that early childhood education still remains the part of Botswana's education system that has the lowest participation rates. Access is limited to 7% of the population age group three to six years (the Revised National Policy on Education: Republic of Botswana 1994:7). The curriculum being pursued in the different day-care centres is not standardised. On the same note, the training of teachers is carried outside the formal training programs. This is partly due to the fact that the education

policy has not singled out this level for rapid expansion in the way that was done with the primary level about thirty years ago, and the secondary level in the past decade. By and large, non-governmental organisations and the private sectors run this sector. According to the Republic of Botswana (1994:7) the current educational policy has charged government with the responsibility of developing mechanisms for the co-ordination of early childhood education. Government, through the Ministry of Education, has assumed the responsibility of developing curriculum materials, providing training and professional development of teachers (Letsabo 2000: 4).

Pre-primary centres are known by various names such as day-care centres, nursery schools, creches, pre-primary units, reception schools and kindergarten classes. They also serve different functions. While some provide custodial care to young children, others function as pre-schools or preparatory classes for the primary school level. With an exception of reception classes in most English medium schools, an assessment of the pre-primary initiatives reveals that while day-care centres play a role in socialising children and providing custodial care, they are not effective in preparing children for primary school education. Officers who are responsible for supervising the programme are social workers in district and town councils who lack a professional background in education. It is against this background that the Ministry of Education has continuously made proposals since the late 1980s, for a greater involvement of the education sector in the provision of pre-primary education. This was recognised by the Government in National Development Plan 7, 1991-1997, where a commitment was made to prepare a comprehensive policy on pre-school education and to link it to the formal education

system. However, the proposed policy had not yet been formulated well into the 1990s (National Commission on Education 1993:70).

The Ministry of Education (1999:14) states that the 1993 National Commission on Education acknowledges that pre-schooling is a form of school readiness programme. All other things being equal, a student who would have gone through the pre-school, has higher chances of adjusting to the primary school life, than one who was never exposed to pre-schooling. It can be argued that where pre-school lessons are conducted in English, the former child will start primary education relatively comfortable with the major instructional language at higher primary and subsequent levels of education.

According to the National Commission on Education (1993:110) the present policy on language of instruction in state primary schools requires the use of Setswana for the first four years; a switch is made to English from standard five. A child not exposed to pre-schooling will most likely be experiencing restricted code of the language of instruction (English) at upper primary and beyond, one with simple syntax and limited vocabulary, where full meaning requires the words to be augmented by gesture, expression or context, collectively referred to as paralanguage (Armstrong et al. 2001:192) instead of the elaborated code. Eggleston (1992:10) underscores the importance of the elaborated code by stating that:

> It is a language that middle-class parents use in work and leisure, but also, more crucially, it is the language of the classroom, the textbook and the examination room. Without it success in mainstream education is difficult, even impossible.

This head start may also mean that the pre-school graduate will be more able to cope with schoolwork, throughout his/her school life. One can conclude that grouped together with children who never went to a pre-school, will inevitably result in classes of mixed-abilities well beyond the primary school. It can also be concluded that while pre-schooling is very important, it may be a source of inequality, whereby those receiving it will have an upper hand in their schooling.

4.3.2   Primary education

The National Commission on Education (1993:8) observes that significant quantitative gains have been made at this level, though 17% of primary school age children are not in school. These 'missing children' constitute a major constraint in the Government's endeavours to achieve universal primary education. However, the unfortunate situation is that the quantitative increase has not been accompanied by qualitative improvements (Jones 1996:38). Notable problems are inadequate physical facilities, the quality of teachers, lack of effective supervision, inadequate co-ordination of the administrative functions shared between the Ministry of Local Government, Lands and Housing and the Ministry of Education, inefficient distribution of instructional materials and the retention of educational policies such as large class sizes, double shifts, and automatic promotion without ensuring that mechanisms which mitigate the negative effects of these policies are put in place (National Commission on Education 1993:91).

It can thus be argued that the identified problems being experienced at the primary school

level are likely to have an impact on the teaching of mixed-ability classes in the junior secondary schools. For example, if some students proceed to the junior secondary school level, without having mastered basic English and Mathematics concepts, due to the poor quality of teaching, junior secondary school teachers will have problems teaching such students, who will be in the same class with students competent in the concepts.

While quantitatively achievements at the primary school level appear phenomenal, it is in the area of learning achievement that there is reason for concern. Attending school alone does not imply that learning is occurring (Ministry of Education 2001:5). The inverse relationship between quantity and quality is aptly captured in Article 4 of the World Declaration on Education for All (UNESCO 1990:45) which states that:

> Whether or not expanded opportunities will translate into meaningful development for an individual or society depends ultimately on whether people actually learn as a result of those opportunities, i.e. whether they incorporate useful knowledge, reasoning ability, skills and values. The focus of basic education must, therefore, be on actual learning acquisition and outcome, rather than exclusively upon enrollment, continued participation in organized programs and completion of certification requirements. Active and participatory approaches are particularly valuable in assuring learners to reach their fullest potential.

In a report on the monitoring of learning achievement, the Ministry of Education (2001:144), notes that the percentages of students who are competent in Literacy in English, Literacy in Setswana and Numeracy are quite low. A number of reasons are identified, as contributory factors to this anomaly *inter alia*: parents' level of education, home environment and frequency of homework. However, the Ministry of Education (2001:145) opines that the bark stops at the classrooms' thresholds.   The above

observations led the Ministry of Education (2001:146) to raise the following germane questions.

- Are students being guided to make effective use of their time: to play with friends, make use of reading materials available in schools, do some class-work which the teacher can correct there and then to show the students where their weaknesses are?

- What is the nature of the teaching-learning transactions in the schools?

- Are teachers supportive of the learning of students?

- Are the instructional activities student-centred?

It can be posited that the situation prevailing in the classrooms indicates that responses to the above questions are not in the affirmative. This premise is consistent with the Ministry of Education's (2001:145) observation that the level of performance exhibited suggests that there are deficiencies in the areas cited in the above questions. After all has been said and done, these deficiencies will spill over to the junior secondary level, where they become manifest in the mixed-ability classes. The following section on secondary education will provide pointers as to whether or not the above postulation is plausible:

4.3.3   Secondary education

Phenomenal achievements have been made in the provision of education at junior secondary school level as noted under section 1.2.2 (Exploration of the problem in the Botswana context). The Revised National Policy on Education (Republic of Botswana

1994:8) points out that ninety-five percent of primary school leavers go into form one. This unprecedented expansion has had the following consequences:

- The student body in the junior secondary schools is now composed of mixed abilities.

- The Junior Certificate has been devalued and cannot be accepted as minimum qualifications for entry into many training institutions.

- The rapid expansion at this level has put the system under immense pressure in relation to management, supply of teachers and curriculum stability.

In order to counter the repercussions of the above consequences of expansion, the Revised National Policy on Education (Republic of Botswana 1994:8) formulated the following damage limiting goals for the junior secondary school curriculum, which are to develop in all children:

- Proficiency in the use of Setswana and English as tools for effective communication, study and work.

- An understanding of society, appreciation of culture and sense of citizenship.

- The capacity to use computational skills for practical purposes.

- An understanding of scientific concepts and interest in the natural world.

- An appreciation of technology and the acquisition of basic skills in handling tools and materials.

- Computer literacy.

- Critical thinking, problem-solving ability, individual initiative and interpersonal

skills.

- Readiness for the world of work.

It is evident that some of the goals have direct implications on teaching strategies, since they implicitly suggest the teaching methods to be used, for example developing critical thinking and problem-solving abilities. The teaching strategies that can foster these ideals were discussed under section 3.3 (Teaching strategies and their suitability in mixed-ability classes). It can also be concluded that it is implicit that achieving these goals depends on the quality of instruction. However, the consequences of educational expansion alluded to by the Revised National Policy on Education (Republic of Botswana 1994:8), are likely to affect the teaching-learning process negatively. Jones (1996:38) corroborates this by stating that:

> It had also become obvious that methods associated with mixed-ability teaching were vital if all children were to gain anything positive from their time in secondary education. It was noticeable that more students were entering the school. . . barely literate in the language of instruction, a competency which is essential for achievement within the present educational system of Botswana. It was also apparent that there were some in the classroom whose special educational needs related to their being gifted rather than their perceived slowness. If these needs could not be met through extension work, there was the likelihood that these students would also underachieve.

The unprecedented quantitative increases mean large class sizes, employing of unqualified teachers and expatriate teachers who may need time to learn the local system, language and culture as these variables affect one's teaching. In addition, serving teachers may find teaching the new breed of students a daunting task, and may continue

to employ the traditional teaching methods that they may be comfortable with (Prophet and Rowell 1990:29; Tabulawa 1996:140). To exacerbate the situation, colleges of teacher education may not be reorienting their pre-service teacher training accordingly, to counter changes being ushered into the classrooms by the political and demographic winds of change (Jones 1996:44). Against this backdrop, it would be intriguing to establish what the Botswana Government's policy is on mixed-ability grouping. This issue is considered below.

4.4 THE BOTSWANA GOVERNMENT'S POSITION ON MIXED-ABILITY GROUPING

In Botswana, government policy on grouping of students for instructional purposes is that students entering community junior secondary schools should not be streamed according to ability (Revised National Policy on Education: Republic of Botswana 1994:22). The government's position is underpinned by the following arguments:

- Human beings are a major natural resource.
- Government considers access to basic education a fundamental human right.

While the National Commission on Education (1993:160) acknowledges the problems of teaching mixed-ability classes, it insists that this grouping plan is the way forward. The National Commission on Education argues that the benefits of mixed-ability grouping outweigh the problems; this is why it is against streaming of students according to

academic ability. The government's position regarding the wide ability range of students in community junior secondary schools is captured in the following extract from the Revised National Policy on Education (Republic of Botswana 1994:22):

Recommendation 35 (paragraph 5.5.25): *With respect to the wide range of ability in junior secondary schools, the Commission recommends that:*

a) *As an immediate step, an in-service training programme in mixed-ability and remedial teaching should be developed for serving teachers.*

b) *All pre-service training should include adequate training in mixed-ability and remedial teaching.*

c) *The Ministry of Education should formulate a policy, which ensures that slow learners receive maximum assistance from teachers.*

The government's policy on mixed-ability grouping may mean that children with special needs find themselves boxed in mixed-ability classes. Special education is discussed below, paying attention to its historical development in Botswana, as well as the present state regarding the provision of special education to the needy. The section concludes by considering the organisational, pedagogic and didactic implications of having such students in mixed-ability classes. A global perspective on special education and grouping is discussed under section 2.6.3 (Grouping and students with special needs).

4.4.1   Special education

Molosi (1993:51) notes that:

> Special education has a very crucial role to play in the overall education system in Botswana, especially in regard to ensuring adequate access to education for all…. Special education is an integral part of the primary and secondary education in Botswana.

However, the history of special education in Botswana is not long (Abosi and Makunga 1996:267). The Dutch Reformed Church pioneered early initiatives in special education in the late 1960s in a village called Mochudi, where a resource center for the blind was developed at Linchwe Primary School. The approach was such that the students with disabilities were mainstreamed instead of being segregated (Abosi and Makunga 1996:268). In 1984 the Ministry of Education established a Special Unit within the Department of Primary Education. This development gave birth to the establishment of a number of specialist programmes in a number of regular schools throughout the country. However, the researcher is of the opinion that these facilities are inadequate. The table below shows the institutions offering special education services in Botswana.

Table 4.1   Existing Schools, Units, or Classes for Special Education

Name of centre	Disability
Aerodrome Primary	Mental
Bakgatla Primary School	Mental
Bontleng Primary School	Mental
Bothaga Primary School	Mental and physical
Camphill Rankoromane	Mental
Francistown Centre for Deaf	Hearing
Ledumang Primary School	Mental
Linchwe Primary	Visual
Linchwe Community Junior Secondary School	Visual
Makolojwane Primary School	Hearing
Mokgosi Primary School	Visual
Molefi Secondary School	Visual
Moremi Primary School	Mental
Monare Primary School	Mental
Motetshwane Primary School	Mental
Phatlhogo Primary School	Visual
Ramotswa Centre for Deaf	Deaf

Source: Abosi (2000:49), The Journal of Special Education, 34(1).

A striking observation from the above table is the ratio of primary to secondary schools offering special education. This ratio invokes equity concerns. Chances are that beyond the primary school level, educational opportunities for students with special educational needs are very limited. This equity disparity is a cause for concern.

According to the Ministry of Education (1999:51):

> Special Education is the subset of the rehabilitation aimed at meeting the educational needs of pupils/students with disabilities and other conditions. It entails the use of effective teaching methods and techniques and the provision of special equipment and materials. The needs of some pupils/students may require special classes or resource rooms in ordinary schools while others may require special schools. Still others can progress well in a regular class. Government has adopted for integration as the most appropriate provision for children with special educational needs.

Basing on the facts above, it can be concluded that the situation obtaining is that the education system in Botswana provides minimal provision for children with disabilities. This is also evident in the inadequate training facilities for adults requiring rehabilitation (Changu and Chilisa 1997:7; Changu 1998:26). Procek et al. (1994) (in Abosi 2000:49) also note that there are no students with disabilities in vocational training centers. The government is aware of this inequity and has committed itself to increasing provision for special education in the interests of equity, self-reliance and individual development (National Commission on Education 1993:40). **Recommendation 92 (paragraph 9.6.16.c),** states that: *More special education units should be built onto existing schools, and as part of all new schools, at the rate of one per school with a maximum capacity of 20, with boarding facilities in selected cases. Provision should be made for*

specialization e.g. blind or deaf at a few selected schools.

The National Commission on Education (1993:11) estimates that 10% of Batswana children have some disability but there are few disabled children included in the mainstream.   In the absence of any latest estimates regarding the prevalence of disabilities in Botswana, it is assumed that the 10% is still the case. Perhaps as argued by Changu (1998:28), the problem in providing adequate special education facilities lies in the inadequacy of data relating to incidences and categories of disabilities among children.   According to Changu and Chilisa 1997:7 and Abosi (2000:48) the major problems affecting the provision of special education are lack of teachers, physical facilities, irrelevant curricular, inadequate coordination between the responsible institutions and inadequate funding.

Literature on special education in Botswana shows that no deliberate attempts have been made to cater for students who are gifted (Abosi and Makunga 1996:289). Since the Botswana Government opted for the integration approach in dealing with special needs education, most of the disabled children as well as the gifted children find themselves in mixed-ability classes.   This approach gives rise to the following question: *If these children find themselves in mixed-ability classes, will the regular schools be able to meet such students' unique educational needs?*   The business-as-usual teaching approach documented in literature on classroom life in Botswana (refer to 4.6: Literature review on classroom life in Botswana's secondary schools) may mean that the special educational needs of the gifted and other students having learning disabilities and difficulties may not

be effectively addressed.

Abosi (2000:49) concurs with the above disposition. He cautions that despite the purported advantages of integration of students with special needs, educators must consider this move with great care and detachment. His argument seems to stem from the argument by Abosi and Molosiwa (1997) (in Abosi 2000:49) that integration has many implications for teachers. Some of these implications are the need for change in attitudes, additional teaching materials, resource teachers, modification of existing infrastructure and the possibility of frustration for both school authorities and affected students in instances where relevant provisions are not available. Kirk et al. (2000:50) are of the view that the responsibility for providing an appropriate education to exceptional children should be shared by all educational staff in the schools. This could be achieved through cooperation and joint planning between regular and special education teachers to reach the goal of appropriate educational strategies for all children.

Basing on the above discussion it could be argued that while the policy of integration adopted by the Republic of Botswana is an attempt to educate students with special needs in the least restrictive areas, chances of achieving the intended educational outcomes may remain elusive. The reason for such pessimism is because in integration, extra support is provided to help the student with special needs participate in the mainstream programme without the content or delivery of that programme being changed in any significant way (Westwood 1997:190; Wilson 1998:184). Literature suggests that inclusion is a better alternative. According to Zimbabwe Open University (2000:5) inclusion addresses the

question of access and the quality of education. The underlying principle of inclusion is about accessing the appropriate curriculum in an environment that promotes development of relevant social skills (Burden 1995:48; Westwood 1997:190). Therefore, it can be concluded that inclusion and not integration may result in more effective learning by students having special needs since it involves the adapting of the following: the curriculum, learning environment, teaching strategies and it also involves the use of assistive technology where necessary.

After all has been said and done, there is need to assess the students to establish whether or not the intended goals have been achieved. The section that follows discusses how learners are assessed in the junior secondary school phase in Botswana. Reference will be made to the suitability and compatibility of the form of assessment used to mixed-ability grouping.

4.5 ASSESSMENT OF STUDENTS IN THE JUNIOR SECONDARY SCHOOL PHASE

At the end of the junior certificate curriculum, all students sit for a common examination regardless of their different academic abilities. Students are examined in all the subjects they study, but are graded on the best six. The examination is a norm referenced test intended for selection purposes. The test measures the relative position of the student in relation to other students who will have sat for the same examination, and not necessarily what skills and competences the student has acquired. Subjects of a practical nature

(Agriculture, Home Economics, Business Studies, Design and Technology and Art) have a continuous assessment component, whose weighting is less than the corresponding theory examinations, except Art whose continuous assessment makes up 70% of the final mark.

The education assessment system is still meritocratic. After the publishing of results, schools are ranked in order of performance. Schools that will have performed below expectations are requested to account. Powers that be in the education system seem not to be interested in what students can do, but how they perform in the final school leaving examinations. In such a situation, the end justifies the means. As a result, chances are that teaching becomes examination oriented, with teachers employing unorthodox teaching methods such as drilling to achieve good results in the final examinations. One will be forgiven to conclude that the junior secondary school level in Botswana seems to have fallen victim to competing uncomplimentary demands that are pulling in opposite directions. For example, the Revised National Policy on Education (Republic of Botswana 1994:22) demands teachers to ensure that all students are catered for regardless of their different abilities, while the Performance Management System (PMS) demands that teachers be remunerated according to their performance. The Revised National Policy on Education of 1994 is still the current policy. Unfortunately the widely used measure of performance in the system is examination results, not the quality of manipulative skills that the students would have acquired in school.

Commenting on test scores that are usually the yardstick for measuring success under

norm referenced assessment, Coleman (2001:36) notes that:

> In interpreting the scores on the school report card, the focus should be on the level of improvement from year to year and not the raw score. Movement in this area should be the measure of the school's success in increasing academic performance. At another level one must consider that the narrowly defined cognitive focus of standardized tests does not acknowledge or give credence to the concept of multiple intelligence. These tests attempt to predict success or level of academic proficiency based on those ways of knowing sanctioned by traditional pedagogy, that is, linguistic or logical-mathematical intelligences.

The National Commission on Education (1993:11) recommended a shift to criterion referenced testing (CRT), which measures students' skills and competences against a set of criteria and grades, which indicate levels of performance rather than the relative position in a group. The Government of Botswana accepted this recommendation (National Commission on Education, 1994:22). **Recommendation 34 (paragraph 5.5.19** reads thus: *The Commission endorses the move towards greater use of Criterion Referenced Testing. However, it recommends that care should be taken in the use of the Criterion Referenced Testing System to ensure that it is adapted to measure all aspects of students' ability.*

The Ministry of Education (1999:29) states that the Junior Certificate Examination is still basically a selection examination, though more features of criterion referenced testing are being introduced. The Ministry of Education identified the following as the reasons for a shift to criterion referenced testing:

- With this kind of testing, children must truly know the material taught, not simply out-perform their peers.

- Such an assessment system clearly shows the strengths as well as the weaknesses of students and it enables teachers to see what children know.

- It provides important diagnostic information for the Ministry in that it shows the areas of strength and weaknesses of individual schools. Nation-wide comparisons can be made and schools that are not performing well identified.

- The emphasis is on what children have learned and not on how they are ranked.

Sainsbury and Sizmur (1998:184) as if sharing the above sentiments regarding criterion referenced assessment point out that the great promise of criterion referencing in its early years was a promise of precision. However, Sainsbury and Sizmur (1998:181) argue that the call for criterion referenced assessment leaves unanswered many questions pertaining to the way criterion referencing is to be interpreted in practice. This perception may be part of the reason why in Botswana after realising the need for criterion referencing in the early 1990s (Ramatsui 1993:153), the country has not implemented this assessment approach to date, despite the promised benefits.

The National Association of School Psychologists (NASP) (2002:2) believes that all students can benefit from a more challenging curriculum, and supports the development of a curriculum, which recognises and accommodates individual differences in learning styles, abilities and interests. Furthermore, the NASP argues that to be successful, mixed-ability grouping must occur within the context of such a curriculum. It can also be

argued that such a curriculum should be complemented by an assessment system that caters for the whole range of abilities and multiple intelligences found in students. Criterion referenced testing with its thrust on measuring students' skills and competences appears to be the most appropriate assessment system for mixed-ability classes. However, distrust of teachers and the belief that external measures and the rigours of the competitive market are the best way to raise standards of education might derail the move towards criterion referenced assessment.

Sainsbury and Sizmur (1998:183) define criterion referenced testing in the educational context as an assessment system that aims to give information about valued educational outcomes. It aims to tell us how well the students have learnt what they have been taught. It is typically about cognitive outcomes, with understanding, knowledge and skills as central elements. Armstrong et al. (2000:253) emphasise that criterion referenced assessment is useful in school settings since it pinpoints specific performances of learners rather than providing an average or a ranking. This means that teachers can use criterion referencing to find out how well their students compare to the average performances of the groups they will be teaching.

The above are quite bountiful promises indeed. However, these promises are not provided on a silver platter. There are a number of sticking issues begging for attention (Sainsbury and Sizmur 1998:181; Armstrong et al. 2000:253). Studies conducted in America on criterion referencing reveal that in the initial stages, this assessment resulted in teachers watering down the curriculum by concentrating on those domains that they

new would be tested (Sainsbury and Sizmur 1998:181). Sadler (1987) (in Sainsbury and Sizmur 1998:181) puts it that the Australian experiences in using criterion referencing led to sentiments as to whether measurement could be dispensed with altogether, and the practice of making qualitative judgments refined to the point where it could be used in the classification of students into grade levels. According to Armstrong et al. (2000:253) two issues merit attention when one uses criterion referenced assessment. These are:

- *Appropriateness of what is being measured:* It is sometimes tempting to focus only on what is being measured. This is true because it is difficult to decide what to measure when the focus is on more complex content.

- *Setting the criterion:* What should be the level of acceptable performance? If the teacher sets it too low, students in the class who have not really mastered the material may be incorrectly judged to have done so. On the other hand, if the standard is set too high, those who have mastered a great deal of new content may be judged to have failed.

The above experiences could provide valuable lessons for Botswana as the country endeavours to replace norm referenced assessment with criterion referenced assessment. Without a proper understanding of what criterion referenced assessment is, and how it is to be conducted, the pervasive presence of norm referenced assessment in criterion referenced assessment should not be discounted. Those tasked with the implementation of criterion referenced assessment in Botswana should take a leaf from other countries' experiences. They should bear in mind Sainsbury and Sizmur's (1998:191) suggestion

that:

> Teachers need to come to an understanding of the full nature of the educational constructs set out for them. In doing this, they will need to take note of the detail of the programmes of study and interpret this in the light of their professional subject matter. This interpretation, taken alongside the wording of the attainment targets, must give rise to an understanding of the nature of progression within the subject. . . . Only with this understanding informing their teaching can they make assessment targets, deciding what collection of performances constitutes the levels within that progression.

According to Eggleston (1992:46) though assessment is essential it is never an end; the objective is effective teaching and mastery learning. Every teacher must always remember that marks, success in attainment tasks and impressive examination results, though attractive, indicative and important, are not the main objective of teaching. Neither should gaining marks be the main motivation of children; if it is then motivation becomes extrinsic rather than intrinsic. Assessment, in other words, is either an integral part of the activity being tested or something external to it. Ultimately the goal must be for all children to develop a capacity for self-assessment and be aware of how fully their achievement reflects their effort, mastery and achieved capability (Eggleston 1992:47).

Basing on the above discussion, it can be argued that more often than not, most educators use assessment as an end in itself. It can also be contested that norm referenced assessment is a shallow assessment approach since it is obsessed with test scores, instead of considering the improvements (academic and manipulative skills) that students will have made. In addition, viewing assessment as the ultimate end of schooling, may result

in teachers employing unorthodox teaching methods as long as such methods result in high academic grades. As argued by Black (1998:63), assessment encourages rote and superficial learning, with the grading function over-emphasized and the learning function under-emphasized, resulting in emphasizing competition rather than personal improvement.

Marope (1994) (in Jones 1996:39) puts it that there is a positive correlation between academic achievement and life chances in Botswana. If this is the case, Jones (1996:39) argues that norm referenced assessment will continue to discriminate and prejudice certain sections of the junior secondary school students, since it is not compatible with mixed-ability grouping and multiple intelligences. Having discussed the method of assessment, it is important to examine what research says about the teaching-learning processes in Botswana's junior secondary schools. This is the subject of focus in the following section.

4.6 LITERATURE REVIEW ON CLASSROOM LIFE IN BOTSWANA'S SECONDARY SCHOOLS

Mixed-ability grouping at the junior secondary school level is now the norm rather than the exception (National Commission on Education 1993:160). This has a lot of implications on instructional delivery since classroom teachers find themselves unsure of how to adjust instruction in response to the readiness levels, interests, and learning profiles of students who differ widely in those ways. Research has it that teach-to-the-

middle still prevails in schools and that few veteran teachers are predisposed to differentiate instruction for students who differ significantly from the norm (Tomlinson 1996:1).

Given that mixed-ability grouping is now the norm at the junior secondary school phase, it therefore goes without saying that teachers must adopt teaching strategies that are compatible with mixed-ability grouping (Jones 1996:39). Tomlinson (1995:1) lends credence to this assertion by postulating that acknowledging that students learn at different speeds and that they differ widely in their ability to think abstractly or understand complex ideas is like acknowledging that students at any given age are not the same height. It is not a statement of worth, but of reality. To accommodate this reality, teachers can create a 'user-friendly' environment, one in which they flexibly adapt pacing, approaches to learning, and channels for expressing learning in response to their students differing needs. This section focuses on life in the junior secondary school classrooms in Botswana. It is meant to get an insight into how teachers are handling and coping with mixed-ability classes.

The government encourages the use of child-centred teaching strategies in order to cater for students of different abilities (the Revised National Policy on Education: Republic of Botswana 1994:22). The need for a shift towards a more child-centred approach to education was recognised as far back as 1977. On this aspect, the National Commission on Education (1977:78) states that:

> . . . we welcome the attempts of training colleges, the in-service teams and others to

promote child-centred approaches to encourage learning through activity and discovery and experimenting with individualised approaches. . . . [We believe that] the country has a responsibility to provide education for all its citizens, including those who are handicapped.

The call for teaching methods that would encourage cooperative learning, problem solving and investigation was reiterated by the second National Commission on Education of 1993. There seems to be evidence to suggest that at the policy planning level, the will to make teaching child-centred has a lot of disciples. However, realisation of this teaching ideal demands time, energy and unparalleled commitment on the part of education personnel at all levels. In addition, it can be posited that a paradigm shift in teaching will depend on what society and the labour market value as educational excellence, as this will invariably impact on the teaching strategies employed in the classrooms. If examination grades are prized more than manipulative skills, much teaching might remain rooted in drilling students to pass examinations. According to Black (1998:65) one hardly needs research to establish that teachers believe that examinations have led them to narrow their teaching and so impoverish its quality.

Findings from recent classroom studies in Botswana's junior secondary schools reveal that teacher-centred teaching strategies are dominant. Most teaching is directed to whole classes regardless of individual differences among students (Prophet and Rowell 1990:29; Tabulawa 1996:140; Taole and Chakalisa 1997:281; Mapolelo 2001:3). Prophet and Rowell (1990:9) and Jones (1996:46) concluded that four teaching strategies are dominant in Botswana's junior secondary schools; these are question and answer exchanges, written exercises, notes and tests.

The nature of the questions during lessons does not promote effective learning; students are required to provide very brief responses, based mostly on recall. Teachers rarely probe for students' thinking following an incomplete or inaccurate response, if anything teachers call upon other students to provide what in the teachers' views are correct answers (Prophet and Rowell 1990:15). The written exercises are the same for all the students in the class; they are devoid of differentiation in accordance with students' individual differences. Notes are also given to the students, either through handouts, or teachers write the notes on the boards. Student to student interaction is minimal, and seemingly students ask very few questions, and none of the 'why' and 'how' nature (Jones 1996:47). Yet as argued by Mapolelo (2001:5), students learn in different ways, therefore they will benefit from the use of a variety of teaching strategies. A more detailed discussion on learning styles and their implications for teaching is provided under section 3.3.2 (Students' learning styles). The absence of effective student-to-student interaction during lessons runs contrary to the constructivist theories of teaching, which should be viewed as the mainstay of student-centred teaching.

According to Esteve (2000:198) many teachers have a feeling of bewilderment from the scholarly world around them, especially if they compare the homogeneous groups of students they knew in the past with the mixed-ability classes of today. The teachers' skepticism, or even rejection of the teaching reforms is the outward expression of their insecurity accumulated over many years of profound and continual changes in their immediate working environment. Esteve (2000:198) likens present day teachers to a company of actors on stage in period dress who are subjected to a sudden change of

scenery in the middle of an act. He points out that:

> A new backdrop is quickly rolled down to hide the previous scenery. The new scenery is postmodern; there are lively fluorescent colours that contrast completely with the classical atmosphere on stage seconds before. The first reaction of our actors would be surprise and confusion, before tensions give rise to aggressiveness in certain of them, who demand an end of the play and an explanation. . . . Like the actors just described, the teachers of our present-day society are confronted by circumstances that limit their effectiveness and often oblige them to do their work badly. Moreover, these same circumstances expose them to public criticism by people who are critising the present from conceptions of their own education. Consequently, the public believes it is the teachers who are directly responsible for the present state of affairs and for the failings of present-day teaching.

Commonly cited problems causing teachers to negate student-centred teaching strategies are the need to cover the syllabi before examinations, large class sizes and the students' English proficiency levels. Prophet and Rowell (1990:28) report that the English language impedes the articulation of thoughts through oral or written expression. On the same note, Lemmer (2002:38) states that language determines academic success. Prophet and Rowell further argue that the lack of confidence in English usage is further reinforced by the impatience of teachers and avoidance of students' contributions. In Botswana the English problem seems to emanate from the primary school phase, where in state schools Setswana is the medium of instruction up to standard four. While the National Commission on Education (1993:111) acknowledges that educational achievement is better in English medium schools where English is the medium of instruction from standard one, the same Commission sees no correlation between when English is adopted as the medium of instruction and level of achievement. However, facts on the ground point to the contrary.

Lemmer (1995:88) argues that transition from mother-tongue instruction to the medium of English at higher primary pauses problems. According to Van Rooyen (1990) (in Lemmer 1995:88) the major problem is the disparity between the children's English proficiency and the proficiency required of them in order to master new academic content through the medium of English. Lemmer (1995:88) further contends that at times teachers themselves lack the English proficiency that is a prerequisite for effective teaching, which is compounded by the fact that pre-service teacher training does not offer teacher trainees with principles of language acquisition. The result is that teachers engage students in rote learning and drill and the use of more than one language medium to teach. While Lemmer's article refers to the South African experiences, the similarities with the Botswana situation are very striking.

The English problem is compounded by the teachers' preferences for the elaborated codes of language, which lead them into the easy belief that these are always superior to restricted codes, not only superior, but appropriate as well (Eggleston 1992:10). Such teachers' assumptions are not always correct. Eggleston (1992:10) cites a study on New York children by Labov. Labov found out that teachers had identified many children as virtually without language capability and that test results confirmed this view. Such children were written off by teachers as virtually uneducable and their schooling had little prospect. The children responded with low motivation, low attendance and low cooperation with their teachers. Yet when Labov mixed with the children out of school he found that in their restricted code, they were able to conduct extended discussions and arguments involving complex issues of sport, popular music and community

relationships, often much more demanding than the verbal reasoning required of them in the classroom. Yet sadly this capability remained unrecognised in their schooling and its assessment. Labov commented that it does not take many comments such as *'you cannot use that language in the classroom'* to turn children into non-verbal members of the class. It can be postulated that Labov's findings may have global implications for the teaching of mixed-ability classes.

Prophet and Rowell (1990:28) aptly capture the nature of teaching that is obtaining in Botswana's community junior secondary schools by stating that:

> Teaching remains firmly in an authoritarian and teacher-centred mode where pupils are generally passive recipients of academic verbal information. Development of concepts, attitudes, and manipulation skills, emphasized in the syllabus, appear not to be taking place. Further, it is suggested that these processes are actually being inhibited in the classrooms rather than being developed. It is easy to lay blame on the teachers for the apparent failure to implement a very laudable set of curriculum aims, but this, however, fails to appreciate the complexity of the situation. Faced with large classes, syllabus overladen with content, expectations from parents, headteachers, and the local communities who see JC Examinations success, even though unattainable by the majority, as the priority of the schools, and an examination which still emphasizes and rewards simple rote learning and recall skills, it is no surprise that teachers utilize a set of strategies that ensure their survival in the classroom but fails to take cognizance of individual pupils and their development.

In a savingram to secondary school heads and regional education officers, the Department of Secondary Education (2002:1) highlighted some observations based on inspections of the various secondary schools carried out over the years, which reveal that teaching is not effective. These observations are that:

- Teaching aids are rarely used where they exist

- In some cases teaching aids are not there at all and the usual claim is that they are in the storerooms.

- Very little effort is made to produce teaching aids.

- Group work given to students in some cases does not enhance the teaching and learning processes because required materials are not provided and instructions are not clear.

- Random test are given without marking schemes.

- Teaching methodologies are teacher-centred and are not in accordance with syllabus requirements.

Given that mixed-ability grouping is increasingly becoming the norm rather than the exception (National Commission on Education 1993:160), one wonders how the instruction discussed above caters for students of different abilities. Without discounting the causes of teacher-centred teaching proffered by most classroom researchers in Botswana, Tafa (2001:12) cites Hargreaves (1978:78) who argues that these systemic constraints are just immediate institutional expressions of the wider structural and historical forces in society, whose input is peripheral to the problem of sticky teacher-centred teaching methods. According to Tafa (2001:12) the present teacher-training mode is behaviourist, and is therefore consistent with authoritarian teaching. He suggests that there is need for a paradigm shift in the way pre-service teachers' training is undertaken. Jones (1996:44) corroborates Tafa's postulation by hypothesising that the present pre-service teachers'training might not be doing much to prepare teachers for

mixed-ability teaching. In similar vein, Tomlinson (1996:2) without necessarily referring to Botswana asserts that a strong body of research indicates that prospective teachers leave teacher training institutions with relatively the same set of beliefs about teaching with which they entered these institutions. Tomlinson surmises that it may be that teacher education programmes appear unable to reshape novice teachers' views of schooling because of the power of the images of teaching and learning that formed during the years of schooling novice teachers encountered prior to formal education. Stein, Smith and Silver (1999:243), while concurring with Tomlinson (1996) further note that:

> In fact, it has been argued that teachers' prior knowledge and experiences assume greater weight, given the lack of widely shared visions of what the new teaching practices would look like if well enacted. Without specifications of the model they are aiming for, teachers naturally fill in the gray areas with knowledge from their past experiences. Basing on similarities between the task of transforming one's teaching and the task of transforming the practice of professional development, one might expect that professional developers would also interpret the new calls for reform through the lens of prior knowledge and experiences. Given that the new paradigm for professional development is not clearly specified or widely shared, we can expect professional developers to fill in the gray areas based on their existing understandings and practice.

If the above postulations were anything to go by, one can conclude that the present teaching-learning activities in schools are a manifestation of deep-rooted macro pedagogic and didactic problems beckoning for attention from researchers, scholars, educators and policymakers. As noted by Esteve (2000:198), the new problems in teaching are born of technical, social and moral changes and to resolve them calls for new standards of pre-service and in-service training to cope with the new demands of schools. It is generally agreed that meeting goals and standards prescribed in education reforms

will require a great deal of learning on the part of practicing teachers, the vast majority of whom were taught and learnt to teach under a different paradigm of instruction and learning. According to Thompson and Zeuli (1999) (in Stein et al. 1999:238) the type of learning that will be required by teachers has been described as transformative, that is, requiring wholesale changes in deeply held beliefs, knowledge and habits of practice.

The facts discussed above have implications on school administration, instructional supervision, pre-service and in-service teachers' training. In Botswana, administrative and supervisory structures are in place in basically all the community junior secondary schools. The suitability and effectiveness of the office bearers in these portfolios is an issue currently generating a lot of debate in Botswana. However, the issue is beyond the scope of this present study. In light of the prevalent teacher-centred teaching strategies documented in research, notwithstanding the presence of instructional supervisors in schools, the effectiveness of instructional supervision in community junior secondary schools is a fertile research area worth investing resources and time in.

4.7   CONCLUSION

In this chapter schooling in Botswana was discussed. Before discussing the current educational practice, the researcher examined Botswana's colonial education, then focused on post-independence educational developments and highlighted the challenges that faced the country at independence, which resulted in the setting up of education commissions in 1977 and 1993. Against this backdrop, the philosophy informing practice, the general aims of education, the structure of the education system and its

justification were examined. Concerns, challenges and enrollment patterns at each pre-primary, primary and junior secondary levels were discussed in the context of mixed-ability grouping. Attempts being made at providing special education to deserving cases were explored and implications of having children with special needs in mixed-ability classes were also considered. Since the focus of the study was on junior secondary education, assessment of students at this level was given consideration. Literature on classroom life in Botswana's junior secondary schools was reviewed, with the aim of establishing how teachers were coping with mixed-ability classes.

The reviewed literature revealed that Botswana has made quantitative quantum leaps in the field of education. However, these leaps have heralded into the system vexing qualitative problems, since these quantitative improvements have placed a lot of strain on the available infrastructure and resources (human, financial and material). The globalisation trends seem to have impacted on the country's education system as well, as can be discerned from the 1994 policy on education. The worst victim of all these whirlwind changes seems to have been the junior secondary school level. For example, annexing it to primary education to form basic education, means that there is a hundred percent progression of students from standard seven into form one, creating large classes of mixed-abilities, causing pedagogic, didactic and organisational problems. Large classes also mean that teacher-learner contact time is drastically reduced. In the same vein, the need to educate students for the global challenges has overloaded the curriculum, resulting in less instructional time being devoted to each subject. The cumulative effects of these problems on education quality are very discernible. The

predicament enveloping mixed-ability grouping in Botswana just like anywhere else is encapsulated in Thomas and Loxley's (2002:1) argument that:

> Continuing pressure to be at the same time competitive and inclusive looks. . . . remarkably like tokenism. Pressures of all kinds - to be successful in examinations, to meet silly targets - lead schools to reject rather than accept children who are likely to drive down results.

While literature argues that all other things being equal, all students of varying abilities can excel in mixed-ability classes, the stumbling block in Botswana seems to be the duration, which the learners are supposed to have completed the syllabi, i.e. three years in the case of the junior secondary school curriculum. This presumes that even the slowest learner would have completed and comprehended the syllabi content and ready for the examinations by the end of the three years in the junior secondary school. This lack of flexibility in the education structure may in part be responsible for the examination-oriented teaching.

Contrary to the demands of the 1994 Education Policy, teaching in Botswana is still teacher-centred, informed by the transmission theory. While a number of initiatives have been put in place to bring efficiency in the system, their impact so far has been insignificant. Be as it may, Ramatlapana and Vlaardingerbroek (2001:53) suggest that strategies such as small-group learning should be considered as alternatives to the presently dominant teacher-centred teaching strategies. In the next chapter, the researcher focuses on the empirical phase of the study, where details of the research design and methodology are discussed.