

INVESTIGATING TEACHERS' PERCEPTIONS OF AN EDUCATIONAL INNOVATION:  
SINGLE-SEX CLASSES IN A CO-EDUCATIONAL SCHOOL

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## **Abstract**

This study investigated teachers' perceptions of the single-sex class innovation at the Belvedere Secondary School. The impetus for this investigation was the researcher's concern about the continued ad-hoc implementation of this innovation coupled with the lack of evaluation since its inception more than two years ago. This study utilized a qualitative, case study approach and data were collected through a focus group interview and individual follow-up interviews. Six participants were selected using purposeful sampling, criterion-based selection and the maximum variation principle. The data were analysed using the constant comparative method (Merriam, 1998). The findings revealed that most teachers felt that although it was a good initiative, it was poorly implemented. The findings also showed minimal academic benefits and grave behavioural challenges especially in the boys' classes. Yet, most participants mentioned increased opportunities for building teacher competencies. Eventually, the participants all endorsed the continuation of the innovation, but only on condition of the correct implementation procedures.

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❖ This project is dedicated in loving memory

to my dear mother

Arlene Hyacinth Granville

June 15, 1950 – August 08, 2012

May you rest in Perfect Peace.

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## CHAPTER 1

### INTRODUCTION

In recent years, much attention has been drawn to single-sex instruction, through numerous debates and experiments regarding single-sex schooling for adolescents (Chadwell, 2010; National Association for Single Sex Public Education [NASSPE], n.d.; Spielhagen, 2006). In addition, there has been another educational thrust involving the establishment of single-sex classes within co-educational schools. This was primarily due to the desire of secondary schools in particular to minimize the social, emotional, and romantic distractions that naturally begin during early adolescence (Gurian, Stevens & Daniels, 2009). This current thrust has resulted in considerable debate about gender-streaming and its effectiveness in ensuring long term improvement in the learning of both sexes (Cavanagh, Dellar & Mollon, 2001).

According to Gurian, Stevens and Daniels (2009), the purported advantages of single-sex instruction include improved test scores, reduced disciplinary problems, more fully engaged learners and a more energized school community. Some policymakers also argue that single-sex classrooms enable students to focus better and to learn through gender-appropriate approaches (Thiers, 2006). Yet, the advocates of co-educational instruction submit that it is better for students to learn in mixed groups which are more reflective of society, thereby permitting students to form healthier, less stereotypical attitudes toward each other (Gossett, 2000; Thiers, 2006). They also argue that the presence of girls in a classroom has a calming effect on the behaviour of boys and that interacting with boys in the classroom helps girls become more self-reliant (Gossett, 2000). Furthermore, a gender-rich environment allows for diverse opinions to be

expressed in classes, thus fostering a good learning and social environment (“Selecting an independent”, n.d.).

The idea of introducing single-sex classes in a co-educational school is a direct attempt to bridge these two opposing views. This would allow students to benefit from social interaction with each other within the school, as well as instruction in a same-sex environment. This is viewed as a proactive strategy to address specifically the educational disengagement of boys, whose social behaviour affect their own education and that of others in schools (Wills, 2007). Some educators believe this is the way forward, as it offers the best of both worlds, and the learning experience is facilitated along with socialisation with the opposite sex (Reid, 2008). Moreover, it is felt that single-sex classes help to provide an environment free of the distraction caused by mixed-gender social interaction, hence leading to higher scores (Spielhagen, 2006).

Research shows that this innovation has already been employed by schools on an international level, notably in the U.K., Australia, New Zealand, Tasmania, South Africa, Canada and the U.S.A. (Mulholland, Hansen & Kaminski, 2004). Regionally, it has been employed on a more limited scale in countries including Jamaica and Saint Kitts, and also locally in Trinidad and Tobago (Nevis-Island, 2011; Reid, 2008; “The case”, n.d.). Given that studies establish the fact that boys and girls learn differently, the rationale behind separating them in the classroom is based on both academic and behavioural challenges of students in general, yet especially on the part of boys (NASSPE, n.d.).

## **BACKGROUND TO THE STUDY**

### ***Global Context***

Globally, several studies sought to investigate the advantages of single-sex schools and classrooms over co-educational schools and classroom settings. Evidence from New Zealand, the U.S.A. and the U.K. among others, indicates that boys and girls perform better when kept apart. The New Zealand Education Review Office Report showed that both boys and girls achieved better results in single sex-schools (Commonwealth Secretariat, 2010).

In England, the National Foundation for Educational Research did a study on the effect of school size and school type on academic performance. The Foundation concluded that it would be possible to infer from the findings that, in order to maximise performance, single-sex classes be employed, coupled with an average school size (NASSPE, n.d.). Researchers at Cambridge University also found that using single-sex groups was a significant factor in establishing a school culture that raised educational achievement ("The case", n.d.).

A large study done by the Australian Council for Educational Research over a period of six years compared single-sex and co-educational schools. The evidence suggested that co-educational settings are limited by their capacity to accommodate the large differences in cognitive, social and development growth rates of boys and girls aged between twelve and sixteen (NASSPE, n.d.).

In the U.S.A. too, more schools have been experimenting with single-sex classrooms. In 2000, single-sex classes were implemented at the Thurgood Marshall Elementary School in Washington, because of the concern about the high number of discipline referrals. They reported



astonishing results. Additionally, at an inner-city high school in Montreal, Canada, a significant reduction in student absenteeism has been noted after five years of implementation (NASSPE, n.d.).

### ***Regional Context***

In the Caribbean region, some islands have also begun experimenting with single-sex classrooms. In Jamaica, a study conducted by Marlene Hamilton in 1985 found that students attending single-sex schools outperformed students in co-educational schools in almost every subject tested ("The case", n.d.). The study showed that girls at single-sex schools attained the highest achievement, followed by boys at single-sex schools, then boys at co-educational schools and lastly, girls at co-educational schools. However, as regards the single-sex class innovation, I have not yet found any research.

Even so, in recent times, several co-educational institutions have begun to employ the gender-separation strategy in a bid to prevent the boys from being left behind (Reid, 2008). The Education Transformation Team in Jamaica indicated that gender-separation is being encouraged and is already in some schools (Reid, 2008). Some schools have already indicated positive results and there is hope that the strategy can be expanded island wide. Schools were also admonished that they should not wait for their Ministry of Education to make a general policy in this regard, but rather go ahead and structure learning activities to enhance the learning of all students (Reid, 2008).

The islands of Saint Kitts and Nevis have also begun experimenting with single-sex classrooms. In September of 2011, single-sex classes were introduced at several pilot primary

schools, out of concern for the disparity between boys and girls. The Minister of Education stated that “there has to be a better way to educate boys and girls so that each of them gets the very best chance of maximizing their potential to learn and to become the very best human beings they can be” (Nevis-Island, 2011). The innovation was implemented on a phased basis, and the intent is to monitor the results over the next four years, for any possible shift in student performance. In establishing the Single-Sex Education Task Force to oversee the initiative, the Minister noted that the support of all key stakeholders is critical to ensuring the success of the experiment.

### ***Local Context***

In Trinidad and Tobago, gendered education has always been a norm. This is partly due to the historical and socio-cultural influences of the British education system. Statistics show that of the ninety government and government-assisted secondary schools, approximately thirty percent are single-sex (“The case”, n.d.). The majority of single-sex schools are government-assisted, which are reputable as higher performing schools when compared to the government schools. This has been attributed to the fact that a ‘better’ quality of students is assigned to them based on merit, following the high-stake Secondary Entrance Assessment examinations (Jackson, 2012). Furthermore, their higher level of discipline is seen as influenced by the fact that the schools are managed by religious boards which ensure that strict morals and values are taught and enforced. In this vein, the denominational schools are often perceived to have less academic and behavioural challenges.

In recent times, there have been increased academic and behavioural challenges at the government secondary schools. Because of this, the Ministry of Education in Trinidad and

Tobago made numerous attempts to address these challenges. In September of 2010, one major strategy was initiated after extensive research, analysis, collaboration and consultations (News.gov.tt, 2010). Twenty of the country's ninety secondary schools began conversion, on a phased basis, to single-sex schools (Commonwealth Secretariat, 2010). The phased approach would allow for a timely response to anticipated emergent issues.

The rationale given was that a gender-sensitive approach within the context of a broader pedagogical strategy would be more suitable, given the discernible differences in which boys and girls assimilate information ("The case", n.d.). Furthermore, the Commonwealth Secretariat (2010) reported that while grades for girls have drastically improved in many Commonwealth developed countries in recent decades, unfortunately, the boys have fallen behind. Therefore, given that international research reports that boys and girls perform better when kept apart, it was hoped that this strategy would assist in improving the academic performance of male students and enhance the performance of female students ("The case", n.d.).

Although a timely intervention for boys, this initiative focussed generally on improving the education standards for both sexes by ensuring that learning took centre stage (News.gov.tt, 2010). It must be stated that each of the converted schools are situated in close proximity to another, thus allowing for joint academic, sports, and cultural activities to ensure opportunities for socialisation between the two groups (Commonwealth Secretariat, 2010). This innovation is now in the second year of implementation. To date, a small evaluation has been done at two of the twenty pilot schools but the report is yet to be approved for distribution.

### ***School Context***

The Belvedere Secondary School is one of the government co-educational secondary schools, with a population of approximately 1100 students and 80 teachers. Often referred to as high-risk, its students come primarily from the Port-of-Spain and environs area, known locally as a large working-class catchment area with many families of low socio-economic status. This social factor is often perceived to be one of the contributors to high incidences of indiscipline among students, as well as generally low academic achievement. It was felt that some of these negative issues needed to be addressed. Of particular concern was the prevalence of indiscipline and seemingly resulting underachievement, predominantly among the male population.

In September of 2009, the school, pioneered by its principal, embarked on an initiative in which the incoming Form one students of that academic year were placed in single-sex classes. These Form one single-sex classes co-existed with the rest of the school which remained as co-educational classes. As is the case in many other co-educational government schools, single-sex classes had previously been limited to Physical Education classes (Gurian, Stevens & Daniels, 2009). The rationale given for this educational change was the desire to improve the school's culture by employing a strategy that, it was hoped, would have a positive impact on the students' academic development, as well as their behaviour.

Several studies had shown that by separating the boys from the girls, both sexes benefited from reduced distractions as well as the opportunity to learn with gender-specific strategies. This would allow the boys in particular, to focus on improving their grades, which could lead to a reduction in their negative behaviours (NASSPE, n.d.). However, one must emphasize that the girls too had become increasingly undisciplined in the school setting (Alder & Worrall, 2004).

Additionally, their academic achievement seemed to be in decline (Spielhagen, 2006). The idea was therefore to allow the students the opportunity to study with their own gender, yet benefit from joint socialisation during the break and lunch periods (Chadwell, 2010). In essence, it envisaged taking advantage of both educational settings.

At the school under study, the administration had expressed concern about the student indiscipline, coupled with falling grades. Consequently, the school's principal proposed the innovation to the School's Management Team as a feasible intervention strategy. The teachers were then informed, and buy-in was sought. The administration appeared to value the importance of gaining the teachers' support since it was the teachers who would be responsible for implementing the educational innovation (Fullan, 2001; Hall & Hord, 2006). The majority expressed interest in the innovation, as most felt strongly that some sort of intervention was necessary to help improve the school's ethos.

The single-sex class innovation was consequently implemented on a phased basis. It must be noted that this was an internally-generated change which was largely experimental. The Ministry of Education was duly informed of the school's decision. Evidently with this change, definable aspects of classroom life as teachers had known it needed to be altered, and this was expected to include changes in teaching practices and beliefs (Fullan, 2001). Initially, teachers were specifically designated by the Department heads to teach the same-sex classes. Their selection was influenced by their personalities and perceived capabilities. This innovation was continued the following academic year September 2010. Both year groups are currently in Forms three and two respectively, and comprise twelve of the thirty-one classes at the school.

## STATEMENT OF THE PROBLEM

In the educational domain, innovations are often implemented in an effort to improve school systems. Whilst this is laudable, innovations are, unfortunately, often destined to fail because the correct implementation protocol is not properly enforced (Fullan, 2001). Teachers, for example, as one of the key actors in the everyday life of schools, are essential to implementing educational innovations (Stromquist, 2007). Yet, oftentimes, innovations are implemented at schools without establishing opportunities for meaningful teacher input and feedback. Naturally, those directly involved in the implementation process should be given the opportunity to share their views and reflect about an innovation. This evidently would influence the accuracy and efficacy with which innovations are implemented.

At the Belvedere Secondary School, the single-sex class innovation is currently in its third year of implementation. Although research shows that routine monitoring and evaluation of any school-based strategy is paramount to ensuring quality implementation (Fullan, 2001; Hall & Hord, 2006), to date, there has been no official forum for teachers to review this innovation or determine its effectiveness within the school context. Admittedly, the innovation started as a good cause, but is currently operating in an ad-hoc manner. Teachers are now randomly assigned to these single-sex classes, and regrettably, there has still been no opportunity to pause, reflect and make a determination on the innovation.

This study therefore serves to afford teachers that opportunity to share and reflect on their experiences, and possibly make recommendations about the innovation from its inception to present. Their insights, whilst not generalizable, can be used as a case study reference-point of single-sex class innovations, in particular its dynamics and sustainability in the local context.

Furthermore, given that there is a dearth of research material locally on single-sex class innovations, knowledge of these teachers' insights could assist local stakeholders to make more informed decisions and model best practices at the nation's schools. It is against this background that this study was tailored to respond to the following purpose:

### **PURPOSE OF THE STUDY**

The purpose of this study is to uncover teachers' perceptions of the implementation of the single-sex class innovation at the Belvedere Secondary School, using a qualitative case study research design. These perceptions may serve to inform the school's administration of the teachers' experiences in implementing the innovation, and thus may better enable the administration to make a determination on it. More specifically, the study is designed to answer the following research questions:

### **RESEARCH QUESTIONS**

#### ➤ Overarching question

What perceptions do teachers have of single-sex classes as an educational innovation at the Belvedere Secondary School?

#### ➤ Sub-questions

- How do teachers view the introduction of the single-sex class innovation?
- How do teachers perceive the influence of this innovation on their approach to and method of teaching?

- How do teachers perceive that this innovation has influenced school and classroom life (student behaviour and academic performance)?
- What are teachers' views regarding the potential for adoption of this innovation?

In this study, all research questions were operationalized.

### **EXPECTED OUTCOMES**

- This study can serve to provide critical insights into teachers' perceptions of single-sex class innovations as a strategy for achieving positive educational change in schools in Trinidad and Tobago.
- The teachers' insights can directly influence school policy, practice and future research.
- It can also serve as a case study reference point and guide for similar curriculum-based innovations that may be employed within the educational context of Trinidad and Tobago.
- In addition, it can add to the body of literature on single-sex innovations in the local and regional context.

### ***Operational Definitions of Key Terms***

For the purpose of this study, the following terms were defined as follows:

- Perceptions: how we make sense of all the information we receive from the world via our senses (Roth & Bruce, as cited in Hargie, 2006).



- Single-sex classes: classes in which students are grouped according to sex within larger coeducational settings that serve both sexes (Hoffman, Badgett, & Parker, 2008). This is sometimes referred to as 'single gender classes'.
- Innovation: an idea, practice or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003, p. 12).
- Implementation: refers to what really happens in practice (Fullan, 2001, p.7). It also consists of the process of putting into practice an idea, program, or set of activities and structures new to the people attempting or expected to change (p. 45).

### ***Organisation of the Study***

Chapter One gave the background and setting of the study of teachers' perceptions of the single-sex class innovation. In Chapter Two, pertinent themes in the literature related to the study were reviewed. Chapter Three detailed the processes in methodology and more specifically the procedures of data collection and analysis. Ethical issues were also addressed and the study's delimitations and limitations were outlined. Chapter Four gave an account of the findings with regard to each research question and in Chapter Five the researcher discussed the outcomes of the study with regard to the literature and made some recommendations.

## CHAPTER 2

### LITERATURE REVIEW

#### ***Introduction***

Nowadays, the issue of academic under-performance of boys is a major concern. In fact, this has preoccupied governments, educationalists, employers, parents and teachers alike (Mulholland, Hansen & Kaminski, 2004). It was felt that although girls were underperforming in certain subjects like Mathematics and Science (Cavanagh, Dellar & Mollon, 2001) it was more the boys who were disadvantaged in co-educational classes. Thus, in order to address boys' educational needs as well as the disparity in the levels of academic achievement between the sexes, some schools considered single-sex classes as a possible remedial strategy. According to Mulholland, Hansen and Kaminski (2004), discussion about the merits of the single-sex classroom have had an international flavour. Since the 1990s, studies have been undertaken from England to South Africa, the U.S.A., New Zealand, and even Australia. This plethora of research and findings represent an array of stakeholder views and varying contexts regarding the single-sex class innovation as an educational strategy.

#### ***Single-sex Instruction in a Co-educational Setting: The Controversy***

Initially, co-educational contexts were considered to be healthy learning environments in which young male and female students attained maturity, learned socially appropriate behaviour and interrelated with one another in ways that contributed to their emotional maturity (Mulholland, Hansen & Kaminski, 2004). Gossett (2000) adds that co-educational settings

allowed students to learn about each other, develop friendships in a very natural way, and form healthier, less stereotypical attitudes toward the other. Some even claim that the presence of girls in a classroom has a calming effect on the behaviour of boys and that interacting with boys in the classroom helps girls become more self-reliant (Gossett, 2000; Hoffman, Badgett, & Parker, 2008).

However, other studies have consistently shown that the atmosphere of co-educational classrooms is often heavily and negatively influenced by boys (Gilbert & Gilbert, 1998; Lillico, 1999; Sadker, 1999; Younger et al., 1999). Lillico (1999) argues that many of the behaviours exhibited by boys in the classroom are socially inappropriate and continue to create problems in schools, thus increasing the resolve of administrators to separate the sexes at school.

In this regard, Cavanagh, Dellar and Mollon (2001) put forward an alternative line of reasoning, positing that the academic and social needs of boys and girls can be more adequately met in single-sex classes. Gurian, Stevens and Daniels (2009) add that some advantages include improved test scores, decreased disciplinary problems, more fully engaged learners, and a more energized school community. They state that “separating boys and girls can make for more comfortable classrooms, where both sexes are more willing to take risks, speak up, contribute answers, express uncertainties, and ask questions” (Gurian, Stevens & Daniels, 2009, p. 52). Chadwell (2010) equally supports the single-sex class innovation given the acknowledged social, hormonal, and brain differences that exist between boys and girls. He further suggests that this innovation can help to minimize the social, emotional, and romantic distractions that naturally begin during early adolescence.

On the other hand, Sadker (1999) has expressed concerns about the potential of this innovation to perpetuate stereotypes, and thereby provide 'separate but equal' education which is reminiscent of the segregation era, having the potential to fractionalize the society. Others posit that this innovation can easily become unequal education, and the lack of experience in working together with respect and tolerance will disadvantage students when they get into the workplace ("Girls and boys", 2008; "More schools", 2006).

Furthermore, Archer (1998) posits that this innovation may cause schools to short-change girls, albeit inadvertently. This is due to the perception that the resurgence of interest in single-sex teaching in co-educational schools in the last few years is almost entirely related to the lower levels of achievement of boys, and to the preoccupation with the gender gap (Warrington & Younger, 2001). This suggests that all efforts would be principally focused on the boys' classes and adapting teaching styles to their needs.

However, Kleinfeld (as cited in Cavanagh, Dellar & Mollon, 2001) considers as dangerously wrong, the idea that the single-sex innovation short-changes girls. Conversely, he postulates that teachers think girls are smarter, like being around them more, and therefore hold higher expectations for them. The innovation therefore appears to be more a way of ensuring equal opportunities for girls ("Girls and boys", 2008). This suggests therefore that it is the boys who would feel overwhelmingly that they are discriminated against because of the amount of negative attention they receive (Warrington & Younger, as cited in Cavanagh, Dellar & Mollon, 2001).

Another group of researchers have a fairly pessimistic outlook on the single-sex class innovation. The highlight of their research is that such a strategy is inconsistent, context-

dependent and does not necessarily enhance boys' educational or social outcomes (Baker et al. & Feniger, as cited in De Lisle, 2011; Martino, Mills & Lingard, 2005). Others add that single-sex classes, as a particular strategy for either boys or girls, do not produce better results and does not ensure long term improvement in comparison with co-educational settings (Cavanagh, Dellar & Mollon, 2001; Martino, Mills & Lingard, 2005; Sukhnandan et al, as cited in Warrington & Younger, 2003). Given this plethora of views, this study therefore seeks to discover where the selected teachers at the Belvedere Secondary School stand in this controversy, especially given the unique Caribbean context of the school which may offer a different dimension to their experience.

### ***Aspects of the Controversy***

#### **Students' Behaviour and Socialisation**

A search of the literature shows that the findings with regard to student behaviour have been mixed. In research done in Australia by Mulholland, Hansen and Kaminski (2004), some teachers reported that girls found strength and leadership and they were simply easier to teach. Another study in the U.S.A. showed reduced behaviour referrals in single-sex classrooms, most notably in the male classrooms (Ferrara, 2005).

However, whilst it has been observed that girls-only classes may have had positive effects for the girls, teachers posit that the boys' classes do little to challenge the macho male cultures in those schools (Jackson, as cited in Stromquist, 2007) as a boys-only environment tends to compound the least attractive aspects of boys' attitudes and behaviour (Cavanagh, Dellar & Mollon, 2001). Some teachers even complained that there was too much adolescence in one

room at one time which resulted in a lot of 'horseplay' (Ferrara, 2005). Likewise, the teachers in the study by Gray and Wilson (2006) believed the single-sex class innovation had exacerbated the behavioural challenges at their school.

### Students' Academic Performance

Although hard data on how the choice of single-sex or co-educational schooling affects achievement continue to be in short supply, the No Child Left Behind Law suggested single-sex classes as an innovation that could elevate achievement in failing schools ("Girls and boys", 2008; Thiers, 2006). Spielhagen (2006) also expressed hope that providing an environment free of the distraction caused by mixed-sex social interaction would lead to higher scores.

In the Australian study by Mulholland, Hansen and Kaminski (2004), teachers reported that students seemed better able to concentrate on their studies in the single-sex classes, without the distraction of the other gender. They added that girls seemed to be making better progress in the single-sex acceleration Mathematics class, and asked more inquisitive questions. Other teachers also reported that boys and girls participated more, and were less self-conscious about their work (Ferrara, 2005).

However, in the study by Thiers (2006), findings showed slight positive effects of single-sex schooling on some academic measures, such as scores on all-subject achievement tests. Archer (1998) too reported that some school administrators recognized that girls' performance in the single-sex classes had not changed noticeably. Even Ferrara (2005) acknowledged that there was no significant increase in achievement, suggesting that students learning arrangements did not necessarily make a profound difference in student academic achievement.

### Methods of Instruction

Whilst modification in teaching methods may have been expected in all single-sex classes, Warrington and Younger (2001) reported that often it was frequently curriculum-as-normal for girls, with little or no modification to curriculum content, teaching approaches and resources, whilst the changes to teaching style and approach were mainly implemented in boys-only classes. Teachers in boys' classes generally reported employing a variety of tasks of shorter length to increase learning time, using competitions to focus attention and keep the boys engaged, employing masculine examples used in explanations and also enforcing stronger discipline measures (Ferrara, 2005; Mulholland, Hansen & Kaminski, 2004).

For those teachers who modified the girls' classes, there was longer learning time on single tasks, longer discussions in more depth, more time for explanation, attempts to build confidence through encouragement of individuals, more peer interaction, use of projects and shared problem solving (Ferrara, 2005; Mulholland, Hansen & Kaminski, 2004). This study will therefore seek to discover if the teachers noted any changes regarding their students' behaviour, attitudes, academic performance, as well as their own adaptations in teaching methods.

### ***Teachers and Innovations***

In seeking out teachers perceptions, one must also consider the manner in which teachers deal with innovations. This is of particular significance given that the success of school reform initiatives is in part based on teacher support; therefore teachers' responses to, perceptions of, and attitudes toward the single-sex class innovation may influence the effectiveness of the programme (Thompson & Ungerleider, 2004).

Did the teachers at the Belvedere Secondary School feel a sense of ownership? Fullan (2001) and Armstrong (2003) both highlight the importance of teachers' sense of ownership in any change process, whether the change is mandated or voluntarily sought. For example, teachers interviewed in the study by Gray and Wilson (2006) felt that the innovation at their school was imposed on them without real consultation, as their concerns were not actually requested.

Hall and Hord (2006) add that implementation should therefore be a process through which the teachers move as they gradually come to understand and become competent in the use of new ways. In other words, it is important to have a smooth transition in school logistics such as changes in scheduling, classroom space, class size, and teacher assignments, among others (Gurian, Stevens & Daniels, 2009). This would include implementation of the innovation on a phased basis rather than whole school.

The approach by administration also influences teachers' experiences with an innovation. The active support of the principal and good leadership is critical (Gurian, Stevens & Daniels, 2009). A key responsibility of the principal and by extension the administration is to continuously let the teachers know that the innovation is important, that their efforts are valued, and that there will be continuing backup and support (Hall & Hord, 2006). In the study conducted by Ferrara (2005, p. 4), one teacher reported being "just thrown into it with a little information".

Furthermore, the characteristics of change proposed by Fullan (2001) may influence the teachers' commitment to implementation. These include whether teachers perceive that the change was needed, if they were clear about the dimensions of change to be implemented, how



complex the dimensions of change were, and if good quality resources were available to them to facilitate the implementation (Fullan, 2001). Gross, Giacquinta, and Bernstein (as cited in Snyder, Bolin & Zumwalt, 1992) add that the lack of teacher knowledge and skill to conform to the new model as well as the lack of staff motivation could negatively colour teachers perceptions.

### ***Teacher Beliefs***

In seeking to discover teachers' perceptions of the single-sex class innovation, their attitudes, beliefs and expectations are also of great significance as these directly influence their implementation of and experiences with the innovation (De Lisle, 2011). In fact, the beliefs teachers hold influence their perceptions and judgments, which, in turn, affect their behaviour in the classroom (Ashton et al., as cited in Pajares, 1992).

Some studies show that teachers perpetuate gender stereotypes in the way they mete out differing treatment to the boys versus the girls. Unfortunately, this subtle, unintentional, but damaging gender bias still characterizes some classrooms (Cavanagh, Dellar & Mollon, 2001; Ferrara, 2005; Sadker, 1999; Stromquist, 2007). Spielhagen (2006) and Ferrara (2005) both found that teachers in single-sex classes tended to structure their assignments and modify both content and pedagogy according to their own, often stereotypical, constructs of the differences in the ways boys and girls learn.

Stromquist (2007, p. 9) posits that “in actual practice ... some behaviors (the provision of examples in class, practices at events, use of educational resources in the classroom) favored boys while other behaviors (reading sessions) favored girls”. For instance, a common finding is

that boys tend to enjoy more challenging interaction with teachers as they dominate classroom activities. In addition, they tend to receive more attention than girls, be it through praise, constructive feedback, help, and even through criticism. Stromquist (2007) further adds that these biases are more subtle than visible discrimination, thus resulting in unconscious behaviours that give more careful attention either to girls or boys.

Discipline, too, is a salient practice that reflects teacher attitudes and through which double standards and traditional values about masculinity and femininities are reinforced (Robinson, as cited in Stromquist, 2007). Teachers tend to be more punitive with the boys than the girls (Francis, 2000; Younger & Warrington, 1996). These factors may influence the perceptions of the teachers in this study with regard to their boys', girls' and co-educational classes.

Fullan (2001) further underscores the fact that teachers attitudes are also influenced by the culture of the school (relationships, values, attitudes, and collegiality) and the availability and timing of support provided (training and resources). Fullan (2001) states that any innovation that brings a change in teaching practices, in beliefs or understandings of learning practices and in materials demands more collegiality, trust, support, interaction, and open communication between teachers. A less than collegial relationship among staff and administration may negatively affect teacher attitude which may result in lack of commitment towards any school-based innovation. Teachers in the study by Ferrara (2005) indicate that they learned the most about effective strategies for single-gender classrooms from discussions with their colleagues and from insights gathered from parents or friends.

Hall and Hord (2006) submit that despite the novelty and wonder of any innovation, teachers as implementers will always have moments of self-doubt about whether they can succeed with it, and whether they even want to. McLaughlin, and Berman and McLaughlin (as cited in Snyder, Bolin & Zumwalt, 1992) add that the attitudes of teachers are critical as they need to be motivated by professional concerns, especially given that educational change depends on what they do and think (Fullan, 2001). This study therefore serves to uncover the affective side of change, including teachers' reactions, feelings, and attitudes towards this innovation.

### ***Conclusion***

Therefore, given that the evidence about the merits of single-sex classes continues to be varied and sometimes inconclusive, and tangible evaluation of its potential continues to be lacking (Mulholland, Hansen & Kaminski, 2004; Sukhnandan et al., 2000), this study seeks to uncover the perspectives of select teachers at the Belvedere Secondary School who, it is hoped, would provide some insight into the implementation of the single-sex class innovation in their context. Furthermore, there has been comparatively little research on gender and achievement in the Anglophone Caribbean, and more specifically on disadvantaged urban populations (De Lisle, 2011; Hoffman, Badgett & Parker, 2008). For that reason, the researcher seeks to explore this issue. It is anticipated that the controversies delineated, the personal beliefs and values of these teachers, as well as their reaction to change may influence the perceptions that the teachers form.

Chapter Three thus presents the methodology that was employed to uncover the teachers' perceptions, and provides relevant justifications.

## CHAPTER 3

### METHODOLOGY

#### *Type and Design of Study*

This study employed a qualitative case study design.

#### Rationale for Qualitative Approach

In the domain of research, researchers employ approaches best suited to the analysis and presentation of findings. Maxwell (1996, p. 17) posits that qualitative studies are especially suited to “understanding the meaning, for the participants in the study, of the events, situations, and actions they are involved with and of the accounts that they give of their lives and experiences”. Moreover, given that a quantitative approach does not necessarily connect with teachers’ experiences of everyday classroom realities, a qualitative approach seems more apt. Maxwell (1996) adds that the strengths of qualitative research derive primarily from its focus on specific people and its emphasis on words rather than numbers.

In this vein, this study took a qualitative approach as it dealt primarily with uncovering the participants’ perspectives on events (Marshall & Rossman, 1995). The issue revolved around the investigation of teachers’ perceptions of the single-sex class innovation at the Belvedere Secondary School. According to Klenke (2008), the posture of not knowing something, and therefore needing to investigate and discover it, is a hallmark of the qualitative paradigm.

Marshall and Rossman (1995, p. 4) add that qualitative research “values and seeks to discover participants’ perspectives on their worlds, views inquiry as an interactive process between the researcher and the participants, is both descriptive and analytic, and relies on

people's words and observable behavior as the primary data". One may not yet know how the teachers feel, and what their varying experiences might be. Therefore, the researcher would rely solely on what the teachers "have to say in their own words, in their voice, with their language and narrative" (Lichtman, 2010, p. 101). This suggests that the results could never be right or wrong, but rather would be a representation of their individual perspectives. Thus, there would be no need to legitimize the validity of the results because naturally they would be subjective in nature.

### Rationale for Case Study

A case study design is often employed when one desires to gain an in-depth understanding of a situation and meaning for those involved (Merriam, 1998). In this study, the researcher desired to understand in-depth the perceptions of the teachers regarding their experiences in implementing the single-sex class innovation. This type of research shares an intense interest in personal views and circumstances (Stake, 1994). The researcher is thus interested in the processes that the teachers are going through, and the things that they are discovering in their school context. And, in seeking a better understanding of this case, the study is designed to optimize understanding of it rather than generalization beyond (Stake, 1994).

Furthermore, case studies are often intensive descriptions and analyses of a single unit or bounded system (Smith, as cited in Merriam, 1998). The single unit of this study is the Belvedere Secondary School, and the case under investigation is the single-sex innovation. It is particularistic as it focuses on the way the teachers take a holistic view of the innovation (Merriam, 1998). As an intrinsic case study, it is bounded by time and place (Stake, 1994). All of these factors confirm the idiographic and thus qualitative nature of the study. Furthermore, given that the researcher is interested in insight, discovery and interpretation rather than hypothesis

testing, the qualitative case study design is the preferred method.

### ***Role of the Researcher***

As I was a member of staff at the Belvedere Secondary School, the question of positionality, objectivity and credibility arose. As the primary and human instrument for data collection and analysis, I was naturally responsive to the context of the school, which meant that all analyses would be filtered through my emic perspective (Creswell, 2007; Merriam, 1998).

In fact, the manner of writing would reflect my own interpretation that was brought to the research (Creswell, 2007). Therefore, this underscores the importance of reflexivity as I was required to show consciousness of the biases that I may have brought to the study, and thus sought to make this explicit by bracketing myself out of the narrative (Creswell, 2007; Miles & Huberman, 1994).

However, the insider perspective is not necessarily a negative trait. According to Smyth and Holian (2008, p. 36) “researchers who undertake research from within their own organisation can offer a unique perspective because of their knowledge of the culture, history and actors involved”. Thus, I used this knowledge in making the best decisions for the study. What must be guaranteed though is a measure of “rigour, robustness, transparency of process and method, systematic and internally consistent approaches to data gathering and analysis, and a clear chain of evidence and ethical practices” (Smyth & Holian, 2008, p. 36). These were addressed in the section on “Trustworthiness and Credibility issues”.

### ***Sampling Strategy***

The sampling method used was purposeful in nature. Purposeful sampling allows the researcher to select those participants who would provide the richest information because they possess the required criteria (Best & Kahn, 2006). Therefore, I specifically selected teachers who I felt could best inform me about the single-sex innovation given that they actually taught single-sex classes (Creswell, 2007).

In this study, the teachers selected shared certain characteristics that were relevant to the questions of the study (Marshall & Rossman, 1995). Le Compte and Preissly (as cited in Maxwell, 1996) refer to this as criterion-based selection. The sampling frame used in selection was based on the following: teachers assignment to a single-sex class when the innovation was first introduced in September of 2009, and their current assignment to at least one single-sex class, therefore having experience with the innovation for almost three years. The participants selected were able to provide important information that could not have been obtained as well from other teachers who, for example, may currently be experiencing the innovation but was not present when it was first introduced (Maxwell, 1996).

To attain maximum variation in selection, the dimensions of variation in the population most relevant to the study were defined and then teachers that represented the most possible variations on these dimensions were systematically selected (Maxwell, 1996). An equitable representation of male to female teachers was sought, as well as representation from each subject department. This mixture increased the likelihood that the findings would reflect a wider perspective of the issue under question as the heterogeneity in the population was adequately captured (Lincoln & Guba, 1985; Miles & Huberman, 1994). It must be noted that this assured

variety, but not necessarily representativeness nor typicality, which is not required in qualitative research (Rabiee, 2004; Stake, 1994).

### ***Participant Selection***

Of a school population of approximately eighty teachers, sixteen taught both the Form two and three levels of single-sex classes. Of these sixteen teachers, seven were purposefully selected. They included one teacher from each of the following departments: Mathematics, Science, Modern Studies, Modern Languages, English, Technology Education and Visual and Performing Arts. Representation from each department meant that the heterogeneity in the population was adequately captured, especially given the possibility that the subject taught by the selected teachers may have some measure of influence on the teachers' perceptions.

### **Participant profiles**

PR is a Teacher III (a teacher who possesses a Bachelor's Degree in an area of subject speciality from a recognized University) at the school for the past seven years and is also an acting Dean. In total, he has eighteen years of teaching experience. Since the start of the innovation he has taught three single-sex classes, two boys' and one girls' class.

PG is a Teacher III with eleven years of teaching experience. She is the form teacher of a girls' class. Since the start of the innovation she has taught four single-sex classes, one boys' and three girls' classes.

PN is a Technical Vocational Teacher II (a teacher who possesses at least five G.C.E. O' Level or C.X.C. subjects including English Language and Mathematics; National Technician's



Diploma or equivalent; In-service / basic training in techniques of teaching and a minimum of five years pre-qualification or two years post-qualification experience in relevant occupational field) with five years of teaching experience. He is the form teacher of a boys' class. Since the start of the innovation he has taught nine single-sex classes, five boys' and four girls'.

PC is Teacher II (a special teacher who has a 50 or 75% Degree which includes at least 50% of the courses relevant to the subject area taught) with seven years of teaching experience. He is the form teacher of a boys' class. Since the start of the innovation he has taught three single-sex classes, one boys' and two girls' classes.

PF is a Teacher III. She has twelve years of teaching experience. She has taught three girls' classes since the start of the innovation.

PP is a Teacher III with four years of teaching experience. She is also the form teacher of a girls' class. To date she has taught thirteen single-sex classes, four boys' and nine girls'.

It was expected that these teachers would be able to share their perceptions on the single-sex class innovation based on their interactions with these classes over the past three years. As subject teachers of single-sex classes, they would be able to reflect on what differences the single-sex classes made to school and classroom life. They would also be able to share their current views and concerns about the innovation.

Whilst being a form teacher of a single-sex class was not a criterion for participant selection, having several of them amongst the participants was welcomed. This allowed the discussions to also factor in the array of social and pastoral type of teacher/student interaction which would have also influenced the teachers' perceptions of the innovation (Fullan, 2001). This would therefore have allowed a greater variety of experiences to be incorporated into the

study. Also, the presence of an acting Dean amongst the participants was also viewed as an advantage as it allowed the other participants to gain insight into the discussions at the administrative level, thereby facilitating the inclusion of another perspective.

### ***Method of Data Collection***

Data-collection techniques allow one to systematically collect information about the objects of study, be it people, objects, phenomena, and about the settings in which they occur ("Module 10A," n.d.). Given the nature of this study, the researcher felt that the best data collecting strategy was a focus group interview, followed by individual follow-up interviews where necessary. The focus group method was ideal in investigating this research issue as it is socially oriented (Marshall & Rossman, 1995). In a focus group interview, the goal is to gather information, generate insight, determine how decisions are reached, and encourage group interaction (Salkind, as cited in Hoffman, Badgett & Parker, 2008).

This technique was also selected because research shows that individuals who share a common experience stimulate each other to talk, by listening to each others' opinions and understandings in order to form their own (Lichtman, 2010). Furthermore, "this method assumes that an individual's attitudes and beliefs do not form in a vacuum; [rather], people often need to listen to others' opinions and understandings to form their own" (Marshall & Rossman, 1995, p. 84).

Although one concern was the participants' tendency toward conformity (Morgan, 1997), allowing interaction among participants would also serve to enhance data quality, as participants tend to provide checks and balances on each other, thereby weeding out false or extreme views

(Krueger & Casey, 2009). Furthermore, it has been seen that sometimes the interaction amongst participants allows them to change their opinions after discussion with each other (Morgan, Krueger & King, 1998). Morgan (1997) adds that sometimes individuals are often simply unaware of their own implicit perspectives until they interact with others on a topic. This therefore may give participants the opportunity to defend their perspective to someone who may have a differing view.

Additionally, it was expected that this type of group interaction would better facilitate the participants' recall, given that the innovation had been implemented some three years earlier. Patton (2002) concurs that focus groups are often used with staff groups in programme evaluation to identify a program's strengths, weaknesses, and needed improvements. Thus this was the main method of data collection employed to uncover the perceptions of the participants. The questions were based on their past and present experiences with the single-sex class innovation, and also incorporated their predictions for its future (Best & Kahn, 2006).

The individual, follow-up interviews were conducted where necessary, because often the available response time for any particular individual in a focus group interview is normally restrained in order to hear from everyone (Patton, 2002). This meant that some participants may not have been able to adequately express themselves. Furthermore, there may sometimes be an overly dominant or reticent voice in the group, and so amplification may be necessary (Liamputtong, 2011; Morgan, 1997). These follow-up interviews thus provided that opportunity for further clarification, amplification and possible modification of perceptions, both by the researcher and the participants. For the follow-up interviews, probing and specifying questions were employed to obtain more in-depth explanations and meaning (Liamputtong, 2011).

## ***Instrumentation***

For the focus group interview, a pre-interview questionnaire was designed and administered (see Appendix A), followed by an interview protocol (see Appendix B). The pre-interview questionnaire was designed to get pertinent information from the participants for their profiles and also to inform them of the purpose of the study. To create the interview protocol, the insights from two theoretical frameworks were used. These two frameworks served to ground the study using theories from the literature.

### Research sub-questions:

1. How do teachers view the introduction of the single-sex classes' innovation?
2. How do teachers perceive the influence of this innovation on their approach to and method of teaching?
3. How do teachers perceive that this innovation has influenced school and classroom life (student behaviour and academic performance)?
4. What are teachers' views regarding the potential for adoption of the innovation?

### Sub-Questions 1 & 4

In developing questions to respond to sub-questions one and four, Fullan's Educational Model was employed (see Appendix C). In this model, Fullan (2001) underscores the characteristics of change and the local characteristics that influence implementation of an innovation. He posits that these characteristics influence the success of any innovation, and thus I used this knowledge in forming questions which were based on the introduction and implementation of the single-sex class innovation.

### Research Sub-Questions 2 & 3

In developing questions to respond to sub-questions two and three, I relied on the Concerns-Based Adoption Model by Hall and Hord (2004). The Stages of Concern (SoC) questionnaire (see Appendix D) was used as a guide. This was ideal as the SoC questionnaire dealt specifically with teachers concerns about an innovation.

The interview protocol was merely a guide as I was free to probe more deeply where necessary, skip over areas that had already been covered, and entertain unanticipated ideas as they arose (Morgan, 1997). The questions were sequenced to allow maximum insight. The initial questions allowed the participants to recollect their thoughts, the key questions relating to the topic of interest followed, and a final summary of questions came at the end (Morgan, Krueger & King, 1998).

### ***Trustworthiness and Credibility Issues***

Establishing trustworthiness entails ruling out particular plausible alternatives to the interpretations of the study (Maxwell, 1996). In this study, trustworthiness was established in the following ways:

Firstly, I ensured that the interview questions were not leading, as this would have impacted negatively on the credibility of the study (Maxwell, 1996). Therefore, questions were reviewed and reworded where necessary. Then, the interview protocol was pilot-tested with a colleague from a similar co-educational institution, who gave suggestions on improving the questions.

Secondly, the interview protocol was reviewed to ensure that the questions were open-ended, which allowed me to elicit unstructured talk from participants about their experiences and opinions ("A data collector," n.d.). Furthermore, care was also taken to ensure a degree of systematization in questioning so that all participants had an equal chance of being heard (Marshall & Rossman, 1995). Most times the conversation flowed naturally, and at other times some questions had to be directed at specific participants to ensure that all voices were heard.

During data collection, both the focus group interview and the individual follow-up interviews were audio recorded to facilitate reconstruction of the interview (Morgan, Krueger & King, 1998) and then verbatim transcriptions were done to guarantee accuracy and completeness of the data. For the recording, two independent recording devices were used as they both fit the setting and minimized any feelings of discomfort (Marshall & Rossman, 1995). Two forms of recording provided a backup in case of technical malfunction (Morgan, 1997).

Following data collection, in an effort to eliminate factual errors and assess intentionality, I conducted member checks, thereby soliciting feedback from the participants themselves (Lincoln & Guba, 1985). This step was important in ensuring that the intent of participants was adequately understood (Morgan, Krueger & King, 1998). The participants were all given the opportunity to peruse the verbatim transcriptions and make amendments where appropriate, and this process served to enhance fairness, relevance and accuracy. The follow-up interviews served as a forum for the participants to summarize their thoughts and feelings, and also provided the chance for them to respond to verification of the written report (Morgan, Krueger & King, 1998). They were able to add further information and provide summaries where desired (Cohen, Manion & Morrison, 2011).

Trustworthiness was assured by my declaration of possible biases, given that I work at the school under study. Although this proximity allowed for there to be some element of 'firsthand' information as I understood their context well, it was possible that some of the data collected may have fit my existing preconceptions (Miles & Huberman, 1994; Shweder, as cited in Maxwell, 1996). I therefore had to guard against imposing my own meaning on the findings by seeking to understand solely the participants' perspectives and the meanings attached to their words. One strategy was in the selection process. Participants were not selected by pure convenience, thus risking selection of persons with a similar framework to the researcher, but through purposeful sampling.

Coghlan and Brannick (as cited in Smyth & Holian, 2008, p. 43) suggest that "the insider researcher must work to stay in touch with their feelings to ensure that they are not caught in familiar patterns and experiences of organisational life, becoming too close to the processes and unable to rigorously interpret the data". They recommend keeping a reflective journal as an acknowledged device to enable all aspects of the research to be examined and reviewed. Thus, I kept a reflective journal (see Appendix G) which helped with personal reflection at various stages of the research (Morgan, Krueger & King, 1998). The journal contained my "personal record of insights, beginning understandings, working hunches, recurring words or phrases, ideas, questions, thoughts, concerns and decisions made during the research process" (Maykut & Morehouse, 1994, p. 68). Rabiee (2004) adds that reflection about the interviews, the settings and the non-verbal communication expressed by participants would add a valuable dimension to the data analysis.

Finally, there was peer debriefing where I exposed myself to a disinterested peer, in order to test honesty and credibility of the data analysis (Cohen, Manion & Morrison, 2011).

According to Smyth and Holian (2008, p. 40) “seeking external supervision to provide a reflective and challenging other voice”, is a valuable tool to realise the benefits of pre-understanding and minimise potential pitfalls.

I also kept an audit trail which included the pre-interview questionnaire, the interview protocol, debriefings, a reflective journal, electronic recordings, interview transcripts, and coding processes. Some researchers advocate the establishment of an audit trail to increase the extent of dependability, consistency and conformability of the data (Lincoln & Guba, 1985; Rabiee, 2004). According to Morgan, Krueger and King (1998, p. 11) “for analysis to be verifiable, there must be sufficient data to constitute a trail of evidence”. These include clear procedures of data analysis that make the process clearly documented and understood, and also safeguard against selective perception by the researcher, thereby increasing the rigour of the study (Rabiee, 2004).

### ***Ethical Considerations***

The teachers were required to give consent to participate in the study and for the interviews to be audio-taped. They were informed of the central purpose of the study and their rights to withdraw at any time (see Appendix A). Furthermore, to ensure anonymity when reporting the findings, the participants were assigned aliases as they were assured confidentiality of their responses.



### ***Data Collection Procedures***

At the start of the second school term, I was able to concretize an outline of the research topic. Initially the proposed topic was “An investigation into stakeholders’ perceptions of the single-sex innovation at the Belvedere Secondary School”. However, on reflection of the topic and the scope required, it was evident that a study of this size would not be able to do justice to several stakeholders, given the word limit. I thus decided to remove three stakeholders (administration, parents and students) and focus only on uncovering the teachers’ perceptions.

Three months after the conceptualization of the study, the focus group interview was held at the Belvedere Secondary School. I chose to conduct the interview during the last week of the school term, as there was a significant reduction in student attendance. This facilitated the scheduling of both the time and location of the interview. It also facilitated securing a suitable air-conditioned classroom where the risk of interruption was significantly minimised.

Of the seven teachers who agreed to participate, six were present at the interview. It was a possibility that I anticipated. Six participants allowed for a relatively intimate seating arrangement as the chairs were organised in a circular manner. This facilitated interactive dynamics as all group members had equal access to each other (Liamputtong, 2011). While awaiting the arrival of the participants, I chatted informally, set up and tested the recording equipment. Before beginning the interview, the concept of a focus group was explained to the participants. The ground rules established were that only one person should speak at a time, everyone should participate as equally as possible, and that my role was principally to facilitate their discussion (Morgan, 1997). I also implored the participants to give honest responses, and be

free to disagree, as this would allow me to elicit a range of perspectives on the topic (Madriz, as cited in Liamputtong, 2011).

The interview began at ten o'clock, which I felt was the most appropriate time of day, when participants would most likely be the most attentive and hopefully best inclined to participate. The interview lasted approximately one hour. The participants were thanked for their participation and were then informed that after initial transcription, they would be given a copy for their perusal and to make changes as they saw fit. They were also informed about possible individual follow-up interviews. Refreshments were then provided at the end of the session, in a show of appreciation to the participants.

The follow-up interviews were initially scheduled for the first and second weeks of the third school term. However, my duties as an external examiner for the regional examinations body obliged me to postpone these interviews to the third and fourth weeks. I scheduled individual sessions with all participants for times convenient to them. This proved to be a significant challenge to find times when both the researcher and participants were available. Three of the appointments had to be rescheduled because of unforeseen circumstances. Eventually, two of the rescheduled interviews were conducted after school hours and the third was done during the recreation period. I am grateful that these teachers were accommodating. Of the six follow-up interviews conducted, the duration ranged from seven to twenty-five minutes. The questions posed were formulated principally, based on gaps in the participants' contributions in the focus group interview and thus provided amplification and clarification of their responses.

### ***Methods of Data Analysis***

In order to minimise the potential bias in analysing and interpreting focus group data, Krueger and Casey (2009) posit that the analysis of a focus group interview should be systematic, sequential, verifiable, and continuous. Morgan, Krueger & King (1998) add that key characteristics of focus group analysis include a discipline process, a defined protocol, and multiple feedback loops. I therefore sought to ensure that these criteria were met.

In this case study, the approach used for data analysis was the constant comparative method (Merriam, 1998) in grounded theory methodology. According to Strauss and Corbin (2008), grounded theory methodology is a general methodology for developing theory that is grounded in data which has been systematically gathered and analyzed. It is also used as a means of analysing qualitative data (Merriam, 1998). Through the interview processes, I gathered information about the participants' actions and interactions, reflected on their meaning, arrived at and evaluated conclusions, and eventually put forward an interpretation (Marshall & Rossman, 1995). This process included initial or open coding, forming categories, interconnecting the categories, and then building a story that connected the categories (Strauss & Corbin, 2008).

Given that the principal source of data collection was a focus group interview, I felt that the approach to data analysis should incorporate a combination of thematic and focus group interaction analyses. Morgan (1997) posits that because neither the individual nor the group constitutes a separable 'unit of analysis', the analytic efforts must seek a balance that acknowledges the interplay between these two 'levels of analysis'. Thus, in addition to differentiating between the views of individuals and the actual group collective perspectives as happens in thematic analysis, I also paid attention to the dynamics of the discussion, which can

inform the strength of perspectives held by the participants and the level of agreement or disagreement in the group (Liamputtong, 2011).

The first key stage to data analysis was familiarization (Ritchie & Spencer, as cited in Rabiee, 2004). From the audio recordings I transcribed the data, a process that initiated my familiarisation with the data. I carefully reviewed the entire transcript, as well as the summary notes in the reflective journal. The aim was to become immersed in the details and get a better sense of the interview as a whole before breaking it into parts (Rabiee, 2004).

The second key stage was identifying a thematic framework. During the familiarization process, I wrote memos in the margin of the transcript noting ideas arising from the narrative. After carefully rereading the transcript, I reviewed the purpose of the study and then the research questions. Krueger and Casey (2009) suggested that the purpose of the study should drive the analysis. I then made a note of gaps in the discussion regarding the contributions of each participant. Thus the follow-up interviews were scheduled and conducted to seek both clarification and amplification. These recordings were also transcribed and added to the data collection.

The third stage was to manage both sets of data through initial and axial coding. The coding act entails breaking down the data, and conceptualizing it. According to Rabiee (2004), one of the most important aspects of this task is data reduction, which is achieved by comparing and contrasting data and cutting and pasting similar quotes together. Axial coding (Morgan, Krueger & King, 1998) allows the researcher to fracture the data and to reassemble them in new ways.

I used the Microsoft Word programme to assemble the responses by research questions. The data was then coded. The data was scrutinized line by line, in order to find leads, ideas and issues. Using the constant comparative method, I then compared codes and grouped similar ones, looking for patterns, contradictions and inconsistencies (Spencer, Ritchie & O'Connor, 2003). These were colour-coded. Under each section, categories were generated to highlight similarities and differences in the data collected thereby allowing for identification of emergent trends in the perceptions expressed (Krueger, as cited in Marshall & Rossman, 1995).

The final stage of analysis was interpretation of the data. My task was not only to make sense of the individual quotes, but also to be sufficiently analytical to discover the relationship between the quotes, and the links between the data as a whole (Rabiee, 2004). Eventually, themes were derived from the categories and codes which were extracted from the data. Subsequently, member checks were conducted with all participants to clarify inconsistencies and misinterpretations of the analysed data.

The analysis of each research question was then presented in narrative form, sometimes using 'in vivo' quotes. In writing the actual report of the results, both direct quotations of the participants as well as summarizations of their discussions were employed (Morgan, 1997). The participants' voices were presented in a personal and literary manner. Given that the approach to collecting and analysing the data was an inductive one, I used personal language to convey what was discovered. This allowed me to make specific, localized inferences from the value-laden information shared by the participants.

### ***Delimitations***

Delimitations describe the boundaries set for the study. As a case study, this study was limited to one co-educational secondary school and therefore the findings are not generalizable to other co-educational secondary schools. Yet, as a case study, it may be able to shed light on and offer insights about similar cases in similar contexts.

Secondly, given the small size of the study, the interviews were limited to the perceptions of just one stakeholder at the school: the teachers. These were also constrained to one teacher per department.

### ***Limitations***

Limitations are the shortcomings, conditions or influences that cannot be controlled by the researcher, which place restrictions on the methodology and conclusions. In this study, a significant limitation was the challenge of meeting as a focus group. It is known that focus groups can be hard to assemble given the unpredictable availability of teachers. Therefore, for reasons of practicality and manageability, the focus group size was restricted to seven teachers. Ultimately, six teachers participated in the study.

Another limitation was the limited time factor in which to conduct the study. Ideally, a more in-depth study could have been done over an academic school year, also incorporating the perceptions of the students and their parents.

One final limitation was that this study relied solely on interviews as the source of data collection (Rossman & Rallis, 2003). This factor reduced the opportunities for triangulation of

findings. It therefore meant that the focus was solely on discovering multiple realities of the participants and presenting them as such.

In Chapter Four, the data collected are analysed and the findings are presented in relation to each research sub-question.

## CHAPTER 4

### DATA ANALYSIS AND PRESENTATION OF FINDINGS

#### *Data Analysis*

In this chapter, the nature of the analysis procedure is described, and the findings in relation to each research question are presented. A focus group and individual follow-up interviews provided the data to be analysed. Krueger and Casey (2009) suggested that the purpose of the study should drive the analysis; therefore the purpose was reviewed. In order to uncover the teachers' perceptions of the single-sex class innovation, I focussed on the thoughts, opinions, feelings and concerns expressed. These were subsequently analysed, using the constant comparative method (Merriam, 1998) in grounded theory methodology (Strauss & Corbin, 2008).

The process of data analysis involved open, axial and selective coding, which yielded the categories and themes for the presentation of findings. Initially, I categorised the participants' responses according to the research questions. This facilitated open coding, whereby labels were affixed in the margins of the interview transcript (see Appendix E). This was followed by axial coding where similar issues were grouped and labelled in the same category. Following this, there was selective coding in which core categories were identified and others were linked to each other. In forming the categories, I looked for internal consistency, and the frequency of comments made by the participants (Morgan, Krueger & King, 1998; Rabiee, 2004). This facilitated the analysis of both the opinions of the participants and the influence of group interaction on their opinions. From the merged categories, themes were formed (see Appendix



F). The findings are therefore presented in the form of themes, in relation to each research sub-question.

## **PRESENTATION OF FINDINGS**

### ***Research Sub-Question 1***

- How do teachers view the introduction of the single-sex class innovation?

The responses of each participant were initially coded (see Appendix E1). I then reviewed Fullan's educational model (2001) to compare the factors mentioned there against the participants' responses. According to Fullan (2001), some interactive factors which affect implementation include its perceived need, clarity, complexity and practicality. A deductive approach was used to create these anticipated themes.

Evidence also suggests that teachers' attitudes to systems can either positively or negatively facilitate their implementation (Pajares, 1992). Therefore, I paid attention to the expressed attitudes of the participants and sought to give meaning to the concepts mentioned. In perusing the codes, it was noted that the views consistently expressed by most participants incorporated their initial attitudes to the innovation and its subsequent modification over the three years. Also expressed were concerns and criticisms about the implementation process. The participants also shared their views on the perceived rationale for the intervention.

Colour-coding was used to highlight the similarities, thereby also delineating the disparities. Categories were formed and they were subsequently synthesized to form themes (see Appendix F1). The consistency of views was recorded by categories. Following this systematic process,

three themes emerged. These are 'Teacher disposition and attitudes', 'Inadequacies of the implementation process', and 'Educational experimentation'.

### Teacher Disposition and Attitudes

When the participants were questioned about their initial feelings regarding the introduction of the single-sex class innovation, almost all participants expressed a positive attitude and outlook. Recalling their feelings at the time, emotive terms such as acceptance, intrigue, genuine interest, excitement and curiosity were used. One participant indicated that she was receptive: "I was also intrigued and I said ok let's try it and let's see where it goes". Another said: "Well initially when I heard about it I thought this sounds exciting... and I thought, hey let's see how this could actually work in our school". Yet another indicated a willingness to learn because he was actually attracted to this whole idea. Even the participant on the School Management Team indicated that they "accepted it, and found it was relatively good". This shows that teachers generally had a positive attitude to and high expectations of this new innovation.

However, this enthusiasm seemed short-lived. As the implementation progressed, the intrigue and excitement were replaced by disappointment, dismay, feelings of abandonment, helplessness, loss, discouragement, uncertainty and even disorientation. Several participants alleged that the poor implementation structure negatively affected their zeal. One participant indicated that "if they [the administration] started like what they said they would have done ... that would have helped better than just putting you into a class and then doing your own research or just finding out by trial and error". Another admitted that his "expectations kinda lowered for

the girls” and a third felt that “waiting for administration ... would’ve ... been.... like ‘waiting for Godot’ ”.

### Inadequacies in the Implementation Process

Analysis of the participants’ concerns revealed that all participants felt that the approach to implementation was faulty and chaotic. Conceding that there was some discussion in the staff meeting, most participants thought it really entailed informing the staff of a decision that was already made by the principal. This suggested a top-down approach: “He [the principal] came up with the idea and threw it out to a couple of us”. Another participant suggested that “they just came up with this idea and decided, hear what, this is what we are going to do; without hearing any advice or input or concerns from any of the staff members”. Interestingly, the participant belonging to the SMT admitted that the views from the “ground soldiers” were not sufficiently sought.

The male participants also confirmed that they were summoned by the principal and informed that they were selected as form teachers of same-sex classes: “My first thing is the meeting I was called to as a proposed form one teacher and I was told that I was getting a class of all-boys and not a co-ed class”. They were thus inclined to accept.

All the participants interviewed bemoaned the lack of teacher input and consultation before implementation. One participant suggested that the lack of communication between administration and teachers meant that there was not a total teacher buy-in, “to get everybody on board”, which could negatively affect the success of the innovation. Furthermore, others felt that had there been more meaningful consultation, a criteria for selecting the most apt teachers for the single-sex classes could have been established - such as their personality, competence and

efficacy. The participant belonging to the SMT confirmed that the heads of department were in fact given this mandate, but it did not appear to be heeded. This perhaps highlights a measure of disconnect between the teachers and administration.

The issue of the inadequate time frame between the introduction of the innovation to the staff and its subsequent implementation was also raised by a few participants. One teacher said that “the timing was more like a rushed project”, whilst a few others indicated that more time should have been spent on planning before actual implementation.

Most participants were also aggrieved at the lack of research and pre-planning before implementation, which meant that teachers had to rely excessively on their own initiative to cope with the change. One participant admitted: “I’ve learnt from my mistakes” and another said: “I tried to find out for myself how I am going to approach this”. A third added that “some research should have been done in terms of providing material for the teachers in terms of dealing with the classes”.

Another key issue raised multiple times by all of the participants was the lack of teacher training and support before and after the implementation of the innovation. They felt that the school did not provide them with good support, expressing dissatisfaction with the complete lack of training. One participant said: “I don’t think we received support from the school per se. I don’t think those things were, I guess, put forward, or probably, what is a better word ... thought through”.

Another participant complained that the lack of support was on two levels – administrative and departmental. Not only were teachers “thrust into this new system”, but no additional teaching resources were provided. Additionally there was a lack of support and

guidance especially for inexperienced teachers to assist in their transition: “As great as this was, there wasn’t much training for teachers to deal with single-sex classes”. Another admitted that: “I think I was just thrown into it and I ... just from my mistakes I’ve learnt.”

There was also a lack of teacher sensitization in terms of academics, learning styles, discipline and gender-specific issues. This meant that a multiplicity of approaches by teachers may have led to teacher subjectivity and bias in managing their classes: “If everyone is not on the same page, it leads to chaos in some ways such as when people would deal with the single-sex classes differently”. Another participant added that:

We weren’t given per se any guidelines as teachers as how to relate to the classes or what could be done different. ...For each individual teacher it was left up to themselves as to how to approach dealing with the classes; and I guess we weren’t prepared as to what the encounters we might necessarily get from individual classes.

### Educational experimentation

Analysis also showed that participants viewed the strategy as mere experimentation. One said: “I think it was just an experiment”. Another mused that it was an intervention strategy to try to help raise the boys’ achievement: “Well it was something different and it was touted as an experiment to see if we could get better achievement out of our students”.

Moreover, few participants perceived the innovation as a need for the school, but rather considered it an educational strategy to try and effect positive change: “But I understand trying something different could help in certain situations in the school”. Most participants mused that it was in fact a response to the despondent state of the school: “We were virtually in a rut and we needed to try something... And you need to find different ways and different things to experiment

with until you find something that works for you”. Another participant suggested that the deterioration at the school merited a different approach in order to effect positive change: “I think that our school reached the point where any new intervention was worth trying... because things had gotten that bad; and it was an effort to improve things”.

### ***Research Sub-Question 2***

- How do teachers perceive the influence of this innovation on their approach to and method of teaching?

For this sub-question, the participants were asked to reflect on their teaching approach and methods since the implementation of the innovation. I perused the data to see if participants had mentioned changes in their own behaviour, and in the nature of their interaction with the students. I also looked for mention of the use of new strategies. These were subsequently coded (see Appendix E2).

Most of the participants acknowledged modifying both their approach to and method of teaching. They indicated that the change in classroom dynamics obliged them to adapt. Interestingly though, a few of the participants initially stated that they did not change their teaching styles, but on further probing, they did acknowledge making subtle changes. Categories were subsequently formed from the codes (see Appendix F2), and analysis of their reflections resulted in the emergence of the following themes: ‘The development of teacher competencies’, ‘Increased gender awareness and sensitization’, and ‘Mixed teacher/student interaction’.

### The Development of Teacher Competencies

Whilst some of the participants indicated that they had not initially changed their teaching methods, the majority of them acknowledged that the innovation had influenced their instructional practice, discipline strategies, and ability to adapt to new situations. They also noted that it had given them self motivation.

Most teachers admitted making conscious changes in their teaching style over the three years. They recognised their own mistakes and sought to modify their approaches: “Just from my mistakes I have learnt to change my teaching styles with some of the classes”. Another said: “Well it made me look at my teaching style not as one method only, but being a little more diverse in teaching different populations”. A few participants also indicated that they took advantage of the boys’ competitive nature to motivate them.

It was noted that the participants’ increased experience also influenced a new approach to student discipline. One of the male participants noted: “My method for the girls had to change, in terms of when I would be dealing with a boys class I’ll be a little more forceful I would say; so I had to take it down a bit for the girls”. Another participant felt that implementing the innovation had increased her creativity, innovativeness and adaptability, as the innovation forced her to learn other teaching methods. Yet another showed that it made her step out of her comfort zone: “Well, like given that the girls tend to like things like singing, so I’m now doing singing in my classes even though I cannot sing”.

Some participants also indicated that they began doing individual research on the internet to gain a better understanding of gender-specific instruction. This served as personal enlightenment as they were able to develop their knowledge of different student learning styles.

One teacher was even able to make the connection between the school's unique context in comparison to findings in the research on gender and strategies: "The thing I was trying to say is that no matter what you read, what comes before you in reality can either be according to what you read or completely different. And in our case, some things would have been applicable and some things would not".

### Increased Gender Awareness and Sensitization

Single-sex classes obliged the teachers to make modifications in their classes, and this gave them a better understanding of the differences in learning styles between the genders. Most participants admitted adopting a more clear-cut approach in their teaching methods depending on the sex of the class. Teaching the sexes separately allowed them the opportunity to focus on strategies exclusive to each sex. One participant said that she changed her method of teaching in the second cohort for her boys' classes. The male teachers also changed their approach to the girls' classes, acknowledging that they had to be gentler with the girls as they remained "forceful" with the boys. Another participant said that she made minor gender-based adaptations to provide relevance of topics to her class: "I try to make things relevant to them as females and try to incorporate both issues of males and females in it to make it relevant to them".

Another issue raised was the perceived gender orientation of certain subject areas. Several participants addressed this, showing that male and female-oriented subjects such as Technical Drawing and Spanish forced the teachers to make a greater effort to increase the interest of the 'less-interested' sex. This included the adaptation of class activities and teaching strategies to perceived gender interest. One participant used technology specifically in her boys' classes. Yet another indicated a changed order to her instructional approach. The girls' classes



studied theory followed by practical work, whereas the boys' classes did practical work before studying the theory.

### Mixed teacher/student interactions

Participants reported that the nature of interaction with their students also changed. Some participants said that the innovation allowed them to improve their interactions with their students. For male teachers, they played a more pastoral role with the girls. One of the male participants said that he "had to become somewhat of a father figure". Yet, he admitted that "it was more difficult to settle them because they were certainly... more fun".

For most of the female teachers however, the boys' classes were their major challenge. One teacher acknowledged feelings of overwhelm and frustration:

I was in the middle of a whirlwind and I just couldn't do anything about it... it was a class of forty, who were before me, completely disinterested in anything I had to say from the first day... I would love to give up the class.

Another female teacher acknowledged that she needed to be a little sterner with the boys because they took longer to settle down in class. Yet, she also admitted that she was able to develop a nurturing relationship with some of the boys' classes:

I have seen them grow and change and I think it's because of the constant working with them. With my boys' classes, a lot of them like that kind of nurturing spirit about you. You know, simple things like how you going, how was your weekend, asking things about their home, getting to know them helps in the way you deal with them in the classroom.

### ***Research Sub-Question 3***

- How do teachers perceive that this innovation has influenced school and classroom life (student behaviour and academic performance)?

For this question, I perused the data to see what events and activities stood out to the participants. Participant observation of changes in student behaviour and academics were also recorded, as well as modified teacher/student and student/student interactions. In addition, I looked for tangible social and academic consequences of the innovation that were mentioned. These were subsequently coded (see Appendix E3).

All of the participants noted that life both inside and outside the classroom were influenced, sometimes positively, and other times negatively. These changes were behavioural, social, and academic in nature. From these categories (see Appendix F3), four themes emerged: 'Mixed academic influences', 'Variations in student behaviour and attitudes', 'New teacher challenges' and 'Social influences inside and outside the classroom'.

#### **Mixed Academic Influences**

Analysis revealed that many participants had positive reports on the girls' classes. They performed better academically in comparison to co-ed and boys' classes, although this was relatively just "a little edge". They also reported an improved class mood as the girls were generally well-prepared for their classes and also worked at a quicker pace in comparison to the boys. And, although most of the participants acknowledged that the innovation facilitated the known girls' preference for group work, one of the participants admitted that there were still a significant margin between the high and low-performing students in the girls' classes.

However, regarding the boys' classes, most participants expressed disappointment with the lack of academic improvement. The participants reported that the innovation had negligible or no influence on male academic achievement as the boys continued to be laid back and display low academic motivation. One participant felt that this was so because the academic performance of boys was hinged on their indiscipline. This resulted in a reduced academic focus given the absence of girls to 'temper' the atmosphere: "We have more boys together, so there is no girls in the class to tell them to stop this ... so you more have a larger group influence into the mischief".

However, one participant countered the aforementioned perception, by stating that he noticed increased boys motivation for high class placements in tests, given the absence of girls in the class, who usually would monopolise the top placements. According to him, "with the all boys' class I believe it have a little competition, stiff competition you know, that they can work towards being the best in the class". He noted increased competitive nature with regard to academics, musing that boys who excelled sometimes had a positive influence on their disruptive counterparts. Even a female participant admitted that when the boys were given practicals they were more competitive, and she used that to her advantage to "motivate them and get them to work that way".

Several participants also spoke about the influence of the subject area on student academic performance. One teacher mentioned that the innovation had a positive influence for girls in Social Studies as they were "flourishing" because they were no longer "short-changed" by the boys' presence. Another said that "boys ... usually don't gravitate towards languages; ... maybe one or two in a class and they already have the mindset that [they] cannot do Spanish, even before they learn the first word, they've already made up their minds that they can't". She conceded that it "takes a lot more effort to put into teaching languages with the boys".

### Variations in student behaviour and attitudes

For this theme, teacher responses to student behaviour were consistent. They all agreed that the innovation increased competition and male dominance among boys, their penchant for trouble, and generally the negative group influence typical of boys' behaviour, which often incorporated one leader and several followers.

The participants also referred to a general problem of class indiscipline with boys, the "alpha male syndrome" and "development of a complex skewed male construct" as well as the importance of status and 'street credit' to them. This often led to chronic indiscipline, continuous mischief-making and increased fights. One participant stated that "some of the boys want to be seen as who is the baddest around or some want to see who is the coolest around ... who will attract most of the girls".

In essence, the general consensus was that a boys' class created an increase in behavioural and other challenges, which were compounded by the group influence: "It's somewhat a little more multiplied because we have more boys together, so you more have a larger group influence into the mischief". Others spoke about its negative influence on classroom ethos. One participant said that he feels the negatives outweigh the positives in the boys' classes: "It is easier for them to get into trouble than to be on a positive mindset". Another bemoaned the unpleasant experience of non-offending students in the boys' classes who felt overwhelmed, helpless and unfairly stigmatized because of the negative behaviours by the majority.

On the other hand, many participants were in praise of the girls' proactive nature, and liked their conformity. One participant noted that "whatever you put they will just write it down; and you know they will take their notes, they will do their work, that sort of thing". Even one

male teacher admitted the girls classes were “easier to teach”. However, the other male teachers interviewed conversely rejected the notion that the girls’ classes were easier by stating that the boys in their classes were calm whilst it was the girls who were rowdy. In fact, several participants mentioned that the girls’ classes had a penchant for gossip, talk and confusion.

Some also mentioned the influence of teacher personality and efficacy on student behaviour as well as a gender-based influence on student behaviour. One participant mentioned a new trend of disrespect for male teachers by male students, and female teachers by female students. However, others said that they had no difficulty with their male or female classes because of their strict approach.

### New Teacher Challenges

Most of the participants mentioned that in some way the innovation had created new challenges to life in the classroom as they knew it. The male teachers in particular expressed concern over the management of their interaction with the female students, not only in disciplining them, but also in enforcing boundaries with them. One admitted that for him “the girls were a little harder to manage”. He felt that at the start of each class, he had to “give them a chance to exhale and express themselves” before getting them to do work.

One female participant expressed feelings of trauma in having to manage all boys’ classes which sometimes felt ‘hellish’ and made her conscious of her own small size in relation to the boys. She said that “dealing with the boys has been, and still is probable one of [her] biggest challenges”. She added that “by way of analogy” she felt as if she was “in the middle of a thunderstorm”. Those who expressed greatest difficulty with the boys’ classes were the teachers of perceived female-oriented subjects.

### Social Influences Inside and Outside the Classroom

Most participants also expressed the view that the innovation had positive social influences on both school and classroom life. They thought that students in the single-sex classes adapted to their limited socialization opportunities by creating alternative ways to bond. A few participants said they had observed the development of healthy relationships amongst students of single-sex classes. One participant mused that the students were “learning maybe how to appreciate and tolerate each other”.

Yet, some teachers noticed increased student anticipation for recreation periods to socialise, which became a distraction during class time. One teacher indicated that her girls' class would become distracted every time boys passed along the corridor. Another teacher even suggested that she felt the innovation negatively influenced the socialization of the students at a critical point in their human development as teenagers. But yet another countered, arguing that in his view, the socialization time was sufficient as this also included the period before and after school.

On the downside, teachers reported that the girls' classes fostered excessive and unhealthy female competition for status, resulting in increased disputes. One participant noted that the girls “are competing to see who is the prettiest, who is most liked by the boys' classes and how many boyfriends they have, how many boys they kissed”. This antagonism has often resulted in more interclass rivalries.

#### ***Research Sub-Question 4***

- What are teachers' views regarding the potential for adoption of this innovation?

For this sub-question, I focussed on the current views and desires of the participants with regard to the sustainability of the innovation at the school, given the expressed challenges. Of importance as well, was the conditions set out by the participants for its continuation. These data were coded and then categories were formed (Appendices E4/F4). The emergent themes were 'Requisite structures and policies', 'Teacher commitment and support'.

#### **Requisite Structures and Policies**

The findings revealed that all participants deemed the innovation unsuccessful given its expressed rationale of improving students' academic performance and behaviour. However, the participants recognized its potential for positive social and educational benefits for the students. One of the participants concurred that the innovation was also beneficial to adolescent development, as the single-sex classes limited their opportunities for mixing thereby giving them sufficient time to adapt at a later stage. She stated that being in a girls' class during puberty "puts them in a more comfortable position ... so that they are able to focus faster on their school work". Most participants therefore expressed a desire for the innovation to continue because of its perceived value beyond academics. Therefore, the participants speculated on how it might be improved and recommended some fundamental changes.

They all recommended adequate research, evaluation and dialogue between the administration and teachers. The participants all felt that the current school structures were inadequate and needed to be reworked. A participant complained that "a lot of the structures of the school itself need some adjusting, such as following rules, that sort of thing". The teachers

advocated for a common and united teacher approach to student discipline, to ensure student conformity.

The necessary “follow-through” would include administrative support and provision of structured programmes to facilitate opportunities for student socialisation, because students had already adapted to this new system. Other participants suggested both educational and social programmes. One participant mused that the boys needed to have a programme specifically geared towards assisting them in overall improvement.

Teachers also mentioned the need for student buy-in, which would better facilitate the efforts being made for a positive change in school culture: “In a sense the students have to buy into it, because the students weren’t aware of why this was being done to them”. Another participant even mentioned the need for constancy in administration to see ideas through as the change in administration may have negatively influenced the innovation.

### Teacher Commitment and Support

In the interview, most teachers expressed support for the adoption of the innovation, but acknowledged that they had lingering doubts due to the insignificance of its academic influence. One teacher initially admitted that “maybe we should go back to this co-ed system and finish, because there wasn’t that much difference”. However, a few participants who initially objected to its continuation changed their points of view after the discussions. One admitted: “Before our discussion I was kind of against it; but now as I have heard the other viewpoints and now that we’re discussing it, I’ve changed a bit”. Ultimately, all teachers offered their support on the condition of a re-visitation and incorporation of new ideas by the administration.



Several participants also believed that total teacher buy-in was crucial for the innovation to be sustainable, especially given that there continued to be strong opposition and disinterest by a few teachers at the school. Some participants stated that there was a great need for teacher collaboration, commitment, and unity. This would result in a greater commitment to their job and would encourage a positive work ethic and level of commitment to see innovations through despite the challenges.

### **SUMMARY OF FINDINGS**

Analysis of the data revealed that all teachers were critical of the poor implementation process, as they were not trained as promised by the administration in preparation for the innovation. They felt that the lack of training made their adaptation more challenging.

However, the findings revealed a general consensus that it was a good initiative, and although not a need, it was a useful strategy to resolve the academic shortfall and behavioural problems at the school. Most teachers felt that they had to adapt their teaching approach in order to better cater to the needs of the individual classes. This included modifying their teaching methods and means of interaction with their students.

With regard to the school and classroom life, some teachers felt that there were positive changes, such as improved focus and behaviour in the girls' classes. However, most indicated that the boys' classes had become too difficult to manage as the indiscipline was multiplied. Furthermore, there was no academic improvement in the boys' classes, and minimal improvement in the girls' classes.

Teachers eventually endorsed the continuation of the innovation, but only on the condition that the administration evaluate its present state, provide the necessary training for teachers, improve structures at the school, and oversee the creation of after-school programmes to provide meaningful socialisation opportunities for the students.

In essence, the greatest challenges were the poor implementation procedures which made the innovation more challenging for the teachers to implement, as well as the difficulties experienced with the boys' classes. And, the greatest successes were the academic, social and developmental benefits for the students, and increased opportunities for teacher learning.

In Chapter Five, these findings are discussed and recommendations linked to each finding are made.

## CHAPTER 5

**DISCUSSION AND RECOMMENDATIONS*****Discussion***

The findings of this study encapsulated the perceptions of the teachers about the single-sex class innovation. It included the teachers' attitudes, their varying experiences inside and outside the classroom, and their predictions of its future potential at the school. In discussing these findings, the researcher drew upon the related literature which was presented in Chapter Two of this study.

In recent times, there have been numerous efforts to improve the local education sector. Whilst this is commendable, care must be taken to ensure that teachers have a sense of ownership in any change process, whether it is mandated or voluntarily sought (Armstrong, 2003; Fullan, 2001). In this study, the change was voluntarily sought by the principal yet mandated to the teachers. This is why some felt that they were routinely informed, rather than consulted. This is similar to the views of the teachers in the study by Gray and Wilson (2006), as well as Ferrara (2005) who also felt that the innovation at their schools was imposed on them without real consultation. The teachers felt that their concerns were not actually requested. It is imperative that teachers be adequately consulted if the administration hopes to garner their full support.

Teachers' initial enthusiasm for this innovation quickly subsided given the many inadequacies in the implementation process. This should have been expected, given that the manner in which any innovation is initiated would positively or negatively influence teachers'

attitudes (Fullan, 2001). The principal neglected to cultivate this enthusiasm and this may have suggested to the teachers that their efforts were not valued (Hall & Hord, 2006).

The teachers' attitudes were affected due to the lack of administrative support and training that was promised. They therefore felt compelled to use their own initiative. This mirrored the study by Spielhagen (2011) in which teachers also felt that their efforts were 'self-initiated', without the necessary feedback to know if they were on the right track. This suggests that dialogue between two key stakeholders were lacking at a key stage in the implementation process.

Educational innovations are often implemented in response to concerns or to seek improvement. This school showed itself to be proactive in implementing this innovation, and that is commendable. The expressed rationale for this innovation was the perceived underachievement by boys. This was similar to the rationale in the study by Warrington and Younger (2003) where the senior management team was desperate to try anything that might raise achievement. The teachers interviewed in this study also felt the same kind of desperation as, according to one, things had gotten "into a rut". With this rationale it was easy to gain teachers support because most of them desired improvement at the school.

However, in the educational arena it is important to use the right strategies if the changes are to be effective. Archer (1998) expresses a widespread concern that schools were rushing to the single-sex class innovation without the relevant research results to back it up. This may explain why several of the participants in this study considered the innovation a mere educational experimentation, suggesting that it was just another educational strategy.

Yet, most of the teachers admitted that the experiment made them change their approach to and method of teaching. Archer (1998) postulates that the broadening of teaching methods to reach both boys and girls made the innovation more appealing to some. Furthermore, in the study by Warrington and Younger (2001), some staff felt that the single-sex mode of organisation was advantageous because it gave them the opportunity to adjust their teaching styles, taking into account the perceived differing interests and needs of boys and girls. However, in this study, it appears that the teachers did not view it as appealing or advantageous but rather as an obligation.

In their development of new competencies, the participants revealed that they had to modify their instructional methods as well as their approach to discipline. This indicates that they understood the need for adaptation even without formal training. As happened in the studies by Ferrara (2005) and Mulholland, Hansen and Kaminski (2004), teachers in this study generally reported using competitions to focus attention and keep the boys engaged. They also admitted to enforcing stronger discipline measures with the boys.

However, although the teachers experienced increased gender awareness, some researchers caution against teachers whose own initiatives increase the risk of perpetuating gender stereotypes. Sadker (1999) says that these can be damaging gender biases because they are often subtle and unintentional. Spielhagen (2011) and Ferrara (2005) found that teachers in single-sex classes tend to structure their assignments and modify both content and pedagogy according to their own constructs of the differences in the ways boys and girls learn. Unfortunately, using one's own constructs may increase subjectivity. This issue was raised by a participant in this study who expressed concern about the lack of a standardised approach by teachers, which could negatively influence the students' perceptions of the innovation, especially if they believe that they are treated unfairly.

In the study by Warrington and Younger (2001), teachers reflected that they often unconsciously speak to the girls in a different manner to the boys. However, such a position is inconsistent with that of the male teachers in this study who all admitted making a conscious effort to treat the girls more gently. In this case, it would be as Kruse (as cited in Warrington & Younger, 2003) had warned, that sex-segregated education can either be emancipatory or oppressive for the students. Unfortunately, given the experiences shared by the participants, one can assume that it is the boys who may have been oppressed, thereby undermining the very reason for implementing the innovation.

Another issue to consider is the significance of teacher collaboration. Fullan (2001) underscores the fact that teachers' attitudes are influenced by the school culture. Teachers in the study by Ferrara (2005) indicated that they learned the most about effective strategies for single-sex classrooms from discussions with their colleagues and from insights gathered from parents or friends. However, it is notable that only one participant in this study mentioned getting support from a colleague. This suggests that there needs to be an improved culture of collaboration among the staff to support each other. Fullan (2001) argues that any innovation that brings a change in teaching practices and in materials demands more collegiality, trust, support, interaction, and open communication between teachers.

With regard to the influence of this innovation on classroom life, the teachers generally noted that there was little academic improvement. In the girls' classes the improvement was minimal, whilst there was no change in the boys' classes. This is consistent with the findings by Martino, Mills and Lingard (2005) who reported that single-sex classes, as a particular strategy for either boys or girls, do not produce better results and does not ensure long term improvement in comparison with co-educational settings. Likewise, in the study by Thiers (2006), findings

showed only slight positive effects of single-sex schooling on some academic measures. This suggests that simply separating the sexes does not guarantee success, but rather careful planning and application of research.

One advantage though, is the affirmation by participants that girls' classes moved at a faster rate and attained a higher overall class average than the boys. They added that girls were easier to manage as they were more focussed in class. This also mirrors the research done in Australia by Mulholland et al. (2004), and also by Ferrara (2005), where teachers reported that girls were easier to teach. Unfortunately, this causes a teacher penchant for the girls' classes, thereby disadvantaging the very boys for whom the innovation was implemented.

Another issue of contention is the influence of perceived female-oriented subjects on the boys' classes. One area where there was a large gender gap was in modern foreign languages. This is similar to the findings in Warrington and Younger (2003). This subject-versus-gender factor remains an issue to be addressed.

In terms of student behaviour, the study by Wills (2007) showed a decrease in behavioural infringements, confirming a marked improvement in boys' behaviours. Even the study by Ferrara (2005) reported reduced behaviour referrals in the male classrooms. However, contrary to the findings above, teachers in this study felt that behavioural challenges at the school were exacerbated given the increased indiscipline in the boys' classes. It is noteworthy that this was also reported in the study by Gray and Wilson (2006) where the school under study has a similar socio-economical context to that of the Belvedere Secondary School. Both acknowledged the existence of discipline and behaviour problems before the implementation of the innovation,

and this suggests that the influence of the students' background on school life is an underlying factor which must be addressed even before implementing an innovation of this nature.

The teachers who experienced difficulties in managing boys' behaviour often believed that the presence of girls in a classroom had a calming effect on the behaviour of boys (Hoffman et al., 2008) because the absence of girls promoted misbehaviour. In this study, a few participants also shared this view, with one participant arguing that it is unfair to use the girls as 'buffers' as they are short-changed in the process.

Yet, not all of the participants' perceptions of boys' classes were negative. Some teachers liked the fact that boys generally did not hold grudges, and that it was easy to relate to them using topics such as sports. This was seen as a strategy that facilitated a good teacher/student interaction. This finding also corroborates that of Hoffman et al. (2008) whose teachers admitted that they tended to enjoy the casual nature of interactions with boys and the opportunity to build relationships.

Concerning the potential for adoption of this innovation, the participants alluded to the critical need of a proper implementation structure. This was identified as the fundamental reason for teachers' hesitance to support its continuation. However, teachers eventually expressed their support on the condition of adequate teacher training, administrative support and continued professional development. These views are consistent with those expressed by the teachers in Hoffman et al. (2008) who also berated the lack of extra preparation time for those single-sex classes as well as the lack of teacher options. It is evident that inclusion of these factors would have led to a more effective implementation of the single-sex class innovation.



Even the teachers in the study by Spielhagen (2011) felt that despite their negative assessment of some of the aspects of single-sex classes, the innovation should remain an option for parents and students. Likewise, most of the teachers in the study by Ferrara (2005) expressed a desire to continue teaching single-sex classes. This continued teacher support for the innovation in spite of the many woes is worthy of note. One can conclude therefore that despite the many disadvantages, the teachers felt that there were other social and educational advantages that had merit.

### ***Recommendations***

#### **Implementation Process**

Given that a major criticism was the inadequacy of the implementation procedure, it is imperative that there be research and adequate consultation before an innovation is introduced. In addition to seeking expert opinions and consulting teachers, the administration should in fact include teachers in the research process. Getting teachers involved in the initial stages would give them a feeling of ownership, which would ultimately facilitate teacher buy in. Teachers should naturally be included in the school's decision-making process. Gurian, Stevens and Daniels (2009) suggest that an effective principal would be willing to share the responsibility for gathering and organising the research. Cavanagh, Dellar and Mollon (2001) add that this is even more important because implementing such an innovation should be informed by empirical research.

Secondly, the administration should organise teacher training prior to implementation, thereby facilitating the teachers' transition. This should consist of training in male-female brain

and learning differences, as well as classroom strategies for teaching boys and girls separately. The issue of a reasonable timeline is also critical. Adequate time should be allocated to researching the innovation, looking at the context of the school to see how it can be adapted, and organising initial teacher training. Ideally this should take at least one year.

The administration should also ensure that sufficient teaching resources are devoted to implementation which would ensure adequate teacher preparation. According to Gurian et al. (2009) when an untrained teacher is placed in a classroom with boys or girls, he or she may find aspects of the change overwhelming, and the innovation may not have positive results. However, when training is a priority, teachers will be more prepared and every child in those classes will benefit.

### Ensuring Sustainability

In addition to the initial training, steps must be taken to sustain the innovation. Chadwell (2010) suggests keeping the programme manageable and mentoring new teachers. Gurian et al. (2009) also recommend that the principal ought to play an integral role in reviewing, improving, and building upon the innovation's success. This would include creating a culture of support and reasonable expectation within the school community.

The innovation can also be sustained by continued professional development which would serve to provide feedback and reinforce the training (Spielhagen, 2011). Feedback is critical as teachers need to know if they are on the right track. This can be done even through the provision of opportunities for teacher collaboration, such as informal focus group meetings where they can exchange experiences and propose solutions. In fact, one of the participants in this study suggested inviting experienced teachers from single-sex schools to share insights.

Sufficient funding is also critical to sustain the innovation. This should be provided by the school itself, stakeholders in the community and even the Ministry of Education. Funding will facilitate access to good resources which would better equip the teachers to model best practices at the school.

### Teacher Sensitization

Given the reported challenges of the single-sex classes, it is crucial that teachers be equipped to apply gender-specific tools in their classrooms. This would help them to develop innovative ways to reach the minds of boys and girls, and identify and accommodate the individual learning styles and needs of students (Gurian et al., 2009). Thus beyond a knowledge of gender theories, teachers should be cognisant of concrete strategies to employ in their classes.

### Stakeholder Involvement

Another important recommendation is to ensure that all stakeholders are involved in the implementation and evaluation processes. In this study, the parents and students were not involved in the implementation of the innovation. Given that parents are important stakeholders in the education of their children, their support is critical in reinforcing whatever is done at school. Schools with uninvolved parents will automatically reduce their chances of successful outcomes. Hoffman et al. (2008) add that the administration should be honest enough to inform teachers and parents about both the evidence-based advantages and the drawbacks of the single-sex class innovation so they can make informed decisions.

Students too, must be sensitized. Support should be provided for them to help them adapt. The boys in particular need to be prepared so that they can learn to socialize with each other.

Cavanagh et al. (2001) suggest that they should also be educated on behaviour management and role modelling.

### Provision of Options

Another recommendation is to make the innovation optional to both teachers and students. In this way, those involved in the innovation would be more inclined to make it work. Administration should therefore consider each teacher's awareness of and commitment to gender-based learning before selecting them. Students too should have an option of belonging to a single-sex or co-educational classroom as their discomfort may negatively affect their academic performance and behaviour. This can be achieved by maintaining some co-educational classes in the year group.

### Research and Evaluation

Research is important in the educational field, as it informs practice. This study provided valuable insights for teachers and administrators seeking to learn more about the effectiveness of single-sex classes. However, Spielhagen (2011) posits that the intellectual and social lives of students should not be used as mere components of quasi-scientific experiments. It is imperative therefore, to create sufficient opportunities for evaluation. Implementation on a phased basis, or limiting the innovation to key subject areas (Hoffman et al., 2008) would make evaluations more manageable and also allow students to serve as their own control group (Gray & Wilson, 2006). Retaining some co-educational classes would also facilitate the conducting of quantitative and mixed-method studies, where there can be measurable outcomes by using comparisons to document areas of potential improvement (Hoffman et al., 2008).

The teachers in this study can serve as a proxy for the experiences of teachers in other local schools that are experimenting with the single-sex class innovation and whose voices are yet to be heard. Further research could use the same interview protocol in those schools and a larger study may become feasible (Spielhagen, 2011). At the Belvedere Secondary School, the next step should be to conduct an evaluation with more teachers and other stakeholders such as the students, their parents and the administration. A cross-school comparative study can also be considered with another co-educational school in the same educational district, which is now in its second year of implementation of the single-sex class innovation. Ultimately, these findings should be shared with the school's administration and also the Ministry of Education for consideration.

### ***Conclusion***

In the educational field, innovations continue to be introduced in ad hoc ways which disadvantage their chances of success. Lack of preparation of staff or students, and limited systematic evaluations are often to blame. Therefore, schools need to become more proactive rather than reactive in managing student behaviour and academics. The single-sex class innovation is a strategy that can thrive and become a useful tool in co-educational schools, but only with a lot of planning, the application of research to the school's unique context and generation of ownership among the various stakeholders. If not, it may become yet another short-lived educational fad.

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## **APPENDICES**

The following were various documents used in carrying out this study.

**Appendix A** is the pre-interview questionnaire. It also informs the participants about the purpose of the interview and their rights.

**Appendix B** is the Interview Protocol. This details a range of possible questions which would help the researcher to respond to the research questions.

**Appendix C** is a diagram representing Fullan's Educational Model and highlights the parts that were used by the researcher to create questions in the interview protocol.

**Appendix D** is a copy of the Stages of Concern (SoC) questionnaire by Hall and Hord (2004) from the Concerns-Based Adoption Model. This was used to help create concerns-based questions in the interview protocol. The questions that were employed are highlighted. This was retrieved from

[http://starfish.k12.ar.us/1\\_Facilitator\\_resources\\_TIA\\_UBD/Evaluation\\_TIA\\_UBD\\_PD/CBAM%20SoCQ\\_questionnaire.pdf](http://starfish.k12.ar.us/1_Facilitator_resources_TIA_UBD/Evaluation_TIA_UBD_PD/CBAM%20SoCQ_questionnaire.pdf)

**Appendix E** is a sample of the raw data with initial coding. They are categorized according to the research questions. There are therefore four sections – E1, E2, E3 and E4.

**Appendix F** is a sample of the formation of categories from the codes and creation of themes. They are also categorized according to the research questions. There are therefore four sections – F1, F2, F3 and F4.

**Appendix G** is a sample of the researcher's reflective journal.



## *Appendix A*

This is the pre-interview questionnaire. It informs the participants about the purpose of the interview and their rights.

## FOCUS GROUP PRE-INTERVIEW QUESTIONNAIRE

### **Title of the study**

Investigating teachers' perceptions of an educational innovation: Single-sex  
classes at a co-educational school

KINDLY COMPLETE THE FOLLOWING

Name: .....

Gender: .....

Age range (please circle):    21-30                      31-40                      41-50                      51-60

No. of years teaching at present school: .....

Total no. of years teaching experience: .....

Indicate the type of school you taught at before (please circle):

Same-sex    Co-educational    Not Applicable

Subject area: .....

Qualification/Teacher post: .....

No. of single-sex classes taught since the start of the innovation: .....

Male: ..... Female: .....

Are/were you the form teacher of a single-sex class? :    Yes            No

*Please read the following carefully*

## PURPOSE OF THE STUDY

- The purpose of this study is to gain your insights into the implementation of the single-sex class innovation at your school.

## REASON FOR THE GROUP INTERVIEW

- This interview is being held to allow you to discuss your views of the single-sex innovation. The rationale for a focus group interview is that it is socially oriented, thus allowing you the participants to share thoughts, express differing views and thereby generate insights. So feel free to disagree!

## TREATMENT OF THE DATA COLLECTED

- The data collected will be transcribed so that the researcher can analyse and present the findings of the study. Confidentiality of your responses will be maintained.

## THE EXPECTED DURATION OF THE INTERVIEW

- The interview is expected to last approximately one hour. Please remember that you have the right to withdraw from this study at any time.

**SPECIAL REQUEST:** In order to facilitate transcription of the interview, a recording device will be used. You will be given the opportunity to review the transcript and make any changes before the data is analysed.

Please indicate your consent for participating in the interview and use of the recording device by signing below. Thank you in advance.

.....

## ***Appendix B***

This is the Interview Protocol. This details a range of possible questions which would help the researcher to respond to the research questions.

# FOCUS GROUP INTERVIEW PROTOCOL

Date; \_\_\_\_\_

Place; \_\_\_\_\_

Time of interview; \_\_\_\_\_

## Participants

[illegible]

## INTERVIEW QUESTIONS

### HOW DO TEACHERS VIEW THE INTRODUCTION OF THE INNOVATION?

1. How was the innovation introduced at your school?
2. What rationale was given for the introduction of single-sex classes at your school?
3. How would you describe your attitude when you first heard of the innovation?
4. What were your expectations with regard to the introduction of the innovation?
5. How were the teachers engaged in this innovation prepared for it?
6. Describe the support that you received for the innovation.
7. How easy was it for you to adapt to teaching single-sex classes?

### HOW DO TEACHERS PERCEIVE THE INFLUENCE OF THIS INNOVATION ON THEIR APPROACH TO AND METHOD OF TEACHING?

1. How did you prepare yourself for teaching single-sex classes?
2. How was the transition for you from only co-educational classes to some single-sex classes?
3. What do you know about gender-specific instruction?
4. How did you find out about it?
5. Was there any discussion in your department? If yes, please detail.
6. Are there any differences in your methods of instructing your same-sex classes as opposed to your co-ed classes? Give examples.

7. Were you more prepared by the time the second cohort of students came into the school?

If yes, how?

8. How has your method of teaching evolved over the three years of teaching single-sex classes?

### **HOW DO TEACHERS PERCEIVE THAT THIS INNOVATION HAS INFLUENCED SCHOOL AND CLASSROOM LIFE (STUDENT BEHAVIOUR AND ACADEMIC PERFORMANCE?)**

1. In your view, has this innovation had a positive or negative influence on student behaviour in your single-sex classes?
2. How would you compare student behaviour in your single-sex classes to that in your co-ed classes?
3. From your perspective, what changes have you seen regarding student achievement?
4. How would you compare the achievement of students in your single-sex classes to those in your co-ed classes?
5. In your opinion, in which classes are students more engaged?

### **WHAT ARE TEACHERS VIEWS REGARDING THE INNOVATION'S POTENTIAL FOR ADOPTION?**

1. Do you have any current concerns about the innovation?
2. In your opinion, what has worked well and what has not?
3. Do you feel that the innovation is achieving its purpose?
4. Has your opinion about the single-sex classes changed from its inception to present? If yes, in what way?



5. What factors do you perceive are necessary for the innovation to work well?
6. Do you have any specific recommendations?
7. If you could change anything, what would it be?
8. Would you like to see this innovation continue?
9. Would you recommend this innovation to other government co-educational schools?

Why/why not?

10. Are there other innovations you feel can be used at this school?
11. Would you like to add anything that was not discussed?

## FORMALITIES

The researcher will

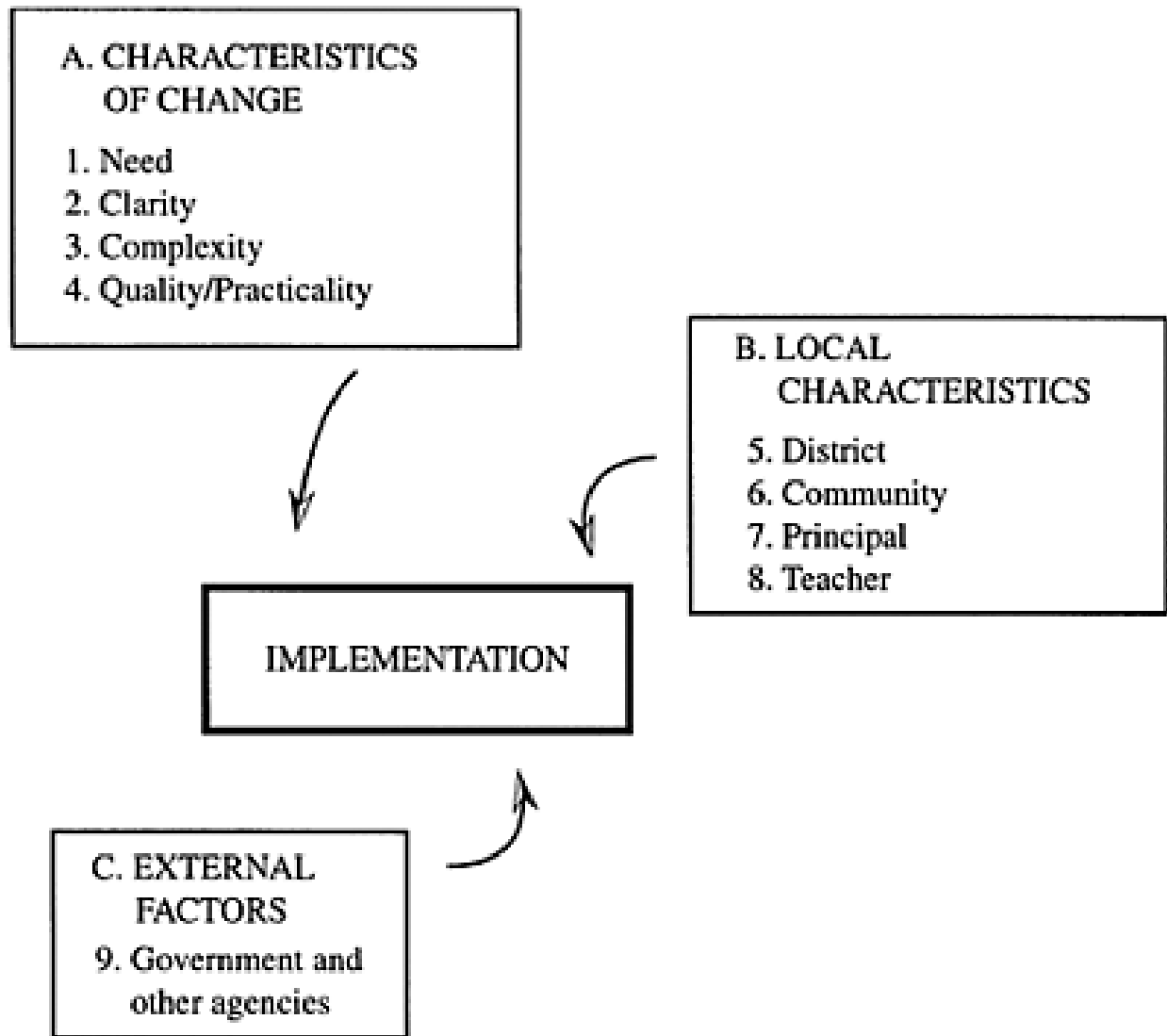
- thank the group for participating in the interview
- assure the participants that all responses will remain confidential
- inform the participants of member-checking if required, to ensure accurate reflection and interpretation of perceptions

## *Appendix C*

*This* is a diagram representing Fullan's Educational Model and highlights the parts that were used by the researcher to create questions in the interview protocol.

# FULLAN'S MODEL OF IMPLEMENTATION

Interactive factors affecting implementation:



Source:

Fullan, M. (2001). *The new meaning of educational change*. Teachers College Press: New York.  
p.47

## *Appendix D*

*This* is a copy of the Stages of Concern (SoC) questionnaire by Hall and Hord (2004) from the Concerns-Based Adoption Model. This was used to help create concerns-based questions in the interview protocol. The questions that were employed are highlighted. This was retrieved from

[http://starfish.k12.ar.us/1\\_Facilitator\\_resources\\_TIA\\_UBD/Evaluation\\_TIA\\_UBD\\_PD/CBAM%20SoCQ\\_questionnaire.pdf](http://starfish.k12.ar.us/1_Facilitator_resources_TIA_UBD/Evaluation_TIA_UBD_PD/CBAM%20SoCQ_questionnaire.pdf)

*Concerns Based Systems International Southwest Educational Development Laboratory*

*Stages of Concern Questionnaire*

*Name (optional): \_\_\_\_\_*

*The purpose of this questionnaire is to determine what people who are using or thinking about using various programs are concerned about at various times during the adoption process.*

*The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various programs to many years' experience using them.*

*Therefore, many of the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time.*

*For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale.*

*For example:*

*This statement is very true of me at this time. 0 1 2 3 4 5 6 7*

*This statement is somewhat true of me now. 0 1 2 3 4 5 6 7*

*This statement is not at all true of me at this time. 0 1 2 3 4 5 6 7*

*This statement seems irrelevant to me. 0 1 2 3 4 5 6 7*

*Please respond to the items in terms of your present concerns, or how you feel about your involvement with this innovation. We do not hold to any one definition of the innovation so*

*please think of it in terms of your own perception of what it involves. Phrases such as “this approach” and “the new system” all refer to the same innovation. Remember to respond to each item in terms of your present concerns about your involvement or potential involvement with the innovation.*

*Thank you for taking time to complete this task.*

*SoCQ 075*

*Concerns Based Systems International Southwest Educational Development Laboratory*

*1. I am concerned about students' attitudes toward the innovation. 0 1 2 3 4 5 6 7*

*2. I now know of some other approaches that might work better. 0 1 2 3 4 5 6 7*

*3. I am more concerned about another innovation. 0 1 2 3 4 5 6 7*

*4. I am concerned about not having enough time to organize 0 1 2 3 4 5 6 7*

*myself each day.*

*5. I would like to help other faculty in their use of the innovation. 0 1 2 3 4 5 6 7*

*6. I have a very limited knowledge of the innovation. 0 1 2 3 4 5 6 7*

*7. I would like to know the effect of reorganization on my 0 1 2 3 4 5 6 7*

*professional status.*

*8. I am concerned about conflict between my interests and 0 1 2 3 4 5 6 7*

*my responsibilities.*

*9. I am concerned about revising my use of the innovation. 0 1 2 3 4 5 6 7*

*10. I would like to develop working relationships with both 0 1 2 3 4 5 6 7*

*our faculty and outside faculty using this innovation.*

*11. I am concerned about how the innovation affects students. 0 1 2 3 4 5 6 7*

*12. I am not concerned about the innovation at this time. 0 1 2 3 4 5 6 7*

*13. I would like to know who will make the decisions in the 0 1 2 3 4 5 6 7*

*new system.*

*14. I would like to discuss the possibility of using the innovation. 0 1 2 3 4 5 6 7*

*15. I would like to know what resources are available if we decide 0 1 2 3 4 5 6 7*

*to adopt the innovation*

*16. I am concerned about my inability to manage all that the 0 1 2 3 4 5 6 7*

*innovation requires.*

*17. I would like to know how my teaching or administration is 0 1 2 3 4 5 6 7*

*supposed to change.*

*18. I would like to familiarize other departments or persons with 0 1 2 3 4 5 6 7*

*the progress of this new approach.*

*0 1 2 3 4 5 6 7*

*Irrelevant Not true of me now Somewhat true of me now Very true of me now*

*Circle One Number For Each Item*

*Concerns Based Systems International Southwest Educational Development Laboratory*

*19. I am concerned about evaluating my impact on students. 0 1 2 3 4 5 6 7*

*20. I would like to revise the innovation's approach. 0 1 2 3 4 5 6 7*

*21. I am preoccupied with things other than the innovation. 0 1 2 3 4 5 6 7*

*22. I would like to modify our use of the innovation 0 1 2 3 4 5 6 7*

*based on the experiences of our students.*

*23. I spend little time thinking about the innovation. 0 1 2 3 4 5 6 7*

*24. I would like to excite my students about their part in 0 1 2 3 4 5 6 7*

*this approach.*

*25. I am concerned about time spent working with nonacademic 0 1 2 3 4 5 6 7*

*problems related to the innovation.*

*26. I would like to know what the use of the innovation 0 1 2 3 4 5 6 7*

*will require in the immediate future.*

*27. I would like to coordinate my efforts with others to maximize 0 1 2 3 4 5 6 7*

*the innovation's effects.*



*28. I would like to have more information on time and energy 0 1 2 3 4 5 6 7*

*commitments required by the innovation.*

*29. I would like to know what other faculty are doing in this area. 0 1 2 3 4 5 6 7*

*30. Currently, other priorities prevent me from focusing my 0 1 2 3 4 5 6 7*

*attention on the innovation.*

*31. I would like to determine how to supplement, enhance, or 0 1 2 3 4 5 6 7*

*replace the innovation.*

*32. I would like to use feedback from students to change the program. 0 1 2 3 4 5 6 7*

*33. I would like to know how my role will change when I am using 0 1 2 3 4 5 6 7*

*the innovation.*

*34. Coordination of tasks and people is taking too much of my time. 0 1 2 3 4 5 6 7*

*35. I would like to know how the innovation is better than 0 1 2 3 4 5 6 7*

*what we have now.*

*Circle One Number For Each Item*

*0 1 2 3 4 5 6 7*

*Irrelevant Not true of me now Somewhat true of me now Very true of me now*

*Concerns Based Systems International Southwest Educational Development Laboratory*

*Please complete the following:*

*1. How long have you been involved with the innovation, not counting this year?*

*Never \_\_\_\_ 1 year \_\_\_\_ 2 years \_\_\_\_ 3 years \_\_\_\_ 4 years \_\_\_\_ 5 or more \_\_\_\_*

*2. In your use of the innovation, do you consider yourself to be a:*

*non-user \_\_\_\_ novice \_\_\_\_ intermediate \_\_\_\_ old hand \_\_\_\_ past user \_\_\_\_*

*3. Have you received formal training regarding the innovation (workshops, courses)?*

*Yes \_\_\_\_ No \_\_\_\_*

*4. Are you currently in the first or second year of use of some major innovation or*

*program other than this one?*

*Yes \_\_\_\_ No \_\_\_\_*

*If yes, please describe briefly: Thank you for your help!*

## ***Appendix E***

*This* is a sample of the raw data with initial coding. They are categorized according to the research questions. There are therefore four sections – E1, E2, E3 and E4 (See attached file).

## *Appendix F*

*This* is a sample of the formation of categories from the codes and creation of themes. They are also categorized according to the research questions. There are therefore four sections – F1, F2, F3 and F4.

## **CODES – Research Question 1**

### **How do teachers view the introduction of the single-sex classes' innovation?**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PR | <p>Top-down mandate</p> <p>General acceptance by S.M.T.</p> <p>Positive attitude and outlook</p> <p>Focus on academics</p> <p>S.M.T. mandate re criteria for teacher selection</p> <p>Some teachers unwillingness</p> <p>Lack of research</p> <p>Lack of provision of materials</p> <p>A need</p> <p>Response to despondent/hopeless state of school (in a rut)</p> <p>Self-medication</p> <p>Experimentation</p> <p>A different strategy</p> <p>Inadequacy of timeline, discussion and planning</p> <p>Limited consultation by administration of implementers (teachers)</p>                                                        |
| PP | <p>An experiment</p> <p>Focus on student performance</p> <p>Opened up attitude</p> <p>Embraced</p> <p>Intrigue</p> <p>Teacher willingness</p> <p>Lack of support/guidance</p> <p>Abandonment</p> <p>Helplessness</p> <p>Disappointment</p> <p>Need for self-correction (learning from one's own mistakes)</p> <p>Experimentation by administration</p> <p>Lack of guidance/support for inexperienced teachers</p> <p>Unfulfilled promise of help/support/training</p> <p>Feelings of loss, uncertainty, disorientation, trial and error</p> <p>Top-down approach</p> <p>Lack of teacher input/consultation before implementation</p> |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PN | <p> Hand-picked by administration<br/> Open-minded approach<br/> Attracted/ interested<br/> Willingness<br/> Lack of administrative support<br/> Lack of pre-planning<br/> Self-reliance / development of coping strategies<br/> Mutual teacher collaboration/support/interaction<br/> A different approach<br/> An experiment to improve boys performance/achievement<br/> Lack of teacher guidance/preparation re academics<br/> Lack of teacher guidance re student/teacher interaction – male / female. Gender<br/> No support in transition process – adaptability<br/> Not a need<br/> Students as stakeholders/receptors not considered<br/> Student feelings of bewilderment, surprise, shock, trauma </p>                                                                                                                                                                                                                                       |
| PG | <p> Exciting<br/> Genuine interest in positive implications<br/> Curiosity<br/> Responsibility imposed/thrust on teachers<br/> Unfulfilled promise<br/> Lack of expectation<br/> Excited at the prospect re deterioration at school<br/> Need for intervention<br/> Faulty implementation<br/> Great idea<br/> Excessive reliance on teacher previous experience<br/> Inadequate teacher training<br/> Chaotic implementation<br/> Lack of standardisation of approaches / teacher subjectivity/bias<br/> Survival measures<br/> Lack of communication/dialogue between administration and teachers in planning<br/> Issue of phased approach commendable (complexity/manageability)<br/> Lack of teacher preparation<br/> Teacher initiative / self-enlightenment / bragging<br/> Reality of school context versus research (applicability)<br/> Teacher dismay/discouragement<br/> Lack of support on two levels: administration and departmental </p> |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PC | <p>Hand-picked by administration</p> <p>High expectations re academic and behavioural improvement</p> <p>Intrigue</p> <p>Bias re administrative assumptions</p> <p>Not a need</p> <p>Positive change – a different strategy</p> <p>Insufficient planning</p> <p>Inadequate timeframe – rushed</p> <p>Lack of total teacher buy-in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PF | <p>Teacher disconnect with administration</p> <p>Mixed emotions</p> <p>Teacher concern for the unknown/ feeling of uncertainty</p> <p>Positive teacher attitude/willingness to experiment</p> <p>Teacher interest in student learning</p> <p>Commendation/praise/support for new initiative re rationale (for student betterment)</p> <p>Desire for change in issue of boys underperformance</p> <p>Lack of teacher sensitization/preparation</p> <p>Need for hand-picked teacher selection</p> <p>Missing implementation structures:</p> <ul style="list-style-type: none"> <li>- teacher training re student discipline, student learning styles;</li> <li>- teacher selection re personality/competence;</li> <li>- insufficient timeframe;</li> <li>- pre and post implementation training</li> </ul> |

*AXIAL CODING WITH CATEGORIES*

| <b>AXIAL CODES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>CATEGORIES FORMED</b>                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Positive attitude and outlook<br>General acceptance by S.M.T.<br>Some teachers unwillingness<br>Opened up<br>Embraced<br>Intrigue<br>Teacher willingness<br>Open-minded approach<br>Attracted/interested<br>Willingness<br>Exciting<br>Genuine interest<br>Curiosity<br>Excited at prospect<br>Great idea<br>High expectations<br>Intrigue<br>Mixed emotions<br>Teacher concern for the unknown (feeling of uncertainty)<br>Positive teacher attitude and willingness to experiment<br>Commendation/praise/support for new initiative<br>Teacher interest in student learning | <b>Initial teacher attitudes</b>                         |
| Abandonment<br>Helplessness<br>Disappointment<br>Feelings of loss/uncertainty/disorientation<br>Teacher dismay/discouragement<br>Lack of expectation                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Altered teacher attitude/disposition</b>              |
| Top-down mandate<br>Limited consultation by administration of teachers<br>Top-down approach<br>Lack of teacher input/consultation before implementation<br>Male teachers hand-picked by administration<br>Responsibility imposed/thrust on teachers<br>Teacher disconnect with administration<br>Need for hand-picked teacher selection<br>Lack of total teacher buy-in                                                                                                                                                                                                       | <b>Issue of administrative approach and consultation</b> |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <p>Lack of provision of materials</p> <p>Lack of support/guidance</p> <p>Lack of guidance/support for inexperienced teachers</p> <p>Unfulfilled promise of help/support/training</p> <p>Lack of administrative support</p> <p>Lack of teacher guidance/preparation re academics &amp; student/teacher interactions</p> <p>No support in transition process</p> <p>Unfulfilled promise</p> <p>Inadequate teacher training</p> <p>Lack of teacher preparation</p> <p>Lack of support on two levels: administrative &amp; departmental</p> <p>Lack of teacher sensitization and preparation</p> <p>Lack of teacher training in student discipline and learning styles</p> <p>Lack of pre and post implementation training</p> | <p><b>Issue of teacher training and guidance</b></p> |
| <p>Lack of research</p> <p>Inadequate discussion and planning</p> <p>Lack of pre-planning</p> <p>Lack of communication/dialogue between administration and teachers in planning</p> <p>Insufficient planning</p> <p>Reality of applicability of research to school context</p>                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><b>Issue of research and planning</b></p>         |
| <p>Inadequate timeline</p> <p>Rushed timeframe</p> <p>Insufficient timeframe</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><b>Inadequacy of time frame</b></p>               |
| <p>Focus on academics</p> <p>Response to despondent/hopeless state of school</p> <p>Experimentation</p> <p>A different strategy</p> <p>An experiment</p> <p>Focus on student performance</p> <p>Experimentation by administration</p> <p>A different approach</p> <p>An experiment to improve boys performance/achievement</p> <p>Bias re administrative assumptions</p> <p>Positive change – a different strategy</p> <p>Desire for change in issue of boys underperformance</p>                                                                                                                                                                                                                                          | <p><b>Rationale as experimentation</b></p>           |
| <p>A need</p> <p>Not a need</p> <p>Need for intervention</p> <p>Not a need</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><b>Innovation as a need</b></p>                   |

|                                                                                                                                                                                                                                                                                                                                       |                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Self-medication<br>Need for self-correction<br>Trial and error approach<br>Self-reliance<br>Development of coping strategies<br>Mutual teacher collaboration/support/interaction<br>Excessive reliance on teacher's previous experience<br>Survival measures<br>Teacher initiative, self-enlightenment<br>Teacher confidence/bragging | Teacher coping<br>strategies/self<br>initiatives |
| Students as stakeholders not consulted<br>Lack of standardisation of approaches<br>Phased approach commended                                                                                                                                                                                                                          | Other codes                                      |

### CONSISTENCY OF RESPONSES

| CATEGORIES                                     |    |    |    |    |    |    |
|------------------------------------------------|----|----|----|----|----|----|
|                                                | PR | PP | PN | PG | PC | PF |
| Initial teacher attitudes                      | *  | *  | *  | *  | *  | *  |
| Altered teacher disposition                    |    | *  |    | *  |    |    |
| Issue of approach and consultation             | *  | *  | *  | *  | *  | *  |
| Issue of research and planning                 | *  |    | *  | *  | *  |    |
| Inadequacy of time frame                       | *  |    |    |    | *  | *  |
| Issue of teacher guidance and training         | *  | *  | *  | *  |    | *  |
| Teacher coping strategies and self-initiatives | *  | *  | *  | *  |    |    |
| Rationale as experimentation                   | *  | *  | *  |    | *  | *  |
| Innovation as a need                           | *  |    | *  | *  | *  |    |

***FORMATION OF THEMES FROM THE CATEGORIES***

| <b>CATEGORIES</b>                                                                                                                                                                            | <b>THEMES</b>                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Initial teacher attitudes<br>Altered teacher disposition                                                                                                                                     | <b>Teacher disposition and attitudes</b>          |
| Issue of approach and consultation<br>Issue of research and planning<br>Inadequacy of time frame<br>Issue of teacher guidance and training<br>Teacher coping strategies and self-initiatives | <b>Inadequacies in the implementation process</b> |
| Rationale as experimentation<br>Innovation as a need/necessity                                                                                                                               | <b>Educational experimentation</b>                |

## **CODES – Research Question 2**

**How do teachers perceive the influence of this innovation on their approach to and method of teaching?**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PP | <p>Self correction</p> <p>Doing individual research for personal enlightenment</p> <p>Conscious change in teaching style over time</p> <p>Initially no modification in teaching method</p> <p>Teacher discovery/realisation of mistakes; need for modification</p> <p>Increased teacher competence and awareness; inexperience to competence</p> <p>Change in method of teaching for boys in the second cohort</p> <p>Positive change in boys attitude to work</p> <p>Teacher adoption of gendered approach to teaching methods</p> <p>Improved teacher/student interaction</p> <p>Female teacher/male students challenges in interaction (need for stern approach)</p> <p>Change in approach to discipline – boys versus girls</p> <p>Female teacher/male students nurturing interaction (pastoral)</p> <p>*no trouble with boys</p> <p>Change in approach for difficult boys class (pastoral)</p> <p>Challenge in readjustment from only co-ed to some single-sex classes</p> <p>Major influence of teacher development – creativity, innovativeness, adaptability</p> <p>Taking advantage of students competitive nature</p> |
| PR | <p>No modification in teaching style (indictment)</p> <p>Teacher knowledge of student learning styles, but no application/implementation</p> <p>Evidence of individual teacher research</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PC | <p>No influence on method of teaching</p> <p>Teacher recognition of need to vary approach to boys versus girls; forceful versus gentle/delicate</p> <p>Variation in teaching approach – militancy versus relaxed</p> <p>*softer with some boys</p> <p>Change in teacher outlook</p> <p>Diversification in methods and approaches</p> <p>Influence of teacher personality (reputation, strictness)</p> <p>Use of boys competitive nature to motivate (strategy)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PN | <p>Impact of male-oriented subject / male teacher</p> <p>Minimum adjustment for boys due to previous experience</p> <p>Adoption of pastoral approach for girls (father figure)</p> <p>Change in teacher/student interaction</p> <p>Bonding between male teacher/female student</p> <p>Modification in teaching approach</p> <p>No modification in teaching method, minor adjustments</p> <p>Pastoral role – teacher as confidante</p> <p>Admitted difficulty in male teacher/female student interaction</p> <p>Difference in approach to discipline – male/female</p> <p>Reliance on previous teaching experience</p> <p>Trial and error approach using multiple classes to improve methods</p> |
| PF | <p>Change in teaching approach – adaptation to specific class and gender needs</p> <p>Teacher recognition of need to vary approach to discipline of boys/girls</p> <p>No influence on teaching method – no need: due to teaching experience, teacher training and ability to adapt; teacher confidence/self-assurance/bragging</p> <p>*minor gender-based adaptations to provide relevance of topics</p>                                                                                                                                                                                                                                                                                        |
| PG | <p>Modification of teaching method</p> <p>Adaptation of class activities, teaching strategies to perceived gender interest</p> <p>Stepping out of teacher comfort zone</p> <p>Understanding school context and applicability to research</p> <p>Using technology for boys' classes</p>                                                                                                                                                                                                                                                                                                                                                                                                          |

*AXIAL CODING WITH CATEGORIES*

| <b>AXIAL CODES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>CATEGORIES FORMED</b>                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| No modification initially in teaching method<br>No modification in teaching style<br>No influence on method of teaching<br>No modification in teaching method, minor adjustments<br>No influence on teaching method – no need due to teacher expertise                                                                                                                                                                                                                        | <b>Constancy in teaching methods</b>         |
| Conscious change in teaching over time<br>Teacher realisation of mistakes; need for modification<br>Change in method of teaching for boys in 2 <sup>nd</sup> cohort<br>Diversification in methods and approaches<br>Modification in teaching approach<br>Change in teaching approach – adaptation to specific class and gender needs<br>Modification of teaching approach<br>Modification of teaching method<br>Minor gender-based adaptations to provide relevance of topics | <b>Modifications – immediate and delayed</b> |
| Individual research for personal enlightenment<br>Evidence of individual teacher research<br>Change in teacher outlook                                                                                                                                                                                                                                                                                                                                                        | <b>Self motivation</b>                       |
| Self correction<br>Increased teacher competence and awareness – inexperience to competence<br>Challenge in readjustment from only co-ed to some single-sex classes<br>Major influence of teacher development – creativity,                                                                                                                                                                                                                                                    | <b>Teacher adaptability</b>                  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <p>innovativeness, adaptability</p> <p>Reliance on previous teaching experience</p> <p>Trial and error approach using multiple classes to improve methods</p> <p>Stepping out of teacher comfort zone</p> <p>Minimum adjustment for boys given previous experience</p>                                                                                                                                                                                                                                                                                                    |                                                      |
| <p>Teacher adoption of gendered approach to teaching methods</p> <p>Taking advantage of students competitive nature</p> <p>Teacher knowledge of student learning styles, but no application</p> <p>Teacher recognition of need to vary approach to boys vs girls</p> <p>Variation in teaching approach – militancy vs relaxed</p> <p>Use of boys competitive nature to motivate</p> <p>Adaptation of class activities and teaching strategies to perceived gender interest</p> <p>Impact of male oriented subject &amp; male teacher</p> <p>Using technology for boys</p> | <p>Teacher awareness<br/>of gender</p>               |
| <p>Change in approach to discipline – boys vs girls</p> <p>Change in approach to difficult boys class (pastoral)</p> <p>Difference in approach to discipline – male/female</p> <p>Teacher recognition of need to vary approach to discipline of boys/girls</p>                                                                                                                                                                                                                                                                                                            | <p>Student gender and<br/>discipline</p>             |
| <p>Improved teacher/student interaction</p> <p>Female teacher/male students nurturing interaction (pastoral)</p> <p>Adoption of pastoral approach for girls (father figure)</p> <p>Change in teacher/student interaction</p>                                                                                                                                                                                                                                                                                                                                              | <p>Improved<br/>teacher/student<br/>interactions</p> |

|                                                                                                                                                         |                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Bonding between male teacher/female students<br>Pastoral role – teacher as confidante                                                                   |                                                        |
| Female teacher/male students challenges in interaction<br>(need for stern approach)<br>Admitted difficulty in male teacher/female student interaction   | <b>Challenged<br/>teacher/student<br/>interactions</b> |
| Positive change in boys attitude to work<br>Influence of teacher reputation re strictness<br>Understanding school context and applicability to research | <b>Other codes</b>                                     |

### CONSISTENCY OF RESPONSES

| CATEGORIES                              |    |    |    |    |    |    |
|-----------------------------------------|----|----|----|----|----|----|
|                                         | PP | PR | PC | PN | PF | PG |
| Constancy in teaching approach          | *  | *  | *  | *  | *  |    |
| Modifications – immediate and delayed   | *  |    | *  | *  | *  | *  |
| Teacher self motivation                 | *  | *  | *  |    |    |    |
| Teacher adaptability                    | *  |    |    | *  |    | *  |
| Teacher awareness of gender             | *  | *  | *  | *  |    | *  |
| Student gender and discipline           | *  |    |    | *  | *  |    |
| Improved teacher/student interactions   | *  |    |    | *  |    |    |
| Challenged teacher/student interactions | *  |    |    | *  |    |    |



***FORMATION OF THEMES FROM THE CATEGORIES***

| <b>CATEGORIES</b>                                                                                                         | <b>THEMES</b>                                       |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Constancy in teaching approach<br>Modifications –immediate and delayed<br>Teacher self motivation<br>Teacher adaptability | <b>The development of teacher competencies</b>      |
| Teacher awareness of gender<br>Student gender and discipline                                                              | <b>Increased gender awareness and sensitization</b> |
| Improved teacher/student interactions<br>Challenged teacher/student interactions                                          | <b>Mixed teacher/student interactions</b>           |

### CODES – Research Question 3

**How do teachers perceive that this innovation has influenced school and classroom life?**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PC | <p>Class management challenges with girls for male teacher; comfort zone with boys</p> <p>Increased competition among boys</p> <p>Boys penchant for trouble/mischief</p> <p>Negative group influence on boys behaviour – leader and followers</p> <p>Boys classes – negative outweighs positives</p> <p>Problem of class indiscipline with boys</p> <p>Alpha male</p> <p>Means of control for student behaviour</p> <p>Increased boys motivation for high class placement given absence of girls; boys given the opportunity to shine</p> <p>Positive academic influence for 1 boys class; boys on par with girls</p> <p>Increased student anticipation for recreation periods to socialise; feeling of confinement; yearning for socialisation; reduced focus in class</p> <p>Positive social influence on school life</p> <p>Some positive group influence of boys</p> <p>Increased negative student interaction: increased fights among boys; alpha male of teacher syndrome; issue of maintaining a reputation; girls and gossip, confusion</p> <p>Influence reputation/personality on student behaviour</p> |
| PP | <p>Lack of academic improvement; teacher disappointment</p> <p>Influence of subject area on student behaviour and academic performance – practical versus theoretical areas</p> <p>Teacher rejection of gender stereotypes; boys positive, girls negative behaviours</p> <p>Influence on class environment/tone/mood – issue of settling down</p> <p>Teacher praise for girls initiative-taking/proactive nature; boys risk-taking/practicality</p> <p>Provides advantage of gender commonality to build good teacher/student interaction – establishing discipline with them</p> <p>Significance of different student backgrounds</p> <p>Positive influence of serious on disruptive students</p> <p>Boys group influence; penchant for trouble</p> <p>Facilitates girls preference for group work</p> <p>Restricted socialisation opportunities for students in the classroom – cause of distraction</p> <p>Excessive and unhealthy female competitions for status</p>                                                                                                                                         |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>Variation of teaching methods depending on gender of class – boys and practical, girls and theory</p> <p>Minimal influence on student achievement</p> <p>Boys group influence</p> <p>More pronounced girls bacchanal/confusion</p> <p>Lack of tempering presence of the opposite sex</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PR | <p>Parental input and support for innovation</p> <p>Relationship between teaching style and class management/student involvement</p> <p>Gender-based influence on student behaviour</p> <p>Male teacher preference for girls class (easier)</p> <p>Link between female-oriented subject and good female academic performance</p> <p>Creation of different ways for student socialisation</p> <p>Development of healthy/normal relationships among students of single-sex classes out of class time</p> <p>Development of a complex skewed male construct – importance of status; male dominance in the boys classes; chronic indiscipline; continuous mischief-making</p> <p>Increase in girls gossip/talk/confusion</p> <p>Negligible or no influence on male academic achievement</p> <p>Positive influence for girls – flourishing; girls short-changed by boys presence</p>                                                                                        |
| PN | <p>Teacher challenges in disciplining students – male teacher/female students</p> <p>Gender influence in teacher/student interaction/relations – teacher as accommodator versus disciplinarian</p> <p>Increased competitive nature of both genders, but in different ways</p> <p>Gender difference in approach to assignments</p> <p>Constant group mischief-making – one leader many followers</p> <p>Unpleasant experience for non-offending students – feeling of overwhelm, helplessness, unfair stigmatisation</p> <p>Boys continue to be laid back</p> <p>Influence on classroom ethos - boys calm, girls rowdy (unlike the female teachers experience)</p> <p>Negative influence on boys behaviour – multiplication of issues</p> <p>Compounded group influence</p> <p>Low academic motivation of boys as a class</p> <p>Lack of girl presence to 'mellow' environment</p> <p>Creation of alternative opportunities to bond/socialize during the school day</p> |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PG | <p><b>Influence</b> of subject area on student gender – female-oriented with boys</p> <p>Influence of teacher physical size on class management; difficulty of boys class; teacher challenge of class control</p> <p><b>Issue</b> of boys and languages; overall lack of student interest in subject; negative mindset; challenged classroom</p> <p><b>Contrasting</b> experience for teachers of all boys versus all girls classes</p> <p><b>Teacher</b> report of unbearable, hellish classroom life of boys classes – trauma/thunderstorm/whirlwind</p> <p><b>Increased</b> teacher feelings of hopelessness, turmoil, overwhelm and frustration</p> <p><b>Teacher</b> frustration; desire to quit</p> <p><b>Influence</b> of large class size on teacher ability to manage classes and student disinterest</p> <p><b>Reduced</b> academic focus of students due to absence of other gender to 'temper' atmosphere; increased play</p> <p><b>Greater</b> conformity in girls classes</p> <p>Influencing factor/variables – student personalities and differing learning styles</p> <p><b>Better</b> academic performances in girls classes compared to co-ed and boys classes</p> <p><b>Continued</b> disappointing academics for boys – hinged on indiscipline</p> |
| PF | <p><b>Noticed</b> trend of negative student attitude to specific genders of teachers – male on male, female on female</p> <p><b>Improved</b> class mood/preparedness, work-rate for girls classes only</p> <p>Facilitates classroom life for students accustomed to same-sex schools</p> <p><b>Emphasis</b> on margin between high-performing and average students (girls)</p> <p><b>No</b> influence on boys academic performance/achievement</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

### *AXIAL CODING WITH CATEGORIES*

| <b>AXIAL CODES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>CATEGORIES FORMED</b>                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <p>Class management challenges with girls for male teacher; comfort zone with boys</p> <p>Problem of class indiscipline with boys</p> <p>Influence on class environment/tone/mood – issue of settling down</p> <p>Relationship between teaching style and class management/student involvement</p> <p>Teacher challenges in disciplining students – male teacher, female students</p> <p>Influence on classroom ethos – boys calm, girls rowdy (unlike experience of female teachers)</p> <p>Influence of teacher physical size on class management; difficulty of boys class; teacher challenge of class control</p> <p>Influence of large class size on teacher ability to manage classes and student disinterest</p>                                                                                                                                             | <p><b>Issues of classroom management</b></p> |
| <p>Boys penchant for trouble/mischief</p> <p>Negative group influence on boys behaviour – leader vs followers</p> <p>Boys classes – negative outweighs positives</p> <p>Alpha male syndrome</p> <p>Increased fights among boys</p> <p>Boys group influence – penchant for trouble</p> <p>Issue of maintaining their reputation</p> <p>Development of a complex skewed male construct – importance of status; male dominance in the boys' classes; chronic indiscipline; continuous mischief-making</p> <p>Constant group mischief-making – one leader many followers</p> <p>Negative influence of boys behaviour – multiplication of issues</p> <p>Compounded group influence</p> <p>Contrasting experience for teachers of boys vs girls classes</p> <p>Teacher report of unbearable, hellish classroom life of boys classes – trauma, thunderstorm, whirlwind</p> | <p><b>Boys trouble</b></p>                   |
| <p>Increased boys motivation for high class placement given absence of girls; boys given opportunity to shine</p> <p>Positive academic influence for 1 boys' class; boys on par with girls</p> <p>Some positive group influence of boys</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Academics</b></p>                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <p>Boys continued laid back attitude</p> <p>Lack of academic improvement; teacher disappointment</p> <p>Positive influence of serious on disruptive students</p> <p>Minimal influence on student achievement</p> <p>Negligible or no influence on male academic achievement</p> <p>Teacher praise for girls initiative-taking/proactive nature and boys risk taking/practicality</p> <p>Low academic motivation of boys as a class</p> <p>Improved class mood/preparedness/work rate for girls classes only</p> <p>Better academic performances in girls classes compared to co-ed and boys classes</p> <p>Emphasis on margin between high-performing and average students in the girls' classes</p> <p>No influence on boys academic performance/achievement</p> |                            |
| <p>Increased competition among boys</p> <p>Facilitation of girls preference for group work</p> <p>Increased competitive nature of both genders, but in different ways</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Student competition</b> |
| <p>Influence of subject area on student behaviour and academic performance – practical vs theoretical areas</p> <p>Variation of teaching methods depending on gender of class: boys and practical, girls and theory</p> <p>Link between female-oriented subject and good female academic performance</p> <p>Gender difference in approach to assignments</p> <p>Influence of subject area on student gender – female-oriented subjects and boys</p> <p>Issue of boys and languages; overall lack of student interest in subject; negative mindset; challenged classroom</p>                                                                                                                                                                                       | <b>Subject and gender</b>  |
| <p>Issue of maintaining a reputation</p> <p>Excessive and unhealthy female competition for status</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Student status</b>      |
| <p>Increased student anticipation for recreation periods to socialise; feeling of confinement; yearning for socialisation; reduced focus in class</p> <p>Positive social influence on school life</p> <p>Restricted socialisation opportunities for students in the classroom – cause of distraction</p> <p>Creation of different ways for student socialisation</p> <p>Development of healthy/normal relationship among students of single-sex classes outside of class time</p> <p>Creation of alternative opportunities to bond/socialize during the school day</p>                                                                                                                                                                                            | <b>Socialisation</b>       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <p>Girls gossip and confusion<br/>More pronounced girls bacchanal, confusion<br/>Increase in girls gossip/talk/confusion</p>                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>Girls trouble</b></p>            |
| <p>Continued disappointing academics for boys hinged on indiscipline<br/>Means of control for student behaviour<br/>Gender-based influence on student behaviour<br/>Greater conformity in girls classes<br/>Noticed trend of negative student attitude to specific genders of teachers – male on male and female on female<br/>Positive influence for girls – flourishing; girls short-changed by boys presence<br/>Unpleasant experience for non-offending students – feeling of overwhelm, helplessness, unfair stigmatisation</p>                                  | <p><b>Behavioural influences</b></p>   |
| <p>Reduced academic focus of students due to absence of other gender to 'temper' atmosphere; increased play by boys<br/>Lack of tempering presence of the opposite sex<br/>Lack of girls presence to mellow the environment<br/>Absence of other gender to temper class mood</p>                                                                                                                                                                                                                                                                                      | <p><b>Girls tempering presence</b></p> |
| <p>Influence of teacher reputation<br/>Influence of teacher reputation on student behaviour<br/>Increased teacher feelings of hopelessness, turmoil, overwhelm and frustration<br/>Teacher frustration – desire to quit<br/>Teacher rejection of gender stereotypes – boys positive, girls negative behaviours<br/>Provides advantage of gender commonality to build good teacher/student interaction – establishing discipline with them<br/>Male teacher preference for girls classes (easier)<br/>Gender influence – teacher as accommodator vs disciplinarian</p> | <p><b>Teacher issues</b></p>           |
| <p>Significance of different student backgrounds<br/>Parental input and support for innovation<br/>Facilitation of classroom life for students accustomed to same-sex schools</p>                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Other codes</b></p>              |

## CONSISTENCY OF RESPONSES

| CATEGORIES                     |    |    |    |    |    |    |
|--------------------------------|----|----|----|----|----|----|
|                                | PC | PP | PR | PN | PG | PF |
| The academics                  | *  | *  | *  | *  | *  | *  |
| Increased student competition  | *  | *  |    | *  |    |    |
| Subject and gender relations   |    | *  | *  | *  | *  |    |
| Boys trouble                   | *  | *  | *  | *  | *  |    |
| Girls trouble                  | *  | *  | *  |    |    |    |
| Behavioural influences         | *  |    | *  | *  | *  | *  |
| Girls tempering presence       |    | *  |    | *  | *  |    |
| Teacher issues                 | *  | *  | *  | *  | *  |    |
| Issues of classroom management | *  | *  | *  | *  | *  |    |
| Student status                 | *  | *  |    |    |    |    |
| Student socialisation          | *  | *  | *  | *  |    |    |



***FORMATION OF THEMES FROM THE CATEGORIES***

| <b>CATEGORIES</b>                                                                   | <b>THEMES</b>                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| The academics<br>Increased student competition<br>Subject and gender relations      | <b>Academic influences</b>                                        |
| Boys trouble<br>Girls trouble<br>Behavioural influences<br>Girls tempering presence | <b>Variations in student<br/>behaviour and attitudes</b>          |
| Boys compounded trouble<br>Teacher issues<br>Issues of classroom management         | <b>New teacher challenges</b>                                     |
| Student socialisation<br>Student status                                             | <b>Social influences within<br/>and without the<br/>classroom</b> |

## **CODES – Research Question 4**

**What are teachers' views regarding the potential for adoption of the innovation?**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PR | <p><b>Indictment</b> – lack of research and teacher assistance</p> <p><b>Consideration</b> of continued opposition and disinterest by some teachers</p> <p><b>Sufficient</b> socialisation opportunities</p> <p><b>Support</b> for adoption pending provision of structured programmes – <b>students</b> already adapted</p> <p><b>Potential</b> for great social and educational benefits for students</p> <p><b>Critique</b> of lack of reflection, evaluation and dialogue</p> <p><b>Inadequacy</b> of timeline, discussion, planning</p> <p><b>Influence</b> of teacher commitment to job</p> <p><b>Importance</b> of catering specifically to the boys</p> |
| PG | <p><b>Teacher</b> doubts due to insignificance of improvements</p> <p><b>Teacher</b> concern over lack of preparation for mixing of current form 3s in form 4; possible risk of reduced focus and competitiveness</p> <p><b>Teacher</b> recognition of value of innovation in spite of poor implementation and premature execution</p> <p><b>Teacher</b> support for adoption but with mixed feelings</p> <p><b>Need</b> for adjustment of school structures such as discipline</p> <p><b>Inadequacy</b> of school structures to assist in successful continuation</p> <p><b>Consistency</b> in discipline approach required</p>                                |
| PF | <p><b>Insufficient</b> student opportunities for student socialisation and interaction</p> <p><b>Teacher</b> acknowledgement of academic, social and adolescent developmental benefits of innovation</p> <p><b>Teacher</b> support of adoption on condition of re-visitation and incorporation of new ideas. <b>Critique</b> of lack of follow-through</p> <p><b>Strength</b> of innovation – students better prepared to cope with mixing at a later stage form 4</p> <p>*<b>Change</b> in point of view after discussion</p> <p><b>Support</b> for continued separation of sexes given improved focus in class</p>                                            |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PC | <p>Sufficient socialisation opportunities – further facilitation required</p> <p>Strong support for adoption and establishment of structured programmes and appropriate research</p> <p>Uncertainty over present state but faith in its possibilities</p> <p>Need for patterning other successful single sex schools</p> <p>Lack of proper planning and introduction</p> <p>Strategy to improve negative school culture with a phased approach</p> <p>Opportunity to correct issues as they arise</p> <p>Progressive improvement of teacher competencies</p> <p>Need for teacher collaboration and united front and commitment</p> <p>Need for student conformity</p> <p>Support for phased basis to improve school culture</p> <p>Anticipation of 6<sup>th</sup> form all boys class</p> |
| PP | <p>Opportunity for improved teacher/student relationships – gender based</p> <p>*Teacher change in point of view – now supportive of adoption on condition of ...</p> <p>Need to take pattern from successful single sex schools</p> <p>Acknowledgement of influence of socio economic background of students on innovation</p> <p>Significance of student academic level/potential</p> <p>Influence of general teacher work ethics and level of commitment</p> <p>Need for teacher united front, unity, consistency in approach to student discipline</p>                                                                                                                                                                                                                                |
| PN | <p>Need for constancy in administration to see ideas through; impact of change in administration on success of innovation</p> <p>Influence of student backgrounds on attitudes and behaviours</p> <p>Teacher desire to revert to co-ed system</p> <p>Teacher support only on condition of proper implementation of mechanisms</p> <p>Need for student buy in</p>                                                                                                                                                                                                                                                                                                                                                                                                                          |

### *AXIAL CODING WITH CATEGORIES*

| <b>AXIAL CODES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>CATEGORIES FORMED</b>                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <p>Indictment – lack of research and teacher assistance<br/> Lack of reflection, evaluation and dialogue<br/> Inadequacy of timeline, discussion and planning<br/> Inadequacy of school structures to assist in successful continuation<br/> Insufficient student opportunities for student socialisation and interaction<br/> Critique of lack of follow through<br/> Lack of proper planning and introduction</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>Criticisms</b></p>                                        |
| <p>Consideration of continued opposition to innovation<br/> Teacher doubts due to insignificance of improvements<br/> Teacher concern over lack of preparation for mixing of current form 3s into form 4 – possible risk of reduced focus and competitiveness<br/> Acknowledgement of influence of socio-economic background of students on innovation<br/> Influence of student backgrounds on student attitudes and behaviours<br/> Uncertainty over present state but faith in its possibilities</p>                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>Lingering concerns</b></p>                                |
| <p>Sufficient socialisation opportunities<br/> Students are already adapted<br/> Potential for great social and educational benefits for students<br/> Teacher recognition of value of innovation in spite of poor implementation and premature execution<br/> Teacher acknowledgement of academic, social and adolescent developmental benefits of innovation<br/> Strength of innovation – students better prepared to cope with mixing at a later stage e.g. form 4<br/> Sufficient socialisation opportunities – further facilitation required<br/> Phased approach to improving negative school culture – giving opportunity to correct issues as they arise<br/> Progressive improvement of teacher competencies<br/> Anticipation of 6<sup>th</sup> form all-boys class<br/> Opportunity for improved teacher/student relationships, gender based<br/> Significance of student academic level/potential</p> | <p><b>Teachers positive outlook re innovation potential</b></p> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <p>Influence of teacher commitment to job</p> <p>Teacher support for adoption but with mixed feelings</p> <p>Teacher support for continued separation of sexes given improved focus in class</p> <p>Influence of general teacher work ethics and level of commitment to innovation</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Teacher attitudes</p>         |
| <p>Teacher desire to revert to co-ed system</p> <p>Support for adoption pending provision of structured programmes</p> <p>Teacher support of adoption on condition of re-visitation and incorporation of new ideas</p> <p>Change in point of view after discussion</p> <p>Teacher change in point of view – now supportive of adoption on conditions...</p> <p>Teacher support only on condition of proper implementation of mechanisms</p>                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Teacher change in opinion</p> |
| <p>Importance of catering specifically to the boys</p> <p>Need for adjustment of school structures such as discipline</p> <p>Consistency in discipline approach required</p> <p>Strong support for adoption and establishment of structured programmes and appropriate research</p> <p>Need for patterning of other successful single-sex schools</p> <p>Need for teacher collaboration, united front and commitment</p> <p>Need for student conformity</p> <p>Support for phased basis to improve school culture</p> <p>Need to take pattern from successful single-sex schools</p> <p>Need for united teacher front, unity, consistency in approach to student discipline</p> <p>Need for constancy in administration to see ideas to fruition (impact of change in administration on success of innovation)</p> <p>Need for student buy in</p> | <p>Recommendations</p>           |

**CONSISTENCY OF RESPONSES**

| <b>CATEGORIES</b>                        |    |    |    |    |    |    |
|------------------------------------------|----|----|----|----|----|----|
|                                          | PR | PG | PF | PC | PP | PN |
| Criticisms                               | *  | *  | *  | *  |    |    |
| Lingering concerns                       | *  | *  |    | *  | *  | *  |
| Change in opinions                       | *  |    | *  | *  | *  | *  |
| Recommendations                          | *  | *  |    | *  | *  | *  |
| Positive outlook on innovation potential | *  | *  | *  | *  | *  |    |
| Teacher attitudes                        | *  | *  | *  |    | *  |    |
| Influence of student background          |    |    |    |    | *  | *  |

***FORMATION OF THEMES FROM THE CATEGORIES***

| <b>CATEGORIES</b>                                                        | <b>THEMES</b>                                |
|--------------------------------------------------------------------------|----------------------------------------------|
| Criticisms<br>Lingering concerns<br>Change in opinion<br>Recommendations | <b>Requisite structures and<br/>policies</b> |
| Positive outlook of the potential of the innovation<br>Teacher attitudes | <b>Teacher commitment<br/>and support</b>    |

## ***Appendix G***

This is a sample of the researcher's reflective journal

# Sample of reflective journal

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## REFLECTIONS 2

Wednesday 28<sup>th</sup> March 2012

Ok so the day finally came. Despite feeling quite overwhelmed, I think it went relatively well.

Sigh. It was my first focus group interview. I was unable to secure an assistant or moderator as I had seen suggested in the literature. I had considered asking a trusted colleague but decided against it. In any event, as it turns out, she was absent on the day of the interview. It meant that I had to organise the refreshments alone. I'm glad the time scheduled for the interview was 10 a.m. That gave me sufficient time to put everything in place in preparation for the interview.

I thought that in general the interview went well. As my first experience, I felt that my brain was working overtime trying to ensure that the appropriate questions were being answered and in the right order. It was also challenging to ensure that everyone was getting sufficient time and opportunity to contribute to the discussion. I explained to the group at the start that it would not be an interrogating type of interview between me and them and thus I encouraged them to talk to each other. In essence, I would not be in charge per se. It meant that everyone did not have to answer every single question given the nature of dialogue. Some merely chimed in their agreement or disagreement. I am thankful that the participants generally remained on topic. I didn't feel in control though. Maybe I expected to have a tighter control of the flow of the conversation but I realised that I simply had to let the conversation run its course and keep the participants on topic whenever they strayed too far.



With regard to the interaction amongst the participants, I was happy to see them banter with each other. The mood was good, there was laughter, and the participants took turns on their own volition. What stood out the most was the fact that following the various contributions of their colleagues, at least two participants changed their points of view of the innovation by the end of the discussion. This to me confirmed what I had read in the literature regarding the rationale of focus groups:

Research shows that individuals who share a common experience stimulate each other to talk, by listening to each others' opinions and understandings in order to form their own (Lichtman, 2010). This method also "assumes that an individual's attitudes and beliefs do not form in a vacuum; (rather,) people often need to listen to others' opinions and understandings to form their own" (Marshall & Rossman, 1995, p. 84). Allowing interaction among participants would also serve to enhance data quality, as participants tend to provide checks and balances on each other, thereby weeding out false or extreme views (Krueger & Casey, as cited in Patton, 2002).

This was also confirmation that I had made the better choice in doing a focus group interview rather than individual interviews, given the nature of my research. These teachers had never had the opportunity to share their perceptions of the innovation, even after three years of its implementation, and it became clear to me that some of them were happy to have a forum in which to do so.

I must admit that the hour flew quickly, I didn't even realise. When the interview had ended I offered them refreshments in a show of appreciation. One participant in particular stayed back afterwards to tell me how much she had enjoyed the interview and that she was happy that I was

doing the study. That was really motivating for me, as I felt it wasn't just a case of doing research just for doing it sake. There are teachers who are invested in their jobs and want to see things not only work but improve. I therefore do intend to present the administration with a copy of the findings as I feel it would be of significance to them as we continue to move forward. So on to the next step for me – transcribing.

## REFLECTIONS 4

Week of April 20<sup>th</sup>

Wow, time is running, and fast! I need to try and maintain my schedule, but it's easier said than done. I need to start scheduling my follow-ups. It should've been this week. But I need to review my transcript and start the initial phase of analysis. And I also have to find literature specifically on focus groups analyses. I'm working on my literature review as well. My goodness, it is multi-tasking going on now. Pressure!!! The readings are so tedious, but I have to. No getting away from that. I have to get it right so I'll know how to proceed. There is no room and time for error. I know that I must follow the steps appropriately to ensure credibility of the findings.