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The Effectiveness of a Literature-Driven English Programme in Improving the English Language Skills of Secondary One Students in Singapore

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CHAPTER 3

Methodology

Introduction

In this chapter, the rationale for conducting a curriculum initiative project in multiple sites which were studied as cases in the current research is explained. Since the research included the design of the curriculum by the researcher, the expertise of the researcher in the area is also examined. In addition, the curriculum design, participants, and the stages in the gathering of the data are described. Sources and kinds of data and the data that were used to answer each of the research questions are also provided. Finally, before recounting the ethical considerations that were considered for this research, details pertaining to the mode in which the data were analysed and the usefulness of this research are offered.

Research on the LDEP – A Curriculum Initiative Project

The current research on the Literature-Driven English Programme (LDEP) involved a curriculum project initiative that was designed to improve on existing practices in the teaching of English and Literature. The aim was to conduct an active inquiry into the effects of an integrated Literature and English Language programme on the learning of language skills through implementing an experimental curriculum.

Characteristics of the Curriculum Initiative Project on the LDEP

The research on the LDEP included some of the characteristics of, as well as departures from, the classical form of action research. There was the desire to improve on existing educational practices (Archer, Holly & Kasten 2001; Kemmis 1988; Thomas 2005) and it was appreciated that the inquiries into the complex situations found in the different schools may not yield unqualified resolutions (Brydon-Miller, Greenwood & Maguire 2003). While action research in education normally concerns teachers conducting research to inform their classroom practice (Mills 2003; Murray & Lawrence 2000; Rosiek

& Atkinson 2005), the research on the LDEP was conceptualised by a former practitioner.

In action research, the aim is to work towards amelioration in the 'rationality...[pertaining to] the situations in which the practices are carried out' (Kemmis 1988, p.42). The intent of the current research was to seek an improved understanding of how students learn and gain language skills through comparing the LDEP with existing English and Literature curricular practices within the context of Singapore. Additionally, the aim of the current research, as in any action research, was not to provide all the answers (Brydon-Miller, Greenwood & Maguire 2003). The research was viewed as an initial investigation that would hopefully result in further developments of the LDEP. If the findings from the research lead to a better understanding of the effects of an integrated English and Literature programme, the LDEP could be further improved so as to produce beneficial curricular changes in the area of English Language and Literature teaching. Moreover, the presence of many variables was accepted as a necessary component to study the effectiveness of the LDEP and thus, the variables were left intact. Heterogeneity and complexity added to the practical validity of the study since they represented the real-life situations in schools. Thus, knowledge gained from the study is accepted as part of an on-going process of 'drawing theories out of practice, so that theory becomes embodied practice and embodied practice has the potential to emerge again as new theory' (McNiff & Whitehead 2002, p.103).

Often action research in education is conducted by teachers to enhance the practices carried out within their own classrooms (Mills 2003; Murray & Lawrence 2000; Rosiek & Atkinson 2005); however, in the current research a broader view was employed. Though the researcher was neither employed by the schools participating in the research nor directly involved in the teaching of the lessons, she nonetheless played a participatory role. The LDEP, which the researcher designed, was the product of the experiences gained by the researcher as a classroom English and Literature teacher. These classroom experiences like any other classroom experiences of action researchers initiated the research. Brydon-Miller, Greenwood and Maquire

believe that 'action researchers... came to theory largely as a way of justifying what they knew was correct to begin with, to legitimize a politically informed and effective form of knowledge through experience' (2003, p.15). Likewise, the chosen research topic was the product of the on-going self-reflection on teaching methods employed by the researcher in the teaching of English and Literature during the course of her five year teaching experience in Singapore. The topic was also inspired by her experiences as a Language Arts teacher in urban and suburban schools in the United States. Like any other action researcher the experiences and experimentation conducted within classes of the researcher allowed her to discover the benefits of an integrated English and Literature programme. She, thus, decided to develop and implement a refined integrated programme so as to discover its impact on a larger scale involving other schools and teachers. The professional opinion of the teachers was also actively sought during interviews and informal meetings. Consequently, the current research was conducted as 'an enquiry by the self into the self, undertaken in company with others acting as research participants and critical learning partners' (McNiff & Whitehead 2002, p.15).

Strengths of the Research on the LDEP

In studying the effects of the LDEP in a social setting with many influences, the position taken was that 'events, particularly social events, may not be orderly or pre-determined. Causation is always likely to be multi-dimensional' (Murray & Lawrence 2000, p.30). Thus, the goal was not to seek "tidy" resolutions.

In the current research there were many variables with no controls imposed on existing practices in the four participating schools. Messes, a word employed by Ackoff (1999), were anticipated. Messes refer to 'complex, multi-dimensional, intractable, dynamic problems that can only be partially addressed and partially resolved' (Brydon-Miller, Greenwood & Maguire 2003). The researcher expected challenges, both practical and theoretical and the existence of these challenges was important. One of the aims of the research was to discover if the curriculum would be robust enough to be

effective in spite of the challenges presented by the different situations with differing variables. It was felt that a curriculum proven to be effective in heterogeneous situations would be of greater utility than a curriculum found to be effective in a controlled environment with very few variables. Additionally, since the working premise was that there were no absolute answers and the study was viewed as part of an on-going cyclic process of gaining better understanding of the LDEP, limitations and challenges were anticipated and indeed, even welcomed.

In the current research the researcher took on the dual roles of participant and observer. She offered assistance when such assistance was requested by the teachers. She also acted as a participant researcher in that she worked closely with the teachers during the implementation of the LDEP and at the request of the teachers, even modelled the teaching of a lesson in two of the four schools. However, since it was decided from the outset there should be no interference by the researcher once the curriculum was surrendered to the schools, she took on the role of an observer during the implementation of the programme. She did not interfere with the teaching of the lessons, offer unsolicited suggestions or highlight incorrect implementation procedures. There were two reasons for assuming the role of an observer. Firstly, the intent was to observe how the LDEP would fare in naturalistic conditions with few researcher manipulations over its execution and to ascertain the reasons for the success or failure of the LDEP in such circumstances (Keen & Packwood 1995). Secondly, through asking the teachers to actively reflect on the effect of the LDEP and by not taking away ownership of the classes they teach, the research might be of greater interest to the teachers and their schools. In having 'action research conducted in one's own [italicised by Mills] classroom/school [it] is more likely to be persuasive and relevant and the findings expressed in ways that are meaningful for teachers themselves' (Mills 2003, p.7).

In the next section the reasons for, and the advantages of, conducting research in multiple sites which were studied as cases are discussed.

Multiple Site Case Studies of the Effectiveness of the LDEP

It was felt that a curriculum initiative project could be better evaluated if it was implemented in multiple sites or schools. Each school was studied as a case with sub-groups in order to gain a greater understanding of the effectiveness of the curriculum in naturalistic environments with many variables.

Characteristics of Case Studies of the LDEP

'Case studies are appropriate then to study complex social situations or interventions, where multiple variables exist' (Walshe, Caress, Chew-Graham & Todd 2004, p.678). No case study is identical to another. As such, a constant, in this instance the LDEP, could be tested in different sites consisting of multiple case studies with differing variables. In addition, 'case studies will often be the preferred method of research because they may be epistemologically in harmony with the reader's experience and thus to that person a natural basis for generalization' (Stake 2000, p.19). Since schools are the intended audience, a project undertaken in individual schools would enable the administration and teachers in other schools to make comparisons and determine if the outcomes are relevant to them.

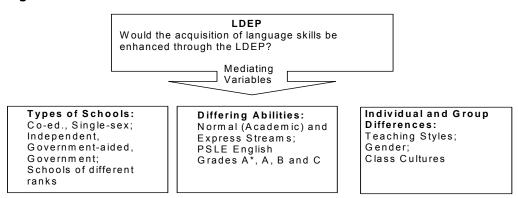
In selecting the schools as case studies, convenience sampling was employed since the research was dependent on the availability and willingness of the schools to participate (Gillham 2000; Wallen & Fraenkel 2001). Convenience sampling can be disadvantageous as the 'samples cannot be considered representative of a population' (Wallen & Fraenkel 2001, p.139). However, it was decided at the beginning that diverse types of schools would make up the samples. If similar types of schools had volunteered, the researcher would have approached other schools that indicated an interest in the research or in an integrated English and Literature programme. Fortunately, the four schools that agreed to participate were different types of schools with diverse student and teacher populations and there was no need to approach other schools.

Implications of an Embedded Case Study in Multiple Sites

It was believed that multiple site case studies best serve the research objective of assessing the effectiveness of the LDEP since the intent was to test the impact of the LDEP in naturalistic settings with few controls imposed.

A prime reason for conducting the research in multiple sites lay in the nature of the topic of the research. A research that involves a curriculum initiative is complex in many respects. There are many variables that could influence the outcome and as such, it would be very difficult to reach any conclusion regarding the effectiveness of the curriculum. Accordingly, the research was designed to include at least four schools with very different characteristics and with varying student bodies and cultures to test the experimental curriculum (Figure 3.1). It was felt that 'a finding emerging from the study of several very heterogeneous sites would be more robust' (Shofield 2000, p.80). As such, conclusions reached from the findings derived from the four schools could be more persuasive than if the experimental curriculum was tested on the students of one school.

Figure 3.1: Overview of the Research on the LDEP



Conducting the research in multiple sites also allows for multiple analyses.

'The same case study may involve *more than one unit of analysis* [italicised by Yin]. This occurs when, within a single case, attention also is given to a subunit or subunits' (Yin 1994, p.41). For instance, in the current research each school became a case study with each class becoming a sub-unit within each school. The conclusions drawn from the findings of each school were

studied in relation to the school as well as in comparison to other schools. Thus, what Yin (1994) considers as a possible problem in embedded case study design was avoided. As he expresses it, a major problem with 'an embedded design... occurs when the case study focuses only on the subunit level and fails to return to the larger unit of analysis' (Yin 1994, p.44). While the effectiveness of the LDEP was analysed in relation to each mediating variable, in the end, the researcher returned to the main research question of whether the LDEP was effective in imparting language skills in spite of the mediating variables.

In addition, mixed methods were used which led to a richer analysis. A case study is 'a unit of human activity embedded in the real world; which can only be studied or understood in context' (Gillham 2000, p.1). In order to have a full contextual understanding of the findings from the four sites or schools quantitative and qualitative data were collected. The research design employed: 1) an experimental group on which the experimental curriculum was tested, and 2) a control group which followed the usual school curriculum. The quantitative data included pre-test and post-test scores of the writing and reading comprehension skills assessments that the experimental and control groups completed. The purpose in making a comparison between the two groups was to test the effectiveness of the experimental curriculum (Neuman 2003). Qualitative data derived from interviews, field notes and observations and the quantitative data from surveys were used to further enhance the analysis on the effectiveness of the experimental LDEP. Indeed, 'the embedded case design allows for both qualitative and quantitative data and strategies of synthesis or knowledge integration' (Scholz & Tietje 2002, p.14).

Theoretical and Practical Benefits of Multiple Site Case Studies

In order to include as many mediating variables as possible (Figure 3.1, p.59), researching in multiple sites was chosen as the best option for discovering the effectiveness of the LDEP in facilitating the imparting of language skills. The theoretical and practical benefits of multiple site case studies (Pereira & Vallance 2006) are offered below.

Theoretical Benefits

There are at least six theoretical benefits of multiple case study research. The theoretical benefits include the literal replication of outcomes or theoretical replication in case of discrepancies in outcomes as well as the opportunity these sites present in testing the hypotheses in naturalistic conditions. In addition, there are more variables which allow the researcher to argue for a greater validity in the findings than if the LDEP was tested in a smaller sample of variables. Similar outcomes could also lead to the possibility of generalisations being made to other schools with similar contexts, thereby leading to a possible wider interest in the findings. These benefits are explored in greater detail below.

1. Leading to Literal or Theoretical Replication

By studying the multiple sites as individual case studies as well as a larger single case study, sub-unit analysis as well as cross-comparisons could be made. According to Yin, 'each case must be carefully selected so that it either (a) predicts similar results (a *literal replication*) or (b) produces contrasting results but for predictable reasons (a *theoretical replication*)' (1994, p.46, italicised by Yin). The diverse cases were included in the study so that if similar measured outcomes were achieved then these outcomes may be considered to be indicative of the effectiveness of the LDEP in enhancing language skills in spite of the many variables. Thus, if there is a literal replication in that the curriculum is found to be effective across the various sub-units, a 'theoretical framework... [which] later becomes the vehicle for generalizing to new cases' (Yin 1994, p.46) could be developed. This theoretical framework would include the curriculum as well as its characteristics (c.f. pp.28–30) which could form the basis for designing the LDEP in other sites or schools.

However, if there are conflicting measurable outcomes, the different variables in the diverse schools may be used to deduce the reasons for these conflicting outcomes. It may be surmised that the curriculum may be effective in some schools or classes but not in others due to some pertinent

mediating variables exerting an influence over the outcomes. The assumptions could then generate further research hypotheses and designs to evaluate the theories that arise out of the theoretical replication. Including more sites with varying characteristics in the current research, should there be no literal replication, offers a greater possibility of producing a theoretical replication.

2. Testing the curriculum in a naturalistic environment

Schools vary, students differ and so do classes. It would be difficult to reach any conclusion about a curriculum that is tested on a single school. The school culture or organisational structure may have an influence on whether the curriculum succeeds or not. The school may have high-achievers and the motivated students could be a reason why the curriculum succeeds. There could be many plausible reasons for a curriculum succeeding in one school and just as many possible reasons for failing in another. Therefore, depending on a single site or school would make the findings applicable only to that school and perhaps to schools with very similar characteristics. However, by conducting the research in multiple sites with very different characteristics the LDEP was tested in situations that included more variables, thereby emulating a wider naturalistic educational setting.

3. Leading to greater coverage or sample of potential variables

In the case of the research on the LDEP, there were many variables with regard to ability, gender, school and class cultures, and teaching styles. These variables existed within as well as across the schools studied. None of the variables were experimentally controlled and so the variability was similar to that normally encountered in the schools. Moreover, some of the variables such as the different teachers and the various protocols practised in the diverse schools appeared only during the implementation. Since the type of research was naturalistic, these variables were necessary components of the research and the many variables led to a larger sample of variables being included in the research. Additionally, in line with the nature of the current curriculum initiative project in retaining the naturalistic environments of the

schools, no attempt was made to apply a measure or metric of differences in class or school culture, and teaching style. The same two measures, the Primary School Leaving Examinations (PSLE) overall and English subject grades, which the schools use to sort student ability levels before the students enter Secondary One, were used as indicators of general and English Language abilities in the same way that the schools make use of these data.

4. Possibility of more robust findings in heterogeneous multiple cases

The LDEP that was tested among the Secondary One students in the four diverse schools was the only constant amidst many variables. If it succeeded, it would be easier to draw the conclusion that the inherent merits in the LDEP were the most likely reasons for the improvement observed in the performances of these students from the same age group.

5. Naturalistic Generalisation

A conclusion formed from an analysis of similar findings collected from the multiple site case studies consisting of the four schools may lead to a 'naturalistic generalization [italicised by Stake], derived by recognizing the similarities of objects and issues in and out of context and by sensing the natural covariations of happenings. To generalize this way is to be both intuitive and empirical' (Stake 2000, p.22). There would be a greater possibility of arriving at a naturalistic generalisation if the LDEP is found to be effective in different kinds of schools consisting of a diverse student population and teachers with varying teaching styles. The conclusions about the LDEP drawn from the outcomes may be applied to more schools with similar variables and contexts. The research may present a strong case to other schools with similar circumstances as any of these four schools to attempt the LDEP.

Generalisation of findings collected from samples of diverse population in multiple case studies pertains to contextual generalisability and not empirical or positivist generalisability. It is up to the reader to judge if the findings of the research can be generalised to his or her school in the event that the contexts

of any of the participating schools are found to be similar to his or her school (Lincoln & Guba 1985). Indeed, 'accepting generalizations (to whatever extent they may be possible) as indeterminate, relative and time- and context-bound, while not a wholly satisfying solution, is at least a feasible one' (Lincoln & Guba 2000, p.32). The conclusions derived from such analyses in the current research could be extrapolated to other schools with similar contexts, thereby benefiting a wider school population.

6. Possible wider potential interest

The naturalistic generalization could result in a wider potential interest and audience. Other schools in Singapore, and perhaps in other countries, have a wider choice from the four very different multiple case studies included in the research with which to compare their schools. The range of characteristics in the sample schools can allow other schools to locate themselves with reference to these schools.

Therefore, a curriculum initiative project that is studied in multiple sites provides a number of advantages which may substantiate the validity of the research findings and conclusions drawn from them.

Practical Benefits

Apart from the theoretical benefits, multiple site case studies offer practical benefits as well. There are three main practical benefits arising from multiple site case studies. These practical benefits are elaborated below.

1. Diversity of variables and methods of analysis leading to a greater understanding of the effectiveness of the curriculum

A curriculum that is effective in more schools involving a range of classes would have more practical benefits than one that is found to be effective in only one school or a few classes. In the current research, apart from the four diverse schools, there were seventeen experimental classes and eight control classes. Mixed methods were also utilised to analyse the data since the use of 'both qualitative and quantitative methodological tools' would allow for 'both

the subjective and objective points of view' to be included (Tashakkori & Teddlie 1998, p.26). The combined use of quantitative and qualitative data led to 'the multiple sources of evidence [which] essentially provided multiple measures of the same phenomenon' (Yin 1994, p.92). The diversity of variables from which data were collected and the use of mixed methods to analyse the data would also aid in authenticating the conclusions drawn from them (Guba 1981). Additionally, the research may generate a literal replication if similar conclusions are drawn across the units and sub-units of analysis. There may be theoretical replication if outcomes are different but these outcomes can be explained when comparisons are made between and across the units and sub-units of analysis. The diversity in variables and methods would therefore lead to a greater understanding of the effectiveness of the curriculum.

2. Presence of multiple conditions reflecting the naturalistic situation in the educational arena

In multiple site case studies, there are also varying conditions which reflect the diverse naturalistic settings in the educational arena. In the research on the LDEP, the schools, the thirteen teachers and the students in the seventeen experimental classes reflect a diversity of abilities, skills, teaching or learning preferences, motivation levels as well as school and class cultures. By testing the curriculum in these different situations, without manipulating or controlling any of the variables, any finding in relation to the effectiveness of the curriculum would be more dependable. In the research on the LDEP, it was a "take us as you find us" situation among the teachers and students in the schools. The researcher did not attempt to impose any conditions but adapted and adjusted according to the needs and requirements of the schools. For example, in one school the periods were one hour long whereas in the other schools they were either thirty or thirty-five minutes long. The lesson outline and lesson plans provided to each school were adjusted to reflect these differences in timetabling. By ensuring that the multiple conditions in the schools remained intact, the LDEP could be tested in a naturalistic educational environment.

3. A large amount of data

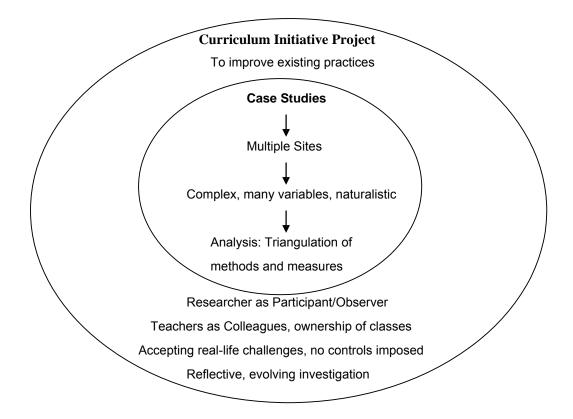
Multiple site case studies also present the researcher with a large amount of data. There are two advantages to having a large amount of data. The first advantage is that should there be a problem with a particular type of data, there are other sources on which the researcher can rely. The second benefit is that the rich sources of data permit the creation of a theoretical framework if there is literal replication. However, if there are divergent outcomes there is an increased possibility of explaining the differences in the outcomes.

These practical advantages make the argument for reliable findings more plausible.

Implications of Conducting Research on the LDEP in Multiple Sites

Figure 3.2 presents an overview of the curriculum initiative project that was conducted in multiple sites. The main characteristics of the research and the implications of conducting the research as case studies in multiple sites are displayed in Figure 3.2.

Figure 3.2: Overview of the Research on the LDEP Conducted in Multiple Sites



Implementing a curriculum initiative programme is complex in many respects. Whether it succeeds or fails may be attributable to a number of factors. In order to test the inherent merits of the curriculum, as Figure 3.2 demonstrates, the curriculum initiative project on the LDEP was conducted in multiple sites. Since the intent was to improve on existing English and Literature curricular practices, the complex school environments in the sites were left intact with no controls imposed on the schools (Figure 3.2). There was no interference with the instructional methods of the teachers or the implementation procedures of the schools. The teachers had full ownership of their classes (Figure 3.2) and assistance was only offered when requested. Teachers were regarded as fellow practitioners whose professional perceptions of the LDEP articulated during interaction and dialogue proved useful to the researcher during her reflection of the outcome of the research (Bryk, Lee & Holland 1993; McNiff & Whitehead 2002). Additionally, by including the perceptions of the teachers as data the research may prove relevant to them (Mills 2003) and their schools.

It was accepted that there would be challenges and that these were part of the naturalistic environments in which the effectiveness of the LDEP was being investigated. The investigation was also anticipated to be part of an ongoing reflective process (Brydon-Miller, Greenwood & Maguire 2003; Schoen & Schoen 2003) that may lead to further development of the LDEP (Figure 3.2). Consequently, though the intent of the current research was to discover whether the LDEP would be effective in enhancing language skills, it was also accepted that the findings may yield propositions for future improvements to the LDEP.

In investigating the effectiveness of the curriculum in naturalistic environments multiple sites of four schools with many variables were studied as cases (Figure 3.2). Case studies, and embedded case studies (Yin 1994), of heterogeneous sites could lead to more robust findings (Shofield 2000). The comprehensive exploration of the intact multi-faceted influences acting within and across the multiple site case studies on the curriculum (Stake 2000; Yin 2003) through the use of quantitative and qualitative methods of analysis

(Scholz & Tietje 2002) may also lead to a greater appreciation of the utility of the curriculum.

The Literature-Driven English Curriculum

In a curriculum initiative project in which the researcher designed the curriculum, the experience gained by the researcher working in schools in Singapore as well as in the United States proved useful in a number of areas. The ways in which this experience had been useful in developing and assessing this curriculum are offered below:

1. Drawing on past teaching experience and the literature review

In the designing of the curriculum, the researcher could draw on her experiences teaching an integrated English and Literature programme in Singapore and also as a Language Arts teacher in the United States. During these teaching experiences, the researcher was not only exposed to but taught the Literature-based English Curriculum, thereby enabling her to evaluate its advantages and disadvantages. The teaching experience also helped her in building a rapport with the teachers and students with whom she came into contact during the course of the research.

The knowledge gained during her Master of Education course in the United States also aided in the curriculum design. The modules on educational and adolescent psychology, reading and the teaching of Secondary English were particularly helpful. These modules enhanced the understanding of the researcher regarding learner needs and preferences, thereby aiding in the design and presentation of the components to be included in the curriculum to make learning interesting and accessible to the learners. Ideas for the design of the curriculum also came from a workbook the researcher wrote and published (Pereira 2003). In the workbook extracts from well-known poems, novels, short stories and essays were used to teach selected grammar concepts and writing techniques. In addition, the literature review completed for this research aided in expanding on the prior knowledge of learner

preferences and needs as well as the salient features of learning the English Language.

The teaching experience and knowledge of teaching pedagogy gained from the Master of Education course and literature review aided in the analysis of the qualitative and quantitative data collected.

2. Knowledge of Generic Practices

Knowledge of generic practices common across Singapore schools proved useful for the researcher when the curriculum was designed. For instance, she knew that in Singapore narrative writing skills are commonly taught in lower secondary classes. Accordingly, it was decided that the curriculum would focus on the teaching of narrative writing skills.

Design of the Curriculum

The designed curriculum was adapted according to the needs of individual schools as the different literature texts which the students in the selected schools used in Term 3, 2004 were utilised. (Please refer to Appendices 2a and 2b for the sample outline and lesson plans.) The teaching methods and learning approaches used in the classes were however the same. The explicit instruction materials employed at the beginning of the lessons were also the same. The differences were found in the examples used in the class assignments and in the homework since these examples came from the text that the students were using.

Once the curriculum was designed, the Head of the School of Teaching and a Senior Lecturer in Secondary English at the University of Notre Dame Australia examined the curriculum. Their feedback guided the development of the curriculum. In addition, the curriculum was also sent to the four participating schools so that feedback from practitioners could also be obtained. By soliciting feedback from the schools, the curriculum design was evaluated by the participant schools as well. The experience and expertise of the teachers in the participating schools not only ensured that there was a

greater likelihood that the curriculum would have merit but also that it would be acceptable to the schools implementing the programme.

Participants

The participating students were Secondary One students. Most of these students had completed their PSLE in 2003 and entered secondary education in January 2004. The students were from the Express and Normal (Academic) streams. These participants possessed varying language abilities though all were assumed to have basic reading and writing skills since they had passed the PSLE. Participating in the research were four schools: an all-boys', an all-girls' and two co-educational schools, thereby making the sample indicative of the general school population in Singapore with regard to school type, gender and abilities.

In these schools, the sample of students included those from:

- single-sex and co-educational schools,
- independent, government-aided and government schools (including an autonomous school),
- Express and Normal streams, and
- mixed-ability classes.

Additionally, three of the schools had separate English and Literature curricula whereas one of the schools had an integrated Literature-based English curriculum with a greater focus on Literature than the teaching of language skills.

The unit of analysis in the current research was the class. Data was also analysed based on the following: experimental and control groups; the individual schools; gender; ability based on the PSLE English grades; streams; the experimental classes in the four schools; and finally the classes of teachers who taught both experimental and control classes.

Gathering Data

There were a number of steps that were taken during the course of gathering the data. Toward the end of 2003 surveys were mailed to the 165 secondary schools in Singapore to inform schools of the research, to get their feedback on an integrated English and Literature programme and to discover if any of these schools would be interested in participating in the research. Data were collected in stages from schools that agreed to participate in the research. These stages will be described in the following section.

Preliminary Step of Locating Participants

Before the research was undertaken, permission was obtained from the Ministry of Education (MoE) to conduct a preliminary survey (c.f. Appendix 10a) during the period of October 2003 to January 2004. Six schools which expressed initial interest in the preliminary survey were contacted after the MoE gave a verbal go-ahead through the telephone in January 2004 to approach schools to ascertain if they would be interested in taking part in the research. Four schools agreed to permit their Secondary One students to participate in the research. One of the schools, School 1, required that all its Secondary One Express and Normal (Academic) classes participate in the research. Express students and Normal (Academic) students take four and five years respectively to complete their secondary education. The three other schools were willing to have some classes participate as control classes and others as experimental classes (Table 3.1). Table 3.1 displays the four schools and information about participant classes and teachers in the schools.

Table 3.1: Participating Schools and Classes and Teachers in each school

| Schools | Туре | Stream | Experimental | | Control | |
|---------|--|----------------------------------|--------------|----------|---------|----------|
| Schools | | | Classes | Teachers | Classes | Teachers |
| 1 | Co-educational; Government, Autonomous | Express; Normal (Academic) | 7; 1* | 6 | 0 | 0 |
| 2 | Boys'; Independent | Express | 3 | 1 | 3 | 1 |
| 3 | Girls'; Government- aided | Express | 3 | 3 | 2 | 2 |
| 4 | Co-educational; Government | Express | 2 | 3 | 3 | 3 |

^{*}Originally there were 2 Normal (Academic) classes, but one had to be excluded from analysis due to discrepancies in some of the data collected from the class.

Phases of Gathering Data

The data collection occurred over five main stages. In the preliminary stage, surveys were mailed out from Australia to schools in Singapore (c.f. p.71). During the early part of the first stage, the researcher was in Singapore and was able to approach the schools that indicated an interest in participating in the research. Work on designing the curriculum was started in Australia during the remaining part of the second stage and contact with schools was maintained through email. During the third to fifth stages, the researcher was in Singapore, visiting schools and collecting data.

1st Stage: During the first stage, six schools were approached and four schools indicated an interest to participate. A fifth school expressed its interest through email. Outlines of the curriculum were created and sent to the schools in April (please refer to Appendix 2a for the sample outline). Five schools agreed to participate in the research. One school withdrew from the project in July, leaving four schools which eventually participated in the research. Approvals to conduct the field research in Singapore were also obtained from the Ministry of Education in Singapore and the Ethics Committee of The University of Notre Dame (c.f. Appendices 10b and 10c).

2nd Stage: In the second stage, during the school holidays, between the end of May and June 2004, the researcher visited the four schools to give the teachers an overview of the research and to brief the teachers on the curriculum. In one of the schools, the researcher was able to meet with only the Literature teachers. In this one school, another meeting was held in July, when school reopened, so that both the English and Literature teachers could be briefed about the programme. Lesson plans were also distributed to all the teachers in the schools before the programme was implemented in the schools (please refer to Appendix 2b for the sample lesson plans). Initially, it was planned that a workshop on the LDEP would be held for the teachers who would be teaching under the programme. Due to time constraints a workshop could not be held; however, teachers were encouraged to contact the researcher should they need assistance with the teaching of the

programme. The teachers were provided with the email address of the researcher and the coordinators were also given the mobile phone number of the researcher.

3rd Stage: In the third stage, immediately before the implementation of the programme, the students in the experimental and control classes completed the pre-tests (c.f. Appendices 3a and 3b) to assess their writing and reading comprehension skills. The test scores were used for the quantitative analysis of the writing and reading comprehension skills of the students at the beginning of the programme. At this time, the teachers who had agreed to teach the proposed curriculum were also interviewed about the existing English and Literature programmes in their schools (please refer to the semi-structured interview schedule in Appendix 6a). Data from the interviews formed part of the qualitative data.

4th Stage: During the fourth stage, the teachers of the experimental classes taught the proposed curriculum during Term 3, 2004. Since the Head of the English Department of School 1 requested that all the Secondary One students in the Express and Normal (Academic) streams in the school be taught the proposed curriculum so as to 'level the playing field', groups of classes of students in School 1 were taught under the experimental LDEP in phases. Table 3.2 demonstrates how the students in School 1 were taught in phases. In the first phase, 5 classes (Group 1) were taught the experimental curriculum while the remaining four classes (Group 2) were taught the usual curriculum. During the second phase Group 1 was taught the usual curriculum and Group 2 was taught the experimental curriculum (Table 3.2).

Table 3.2: Implementation of LDEP in School 1

| Term 3 | Group 1 (5 classes) | Group 2 (4 classes) | |
|----------------|--|------------------------------------|---------|
| Weeks 1 – 5 | Pre-test (Writing & Reading) Teach Experimental LDEP Post-test | Teach Usual Curriculum Pre-test | Phase 1 |
| Weeks 5 – 9 | Teach Usual Curriculum | Teach Experimental LDEP Post-test | Phase 2 |

The programme ran for five to six weeks in each of the experimental classes in which it was implemented. There were two reasons for the variation in the number of weeks. There were differences in the number of hours that each school devoted to the teaching of English and Literature in a week. In some schools, lessons were disrupted by internal school or academic events.

During the implementation of the curriculum in the seventeen experimental classes, each of the classes was observed by the researcher twice over a period of five to six weeks (please refer to Appendix 9 for the semi-structured observation schedule). In addition, the teachers were also asked to keep log book entries regarding any noteworthy observable changes in motivation or skill level of the students.

5th **Stage**: At the conclusion of the programme, the students in the experimental and control classes were assessed on their writing and reading comprehension skills through post-tests (c.f. Appendices 4a and 4b). The teachers of the experimental classes were again interviewed for their feedback on the programme (please refer to the semi-structured interview schedule in Appendix 6b).

A small group of about seven students from each of the seventeen classes were also interviewed so as to give students the opportunity to provide feedback about the programme (please refer to Appendix 7 for the semi-structured small group interview schedule). It is important to allow students who would be most affected by a curriculum initiative the opportunity to voice their opinions because 'listening to children provides clues as to what they as consumers value and are willing to engage with' (Holden 2002). All the students in the seventeen experimental classes were also given survey questionnaires to complete (c.f. Appendix 8).

A request was also made to the schools to have access to the Primary School Leaving Examination (PSLE) English grades of the students. All the schools obliged and provided the researcher with the required information.

Sources and Kinds of Collected Data

The collected data were quantitative and qualitative in nature. Table 3.3 displays the sources and types of the quantitative and qualitative data collected.

Table 3.3: Sources and Kinds of Collected Data

| From teachers | Quantitative | Qualitative | Total No. of Teachers |
|-------------------------|--------------|----------------------------|-----------------------------|
| Before implementation | | Semi-structured Interviews | 12 |
| During implementation | | Log Books | 6 |
| Toward end of Programme | | Semi-structured Interviews | 11 |

| From students | Quantitative | Qualitative | Total No. of classes | Total No. of Students |
|-----------------|--|--|----------------------|---|
| Historical data | PSLE English Grades | | 25 | 964 |
| Pre-test | Writing (Story starters); Reading Comprehension | | 25 | Writing*: Pre – 950 Reading*: Pre – 951 |
| Post-test | Writing (Story starters); Reading Comprehension | | 25 | Writing: Post – 944 Reading: Post – 955 |
| Exit Survey | Content analysis | | 17 | 604 |
| Small Groups | | Semi-structured Interviews | 17 | 119 |
| From classes | | Semi-structured Observations (twice) | 17 X 2 | _ |

^{*}Only paired pre-test and post-test results were analysed. Results of students who sat for only one of the tests, either the pre-test or post-test, were excluded from the quantitative analysis.

The field notes of the researcher were also used to inform the analysis of the qualitative data. In addition, some of the responses from 21 schools that responded to a preliminary survey (c.f. Appendix 1a) were used to gather quantitative and qualitative data.

The qualitative data from the teachers consisted of the interviews conducted before the implementation and at the conclusion of the LDEP. Log book

entries of any observable learning experiences that they had noted in their students were also examined. The qualitative data from the students included the small group interviews. About seven students from each class formed the small group. Composition of the small group was left to the teachers. Most of the teachers selected the students based on academic performance to ensure that each group was made up of students of various abilities. The qualitative data also included field notes and semi-structured observations of the 17 classes (c.f. Appendix 9) which were designed to gather contextual rather than explanatory data. The analysis of the qualitative data was used to enhance the findings and conclusions derived from the quantitative data.

The quantitative data consisted of the results of the writing skills and reading comprehension pre-test and post-test, exit survey findings and PSLE English grades. The writing and reading comprehension skills tests were uniform pretests and post-tests that students in the experimental and control groups completed before the implementation of the programme and at the end of the programme. The writing skills tests (c.f. Appendices 3b and 4b) comprised story starters from which the students were expected to create their own narratives. The reading comprehension tests consisted of passages which were extracts taken from the same book of fiction. At the end of each passage, the students were to complete a cloze passage to display their comprehension of the passages (c.f. Appendices 3a and 4a). In addition, requests were made to the schools to have access to the PSLE English grades of the students and the schools obliged. The exit surveys (c.f. Appendix 8) that the students from the seventeen experimental classes completed at the conclusion of the programme made up the final part of the quantitative data. The quantitative data were analysed to determine if the students displayed any improvement in writing and reading comprehension skills.

Answering the Research Questions with the Collected Data

The data collected were used to answer the major research question as well as the sub-questions. Table 3.4 links the data with the research questions that were answered through the analysis of the data.

Table 3.4: Research Questions and the Data used to answer those Questions

| Research Questions | Data |
|--|--|
| Major: Does an integrated English Language and Literature curriculum enhance the English Language skills of the students? | Conclusions drawn from sub-questions 1 to 5 |
| Sub 1: Are the students able to write more effective narratives if they use a given literature text as a model of a good narrative? | Pre-test and Post-test Scores Interviews (Teachers and Students) Surveys |
| Sub 2: Do students become more effective writers if they are taught contextually rather than in "bits and pieces"? | Interviews (Teachers and Students) |
| Sub 3: Are students able to produce a more grammatically accurate piece of writing if they are taught in context through a Literature text? | Pre-test and Post-test Scores Interviews (Teachers and Students) Surveys |
| Sub 4: Are students able to comprehend better if they are taught comprehension skills in context through a Literature text? | Pre-test and Post-test Scores |
| Sub 5: Are students better able to critically analyse a Literature text if, in addition to content, they analyse the language of the text as well? | Interviews (Teachers) Surveys |

The pre-test and post-test scores and the exit surveys from the students were used to answer the sub-questions 1 and 3 pertaining to whether the students wrote more effective and grammatically accurate narratives when the literature text was employed as a tool (Table 3.4). The qualitative data from the interviews with the teachers and students were also used to answer these sub-questions, 1 and 3. Sub-question 2 regarding the correlation between contextual teaching and improvement in writing was answered through the use of the qualitative data derived from interviews with teachers and students. Sub-question 4 dealt with whether the students comprehended better through utilising the literature text as a tool and this question was answered through the pre-test and post-test scores. The data from the interviews with teachers and the surveys were used to discover the answer to sub-question 5, namely whether the students improved in the literary analysis of the text (Table 3.4). The conclusions drawn from sub-questions were used to inform the analysis of the overarching major research question of whether an integrated Literature and English Programme was effective in improving language skills (Table

3.4). The manner in which these questions were answered by the different kinds of data is found in the concluding chapter, Chapter 7.

Data Analysis

In this section, the manner in which the data from the research was analysed so as to ensure the reliability and validity of the conclusions drawn from them is examined.

In the current research, data triangulation and methodological triangulation were utilized (Denzin 1978). The different types of data from various sources were analysed through quantitative and qualitative approaches to answer the research questions. The use of both qualitative and quantitative methods and data to examine the major and subsidiary research questions would allow for the cross-checking of the data (Guba 1981). The findings and conclusions drawn from these findings would be more reliable as they can cross-checked for consistency (Burnaford 2001; Wallen & Fraenkel 2001).

Quantitative Data Analysis

The quantitative data included the analysis of pre-test and post-test scores and the surveys. The surveys comprised the preliminary survey that was sent to 165 secondary schools in Singapore and the exit survey that the students in the experimental group completed at the end of the implementation of the LDEP.

Pre-test and Post-test Scores

The test scores were used for the quantitative analysis of the writing and reading comprehension skills of the students at the conclusion of the programme. During the quantitative data analysis, the PSLE English grades of the students aided in ascertaining the skill levels of the participants. Once the levels of language competency of the students were ascertained, it became possible to make cross-comparisons of the pre-test and post-test results of the students within each school, between schools and between

students in the experimental and control groups. In marking the tests and computing the scores from the pre-test and post-test, standard marking procedures were followed. There was a marking scheme for the writing skills tests (c.f. Appendix 5a) and lists of acceptable and unacceptable answers were created for the pre-test and post-test reading comprehension (c.f. Appendix 5b). When analysing the results of each of the writing and reading comprehension tests, the pre-test and post-test scores of each student were paired. Since the improvement scores of the individual students were the focus of the analysis, the likelihood of variations between and among students affecting the findings was greatly diminished. In addition, the scores that the researcher awarded were cross-checked with the marks that the teachers from the schools awarded for the random sets of papers they assessed. These steps were taken to ensure that a valid comparison could be made as to whether there was an appreciable increase in the level of competency displayed by the students in different groups at the conclusion of the implementation of the LDEP.

Surveys

With regard to the preliminary and exit surveys, content analyses of the responses reduced the themes derived from the responses to categories. In the preliminary survey, the schools commented on whether they had an integrated English and Literature Programme and the degree of integration of the existing English and Literature Programmes of the schools and the components taught within the English Language. These components included Comprehension, Composition, Vocabulary, Grammar and Oral Communication. The survey was also used to ascertain how the English Departments in the schools viewed an integrated English and Literature Programme. In the exit surveys the students in the experimental group were asked to comment on their usual curriculum and the LDEP. They were also asked if they had grasped any of the six grammatical concepts taught during the programme and if in their opinion they had improved in their writing and analytical skills. The data from the surveys were used in the quantitative analysis of the perceptions of the students about the LDEP and its usefulness.

The responses from the preliminary and exit surveys were coded through the use of manifest content analysis through which surface meanings were sought (Wilkinson & Birmingham 2003). For questions which required short 'yes', 'no' or straight-forward answers such as the type of books the students preferred reading, 'simple frequency counts of identified words or terms' (Wilkinson & Birmingham 2003, p.69) were performed. Similarly, in relation to the responses to open-ended questions such as why they did or did not like the LDEP, frequencies of identified terms were computed. Microsoft Excel XP™ and SPSS™ version 12 were used to analyse the quantitative data.

Reliability of Quantitative Data Analysis

To ensure the reliability of the data analysis, the tests were also assessed by one person, the researcher, and scores were recorded only after all the papers were assessed. An additional precaution taken to ensure reliability was to have some of the papers, selected at random, assessed by the teachers participating in the research. The scores awarded by the teachers and the researcher for the same papers were cross-checked to see if they were the same. In the survey results, where students gave ambiguous responses, these were excluded. At the same time, survey results of one class were excluded when they were deemed unreliable because of discrepancies between the PSLE scores that some of the students reported and information provided by the school. Additionally, the test scores of this class were excluded from analysis. In order not to jeopardise the reliability of the other findings the ambiguous data and data from the one class were excluded. Whenever there was a discrepancy that would affect the reliability of the data to be analysed, the data were excluded.

The steps taken to ensure the reliability of the data, it was felt, would help to make the conclusions drawn from the quantitative findings more defensible.

Validity of Quantitative Data Analysis

Uniform writing and reading comprehension pre-tests and post-tests were completed by students in the experimental and control groups in all the four

schools. Additionally, paired pre-test and post-test results were analysed so that the improvement scores of individual students could be computed. The use of uniform tests and the analysis of paired test scores enhanced the validity of the test instruments and analysis. There is a greater likelihood of these test instruments and mode of analysis generating a more accurate measure of the improvement or lack of improvement achieved by individual students in the narrative writing and reading comprehension skills. There is also a greater chance that the comparisons made within and between subgroups, comprising of experimental and control groups, school, gender, ability and stream would be more valid since the comparisons would be based on the same instrumentation.

Qualitative Data Analysis

In relation to qualitative data analysis, to ensure the reliability and validity of the analysis, the mode of analysis adopted included a triangulation of measures. The audio recordings of interviews with teachers and small groups of students were transcribed and examined through the aid of QSR Nud*ist version 6 (N6) (Richards 2002). Additionally through conceptual analysis, themes or issues were identified from the data in the observation of classes, field notes and the log book entries of the teachers (Wilkinson & Birmingham 2003). These analyses were used to gain insight into the perceptions of the teachers and students about the LDEP and whether they felt that learning was taking place under the programme. At the same time, the qualitative data were also examined to discover if the students found the lessons conducted during the programme enjoyable. The qualitative data aided in enhancing the quantitative findings.

<u>Interviews</u>

The preliminary and concluding interviews conducted with the teachers were transcribed verbatim. In the preliminary interviews (c.f. Appendix 6a) the participating teachers were asked to comment on: the existing programmes of their schools; the language abilities and reading preferences of their students; an integrated English and Literature programme; their fears or hopes in

relation to the LDEP. In the concluding interviews conducted with the teachers (c.f. Appendix 6b), they were asked to comment on whether: they had noticed any learning taking place in the classes during the programme; they had observed any difficulties that the students encountered when learning under the new programme; they would like to continue teaching under the programme; and whether they would recommend the programme to other English and Literature teachers.

During the small group interviews, the students were asked if they noticed any differences between the English and Literature programmes that they had before the implementation of the programme and the LDEP. They were then asked to elaborate on any lessons during the LDEP that they did not enjoy and any lessons that they enjoyed. Their perception of whether they felt any learning had taken place was also solicited before they were asked to conclude with whether they would recommend the programme or not. The interviews were summarised and informative sections selectively transcribed to fairly report the sense of the student perceptions. The data from the interviews were used for the qualitative analysis of the feedback gained from the teachers and students on the effectiveness and weaknesses of the LDEP.

Observation and Field Notes

The data from the observation and log book entries were used for the qualitative analysis of the progress of the curriculum in the individual classes. During the participant observation, the main objective was to 'document the behaviours and interaction patterns as they occur[red] in the "natural settings" (Tashakkori & Teddlie 1998, p.106) so as to evaluate the progress of the LDEP in the classes. The log book entries from the teachers allowed the researcher to obtain feedback from the observations of the teachers of their classes as they taught the lessons under the LDEP. Field notes further enhanced the qualitative analysis in the current research.

In the qualitative analysis, coding through the use of themes was developed by the researcher to accommodate the requirements of the study on the effectiveness of the LDEP (Brown, Cozby, Kee & Worden 1999). Relational analysis of the qualitative data was performed 'by identifying themes or issues to explore' (Wilkinson & Birmingham 2003, p.77). These themes were coded according to the pertinent research question. Themes were collected in groups that might lead to a greater understanding of the utility of the LDEP. These codes concentrated on extracting the nuances found in the text, whether in what was said during the interviews or in what was observed (Berelson 1971).

Reliability of Qualitative Data Analysis

To ensure the reliability of the qualitative data a number of steps were adopted. Semi-structured interview schedules were used in the interviews to permit 'sufficient flexibility to allow the interviewee an opportunity to shape the flow of the information' (Wilkinson & Birmingham 2003, p.45). Teachers and students were able to include matters or topics that the researcher had not considered but which were relevant to the study. During the interviews, teachers and students were also encouraged to elaborate on adverse comments made about the LDEP so that a multi-dimensional picture of the research could be gained. Additionally, when feedback received from teachers was ambiguous, the researcher went back to the teachers to obtain clarification. The interviews were also transcribed carefully by cross-checking the typed transcripts with the audio recordings of the interviews to ensure that the actual intended meanings of the interviewees were conveyed.

There is a greater likelihood that the steps taken to ensure the reliability of the qualitative data would generate more credible qualitative findings.

Validity of Qualitative Data Analysis

To ensure validity of the qualitative data analysis literal data from interviews are included to substantiate the qualitative findings. Pertinent information from the observation and field notes was shared with the teachers during informal meetings and during interviews so as to gain the perspective of the

teachers as well. The cross-checking of information with the teachers may increase the validity of the data gained from the observation and field notes.

Usefulness of the Research

The context of the research is Singapore where the field research on the effectiveness of the LDEP was conducted. The sampling consisted of diverse schools and classes and this diverse sampling may lead to a greater degree of applicability to the general student population in Singapore. The 165 secondary schools in Singapore comprise co-educational schools as well as twelve boys' schools and fifteen girls' schools (Ministry of Education Singapore 2003a). The inclusion of a boys' and a girls' schools along with two co-educational schools in the sample suggests that the findings may be applicable to a wide range of schools. The selected students were also Secondary One students of varying language abilities, and two of the classes were Normal (Academic) classes. Again, this would make the findings applicable to a wider school population as most Singaporean students are either in the Special/Express or Normal (Academic) streams (Ministry of Education Singapore 2003a).

Teachers from the selected schools were asked to teach the experimental curriculum while the researcher observed the classes. Only on a couple of occasions, at the request of the teachers, in two schools did the researcher model how the lessons might be taught. By requesting that the teachers teach their usual classes important mediating variables, the different personalities and modes of teaching of the teachers, could be included when the effectiveness of the LDEP was analysed. In the same way, the use of different literary texts and the differing abilities of the students were also viewed as important mediating variables. However, the curriculum was consistent with regard to the skills taught and mode of instruction, thereby, making it, the curriculum, the independent variable.

By not imposing controls on the mediating variables, the effectiveness of the LDEP in diverse naturalistic environments could be assessed. Indeed, if any

of the variables had been controlled, and even if the curriculum succeeded in certain quarters, it would not be assured of success in other schools where variables would not be controlled. Given the large number of variables that exist within a school and between schools, the best chance of seeing if any curriculum would succeed was to test it in environments that are left as naturalistic as possible.

In assessing the LDEP measures were taken to ensure the validity and reliability of the quantitative and qualitative findings. The use of uniform tests and through assessing the difference in performance of individual students at the conclusion of the implementation of the LDEP through paired test analysis increased the validity of the quantitative research findings. The inclusion of interview data, quoted verbatim, enhanced the validity of the qualitative findings. Steps taken to ensure reliability included having teachers mark randomly selected test papers so as to cross-check the scores awarded by the teachers and the researcher. Unreliable data were excluded and semistructured interview schedules were utilised so that there was flexibility for the teachers to articulate their opinions and perceptions about the LDEP as fully as possible. Additionally, transcriptions of the interviews were cross-checked for accuracy. Triangulation of methods and measures also increased the likelihood that the findings were reliable. By taking measures to ensure the reliability and validity of the quantitative and qualitative findings there is a greater possibility that the research would prove useful to schools since the findings would be defensible.

Here it must also be acknowledged that the researcher was aware of the limitations of multiple site case studies. There were theoretical as well as practical limitations. Among the theoretical challenges, there was the problem of reconciling the differences and conflicts in the pertinent variables. Deciding on the meaningfulness of the variables was another limitation. Moreover, there was also the difficulty of explaining the discrepancies in the outcomes. The practical challenges included coping with the limited human and other resources and time at the disposal of the researcher and analysing a large

amount of quantitative and qualitative data. The theoretical and practical limitations are covered in greater detail in Chapter 7, pp.260–265.

Ethical Issues and Modes of Addressing Them

Before, during and after the conduct of the research, ethical issues surrounding the implementation of a curriculum initiative project in schools were carefully considered. The researcher was aware of differences between the Australian and Singaporean practices of ethics in school research and it was decided that the local customs and requirements would be followed. These arrangements were acceptable to the University of Notre Dame Australia (UNDA) Ethics Committee.

Ethics approval and permission to conduct research in Singapore were sought from the Ethics Committee of the UNDA and the MoE in Singapore. Both the ethics approval and permission to conduct research in Singapore were granted by the Ethics Committee of UNDA and the MoE toward the end of March 2004 (c.f. Appendices 10c and 10b).

In conducting the research, the laws and guidelines to which the MoE required adherence were followed (NHMRC n.d., § 1.21). In addition, a number of principles that are detailed below were considered to ensure that the research was carried out in an ethical manner. These principles are based on the holistic ethics model advocated by Vallance (2005).

Respect for Persons, Justice and Beneficence

In the course of the conduct of the research, the researcher was aware of her responsibility to the stakeholders and participants of the research, namely the schools, teachers and students. Thus, steps were taken to minimise any adverse effects or inconvenience and to ensure that proper and adequate information was given to all the stakeholders. The steps taken to ensure that the research was conducted in a responsible manner are offered below.

1. Responsibility to the Participants and their Parents

The interests of the participants took precedence over all other interests (NHMRC n.d., § 1.4). In order to ensure that the interests of the participants were safe-guarded and any ill-effects minimised (NHMRC n.d., § 4.3), the LDEP was carefully designed, evaluated by independent assessors and also given to participating schools beforehand to get their feedback. In addition, to minimise any inconvenience or detrimental effects that might occur due to the experimentation (Dockrell 1990) the research was conducted for a short period of between five and six weeks.

In adhering to Singapore customs and MoE ethical requirements, which were met, the option of informing the parents of the student participants were left to the school principals. Accordingly, in most cases the teachers gave the students a brief overview of the research. In one school, at the request of the school, letters outlining the purpose and nature of the research were sent to the parents of the students in the experimental classes. Moreover, if the participants were aware that they were part of a research study, being young they might react differently. There was 'no moral obligation to give subjects more information than they need to act in their long-run best interests' (Rivlin & Timpane 1975, p.107). Therefore, student participants were only given an exit survey to complete and the small group interviews of students were held at the conclusion of the LDEP. Before commencing the small group interviews, students were also assured that their names would not appear in any published reports or forum. Likewise, the students were not required to include their names in the surveys they completed. In the findings, as recommended by Leedy and Ormrod (2001), the researcher used code numbers and letters of the alphabet in place of the names of the participants and schools that took part in the research. Hence, the schools, teachers and students were not identified.

Since the researcher was given access to the PSLE English grades of the participants as well as other information pertaining to academic performance,

all information so obtained and the findings were kept anonymous so as to safeguard the interests and privacy of the participants (NHMRC n.d., § 1.19).

2. Responsibility to the Schools

To ensure that the schools' time was not wasted or that the students suffered no adverse effects from an ill-designed curriculum, the researcher reviewed literature on the topic. She also sought feedback from practitioners so as to guarantee that the curriculum was of a high quality.

The curriculum was also sent to the schools beforehand. The intent was to seek and gain the approval and permission of the principals and the teachers of the schools which had agreed to participate in the research (Gay & Airasian 2003). Only when the schools were satisfied with the outlines and lesson plans was the curriculum implemented in the four schools. In fact, in a fifth school the teacher felt that the LDEP would be unsuitable for her students after lesson plans were given and a few lessons were conducted. The school had the prerogative to withdraw from the research; the school withdrew and data collected from that school were excluded.

The researcher also gave the school administration and its teachers an overview of the research project. The researcher outlined the objectives, purpose, procedures, and expectations. The researcher, in addition, assured the teachers of her full cooperation to minimize inconvenience. Thus, the teachers in the schools were encouraged to voice their expectations and anxieties. They were also informed that they could contact the researcher at any point for assistance should they need it. To this end, full contact details of the researcher, both in Australia and in Singapore, and those of the research supervisor were communicated to all participants. These contact details included postal addresses, email, telephone and fax particulars. Additionally, to minimise any unequal balance of power between researcher and the practitioner, the researcher maintained a low profile throughout the implementation of the LDEP.

Furthermore, the researcher conducted the research for a short period of about five to six weeks so that the schools or students were not unnecessarily inconvenienced by the research. This relatively short period of time drastically constrained the scope of the trial curriculum, and this constraint was accepted in order to minimise possible loss of teaching time. The research was also done in phases so that no great burden was placed on the schools or participants. The preliminary survey of 165 schools was completed at least five months before the initial research, and the in-class research was conducted immediately after the June holidays in Term 3 and it ended in Term 3, well ahead of the final exams at the end of Term 4. In completing the research in phases, it was hoped that the schools and students would not find the research a burden and an impediment to their learning objectives. Additionally, the participants targeted for this research were Secondary One students who were not sitting for any major exams that year.

The researcher assured the schools that the names of the schools or the teachers would not be revealed in any published reports or forums. The researcher also notified the schools that the findings might be published in academic journals. Additionally, the schools were informed that at the conclusion of the research, the researcher would share the research findings with the schools so that the research would be of benefit to the schools as well. The research findings were included in a preliminary report and sent to the individual schools along with the data and outcomes of the research on the respective schools.

Research Merit and Precautions

To ensure the research has merit, the researcher will share the findings with the MoE since the researcher has an obligation to the larger student population as well. The findings will also be published in academic journals so as to benefit a larger community. In this way, the research will be beneficial to more school systems and schools.

In order to maintain the integrity of the research, the researcher will maintain ownership over the collected data and analysis of the data.

Ethical Review and Conduct of Research

During the course of the research, steps were also taken to ensure that the literature was reviewed ethically. In addition, the research topic and questions as well as the methods employed during the course of the research were examined to ensure that they were ethically sound.

1. The Responsible Review of Literature

Literature was reviewed with the intent to find out more about the research area of focus so as to gain a greater understanding of the problems associated with it. Thus, the literature review was carried out responsibly such that no particular view was sought in preference to another. The intention was to access available relevant knowledge that could aid in the discovery of a solution to the research problem rather than to buttress any preconceived notions held by the researcher.

2. The Responsible Conduct of the Research

First, the research topic was seriously considered and opinions of others sought to ensure that the research questions generated were 'important to the... wellbeing of children' (NHMRC n.d., § 4.1a). The findings from the preliminary survey (c.f. Appendix 1c) revealed that many teachers had considered the topic and were interested in research on it. In addition, the questions were carefully designed so as to ensure that they were not frivolous but rather, focused on existing problems that needed to be addressed. The predominating intention was to seek real solutions to genuine problems. Thus, literature was reviewed to assess the needs of the student population with regard to the teaching of English and to ensure that the research was 'justifiable in terms of its potential contribution to knowledge' (NHMRC n.d., § 1.13).

Since this is a curriculum initiative project with possible repercussions on the learning of the participants, great care was taken when employing the methods. The researcher made sure that the study done and the method chosen were appropriate for the age group (NHMRC n.d., § 4.1c). Thus, the methods employed in the research were carefully considered and implemented in such a way that neither the participating schools nor the students experienced any inconvenience or harm. Adjustments were made to accommodate the needs and requirements of the schools during the implementation of the programme.

Any 'extraneous variables that operate[d] during the study' were carefully considered and measures taken so as to make sure that, as far as possible, they did not 'affect the internal validity' (Borg 1981, p.178) of the research. For example, in Term 3 there were public holidays and school functions which affected the programme. Thus, instead of shortening the programme to adhere to the planned schedule, the programme was extended so that all the lessons could be executed.

The diverse participants were included with the intention of maximising the generalizability of the data to be gathered so that the sample population would be representative of the general student population of that age group. Therefore, no one group of students, whether based on gender, race or language ability, was targeted in preference to any other or excluded (NHMRC n.d., § 1.5).

In gathering data, care was again taken to ensure that appropriate types of data were targeted and that the origin of the sources would serve the research purpose. The data sought were linked to the research questions so that these questions were answered.

The Ethical Development and Use of Instruments

Care was also taken to ensure that due ethical consideration was given during the conception, development and use of the research instruments. In

deciding on the types of research instruments and in developing them, their usefulness in meeting the objectives of the research was first established. The impact that the instruments would have on the participants of the research was also considered. Finally, steps were taken to ensure that the instruments were employed in an ethical manner.

The Responsible Development and Use of Research Instruments

The ethical considerations that went into the development and utilisation of research instruments such as letters of introduction, letters to parents, lesson plans, the literature resources used and the particulars regarding the programme are covered in pp.87–91.

Due consideration was given to the survey and interview questions to ensure that they minimised 'anxiety or discomfort' and the researcher also accepted that she had to be 'responsible for protecting the confidentiality of data' collected (Neuman 2003, p. 302). Uniform pre-tests and post-tests were used in the four schools so as to increase the validity of the conclusions reached from the cross-comparisons within and between schools. In the final analysis of the test scores, only group computations were analysed and reported.

Interviews were audio-recorded with the written consent of the participants. The field notes and audio-recordings of interviews will be safe-guarded by the researcher and they will not be shown to the schools or individual students. As mentioned, individual names related to the data will not be published in any form (c.f. p.89).

The Ethical Collection of Data

Steps were also taken to ensure that the data were collected in a responsible manner.

The Responsible Collection of Data

With regard to the field data, in-depth notes were made during the observations, trips made to the schools and informal conversations held with

the teachers so that the data collected would be worthy of analysis (Neuman 2003).

Although the uniform pre-test and post-test included writing prompts which are considered more subjective than short-response tests (Borg 1981), steps were taken to standardise the marking criteria by relying on rubrics that have already been used in standardised writing assessments. The rubrics for the writing test were adapted from the ISAT Writing Sample Book of the Illinois State Board of Education (Illinois State Board of Education 2002). With regard to the reading comprehension tests, sets of acceptable and nonacceptable answers were created. Preliminary sets of answers were first compiled. Then, a small sub-sample of scripts from different schools was marked. Adjustments were made to the sets of acceptable and nonacceptable answers after the marking. Finally, these scripts and the other scripts were re-marked in line with the revised sets of acceptable and nonacceptable answers. Teachers who taught the experimental group of classes also had access to the marking schemes and could provide feedback. There was a brief discussion on the sets of answers with teachers from one school to ensure teacher validation of the marking schemes.

The tests were marked strictly according to the rubrics for the writing assessment (c.f. Appendix 5a) and the list of acceptable and non-acceptable answers for the reading comprehension tests (c.f. Appendix 5b). In addition, there were independent markers to ensure stability of marking schemes and to guard against the use of shoddy tests, which would produce no reliable or valid answers (Walker & Burnhill 1988). These measures were taken to ensure that the tests and marking were as reliable as possible.

The Ethical Analysis of Data

The analysis of the data was also ethically carried out so that the conclusions derived from the analysis would be valid.

The Responsible Analysis of Data

The quantitative data were analysed using computer software SPSSTM and Microsoft ExcelTM. Although this may, to a certain extent, reduce human error since the machine performed the computations, there may yet be possibilities of human errors occurring due to the incorrect input of data entries or due to technical faults. To safeguard against such human errors taking place, 'hand analysis of a small sub-sample' was carried out to verify the computerised analysis (Isaac & Michael 1990, p.40). The data were also meticulously studied repeatedly to ensure that full justice was done to the analysis of the data. The researcher also took appropriate measures so as to not be 'misled by statistics' by disregarding or concealing them (Neuman 2003, p.361). Likewise, qualitative data from interviews with the teachers, which were coded with the help of N6, were validated through the use of 'member validation' (Neuman 2003, p.389). In informal meetings with teachers, further comments and clarifications were solicited.

Triangulation of methods and measures were used as well to verify the data collected and to ensure that the data were, as far as was possible, reliable. In addition, when analysing the data, steps were taken so that no attempt was made 'to fabricate data in order to substantiate a personal belief or value' (Mills 2003, p.93). These steps included the accurate transcribing of interview and field notes as well as triangulation of methods and measures and the use of independent markers, so that any discrepancy in data would be immediately evident. The data were analysed with the greatest accuracy and precision and the outcomes of the analyses have been faithfully reported.

The Ethical Reporting and Use of Results

In the dissemination of the research findings, every attempt will be made to act in a responsible manner so that the findings will be beneficial to the participating schools, the Singapore school system in general and others who may be interested in the research.

The Ethical Dissemination of Data

The data will be made public by the researcher. The researcher will disseminate the findings by publishing them in academic journals and at the end of 2005 the Ministry of Education, Singapore and the participating schools were presented with copies of a preliminary report of the findings. Thus, the findings will be open to 'scrutiny and contribute to public knowledge' (NHMRC n.d., § 1.18).

Conclusion

In the current research that involved a curriculum initiative project, multiple site case studies were considered the best option to discover the effectiveness of the curriculum. The great number of variables within and across schools presented the researcher with the opportunity to test the curriculum in naturalistic conditions. The greater the number of variables, the more opportunities there are in bringing about either a literal or theoretical replication (Yin 1994) as well as wider applicability. As such, the research was conducted in four diverse schools with varied student bodies.

In the design of the research on the LDEP, the teaching and educational experiences of the researcher as well as the literature review proved useful. They aided in the design of the curriculum and during the field work in the schools. Independent evaluators examined the curriculum before it was implemented in schools.

Different kinds of quantitative and qualitative data were collected so that through a triangulation of measures, the findings would be more reliable, thereby increasing the probability of arriving at valid conclusions. Such data came from pre-test and post-test scores, surveys, interviews, field notes, log book entries and observations. These data were linked to the research questions because the data were used to answer the major research question and sub-questions.

The data were analysed with safeguards in place to ensure that the analysis was reliable. The uniform tests were marked using pre-determined rubrics and answer schemes. Some of the papers were marked by teachers from the four schools and the marks were cross-checked against those awarded by the researcher for the same papers. The interviews were transcribed to get at the meaning of the comments made by interviewees.

A research project that is well-designed and ethically conducted and analysed is one that could be beneficial to all the parties concerned, namely the researcher, the participants, the stakeholders and the community at large. It would lead to a 'win-win relationship' (Sieber 1992, pp.3-4) with the research benefiting all the parties involved in the research. Therefore, by carefully considering methodological implications pertaining to the design, conduct and ethical issues, and by taking steps to address any problems, the researcher intended to act in a socially responsible manner that would lead to the addition to pre-existing knowledge as well as possibly inspire a utilitarian change. Thus, through the careful design of the research, methodical collection of data, systemised analysis of the data, and generally ethical conduct of the research, it is hoped that the research will be of value to the participating schools and students and also to the larger community.

In the next chapter, Chapter 4, the quantitative findings are presented and discussed. The data used in the analysis came from the pre-test and post-test results of the writing and reading comprehension assessments. Additionally, findings from the surveys that the students in the experimental group completed at the conclusion of the LDEP are also presented and discussed.