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Attitudes of teachers and students to the place
of Home Economics in a mixed curriculum: A Case Study.

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of the requirement for the degree of

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DEDICATION

In memory of my father, the late
Tetayi Jona Taendesa Mlambo
whose prayerful, peasant and humble life,
devoted to working hard,
made it possible for me to enter
secondary and teacher training. He
however, passed away three weeks
before my "A" Level results for
entry into University were known! He
remains a source of great
inspiration to my life.

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ABSTRACT

The aim of the investigation is to assess the extent to which various initiatives aimed at improving the status of a technical subject like Home Economics (H/E), have helped to transform the attitudes and perceptions of teachers and students in a school in Zimbabwe. The study was carried out at Rusununguko Secondary School in Zimbabwe, where H/E was one of the technical subjects within a curriculum mainly dominated by academic subjects.

Students and teachers' attitudes and perceptions towards H/E were assessed along the following dimensions:

1. The extent to which H/E is subjected to gender stereotyping;
2. The extent to which H/E is viewed as suitable for slow learners and low-achieving students;
3. The extent to which the subject suffers from subject choice constraints;
4. The extent to which H/E is viewed in terms of low academic and occupational expectations;
5. The extent to which the subject is perceived as offering low-status knowledge when compared to other subjects.

The literature that was examined, revealed that the technical subject debate on the appropriateness and relevance of technical/vocational subjects in schools continues in the wake of Foster's "Vocational School Fallacy" work of the mid 1960s. The results of studies on some of the dimensions above, which were carried out by other writers in the past, were either supported or refuted by the findings of this study.

The investigation established that in Rusununguko Secondary School:

1. The gender stereo-typing towards H/E has been improved through such initiatives as the opening of H/E to both boys and girls, although the number of girls doing the subject remains greater than that of boys;
2. The subject is open to students of all ability levels;
3. Students career expectations in H/E mostly lay in teacher education programmes rather than in "A" Level and University training;
4. When H/E is compared with Science, Maths, English and History, it remains a second choice subject. However, it was preferred to Woodwork (W/W).

Strategies for addressing attitudes and poor perceptions towards H/E fell mainly in the following broad approaches:

1. Young's [1992] concept of knowledge reconstruction;
2. The assimilation of low status subjects by (aspects of) high status subjects;
3. Subjecting curricular activities to the ever-expanding technology;
4. The incremental approach which is dictated by official policy rather than by school-based initiatives.

The first two strategies are hampered by the absence of support from the Ministry: the initiatives do not necessarily and easily lead to reform. The third strategy faces the problem of the school operating in a country whose level of technological development is still very low. The incremental approach suffers from the fact that the pace of innovation is determined by official policy, which changes very slowly, if at all.

The extent of the problems relating to the attitudes of teachers, students and the general public towards H/E and other technical subjects, coupled with other problems encountered in this study, suggest that further research in this area of study is necessary.

LIST OF ABBREVIATIONS USED

"A" Level	-	Advanced Level.
C/M	-	Cabinet Making.
C/S	-	Catering Studies
CDU	-	Curriculum Development Unit.
CESO	-	Centre for The Study of Education in Developing Countries.
CRS	-	Commonwealth Secretariat Regional Seminar.
CSC	-	Cambridge School Certificate.
DSc	-	Domestic Science.
ESAP	-	Economic Structural Adjustment Programme.
EWP	-	Education With Production.
FEU	-	Further Education Unit.
F/F	-	Fashion and Fabrics.
F/N	-	Food and Nutrition.
GTC	-	Gweru (Gwelo) Teachers' College.
H/E	-	Home Economics.
IFNFS	-	Institute of Food Nutrition and Family Sciences.
IMF	-	International Moterary Fund.
LMS	-	London Missionary Society.

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CHAPTER ONE

1. INTRODUCTION

1.1 The Challenges of a Dual Curriculum

Successful design and implementation of a curriculum that combines academic and technical subjects in schools has remained a challenge to educationists in both developed and developing countries. That challenge, however, has been realised through many forms of educational systems under different historical, economic, social and political backgrounds. The way countries have responded to the challenges set by this type of curriculum, however, has led to different objectives aimed at addressing pertinent issues directly related to the interests and educational priorities of each country. While examples of countries that have this type of curriculum are inexhaustible, a few examples will be cited. In the United Kingdom, this type of curriculum emerged in the form of the comprehensive system in the early sixties when the Labour Party was in power [Morrish:1972]. The British comprehensive system was introduced as a way to address the educational and social inequalities that were created by the grammar schools which had failed to adequately respond "to powerful technological and social trends... in England" [King, 1966:135].

In South Africa, this type of curriculum is relatively new within the ambit of the conventional school, at least for the middle class children [Kallaway, 1992]. However, amongst Africans, the combination of academic and technical /vocational subjects dates back to the rise of mission education in the late 19th century. The film, "A Singular Purpose" which depicts the form and content of a curriculum offered at Tigerkloof Mission Institution [1904-54], started by the London Missionary Society [LMS], shows this type of curriculum [Anderson, 1993]. The Zimbabwean situation was

very much similar to that of South Africa in that academic and technical subjects were taught in mission schools in many African communities. However, under Ian Smith's Unilateral Declaration of Independence [UDI] an academic and technical curriculum designed for African pupils who were prevented from doing the formal and purely academic Cambridge School Certificate curriculum was set. The system, called F2, collapsed in 1980. Since then, technical/vocational subjects have been introduced in conventional schools, where students are expected to demonstrate mastery of content within the context of formal examinations [Chung, 1982]. The system operates along similar lines in both South Africa and United Kingdom.

The Secondary Schools Community Extension Project [SSCEP] in Papua New Guinea is designed to see a style of secondary schooling which suits students who proceed to further training and those who leave school at the end of secondary school. The curriculum links the teaching of academic subjects to practical, industrial and community-oriented education and training. In other countries, however, the combination of academic and technical/vocational learning, has been realised through other forms of innovations which relate education to manual and productive forms of learning. Strictly speaking, however, productive forms of education, or Education with Production [EWP] as these programmes are generally known, are not necessarily an academic and technical/vocational curriculum in the way this concept is presented in this investigation [Chivore, et. al., 1994; von Borstel, 1982].

In the examples cited in the preceding paragraphs, the challenges faced by each of the countries above are in many ways similar; although the settings may be different. These challenges include organizational constraints, financial scarcity, infrastructure problems and importantly for this study; attitudes of society based on peoples' reluctance to accept certain school subjects as offering knowledge equal in

status to other assumed "superior" subjects [Bernstein, 1981; Young, 1981]. The challenges, however, have little to do with the academic component of the curriculum. Instead, it is the technical division of the curriculum that is seen as creating the problem; whether within a comprehensive system where pupils learn both academic and technical subjects or where there is streaming based on an academic and technical division. In both cases, the historical "superiority" of academic over technical subjects continues to manifest itself in popular perceptions and attitudes.

Writers have reacted differently to the challenges of this type of curriculum and other curricula that had something to do with technical and vocational education and training. Philip Foster [1965], having carried out a study of how well technical/vocational programmes in Ghana were faring, developed the view that has come to be called the "Vocational School Fallacy". He criticized a predominantly technical programme on the grounds that it lacked other educational considerations relevant for effective skills training and development. What Foster dubbed as the "vocational school fallacy" was that vocationalized education could not prepare students for specific occupations. He further argued that technical/vocational education could not reduce mismatches between education and the labour market. For these reasons, Foster concluded that the system, could not be popular; demand for technical/vocational might not exist because academic education continued to provide access to more attractive forms of employment. Besides, the system was costly. It also faced problems of finding suitably qualified teachers and equipment [Foster, 1965].

Lillis and Hogan [1981;1983] were critical of various attempts to include both technical and vocational subjects in ordinary secondary schools in many third world countries. The two studies they conducted, concluded that such curricula experienced a wide range of implementation problems which

resulted with unanswered questions on the benefits of having such programmes at school levels. Also, the World Bank, of late, criticised the inclusion of technical subjects at both primary and secondary school levels [King, 1991]. In the view of King, Lillis and Hogan's work and that of the World Bank [See King, 1991] could not differ significantly in that the former researchers' programmes were both funded by the World Bank. King doubted the credibility and impartiality of studies funded by institutions like the World Bank in that they coloured research work with their economic agendas [King 1991].

In his contribution to the National Education Policy Investigation [NEPI], Fisher, [1992], argued that the inclusion of technical subjects in ordinary schools could result in problems in South Africa if the process was introduced at early levels of education and training. Fisher's article did not however give specific problems that could be encountered by taking such an option. He however made reference to Philip Foster's work that has already been cited in this study. Fisher further argued that technical programmes within secondary schools could not be successful because similar failures had been experienced in both Tanzania and Zimbabwe. Fisher's rejection of technical/vocational subjects was as follows:

...there was danger that quality would decline [in South Africa]... that vocational schooling might create second class citizenship among teachers and learners [Fisher, 1992:11].

But contrary to the view of Fisher, King [1991] supported separate technical/vocational programmes. King gave little support to Foster's "Vocational School Fallacy". His reactions to the views of Foster were best described in the following quotation:

In reality his fallacy (or to be accurate his fallacies in several other fields such as manpower planning) is hard for common sense to accommodate ...it has proved almost impossible for politicians not to expect some impact of curricular orientation to work, skill, self employment, or enterprise [King, 1991:125].

King's "attack" on the "Vocational School Fallacy" as contained in the quotation above, portrays some of the intensity with which different educationists react to the challenges of this field of education and training.

While the technical curricular arguments between Foster [1965] and King [1991] seem irreconcilable, a third debate, which seems to be a compromise between the two has recently emerged. Michael-Jean Leclercq [1994] has come with a new debate based on what he sees as an emerging mutual relationship between general academic learning and technical/vocational training. Leclercq sees this new relationship as the end of the mutual disregard "...of two educational routes traditionally separated" [Leclercq, 1994:52]. His debate centres on the argument that the introduction of work-experience to round off training given in schools was the first step. This has resulted with firms and industries being transformed to partners rather than auxiliaries set to familiarise pupils with the world of work and production techniques. The practice, has since resuscitated the old system of apprenticeship in France, Portugal and Sweden. Leclercq further argues that the closer proximity of the two routes has been necessitated by what he also terms "a growing generalisation" of vocational training and general education towards technology. He summed up his views as:

There is a decay of water tight barriers between the two student populations who are found in the same establishments... There has been an increase in the transition from vocational to general education and vice versa - the "Dual System" and horizontal movement [Leclercq 1994:52].

The underlying factor behind Leclercq's "end of mutual disregard" are economic, viewed under the current threat of unemployment positions of countries.

Young [1992] put forward theoretical arguments for the inclusion of technical subjects existing side by side with academic subjects. He argues for what he refers to as a "unified curriculum". In his view the mere existence or co-existence of academic and technical subjects has not succeeded in reducing the perception of inequality between these two components of the present comprehensive system in the United Kingdom, for example. The status problem still exists, while learning results in fragmented knowledge because of a continuing divided curriculum. The solution lies, for Young, with adopting progressive policies based on the connectivity of content; the reconstruction of subject knowledge; whereby the division between academic and technical subjects may be phased out.

What Young [1992] refers to as a future curriculum, however, lies not entirely in the future. Several initiatives in recent times have been implemented in various countries under various terminologies. The concept of subject integration exists in most teacher education programmes, while holistic approaches to learning can hardly argue for something completely unrelated to what Young writes about. For example, Home Economics as described in the 1992 Cambridge syllabus for "A" and "O" Levels, cites a number of areas that have set

trends towards the connectivity of knowledge in a way slightly different from Young's [1992] approach. The syllabus is explicit on this point:

Candidates are expected to have some knowledge of Chemistry, Physics and Biology in order that they may understand the scientific basis of the subject [University of Cambridge, Syllabus no. 9335, 1992:6].

Although reference to "...some knowledge..." is not specifically what Young may have regarded as the "connectivity" of knowledge, at least the initiative towards the regrouping of knowledge seems to be implied. Other areas covered by this syllabus are studies in planning and national housing policy, renting of property and energy use. These are aspects of different and previously separated knowledge that is being re-grouped. The basis of this expansion and synthesis of formal knowledge is that curriculum design and subject reconstruction is not static. It moves with time and is subject to transformation, taking new forms that are dictated by many factors [Goodson, 1988; Paechter, 1993]. Commenting on the inherently transformative behaviour of curricula, Goodson [1988] was explicit on this point:

Disciplines cannot be taught as final distillations of knowledge unchallengeable and unchanging; and should not be taught as incontestable and fundamental structures and texts. This would provide a deeply-flawed epistemology, pedagogically unsound and intellectually dubious; for in human scholarship "final distillations" and "fundamental" truths are elusive concepts [Goodson, 1988:31].

It is unfortunately also, so that most of this innovation takes place in the technical set of subjects, and the traditionally "academic" subjects have remained all too often pristinely academic. It is for this reason that writers like Young [1992] claim that even curricula of a unifying character continue to have divisive effects.

There is evidence for initiatives, by syllabus designers and curriculum development units [CDUs] which aim at improving the knowledge status of subjects like Home Economics, by redesigning the syllabus contents and their structures. The Cambridge syllabus referred to in this section is one of them. Its content and general objectives have moved away from the old contents of H/E. The purpose for which the present syllabus is designed to serve has equally moved away from the past [as will be shown under this section]. The current syllabuses for H/E subjects like Textile and Design, Fashion and Fabric Science, Food and Nutrition [the chemistry of food] and others, which specifically require the use and application of mathematics, physics, chemistry and biology at significantly advanced stages cannot be compared with the old aims of the same subject under the traditional concept of Domestic Science or Home Craft. The following extract is an example of what the old H/E syllabus was meant to achieve and the social connotations that were attached to it:

Girls are carefully trained in domestic work: cooking, baking, sewing, ironing and tailoring; in addition to the usual instruction. The aim is to prepare girls to make good housewives and mothers, and to lift their families to a higher plane of living [Christie, 1989:76 quoting from an unspecified school document in the Eastern Cape].

Extracts such as the one cited above, show the way traditionally-minded educationists planned and viewed the way H/E was to be implemented in schools. The skills that H/E was to develop in pupils were simple and deserved no more than low status in perceptions of curriculum designers, teachers, students and the public alike. Despite the argument that much has been done to improve the design of H/E, as has been argued under this section, it can hardly be concluded or assumed that much has therefore been achieved. In many cases the old perceptions still persist in teachers, pupils and to some extent ministry officials for that matter. The questions that arise at this stage, which may be termed "the transition phase", are: To what extent have the expansion, integration and other initiatives in a subject like H/E made an impact on the attitudes of teachers and pupils in schools? Or does the unchanged academic part of the curriculum still exert a decisive influence? These questions are central to this project which aims to investigate the arguments and propositions raised above by investigating the perceptions and attitudes of teachers and pupils to H/E. The investigation attempts to answer these questions against a background where as stated earlier, different initiatives have been attempted. For example a term such as "Domestic Science" is no longer in use. The subject is now open to both boys and girls - reversing the traditionally female stigma that has always been ascribed to it. The subject now facilitates career opportunities to levels of higher education and training such as universities, teacher education programmes and technical colleges, to mention only a few.

The project targeted teachers who taught the subject as well as those who did not teach it. It also targeted students who did the subject as well as those who did not. Details of the aim of this study will be examined under a separate section to be discussed later. Overall, the study aims at making a contribution to the question of how a curriculum that combines academic and technical subjects can best be managed by

schools. However, proper management of a curriculum such as the one under investigation cannot be accomplished, unless a way forward has been set. In this investigation, this point has been realised through several options or recommendations which are deemed relevant for the adopters and implementers to consider. This forms the concluding part of this project.

1.2 Conceptualising the Curriculum

The type of curriculum described in this project is one made up of predominantly academic subjects and a lesser number of technical/vocational subjects. Correspondingly, students do more academic subjects than technical ones. Students are not necessarily streamed on the basis of a technical and academic division. However, all students do at least one technical subject [Nziramasanga, 1992]. It is a comprehensive type of curriculum, generally found in many Zimbabwean schools. Elsewhere, this type of curriculum has been described by Carton [1984] as "a dual system model" which in many countries is breaking out of its traditionally exclusive concern with training of skilled craftsmen and specialised workers in production and maintenance, to synthesis of skills training [Carton, 1984:218]. In Egypt and Saudi Arabia this curriculum is favoured by a shift from general academic and vocational streams towards expanded technical/vocational education in conventional secondary and post-secondary levels [Carton, 1984].

This type of curriculum, however, falls short of what Young [1992] terms a "unified curriculum" in the sense that the connectivity and the reorganisation of subject knowledge has not been achieved to the levels he wishes it to be. But a case could be argued that this type of curriculum is not very far from what Young argues for. The H/E Cambridge syllabus is a case in point. This point has already been discussed under the introduction, as has Young's possible response. Because of some of the initiatives and developments that have already

been done in certain subjects, the type of curriculum under investigation here can be termed "curriculum in transition" towards a stage of knowledge unification, whereby specializations based on subject knowledge boundaries may be phased out. This presupposes though that the major hurdle, the vested interest of the academic curriculum, can be circumvented. In Roux's [1985] view a curriculum which is made up of academic and technical/vocational subjects is also a "unifying curriculum". He cites an example of the type of curriculum recommended by the Further Education Unit [FEU] in the United Kingdom. Its structure comprises 60% core academic subjects, 20% technical/vocational and 20% job specific studies. The difference between the type of curriculum under investigation in this study and that of Roux lies in that the Zimbabwean curriculum does not have job specific studies. Students are expected to do at least five "O" Level subjects. Wherever possible, at least one of those subjects has to be a technical subject.

The relevance of such a curriculum in Roux's argument is that it gives students a better understanding of an adult society and the world of work. It generates a capacity to develop physical and manipulative skills and an appreciation of those skills in other students. It creates an appreciation of the physical and technological environment, the relationship between those and the needs of man in general, and working life in particular. It further develops flexibility of attitudes and willingness to learn skills to cope with future changes in technology. The technical component of this curriculum has the credit for making the trainee 'an intervening critic' [Roux 1985:70] of the working environment as opposed to what Roux also refers to as "a cog in the industrial machine" [Roux 1985:70].

A curriculum that combines both academic and technical subjects has advantages over a strictly academic curriculum in a number of ways. Arguing from Dewey's point of view,

Kallaway [1992], stated that this form of a curriculum was critical in developing problem solving skills related to the "the training of the hand and the eye" [Kallaway, 1992:3] with emphasis on the pupils' acquaintance with the world of physical, manual, mechanical and practical problem solving techniques. Thus from Dewey's point of view, the technical component of this curriculum should not just be seen from an economic and industrial perspective of education and training, as this tends to overshadow other learning benefits: the development of cognitive and affective domains of learners cannot be overlooked. In Becker's [1982] words, it cushions "...the bumpy and difficult transition from school to work" [Becker, 1982:4] in the sense that doing a technical subject requires the learner to put into practice the application of skills in the way they were required in production environments. Thus Becker and Kallaway share similar views on how they define this type of curriculum.

In conclusion, a curriculum as described in this project with specific reference to Zimbabwe, has some of the following distinctive features: it is largely dominated by an academic component which also forms the core curricular subjects. The core curriculum is defined and specified by national policy; so are the optional subjects. The regulation that governs technical subjects is that a student is expected to do at least one of them. Both academic and technical subjects are examinable. The role of the school, however is to implement national curricular policies through syllabus guidelines. The technical component constitutes one or two subjects per student forming the practical side of the overall subjects in the school. The relationship between the academic and the technical component is the transference, use and application of concepts. For example, mathematical formulae are essential in the calculation and solving of many practical issues in the fabric science studies, while chemistry is essential in understanding chemical reactions that take place during the preparation of different food substances. In this case H/E is

a technical subject which incorporates a number of subjects falling under its umbrella: Fashion and Fabrics [F/F], Food and Nutrition [F/N], Catering Studies [C/S], Home Management [H/M] and Textile and Design Technology [T/T] are among the most common.

H/E has also be seen as a vocational subject in the sense that its skills are vocationally useful. Few writers make a distinction between a technical and vocational subject [Lillis, Hogan, 1981; Young and Spours, 1992]. They are generally lumped together and termed "technical/vocational"; or simply practical subjects [Kallaway, 1992].

1.3 Research Questions

It was stated at the beginning of this project that successful implementation of a curriculum dominated by academic and few technical subjects will probably continue to be plagued by problems of perception. This study has its focus on H/E as one of the technical subjects in such an academically-dominated curriculum. The choice of this particular subject has been prompted by several factors. Many writers in their contributions to the study of the sociology of knowledge and curriculum studies cited H/E as an example of a subject that is judged to belong to the category of low status subject knowledge [Berstein, 1981]. It is also further associated with gender curricular discrimination associated with feminine perceptions by students, teachers and the public [Christie, 1989; Grafton, 1983, 1983; Measor, 1983; Morrison, 1989; Nisbet, 1969; Ricket, 1972]. Its knowledge is also seen as of very little importance above the domestic level. For this reason, H/E skills are often associated with low occupation expectations [Foster, 1965, Lillis, 1987]. In some intances, H/E is taught to slow learners and low achievers on the assumption that the subject offers little learning challenge to the more gifted students.

The project, in the main, aimed at investigating the extent to which H/E in its progressively improved form continues to suffer from negative perceptions. The project aimed at testing the attitudes and perceptions of pupils and teachers towards H/E. Its intention was to determine how H/E was currently perceived by students who were doing the subject and those who were not taking it at a secondary school in Zimbabwe. The school is Rusununguko in Mashonaland East, approximately 50km east of Harare. Attitudes were measured to the following specific issues:

1. The extent to which H/E continues to suffer from gender typing perceptions.
2. The extent to which H/E is perceived as more suitable for slow learners and low achievers.
3. The extent to which H/E is perceived as personally important or useful.
4. The extent to which H/E is perceived as a subject with low occupational and academic expectations.
5. The extent to which choice of this subject is free or constrained.

While these issues formed the main research questions of this study, secondary questions which complemented them also formed part of the interview guide in this project.

PICTURE ONE

A practical lesson in Food and Nutrition at "O" Level.
[Rusununguko Secondary School, Bromley, Zimbabwe]

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Background To The Literature Review

The main areas that form the literature survey of this project are those related to a curriculum which combines academic and technical/vocational subjects. Technical and vocational forms of education and training are also covered in their wider contexts only in so far as they have relevance to school situations. Information on curriculum planning, organisation of technical and academic subjects is critically assessed and contrasted, while many writers' points of views are weighed in order to match them with the central theme of this study. Sociological analyses of attitudes of teachers and pupils towards low status subject knowledge generate insights on which a number of arguments are developed in this study.

2.2 Specific review of Texts

Much has been written on the subject of curricula that combine academic and technical subjects. The types of those contributions to this aspect of curriculum studies are also wide and varied. Some of these studies have come as a result of research funded by external agencies from developed countries to third world nations. Some of the institutions that have funded a number of research programmes in developing countries have done so with the sole purpose of using research findings for their specific needs rather than designing studies that are beneficial to the host nations. In this category are the World Bank Reports carried out by Lillis and Hogan [1981]. Their work focused on constraints of technical subjects in secondary schools in third world countries. Also in this category is the work of Coombs and Ahmed [1975], and that of Havelock and Huberman [1977], who examined possible solutions to the planning of education in developing

countries. The problems of these researches that are funded by agencies like the World Bank [WB] and the International Monetary Fund [IMF] in particular, are that research programmes are not exclusive of economic prescriptions [King, 1991]. For this reason King argued that such programmes had little to suggest that their findings were reliable and dependable. King criticized the WB in particular for depending on what he termed:

...foreign Northern scholars and mainly on agency staff, with very little to draw from the local scholarship and its vast experience...and knowledge of the local conditions of the project [King,1991,x].

King argued that foreign scholars lacked knowledge of local conditions. As a result, they made generalisations on their findings, even where specific issues had to be addressed.

The following WB report supported this argument:

Instead, the focus is on generalisations on addressing trends and issues that because of their importance in many African countries, assume importance for the whole continent... [King 1991:X; citing World Bank: Education In Sub-Saharan Africa 1988 XI-XII].

King also argued that because the IMF and the WB used their own staff in research, the researchers formed one significant part of a series of conditions and negotiations about loans to education in the developing world.

Some of the literature is in the form of seminar or conference reports whose themes were on technical/vocational learning in schools. The Commonwealth Regional Seminar [CRS] on human resources development in East, Central and Southern Africa was

one such example. It examined the need for technical subjects being introduced from primary school level to post secondary levels of education and training [Commonwealth/Secretariat, 1985:8]

In his work on education and work, Carton [1984] advanced the argument that although technical subjects are generally associated with further education and training beyond the school level, schools could play a role in the implementation of a curriculum that has technical subjects. The school could act as a "filter" and could broadcast "signals" about students' technical skills. Schools could then serve to inform employers about the aptitude of those pupils with the intention of seeking technical careers. The technical component of this type of curriculum in ordinary schools is further seen as necessary for reducing the cost of basic training. Basic training had to combine unskilled work and industrial education [Carton, 1984]. A curriculum that is designed to meet some of the recurrent costs in education and training shares the objectives of the concept of Education With Production [EWP] as argued by Patrick van Rensburg [1984]. Carton appears to have argued along those lines as well.

Technical subjects in the American context are important for the expansion of technological advancement [Becker, 1982; Silberman, 1982]. Although Becker and Silberman stressed the economic benefits of technical subjects in schools, they also recognised the educative value of practical learning, as viewed by educationists such as Rousseau, Pestalozzi and Dewey. However, Becker did not wholly share the view of Dewey on what role education in schools should play with regards to students' preparation for work. He wrote as follows:

Dewey's plea for a broader educational quest to develop the person first, leaving the employer with the task of adapting the job opportunity to the needs and abilities of the worker, remains utopian [Becker, 1982:7].

Similar sentiments have been raised by King [1991] in his work on the role of educational aid in developing countries. King argues that in the context of developing countries, technical education was prioritized in schools for a number of reasons. Industrialisation could not be realised in most third world countries without technical and vocational education and training being introduced. It is a way to diversify skills necessary for use in cases where the supply of formal employment was smaller than the schools' output. Technical subjects in ordinary schools in developing countries are critical in influencing the necessary skills of the largest number of students who should be subjected to what the writer termed "a light dose of technology across the curriculum." [King, 1991:62]. Also, a curriculum that combines both academic and technical subjects has aspects of what McCulluch [1990] termed "An Alternative Road..." [McCulluch, 1990 :11]. In his analysis of the problems and possibilities of the Crowther Report of 1959, McCulluch asserted that for the British case, the report remained as relevant in the 1990s as it was in 1959. The academic component which attuned students to abstract thinking as represented by the grammar school lacked the technical component which aimed at developing the student's mind from "practice to theory" as opposed to the generally accepted order of "theory to practice". He however also argued that since the concept of "An Alternative Road" was formulated in 1959, the comprehensive system, the Nuffield and Schools Council Projects which subsequently followed this report in the mid 1960s and the early 1970s did not succeed in opening that road "to traffic" and that "when it eventually opens it will still be narrow and selective" [McCulluch,

1990:11]. Young [1992] sounded similar views when he also wrote that a divided curriculum is characterised by selectivity based on the principles of a socially divided society. McCulluch's view of the "Alternative Road" if well implemented, however, should challenge what he referred to as "the merely theoretical academic and its rather narrowly technical curriculum by opening it to all pupils." [McCulluch, 1990:11]. This in the writer's view, is an initiative which should succeed on the basis of an ideology designed to counter the predominance of the academic appeal over the practical component. One way in which an attempt to strike a balance between the academic and technical division would be to establish a "matching section between education and employment" [McCulluch, 1990:13]. The concept of a matching section between education and employment, was also examined by Lillis [1984]. He proposed that technical and vocational subjects in schools should be planned in such a way that manpower needs and job opportunity should be directed and matched with the forms of training in schools. In Lillis' view, possibilities of narrowing students' preferences and trained manpower requirements become achievable.

Young [1993] is of the view that a link between technical and academic learning offers better preparation for pupils to suit the post-fordist era. However, linkage of the academic and technical/vocation, goes beyond the mere comprehensive co-existence of practical and academic subjects. He argues for a curriculum "unification" which aims at the reconstruction of subjects so that the division between technical and academic knowledge becomes insignificant. For example, a subject like H/E would not be viewed in the way it presently differs from Chemistry. The low/high status of subject knowledge would "disappear", resulting in attitudinal changes in the way the newly created subject would be interpreted. He put his argument clearly in the following:

Whether a curriculum which made a division between vocational education and academic should be allowed to continue, and also whether expanding participation on the basis of existing curricular, will provide us with the skills and knowledge that are going to be necessary in the 21st century [Young, 1992:4].

Young advances a number of arguments in support of his "ideal" curriculum. He sees it as one that is able to develop the necessary "flexible specialisation" suitable for the post fordist era. Judging from what Young's future curriculum aims at achieving, his ideas arguably, are not strictly new. In his earlier writings, Young [1981] had argued that solutions to the problems of low status subject knowledge lay in the creation of new subject codes, and the opportunities for university training. This in his view, were factors that were likely to uplift the status of a subject like H/E. In this case, the concept of connectivity could also be seen in the light of Bernstein's [1981] recommendations on how to solve the problem of subject knowledge insulation. Bernstein maintained that strong subject codes reinforced strong attitudes and perceptions of subject knowledge status. The lowly perceived subjects suffered most, when codes remained insulated. He however felt that pedagogical activities aimed at reducing strictly differential subject communities [subject departments] were also likely to offer reasonable results. Also in his earlier writings, Young [1981] argued that North Korea offered an example of how technical and academic divisions were phased out resulting in complete changes in perceptions of previously low status subjects gaining new status. This was achieved by making school curricula less separate from the economy with many activities of learning being linked to production processes [Young, 1981:40]. Also in line with knowledge status transformation is Paechter's [1993] article on what happens to a low status subject when it

is up-graded. The article gives insight into the experiences of teachers and students at a school in the United Kingdom, who, in the process of improving a low status subject, had their negative attitudes changed in favour of the reconstructed subject. However, Paechter's article does not come anywhere close to Young's resolve of the division between academic and technical subjects. The predominance of the academic component remains the same, since the process aims at improving the status of a particular subject, instead of the reconstruction of a subject through an integrating system in which the outcome is a new code of knowledge. But these initiatives argue that attempts are being made by creating inroads in the process of narrowing the curricular divisions between academic and technical subjects, in any case.

In the old curriculum, H/E was predominantly a girl's subject. Missionary education in Africa stressed the importance of H/E subjects as suitable for girls. Girls had to specialize in domestic skills like cooking, laundry work, dress making and home nursing [Christie, 1989]. Nisbet [1968] stressed that domestic science was more suitable for girls than boys; but also conceded that there was no reason why boys could not be given the opportunity to do it. However, where H/E has been opened to boys, studies have shown that the old attitudes of seeing the subject as a "femine" one persists. Thus the social reproduction of society is not easily disturbed by either policy advocacy or its subsequent enactment. Teresa Grafton et. al. [1983] describe their findings in a case study that focused on problems of gender and subject choices. The study found that boys who were doing H/E - related subjects still believed that the subject was more suitable for girls than boys; and often referred to it as a "sissy" subject. The girls who were doing the subject thought that the skills they gained from learning H/E subjects were more important for home use than for purposes of employment. In another study, Measor [1983] surveyed several schools in England to assess how effective the 1975 Sex Discrimination Act on curriculum had

been by the 1980s. Her conclusions were that not much had changed. This argues that the enactment of policy was one thing and seeing it work was another; particularly on issues that related to social values, attitudes and beliefs. If curriculum design was aimed at overcoming attitudes, policies which failed to address people's orientation [or "ideology"] were, not likely to meet their objectives.

While it cannot be disputed that the technical component of the curriculum faces persistent negative attitudes, Carton [1984] identified one of the sources of these attitudes. Because technical subjects are associated with work or labour, society tends to have less interest in these subjects since it also has a negative perception of work or labour. Carton [1984] in his work traced the historical concept of work from the Graeco-Roman world, through the Middle Ages to the present day. He concluded that:

...under capitalism, work has no dignity, but...a process through which it was a duty for the purpose of mobilising productive forces...in order to ensure maximum profit for the individual [Carton, 1984:12].

In the view of Carton, the concept of work as a creative process of learning which a number of supporters of technical subject studies and productive work forms of education are calling for, is a utopia. Komba and Hoppers' [Komba, Hoppers, n.d.] argument that there is a need to research the productive value of work or productive oriented learning would not find support in this case. However Carton's analysis of the capitalist sources of negative attitudes towards work-related learning seem to be in line with the work of Lazonoby [1987]. Lazonoby's research aimed at investigating whether students wanted to learn about industry in school situations.

His findings were that the assumptions that learning becomes more interesting when related to industrial work was not absolute. He concluded that industrial aspects of technical subjects had little motivational force in learning.

In the post-colonial era, technical subjects were shunned by students because colonial experience had associated them with servitude and denial of equal opportunity for white collar jobs to the "subject" people [Lillis, 1987]. However, if the present day rejection of technical subjects in post-colonial Africa is attributed to colonial attitudinal legacies alone, Lillis further fails to support this conclusion. He cites the Nigerian rejection of a trade-based curriculum as not necessarily because of colonial connotations. Instead, it resembles the criticisms levelled against modern technical programmes in Britain. In other words, the sources on which negative attitudes towards technical subjects are based seem to be both historical and colonial legacies as well as inherent negative attitudes towards technical subjects.

Research has shown that there is inconsistency between H/E skill related education and training employment outcomes. Rutter [1992] in making an analysis of gender among workers in both France and Britain, found that there were less women in catering schools than men, but there were more women employees than men. One possible interpretation of this finding could be that while more male students may have studied catering at school, they may not have prioritized it for employment purposes. This explanation correlates with Grafton's [1983] conclusion discussed above. However, it contradicts the same researcher's findings that girls did not think that H/E skills were important for employment opportunities. The second observation that can also be made from Rutter's study is that the trend towards males moving into H/E subject areas is slowly increasing, arguing for either the reversal of the old attitudes or that unemployment is forcing males into low status jobs. However, the bases upon which the findings were

made should not be confused for attitudes within school situations. Students' attitudes may be affected by other socio-economic factors between the time they leave school and the time they finally get employed.

Attitudes of people towards a particular school subject like H/E are also shaped by their ideology of knowledge. Keith Morrison et. al. [1989] assert that school curriculum is value based; founded on the principle of protection and neglect of selected values [Morrison, et al; 1989:41]. Morrison et. al. take a Marxist point of view in advancing this sociological argument. In their view, the sources of more value or less value in curriculum subject choice lie with those who decide what must be taught and not taught in schools. The problem of the low status of a subject in this case is that the privileged classes plan a curriculum that furthers their interests in the sense that privileged classes [bureaucrats] are more inclined to favour academic curricular, also often associated with white collar jobs than technical subjects; which are often associated with non-white collar jobs. In a way, pupils who are associated with discriminated knowledge reinforce the social relations of power in society. This argument, however, must be weighed against other arguments under this section. It is not always true that bureaucratic plans and policies easily shape the public's thinking at large. The work of Measor [1983] is one case in point; while the work of Lillis [1987] is yet another. While there may be an argument for the Marxist paradigm, research work such as the two cases cited here do not support Morrison's argument. Dealing with the same problems of values, Fleck [1974] wrote that the genesis of values is the home, family and community. Fleck, however, asserted that values were not static. They were modified by internal pressures and external circumstances. If this argument is to be accepted, for H/E to be positively valued, conditions for this to be done have to be created through several possible options and initiatives.

The responsibility, however, rests with what role educationists responsible for curricular design and implementation play in meeting this goal.

Writers in support of the type of curriculum under study here are many, although there are many forms that could also be considered. Supporters do so from a number of educational approaches; and sometimes from different ideological persuasions. Under the philosophy of Education with Production [EWP], the combination of theory and practice does not exclude technical subjects. Instead, technical subjects are seen as central to technical skills development. Patrick van Rensburg [1984], asserts that the combination of technical and academic learning has its basis in the empowerment of the masses being equipped with relevant skills for self-reliance in a society with dwindling formal employment opportunities. Also arguing for the relevance of a work-related education, Komba and Hoppers [n.d.] concluded that the technical component of this type of curriculum offered opportunities for educationists to explore the pedagogical benefits of learning through work-based activities. In the view of these writers, the process of linking technical learning skills with work, remained an area uncritically attended to by researchers. But as pointed out, if the research also covers industrial environments, Lazonoby's work poses questions for Komba and Hoppers' argument.

Critics of technical subjects in ordinary schools, some of whose work was discussed in the debate of technical/vocational education and training, present a number of reasons for their objection to this form of education [Foster, 1965; Lillis' 1987; Fisher, 1992]. Kallaway [1992] has looked at both the advantages and disadvantages of having technical and academic subjects within the same schooling system. Among the critics of the system, Lillis [1987] enumerates a number of implementation problems often associated with the technical component of this type of curriculum. He states that in many

cases, there was a significant lack of properly trained teachers; coupled with poor material resources. The subjects lack adequate financial support. The syllabus does not clearly define what levels of education and training schools offered: were the skills prevocational, or preparatory? He further asserts that fitting the demands of technical subjects to an ordinary school timetable is difficult. At the same time, the curriculum could not be suitable for the employers' needs. Some of these questions, however, receive answers from the work of other writers cited in this study. For example, the question of the levels of training has been catered for by the work of Carton [1984]. He made the suggestion that schools should combine both skilled and unskilled training in order to discover the latent technical aptitudes that higher training may depend on. The question of the needs of the employer was also addressed by McCulluch [1990], in his reference to "a matching section between education and employment", whereby curriculum is planned in a way that matches it with manpower needs and job opportunities [McCulluch, 1990:15]. Under the philosophy of EWP, production activities should also attempt to meet the general school running costs. However, the implementation constraints put forward by Lillis should not be under-estimated.

Kallaway [1992] both criticized this type of curriculum as well as pointing to its advantages. He saw the teaching of technical subjects as a process in which children's career paths were pre-ordained by "trapping them in the world of parents before they are ready to act like adults" [Kallaway, 1992:6]. Kallaway's view, however, remains debatable since it is difficult to answer whether academic career paths are also not cages for students at an early stage. In his support of this type of curriculum, however, Kallaway went on to recommend a number of options which can fulfil goals for such a programme. He cited four models of participation which South Africa could consider with regards to

redirect and expand their focus upon the dual role and employability of people. But even these changes have not passed without problems rooted in society's negative attitudes towards H/E and other technical subjects in general.

Initiatives to up grade the status of H/E varied from country to country. The United States of America [USA] supported H/E programmes both in school and outside through a series of federal legislations. Four major legislations were passed between 1917 and 1968. The legislations aimed at vocationalising H/E within the schooling system [Hatcher, 1974].

2.3 Home Economics in Zimbabwe

Whereas Hatcher's [1974] work on the evolution of H/E in the United States showed that several legislations were passed in support of H/E programmes, the evolution of H/E in Zimbabwe was different. But, like in South Africa and the United States, H/E in Zimbabwe had very humble beginnings [Christie, 1989; Hatcher, 1974; Rickett, 1992]. Both Siyakwazi [1994] and Mvududu [1985] say that Home Craft subjects were taught in mission schools with the intention of imparting skills from mother to daughter. Mvududu [1985], gives a detailed account of how H/E developed in Zimbabwe over the years. Up to 1974, Home Crafts were generally referred to as Domestic Science [D Sc]. The subjects aimed at developing skills in cookery, mending clothes and general hygiene.

Among the first mission stations to offer the subjects were Morgenster, Hope Fountain, Waddilove, Monte Cassiono and Usher. Mission education, later trained teachers who then introduced the subject in lower primary schools after completing a Lower Primary Teaching Certificate [PTL]. Later the subject was taught at the upper primary level by teachers who had done a Higher Primary Teaching Certificate [PTH]. Few government training institutions, however, showed interest in

DSc Mvududu [1985] argues that DSc programmes among Africans did not find much support from the colonial government. For this reason, many mission programmes collapsed due to lack of money. She cites the case of a Hope Fountain programme which ceased to operate when the Carnegie Corporation in New York could no longer support it.

Since mission schools were generally not funded by government, the number of schools doing DSc had decreased drastically by the 1960's. By 1963, there was only one teacher education school offering DSc at the PTL level in government institutions. There was also one mission teacher education school that offered DSc by the same date. Out of four government teacher education schools, one offered DSc. And out of 47 mission teacher education schools, only one was still offering DSc by the same date. This further suggests that the subject was no longer actively taught in schools since the majority of teacher education colleges were no longer offering it.

The subject was introduced in secondary schools when a two year course was started at Umtali Teacher's College [UTC], a government institution for trainees who had done "O" Level. This was in the late 1960's. The course was code named T2B, and gradually became more integrated at Gwelo Teacher's College [GTC] in 1972. In 1974, the name of the course was changed from DSc to Home Economics [H/E]. GTC became the only H/E training college for secondary school teachers for many years before other colleges joined in. Primary teacher training colleges, however, offered H/E to trainees so that they could handle general hygiene, sewing, and other home related chores without necessarily making the subject an area of specialisation. Throughout this period, H/E had female trainees only at GTC, while the subject was open to both male and female trainees in primary colleges of education. The gender perspective of viewing H/E as a female subject, was however undisputed.

Presently, H/E is taught across all levels of education and training: primary, secondary, teacher education, technical colleges and universities. The introduction of technical subjects in most secondary schools up to "O" Level after 1980 expanded H/E subjects nation wide. The University of Zimbabwe [UZ] introduced H/E in its Education Faculty in 1985. The course was an under-graduate Bachelor of Education [B Ed] for teachers who had specialised in H/E at the teacher education level. Because entry into university H/E programmes was via teacher education qualifications, rather than "A" Level schools, the later schools lagged behind in their introduction of H/E at that level.

Recently the Institute of Food, Nutrition and Family Science [IFNFS] was formally established at UZ. The programme leads to a Bachelor of Science [BSc] in one of the three areas of specialisations: Food Science and Technology; Nutrition and Family Sciences. IFNFS was established to provide Zimbabwe and other Southern African Development Community [SDC] countries with sufficient professional manpower to deal with food and nutrition problems facing present day needs. A similar Bachelor of Arts in Food Technology [BA Food Technology] began in 1994 at the recently opened Solusi Mission University, outside Bulawayo. Entry qualification into the IFNFS and at Solusi University is "A" Level. The courses at these two universities are likely to see H/E being taken at more "A" Level schools than the present number.

The history of a subject, such as the one outlined above, is seen as important in curriculum development studies. The present position of a subject in terms of relevance, knowledge status, form and content of syllabuses can be viewed in historical perspectives. The sources of problems associated with H/E, for example can also be understood from the way the subject was handled in the past, so that more informed plans can be laid out for future use. Barrow [1984] put it more clearly when he wrote:

... we need to know whom it should be useful to; what purpose it should be useful for and in whose judgement it should be useful [Barrow, 1984:34].

Kelly [1980], was similarly of the opinion that an understanding of subject history helped in understanding factors that shaped people's curricular values. He further argued that people's curricular values were influenced by many factors. He cited some of the factors as being determined by culture, epistemology and the history of people associated with that subject. The evolution of H/E in Zimbabwe, tends to fall in line with the views of these two writers.

One of the aims of a curriculum is to chart career path ways for students. Kupsinel et. al. [1989] examined career opportunities in H/E. Their work differentiated between general H/E and specialised H/E programmes in schools. They made reference to occupational and cooperative H/E school programmes at high school, junior colleges and bachelor degree levels. The American situation significantly differed from what developing countries were experiencing. For example, while Hatcher [1974] stated that the USA legislated in favour of H/E by 1917, the Zimbabwe colonial government failed to support missionary-initiated programmes that were facing financial crisis, [Mvududu, 1985] even though from entirely understandable reasons. Given this state of affairs, it meant that career opportunities for H/E in Zimbabwe are not as widely open as those of many developed countries, due to the historical problems encountered by H/E.

Whereas research in technical subjects in general is prolific, that which specifically targeted H/E is very little. Mahlunge [1983] undertook a study of the development of manipulation skills in H/E student teachers in Zimbabwe. Much of her study centred on what Dewey referred to as the relationship between the hand and the eye. Her study focused on:

operational skills, eye-hand coordination, muscle co-ordination, development of aesthetics, creative thinking and abstract thinking [Mahlungwe, 1983:9].

The findings of this study were that in the performance of a skill, many processes, action routines and automation are ordered and co-ordinated in sequence by the time student teachers reach the final year of the H/E course. The other important finding of this study was that it was not easy to separate the cognitive skill from the motor aspect of a performance. But the research failed to conclude whether graduate teachers really passed those skills into their pupils at high levels of performances. From a broad perspective, the findings of this study are applicable to most technical subjects where manipulative skills are important. H/E in this case is a technical subject whose manipulative skills are replicas of other technical subjects in many ways.

Mvududu [1985] investigated the views of University students' opinions towards H/E in general. Her findings were that there were very few studies related to H/E that had been done. She also concluded that the wide spread of H/E in schools offered opportunities to overcome traditional negative perceptions of H/E. This can be achieved by adopting a common definition of the purpose and philosophy of H/E. This view is shared by McCulluch [1990] in his concept of "An Alternative Road" and its "matching section between education and employment", [McCulluch, 1990:13] in which he also said that attitude transformation is more likely to be effective when it is associated with an ideology. The study further found that among university students interviewed, 70% indicated a positive attitude towards H/E subjects, while 23% said H/E was not important. The problem with Mvududu's study was that about 70% of her respondents had neither done H/E or any other technical subject, nor had they been at a secondary school where the subject was offered.

Literature that is related to the aims of the syllabuses for H/E was also examined. The objectives of the Zimbabwe Junior Certificate [ZJC] and the Cambridge "O" and "A" Levels share a lot in common. What these syllabuses aim at, is also in common with what many writers have brought forward as important in the teaching of technical subjects in schools. For example, the General Introduction of the 1992 syllabus stated some of its aims as follows:

... to incorporate social, scientific and technological content and concepts wherever possible across the curriculum so that this essential general knowledge is accessible to as many people as possible [University of Cambridge Syllabus, 1992:3].

The idea of developing skills to as many people as possible is in line with King's argument that developing countries find it necessary to introduce technical subjects in ordinary schools so that technological skills are widely distributed. Also in assessing how well students performed in H/E, the Chief Examiner's Report [1993] seemed to imply that in general the subject had good results. The ZJC's report had the following summary in Cookery and Nutrition:

Generally, performance was above average for [in comparison with the previous year's results] the majority of centres although in a few centres the standard was low [Chief Examiners' Report, ZJC, November 1993:2].

This quotation could argue for a positive perception of the subject in terms of the students' passing rate. But as has been argued elsewhere in this study, attitudes towards

technical subjects, are not based on a single variable. Even if the subject wins a high passing rate at national level, this may suggest that it is an easy subject with very little to challenge the general performance of the average student. So, a report like this one may achieve little in the long run.

In relation to the students' choices of subjects in schools, the literature seem to suggest that technical subjects should not be confined to low achievers nor should gender considerations be prominent [Roux, 1985; Rutter et al, 1992; Young, 1992]. However, Rutter, appears to be more emphatic on this point than other writers. He argued that both boys and girls should be encouraged to opt for technical subjects across the full range of abilities. He also argued that selection should also consider the complete intellectual range of ability of both sexes where facilities for students' free choices may be limited. Goodson, [1988] saw it slightly different. He maintained that pupils should have the freedom to choose the subjects of their choice. This has the advantage of democratizing curriculum choices in schools. But this form of freedom, unless there are checks and balances, may create further problems. A situation whereby students decide on which subject to do or not; may not easily get rid of the influence of social values, particularly in subjects like H/E. Its perceived low status may be reinforced with the result that it may remain a segregated subject. Choice of technical subjects along the arguments put forward by Roux [1985], obviously seem to be more helpful than that of Goodson in so far as technical subject choices are concerned, although this may also remain debatable. However, Barrow [1976] had a different view of this debate. He blamed society for creating curriculum choice in schools. He maintained that technical subjects have historically been associated with less gifted pupils. He further lamented that society's perceptions and influence on choice of curriculum fought against the autonomy of the pupil. When pupils' choices of subjects were determined by cultural values, most of which worked contrary

to reality; pupils' talents and interests were overlooked. Pupils ended taking subjects which they did not most suit to tackle. This in his view was a problem which has not been easy to solve.

2.4 Conclusion

The literature that has been discussed so far could lead to a number of conclusions. It has been established that H/E was initially viewed as a girls' subject [Nisbet, 1968; Rickett, 1972; Christie, 1989]. With attempts being made to open H/E to both sexes in schools, the problems of gender bias have not significantly improved [Measor, 1983; Morrison, 1989].

The question of a curriculum which has academic as well as technical subjects seems to go either way. The WB's position is that the inclusion of technical subjects in ordinary schools in developing countries is uneconomical [King, 1991]. But other views are that, technical subjects should be introduced at both primary and secondary school levels in order to impart the necessary skills for the world of work [Becker, 1982; King, 1991; Roux, 1985].

While writers in support of technical subjects in ordinary schools have written a lot on this topic, few have attempted to address the pertinent pedagogical issues of how academic and technical subjects should be introduced at both primary and secondary school levels in order to impart the necessary as well as relevant skills for the world of work [Becker, 1982; King, 1991; Roux, 1985]. Also, while writers in support of technical subjects in ordinary schools have written a lot on this topic, few have attempted to address the issue of how the division between academic and technical subjects can be satisfactorily resolved. There seem to be two ways that emerge from literature on how this can be done. Young [1992] has his concept of subject knowledge regrouping based on the idea of "connectivity of knowledge" in an effort to bring

about a curriculum for the future. The other solutions are based on an assimilative process whereby the low status subjects "borrow" aspects of their content from the presently high status subjects like chemistry, physics, mathematics and biology [CSC Syllabus, 1992; Paechter, 1993]. Although this seems to be a plausible approach in resolving this curricular division, this process is not likely to be very helpful in the sense that the codes of the academic subjects may still remain insulated.

While writers like Ricket [1972] and Nisbet [1968] placed H/E as a low status subject in terms of low occupational expectations, Rutter [1992] does not seem to support this view. His findings established that H/E related jobs were increasing and asking for higher forms of skills development and training. He also says that the challenges set by the training standards have led more men to take up H/E professions which in the past were accorded to women as well as being viewed as low status subjects.

CHAPTER THREE

3. RESEARCH DESIGN

3.1 Objectives of the Project

As the title suggests, the aim of this study is to investigate the extent to which H/E, albeit in its supposedly "improved" form, continues to suffer from negative attitude. This was assessed, first of all, by asking teachers and pupils at Rusununguko Secondary School to respond to self-administered questionnaires. The questionnaire was based on information gathered during the phase of the study which involved the gathering of primary data at the school, a study of the records of enrolment, staffing, curriculum, and the researcher's informal discussions with both teachers and students. This process which led to the final drafting of the research questionnaire lasted three weeks.

The study also set out to investigate the possible contribution of other factors to attitudes towards technical subjects like H/E. To this extent, the study did not anticipate any specific outcomes. It provided space for previously unstated problems to surface in the process of the research.

However, the limitations of the research, especially in terms of time, make it no more than an exploratory case study, which hopefully, may still contribute to the re-thinking of the problems encountered in the implementation of school curricula that combine academic and technical subjects.

38
16
22

3.2 Choice of the School

3.2.1 General Factors for the Choice of School

Choice of the school was determined by several considerations. Some of these considerations are easy access to the school; a curriculum that combined technical and academic subjects, with H/E being one of those subjects; both boys and girls doing H/E. Details of these considerations are described below.

The school, Rusununguko lies 52 km east of Harare. It lies in a commercial farming zone, under the Bromley/Ruwa Council [Table 10]. It is one of the many secondary schools that were started after Zimbabwe's Independence in 1980. It is also one of the seven secondary schools established by the Zimbabwe Foundation For Education with Production [ZIMFEP], with the intention of introducing the concept and practice of Education With Production [EWP].

3.2.2 Enrolment, Staffing and Curriculum

The school is residential, with the majority of students being boarders [Table 1]. Of the 793 students, 262 are girls. The school has 36 teachers, besides 60 supporting staff members. A wide range of subjects are offered: nine academic, one commercial and ten technically oriented subjects [Table 7].

3.2.3 Accreditation

The school offers a four year secondary school programme divided into two parts. The first two years lead to the acquisition of the Zimbabwe Junior Certificate [ZJC]. This is followed by another two year programme leading to the Cambridge School Certificate [CSC] or "O" Level. The school also offers technical subject programmes leading to the acquisition of the

Zimbabwe National Foundation Certificate [ZNFC] in T/T and Cabinet Making [C/M]. They also count as first year courses for polytechnic-bound students. Only 3% of the total school enrolment are enrolled in these courses in the H/E department.

3.2.4 Subject Departments

There are ten subject departments in the school. Six are for academic subjects, while the remainder are technical and commercial. The H/E department has its own building, with two working-cum-learning rooms. Equipment is stored in two strong rooms: one for F/F and T/T and the other for F/N. Inventory registers of all departmental assets are kept by the Head of Department [HOD]. Records show that assets are audited periodically by external government auditors. Four female teachers run the department [Table 5]. Both boys and girls are doing H/E. Records also show that the average results for F/N were 91,06% and F/F 67% for the period 1990 to 1993 [Table 13]. A record of T/T results has not been compiled, but it was reported to the researcher that the results had always been over 80% each year.

3.3 Research Samples

The success of the research depended on the good will and availability of selected respondents. This became partially evident during the observation and questionnaire administering phases of study.

In this research, the sampling procedure was based on the identification of what Bell [1992] refers to as "representative sub-groups" of the target population [Bell, 1992:74] The sub-groups for the two target populations were as follows:

3.3.1 *Students' Sample*

Students were chosen from one form level: form three. The reasons for this choice is, first of all, that the students were able to understand the language level of the self-administered questionnaires. Secondly, given the fact that the timing of this research coincided with the final external examinations for all fourth years, the third formers had a less pressing school based local examination to occupy them. The examination papers for this level came in the last two weeks of the term, well after the questionnaires had been administered. In terms of career prospects, form three students are supposed to have gained enough knowledge to determine which areas of subjects or curriculum they were likely to need in their future careers. Having gone for three years since entry into the secondary school system, the group was seen as able to look back, and reasonably explain, what they thought were good or poor decisions for their own part, and for that of the school authorities. For the type and level of this research, this target level of students was therefore considered appropriate.

3.3.1.1 Composition of Students' Sample

In all, 40 students were selected as the subjects of this study. However, after their selection, two failed to report at the venue of the exercise. Of those who completed the questionnaire 20 were doing H/E. Of this group, 12 were girls, and 8 were boys. Out of this group, 17 were 16 years old, two who were fifteen and one who was fourteen. They were doing English, Mathematics, Shona, Geography and Science. History, Agriculture and other subjects were optional [Table 14].

The sample distribution of the students doing H/E subjects was as follows: of the 12 girls doing H/E, 2 were doing T/T, 6 were doing F/N and 4 F/F. Of the 8 boys, 3 took F/F while 5 were doing F/N.

Eighteen students in the sample were not doing H/E. Of this group, 5 were girls and 13 were boys. The sex ratio in this category was biased in that most of the girls in the school were doing one of the H/E subjects [Tables 1,2,3 and 15]. Out of this group, 10 were 16 years old. One was 17, 4 were 15, while 3 were 14 years old. Thus the age range of this group was not much different from that of the first group.

The second group of students, [Table 15] were all doing the core subjects; namely, English, Mathematics, Science, Geography and Shona. In this group, and contrary to school policy, 2 boys did not do a single technical subject; 11 boys were doing one or two of the other technical subjects other than H/E, while 5 girls had other technical subjects other than H/E, as well.

The sample that did not do H/E, generally, was doing at least one of the technical subjects. The study, therefore, aimed at measuring the students' attitudes towards H/E with full realisation of the fact that the students in the second sample group were likely to see this particular subject from the point of view of themselves doing other technical subjects other than H/E.

3.3.1.2 Sample Representativeness

The sampling process aimed at realising a reasonable degree of representativeness of the targeted groups. Of the 38 students who responded to the self-administered questionnaires, 17 were girls. Also, of the 17 girls, 12 were doing H/E, while the remaining 5 were doing other technical subjects other than H/E. Given that there were 60 girls in form three, the 17 girls represented 28% of the total number of girls in this form level; while the same 17 girls, also represented 22% of the total number of girls who were taking H/E. The 8 boys

doing H/E, despite of the figure being rather small, was nearly half the number of all boys doing H/E in this form level; given the fact that only 20 boys took the subject at this form level. The 38 students interviewed represented 19% of the total enrolment in this form level [Table 6]. Since most studies hold the view that the sample size should range from 10% to 20% of the total population, the sample for this study was therefore above this percentage in every group [Kwaira, 1988]. Although the sample sizes appeared to be reasonable figures to work on, they could in retrospect have been larger in order to improve the levels of significance in some of the questions.

3.3.2 Teachers' Sample

In a school of 36 teachers, 20 were chosen as subjects of this study. This was 55% of the total number of teachers. Of this number, 9 were female, and 11 were male [Table 16]. Of the total number of teachers, 12 had not been in the service for more than 5 years; 5 had taught for more than 5 years, but less than 10 years; while three had taught for more than ten years. Therefore, the teaching respondents of this research were generally young teachers or teachers whose professional experience did not stretch beyond five years. This may be viewed as a possible weakness of the sampling process in this project; particularly where questions aimed at eliciting information based on professional experience mattered most. All the teachers, however, were qualified. Six teachers taught academic subjects only; while 10 were qualified to teach one or two technical and academic subjects. Only four were qualified to teach technical subjects only. In this regard, the technical-academic ratio was fairly representative of the target populations.

3.4 Data Collection Techniques and Research Instruments

In this study, three of the five techniques put forward by McCall and Simmens, [1969] were used in gathering the relevant data, namely: documentary analysis of existing primary data, direct observation and participation by the researcher, and the use of self-administered questionnaires. The use of more than one technique helped to overcome the possible weaknesses of relying on one technique.

3.4.1 Analysis of Primary Data

The first technique used was an analysis of existing documents in the school. The documents included both official and non-official records which were likely to contain useful information relevant to the study. The perusal of this data, led to the collection of information on staffing and enrolments at the school, the history of the school, teachers' qualifications, the curriculum, and annual results. Although factual information was derived from a study of those documents, it was also interesting to find that other basic assumptions about education in general were contained in these sources. An analysis of existing documents in the school led to the compilation of tables 1 to 13. Commenting on the usefulness of charts, Merriam [1991] wrote that they:

...are designed to assemble organized information in an immediately accessible, compact form, so that the analyst can see what is happening and either draw justified conclusions, or move on to the next step to analysis... [Merriam, 1991:197, quoting Miles and Huberman, 1984:21].

The tables form a major section in the appendices. The tables, as Merriam has noted, serve a useful purpose in that they summarise cumbersome narratives which might otherwise have taken a lot of time and space in the compilation of this study. The tables, in this research, present simple displays of data, containing a lot more information than was in the end used for the purposes of this study.

3.4.2 *Participant Observation*

Participant site-based observation took three weeks. This was not long enough to obtain a deep understanding of the situation in the school and the multiple factors that shaped the behaviour of both teachers and students. But despite the limited time, this method of data collection could not be entirely discounted. During the period, informal interviews were carried out. Brief field notes were taken and expanded shortly afterwards. The first draft of questionnaires was done during this period, based on what was being observed and noted.

Of significance to this technique of data collection, which shares certain features with the ethnographic approach, was the researcher's exposure to some of the pertinent issues related to the hidden curriculum of the school. Observation assisted in reducing and modifying the researcher's predefined assumptions of what was taking place in the school; particularly for this study, about the views and perceptions of teachers and students towards technical subjects, and H/E in particular.

Although this technique was found to be very helpful in this study, certain reservations should be noted. Deep involvement can easily blind the researcher to the degree to which he may be exploring the world in the members' terms only [Hammersley et. al. 1976]. In the present case it could be argued that the observation period was not long enough for this to become

a serious concern. Observation and participation was focused on issues that were chosen by the researcher in a bid to get an analytical grip on as many aspects of school life as possible. The researcher was therefore, arguably, not carried away by being too deeply involved in the affairs and experiences of the school.

3.4.3 *Self-Administered Questions*

The third instrument used in this project was the self-administered questionnaire. The instrument included both structured and open ended sections. This two-fold approach to the use of this research instrument was prompted by a realisation that questions of both types had advantages as well as disadvantages.

3.4.3.1 Structured Questions

The section of the questionnaires with structured questions had the advantage of producing quantifiable information. The questions were straightforward, with clearly stated instructions, with an example given on how the respondent should express an opinion rating of the statements supplied in each case. They were relatively easy to complete in that respondents had simply to tick the column which they felt was the most appropriate in each case. Data obtained through this instrument was also easy to analyse.

However, the structured questions had disadvantages of their own. They were difficult to construct. They were also restrictive with regard to the information they were aimed at eliciting from the respondents. They may further have lacked what Chivore et. al. [1994] termed "spontaneous expressions and tend to favour the designer rather than the respondents" [Chivore, et. al. 1994:22]. Principally, to address this concern, unstructured questions were also used.

3.4.3.2 Unstructured Questions

The unstructured questions asked for explanations or reasons behind the respondents' responses to the structured questions. The unstructured questions attempted therefore, to create a backdrop of local understanding against which some of the responses could be explained or made clearer to the researcher. Typical of open-ended questions, the respondents were unrestricted in the supply of their responses. The range of possible answers was wide. However, unstructured questions have their disadvantages as well. Respondents took a lot of time in answering each question. The data collected through this instrument was also difficult to analyse.

3.4.4 Questionnaire Construction

Certain steps were considered in the construction of the two instruments, in line with what Kwaira [1989] referred to as steps taken by most scientists when measuring attitudes. This entailed the construction of a number of items which represented views about technical subjects arising from the literature reviewed in Chapter Two. Respondents were given three choices from which they had to choose one. The choices were "Disagree" [for columns 1 and 2], "Neutral" [for column 3] and "Agree" [for columns 4 and 5]. An example is given in Fig. 1.

Fig 1

	Agree		Neutral	Disagree	
H/E is an easy subject	5	4	3	2	1

The use of numbered columns was important in that it made the tallying process easy, noting that frequencies of respondents were to be manually processed. Open-ended [unstructured] questions intermittently complemented the structured questions

on the questionnaire. The questions were also phrased in such a way that respondents could add any other information they felt could be helpful to the researcher. Although respondents' opinions were quoted, the names used in the research are anonymous. This position was clarified to both teachers and students before the questionnaires were administered.

3.4.5 *Questionnaire Administration*

The questionnaires were administered by the researcher. As stated in the sampling process section, this was done to selected groups of teachers and students. Administration of questionnaires by the researcher in person has been commended as being able to ensure a:

...high response rate, accurate sampling and minimum of interview bias while permitting interview assessments, providing necessary explanations... and giving the benefit of a degree of personal contact... [Chivore, et.al. 1994:23; citing Oppenheim, 1975:36].

The technique ensured a high return rate. In this study, there was a 100% return rate. However the failure of two respondents to turn up at the last minute, led to the questionnaires being administered to a smaller number of respondents than was originally planned.

The personal presence of the researcher could also possibly influence respondents to give socially acceptable responses. The degree to which social bias may have influenced respondents in this research has not been easy to determine.

The unstructured questions served as cross-checking mechanisms of the structured questions. An examination of the responses, however, suggests that this form of social bias did not in fact play a major role in the overall responses to the questionnaire.

3.5 Data Processing

3.5.1 The Chi-Square Test

Raw data from the structured questions was first transferred from the questionnaires to summary sheets through a process of tallying responses. The tallied information formed a major data base, which also gave a quick visual impression of the data under examination. This data base was comprised of summary sheets with tallied frequencies for each of the research areas of investigation. The tallied frequencies were further used to compile various matrix tables or charts which are collected in the appendices to this report.

The matrix table of frequencies was then tested for significance using the chi-squared [X^2] test. This was useful in that the test measured how far the distribution of samples deviated from a theoretically normal distribution [Zar, 1984]. The chi-square test, therefore, became important for a number of reasons. It measured the significance of results [Tables 17-18]. It also assessed the degree of agreement and disagreement between observed and expected frequencies. In other words, the chi-square test assessed the reliability and validity of the differences enumerated in the statistical data, generally referred to as "the goodness of fit" [Zar, 1984:41].

In this case, the X^2 test measured the levels of the "Agree" responses against the "Disagree" ones. The following example illustrates the procedures that were followed in order to arrive at the significance values of responses to the structured questions:

Fig. 2

	Agree	Neutral	Disagree
Responses	8	9	20

Given responses in Fig. 2 [as an example] in which Agree = A; Disagree = N, significant values were calculated using the formula below.

$$\begin{aligned}
 X^2 &= \Sigma \frac{(A - \frac{A+N}{2})^2}{\frac{A+N}{2}} + \frac{(N - \frac{A+N}{2})^2}{\frac{A+N}{2}} \\
 &= \frac{(8 - 14)^2}{14} + \frac{(20 - 14)^2}{14} \\
 &= \frac{36}{14} + \frac{36}{14} \\
 &= 2,571 + 2,571 \\
 X^2 &= \underline{5,142}
 \end{aligned}$$

Sig. Value of X^2 5,142 = P<0,05

The level of significance is 5,142 [i.e. P<0,05], taken from the X^2 probability tables [ZAR, 1984:42]. This means that the difference of opinion on this question is significant at the 5% level of significance.

The unstructured questions were recorded verbatim. They were analysed by going through all the open-ended responses,

The unstructured questions were recorded verbatim. They were analysed by going through all the open-ended responses, recording patterns of opinions and generalisations that emerged. In many instances, the unstructured responses were used as commentary to complement responses obtained from the structured questions.

The research design was thus both qualitative and quantitative. The quantitative method had its basis in the structured questions; while the open ended questions and on-site observation formed the latter. The advantages and disadvantages of each technique have already been cited. The research was both descriptive and analytical. The statistical information used to analyse data was generally of the descriptive form; a feature also in common with most case studies [Postlethwaite, 1992]. The use of descriptive data was convenient to the purposes of this study for a number of reasons. It was found to be relatively simple to collect and analyse. It was also found that frequencies could be recorded from the instruments with ease, although this was both time consuming and tedious.

To sum up, it can be said that the methods used in processing the collected data were determined when the research was initially designed. The number of responses was such that the information obtained could be either manually or electronically analysed. The fact that tallying was manually done had the obvious disadvantage of leaving out other possible information which could be of use in this research. However, given the financial circumstances under which this study was conducted, it could be said that the basic data was reasonably gathered and utilized.

3.6 Reliability and Validity

Reliability and validity were not considered in statistical terms only, as might be surmised. The wider contexts and factors which contribute to the validity and reliability of research programmes were also considered. Some of the factors included the purpose and objectives of the study itself, the instruments used in data collection, the "quality" of the respondents, the choice of the school where the case study was conducted, and the sample sizes. Each of these factors was considered in so far as it was appropriate to this study; and the extent to which it made possible the achievement of dependable outcomes.

Thus the form level of students was thoroughly considered before a decision was made. The simplicity of language used in the questionnaires, the clarity of instructions, and examples supplied were further factors that could be said to have contributed to the validity and reliability of the study as a whole.

Both teachers and students were completely conversant with the subject topic of this study. The observation stage, which allowed informal interviews and other contacts was critical in inducting the respondents of this study. The pretesting exercise done at Mavhudzi Secondary School, led to the improvement of the questionnaires. Also in line with this argument, the overall results of the chi-square test reflected significant values for many of the questions. In spite of a number of problems, most of which have already been discussed, the results of this study can be said to exhibit a reasonable degree of dependability.

3.7 Problems Encountered

Very few research programmes are accomplished without problems. This study, like many others, had its own setbacks. The first problem was the translocation of the researcher from Cape Town to Zimbabwe where the actual fieldwork had to be conducted. Time elapsed before the fieldwork started. The school initially chosen, Mavhudzi Secondary in Manicaland, failed to meet important requisites crucial to the project: the H/E teachers were not available at the time the researcher visited the school.

Rusununguko in Bromley, then became a second choice, while the former then served as a pretesting centre for the project. The timing of the project coincided with the "O" Level and end of term school examinations. Teachers and students had their interests directed towards the demands of examinations rather than to visitors doing fieldwork. Communication with the supervisor was through the post rather than through direct contact. Feedback on either side was curtailed. The use of computers for preliminary data analysis was too costly for the researcher to consider. This led to the compilation of data bases by resorting to manual tallying of responses on worksheets. Administering questionnaires to a single form level in which the numbers of respondents were determined by the small number of H/E students was restrictive in that the sample sizes were rather small. Small sample numbers resulted in non-significant results on the chi-square tests, although of course this was not the only possible cause for the non-significance on some of the questions. Often, controversial questions and topics, are characterised by non-discriminative responses. However, the proportion of non-significant results did not significantly affect the validity of the project.

In spite of these problems, there was little evidence to suggest that the quality of the information was compromised. The information collected in this project represents a fair

reconstruction of the attitudes and opinions of teachers and students towards a technical subject like H/E. The researcher learnt at least one invaluable lesson: that when problems arise, solutions must be sought without jeopardising the momentum of the study at hand!

PICTURE TWO

A practical lesson in Fashion and Fabrics. A student is being shown how to apply concepts derived from the theory work on the chalkboard. (Rusununguko Secondary School, Bromley, Zimbabwe).

CHAPTER FOUR

4. DATA ANALYSIS

4.1 Introduction

This chapter presents the results and findings of this study. The results are based on information gathered from the records at the school during observation days; as well as on information extracted from the questionnaires that were administered to teachers and students at Rusununguko Secondary School.

4.2 Data From School Records

The data presented under this section is based on the examination of records made prior to the administration of the questionnaires.

4.2.1 Student Enrolments and Staffing

An analysis of student enrolment confirmed that the school was co-educational. Of the 793 students, 67% were boys [Table 1].

The teaching staff was also male dominated with 61% of the 36 teachers being male. H/E was taught by four lady teachers, who constituted 11% of the total number of teachers at the school. This was also 29% of the total number of female teachers in the school [Table 5]. On the basis of numerical strengths, the H/E department was small.

Teachers trained to teach academic subjects only were 58% of the total number of teachers, while 28% could teach both academic and technical subjects. The remaining 14% had specialised to teach technical subjects only [Table 5]. The predominance of academically specialised teachers in this school, suggests that the curriculum of the school is

primarily academic, and only secondarily technical. On the basis of this finding, it can be surmised that technical subjects were not likely to exert as much influence in the school as did academic subjects; and it can also be assumed that their popularity amongst students could not easily match that of academic subjects. However, these assumptions cannot be taken at face value, since to do so would be to assume further that attitudes and perceptions of teachers and students towards H/E are determined by one factor, namely numerical dominance, only. In fact, perceptions or attitudes of teachers and students towards technical subjects, or any other subject, for that matter, are more plausibly influenced by many factors. Given the fact that 42% of the total number of teachers in this school had been trained to teach at least one technical subject could also, perhaps, be interpreted to mean that the way technical subjects were viewed could also have been largely influenced by the presence of that fairly sizeable number of teachers with technical teaching experience. In any case, a generalisation made by Lillis and Hogan [1983], that technical subjects suffered from a lack of professionally qualified teachers was not evident in this school; nor could Morrison's [1976] conclusion, that technical subjects suffered because teachers from colleges and universities in Africa were products of non-industrial educational backgrounds, lacking the essential industrial methodologies, be supported in this case study. The four H/E teachers were all professionally qualified to teach H/E with one teacher having done H/E at post-graduate level in Germany. The other ten teachers taught other technical subjects other than H/E.

4.2.2 *Students Background*

Despite the fact that the school enrolled both day and boarding students, the school was predominantly boarding. Boarders formed 92% of the total student population [Table 1]. With each student paying approximately \$2605.00 per year, it meant

by implication, that the majority of the students came from African middle class homes whose parents could easily afford meeting educational expenses at that level [Table 9]. It is of course plausible that the perceptions of students towards H/E, and other subjects for that matter, could have been shaped or influenced by the home values of these students [Hatcher, 1974].

4.2.3 *Academic Performance of Students*

The average percentage pass at "0" Level in this school for the period 1990 to 1993 was 69,9% [Table 12]. This places the school amongst the moderately high achieving schools in Mashonaland East. The H/E pass rate for F/N was consistently excellent for the same period [averagely 90%]) while the rate for F/F was 67% [Table 13]. The two H/E subjects had thus a good passing record which compares favourably with that of other subjects in the school. If we were arguing from the point of view of results alone, we might say that H/E was likely to be perceived positively by teachers, students and the general public. However, the mere fact that the subject had a consistently good passing rate, does not necessarily suggest that students would develop positive perceptions towards it. On the contrary, a high percentage pass rate could very well reinforce negative perceptions of the subjects. Pupils could interpret good results as a sign of a subject that offered them little challenge. This could well reinforce an assumption that H/E was an easy subject; which in the words of Barrow [1976] was "associated with less intellectually able pupils in secondary schools" [Barrow, 1976:148]. This perception was evident among some of the pupils in the school. Rambai, a student who did not do H/E had this to write:

Usually, H/E has the highest percentage pass. The students have also often commented that it is an easy subject.

Although this one comment from one of the students does not prove anything, it does cast doubt on the supposition that because H/E had good results, it could therefore be positively viewed.

4.2.4 *The Curriculum*

The timetable reflected 20 subjects as being actively taught in this school. Five academic subjects formed the core-curriculum. These were English, Shona, Core-Science, Mathematics and Geography. Of the remaining 15 subjects, ten were technically oriented subjects [Table 7], and were optional subjects. Although the non-core-curricular subjects were referred to as optional; in practice, students had little room to make subject choices of their own.

The curriculum of this school was divided, with the core-academic subjects forming the core-curricular subjects; while a few academic subjects and all technical and commercial subjects were optional, at least in the sense that not all students in the school were doing these subjects. The core-curricular subjects, thus, could be said to enjoy unchallenged popularity based on both official policy and school practice. This state of affairs suggested some support for Young, et.al.'s [1992] argument that a divided curriculum was perpetuated in many ways by policy makers, who also acted by extension as "authors" of a socially divided society.

Of the ten technical subjects in the school, H/E enrolled 37% of the total number of students. Art and Craft had the most number of students among the technical subjects with 47%, followed by Agriculture with 82%. The H/E group ranked third in terms of student enrolment among the technical subjects. If enrolment figures signify significance regarding the way a subject is viewed in a school, then we may say that among the technical subjects offered, H/E could not have been as influential among students as Art and Craft or Agriculture.

When compared with the core-curricular subjects, H/E had a three times smaller enrolment figure. It may therefore be said that H/E had a much smaller number of students to act as its "emissaries" in the school. Its perception and influence in the school was also likely to be commensurately reduced. However, these findings did not suggest that other factors that shaped peoples' attitudes and perceptions were less important than enrolment sizes, nor do these figures on their own demonstrate the fact or the size of influence.

4.3 Questionnaire Data Analysis

The data in this section was obtained through questionnaire instruments discussed in Chapter Three. The students' and teachers' responses were further submitted to the chi-square test [X^2] in order to measure levels of significance. At the same time, the levels of significance of the questions were compared with information obtained through the study of records and other observations made by the researcher. Responses obtained from unstructured questions were also analysed in order to obtain clearer statements of reasons and views of respondents.

The investigation attempts to draw conclusions about the overall views of respondents only, irrespective of gender and other forms of differentiation. This approach to data analysis suited this study in that an overall picture of the perceptions of teachers and students, one which cut across both groups, could be established. As will be later shown, the recommendations arrived at were general conclusions which could not be ascribed to one part of the school or another. The main focus of the data analysis is the students' responses. Teachers' views are important in so far as they related to questions which were not covered by the students' questionnaire. At times it was necessary to contrast the views and opinions of teachers against those of the students.

Analysis is followed by interpretation. It was not always possible to come out with conclusive interpretations. At the same time, it was not easy to obtain a clear explanation for some of the findings that emerged from this study. The result of data analysis was also compared with other findings made by different writers. This had the advantage of providing support for results made or for disputing those results.

4.3.1 *The Technical Subject Debate*

On whether technical subjects should be taught at technical colleges only rather than in schools, it was found that this view was not shared by teachers at Rusununguko. Out of 20 respondents, 18 were of the opinion that technical subjects should also be taught in secondary schools. The strength of the teachers' reactions to this question had a significance chi-square [X^2] value of $P < 0,001$ [Sig. = $P < 0,001$ level] [Table 18:1]. The reasons given by teachers were that technical skills development should begin at the earliest possible opportunity in education and training. Miss Fambai, who taught Building and Mathematics responded as follows:

At school level, pupils should be given the background of a technical subject which they can later specialise on at the college.

The views of most teachers at this school, therefore, supported one of the recommendations made by the Commonwealth Regional Seminar [CRS] on human resources development in East Central Southern Africa in 1985. The recommendation was that, technical subjects should be considered at all levels of education and training; starting at the primary school level [CRS, 1985:8]. Teachers were also of the view that the role of technical colleges was to offer further training by capitalising on skills laid down at the school levels. The views of teachers in this school, were similar to those of

King [1991] on the role of technical and vocational education in developing nations. King maintained that developing countries should have an interest in Technical Vocational Education and Training [TVET] at primary and secondary schools so that technological skills could be spread to the largest number of students.

The views of teachers on this issue could have been influenced by a number of factors. As many as nine technical subjects were offered in this school [Table 3]. The school had 14 teachers trained to teach at least one of the technical subjects. This question, however, did not apply to students. It was felt that the question invited professional explanations of a curricular nature which might not have been familiar to students. The school had a culture of technical subject teaching and learning.

4.3.2 *Equal Job Opportunities*

Teachers at Rusununguko Secondary school were not generally in support of the view that students who had a technical subject had more job opportunities than a pupil who had academic subjects only. Teachers' responses on the χ^2 test were significant at the $P < 0,001$ level for the two questions related to this point [Sig.= $P < 0,001$ level each] [Table 18:1;2]. One of the teachers in the school, Mr Bonga responded as follows:

Not all jobs require technical subjects.
So all students have equal job
opportunities.

Teachers in this school, therefore wanted technical subjects to be part of their school curriculum in order to create wider and equal job opportunities for pupils with a wide range of educational backgrounds and skills. These two questions were not directed to students. However, students' comments under other additional information and comments, slightly differed from those of teachers.

Some students were of the view that H/E had the advantage of being useful when one had failed to proceed with education and training. Its skills could be readily used for jobs that did not require good examination results. In this case, it meant that students under valued the job advantage of doing H/E when compared with their interests in further education beyond "O" Level. They, however, felt that H/E offered them opportunities for self-employment. These responses, unfortunately, were comments which were not necessarily χ^2 tested.

4.3.3 *Subject Knowledge Boundaries and Knowledge Insulation*

On assessing which subjects offered opportunities for interdepartmental activities with H/E, teachers views favoured Science and Mathematics [Sig.= $P < 0,005$ level each]. However, Science had a χ^2 product of 9,666 whereas Mathematics had 8,777 [Table 18:3;4]. From this analysis, one can surmise that teachers were of the opinion that Science was marginally nearer to H/E than Mathematics. Inter-departmental activities could be developed much more easily between Science and H/E. This view was illustrated by Mr Sibanda's response.

H/E seems to be the sister subject of Science and should have been better if it were called Science in the kitchen.

By taking Paetcher's [1993] views that subject boundaries of knowledge could be reduced when low status knowledge subjects were associated with the high status subjects, teachers agreed that the best subjects for this kind of approach were Science and Mathematics. In spite of this realisation, the investigation concluded that such a possibility was non

existent. Despite this view about the proximity of subjects, the situation in the school favoured strong subject departments which results in strong subject codes. As Mr Banda commented:

Inter-departmental activities [are] not well developed at school.

It therefore meant that what Bernstein [1981] referred to as factors that perpetuated subject knowledge differentiation were evident. This view was further elaborated by Young [1981] in his reference to the "openness" and "closed system of a subject". Young [1981] argued that a subject or knowledge area could suffer from low status if it failed to relate itself to other subjects. One of the ways to achieve that, however was by means of inter-departmental activities of a pedagogical nature. The possibilities for H/E to be improved through this process were therefore not great.

4.3.4 *H/E and Gender Perceptions*

The idea among students that H/E was more suitable for girls than boys was not significant [Table:17:1,2,3,]. This meant that there were as many opinions in agreement with this view as there were differences. It also meant that this was not an issue that mattered much to students in this school. However χ^2 significant values of $P < 0,001$ were obtained on questions two and three. Students rejected the fact that H/E was more suitable for boys than girls. They however agreed that the subject was suitable for both boys and girls [Sig.= $P < 0,001$ level]. They felt rather, that the subject was suitable for both boys and girls [Sig.= $P < 0,001$ level]. Students' views were shared by Miss Dube, an H/E teacher in the school:

H/E is a subject suitable for both sexes since what is learnt there... deals with basic needs - food and clothing which we cannot do without.

Teachers' opinions were generally that H/E was suitable for both boys and girls [Sig.=P<0,005 level] [Table 18:15; 16; 17]. In other words, neither students nor teachers had a distinct gender bias attached to H/E. One may say that this is a fairly progressive view. However, this opinion could not be matched with the enrolment gender ratio in the H/E department where boys were 27,7% of the total number of students taking H/E. Despite their progressive opinions, students were still electing academic subjects with greater frequency. It is not impossible, therefore, that students were telling the interviewer what they thought he wanted to hear, and not their real opinions.

4.3.5 *H/E and Slow Learners/Low Achievers*

Students rejected the idea that H/E should be done by slow learners and low achievers [Table 17:4,5]. The responses of the students were Significant at the P<0,005 and P<0,001 levels respectively. As Tendai, an H/E and Physical Science student, wrote:

They [slow learners] will not achieve anything if they are not hardworking, so very hardworking workers should do H/E.

However, students were also of the view that H/E was indeed an easy subject [Sig.=P<0,005 level] [Table 17:4]. Takunda, an H/E student responded as follows:

H/E is an easy subject because it is easy to plan for meals and it is easy to cook the required food or easy to cut the required cloth.

The view of H/E being a suitable subject for slow learners and low achievers was also rejected by teachers [Sig.= $P<0,001$ level] [Table 18:18;19]. This was summed up by Mr Takawira, an English teacher:

It amazes me because H/E has been known to be too scientific and too mathematical and to say it should be done by slow learners really shocks!

Further, teachers rejected the opinion that H/E did not lead to challenging jobs [Sig.= $P<0,001$ level] [Table 18:18;19].

From the above analysis, two conclusions can be made. Firstly, teachers and students were of the opinion that H/E was an easy subject. But the fact that it was easy did not also mean that H/E should be done by slow learners and low achievers. Rather, their views implied that the subject should be open to students of all abilities. This view is supported by Rutter [1992] who argued that not only should technical subjects be done by both boys and girls, but that technical subjects should be done by students across the full range of abilities. Other writers with similar views were Roux [1985] and Young [1992].

The fact that both teachers and students viewed H/E as an easy subject could possibly have two entailments. The subject might be popular, at least on the basis of it being easy to pass. It could also be unpopular on the basis of it failing to set challenges to students. In the present investigation, students who saw it as failing to set challenges for them were likely to rate it negatively.

Students also disagreed with the view that H/E led to job opportunities that were likely to offer meagre monetary returns [Sig.= $P<0,001$ level] [Table 17:6]. As Kudzai wrote:

That's not true because there are some of the highly paid jobs like hotel management which also need that skill.

Similar sentiments were shared by teachers in their rejection of the view that H/E led to less challenging jobs [Sig.=P<0,001 level] [Table 18:19].

The investigation therefore established that both teachers and students at this school did not view H/E with low occupational expectations. In the light of this finding, it may be surmised that the school did not experience the problems that contributed to the low regard of technical subjects, in the manner. As King asserted: "in many countries, the low status of secondary technical [curriculum] subjects derives mainly from unclear career outcomes" [King, 1978:34]. Equally, this conclusion did not support one of Bernstein's [1982] expectations that a subject like H/E as a functional body of knowledge lacked capacity to create positive occupational expectations amongst students.

4.3.6 *Constrained Choice of H/E*

During observation it was established that technical subject choice was quite constrained. On whether this administrative procedure had created problems in the school, students views were largely negative: they thought it has no effect on the "O" Level results, and that it has no effect on students dropping the subjects. Students also rejected the view that parents had complained about these constraints on technical subject choice [Sig.=P<0,005 level]. The opinions of students on these three issues were under written by the H/E results over a period of four years. F/N had an average pass of 91%, while F/F had 67% [Table 13].

A number of conclusions can be drawn from the analysis above. First, the constrained choice of H/E had no effect on its popularity in the school. Secondly, and possibly for that reason, the practice did not impact on students' performance but largely on subject choice patterns. Students also felt that they could have chosen H/E if they were given an opportunity to do so when they first started secondary education [Sig.= $P < 0,01$ level] [Table 17:23]. This view was summed up by Pepukai:

I was interested in the subject since primary level. I wanted to acquire more skills in garment making so that I would be a designer.

Students also agreed that their parents were pleased to know that they were doing H/E [Sig.= $P < 0,005$ level] [Table 16:24]. To this question, Tongai had this to write:

My parents will be pleased because they are encouraging me to continue doing the subject. They have bought new books for me to read, which shows that they are pleased in the work I am doing... they know that nowadays employment is difficult to find. So doing H/E can help in improving skills... for our future.

The two questions above, [Table 17:23;24] however, although not applicable to teachers, their responses were more or less the same as those of the students [Table 18:11;12;13;14]. Teachers, however, were ambivalent as to whether the practice had affected the H/E "O" Level results. So, too, as to whether the practice had been complained about by parents. As Mr Tavengwa one of the teachers, said:

There haven't been any complaints from parents - but the practice is bad...

At the same time, teachers felt that denying students freedom to make choices affected students interest in H/E [Sig.=P<0,005 level] [Table 18:12]. They viewed this poor practice as a possible contributory factor for students' low regard for H/E. They felt too that the practice resulted in poor motivation amongst H/E teachers [Sig.=P<0,005 level] [Table 18:13]. One of the reasons why there was no free choice of technical subjects including H/E, was because of lack of adequate facilities. Miss Tabuda, one of the H/E teachers wrote:

Facilities do not allow students to freely choose technical subjects.

Lack of adequate facilities for technical subjects has been cited as one of the major limiting factors in the successful implementation of technical subjects [Kallaway, 1992; Lillis, 1987].

Another possible reason why teachers' responses to questions 11 and 12 were not significant could be that the practice was viewed with indifference because it was a practice which concurred with the government's position on core-curricular subjects. Mr Kuona, one of the teachers responded as follows:

The school's imposition [without giving students the opportunity to choose] of technical subjects is not different from the imposition of core-compulsory subjects [dictated] by Ministry officials.

4.3.7 *Subject Knowledge Status*

Students felt that English, Mathematics, Science and History were much more important to them than H/E [Sig.= $P < 0,05$; $P < 0,05$ and $P < 0,05$ levels]. However, this was not the case for W/W. The significance levels of English, Mathematics, Science and History also revealed an interesting effect which raises curriculum planning and policy issues. History had marginally the highest χ^2 result of 6,533; English and Science had 5,538 each; while Mathematics had 4,800. All these subjects recorded a significance level of $P > 0,005$. But the fact that History had the highest χ^2 result is interesting in the sense that History is not a core-compulsory subject at the school. It is one of the optional academic subjects. If a non-compulsory subject like History, scored a higher χ^2 result than the official core-subjects, it suggests that students' views and their rating of subjects was not shaped solely by official policy considerations. The questions that arise are:

- (i) To what extent do curricular planners consider students' interests in their design of the form and content of subject knowledge and of the core-curriculum subjects?
- (ii) Would it make any difference if the idea of core-curricular subjects was done away with in education and training?

While an investigation of these questions, fell outside of the scope of this investigation, some of the views of the teachers' sentiments bore on the questions raised above. Mr Dzingai, a W/W teacher wrote:

... if a country is to be rich, then it should consider technical subjects and value them to be just as important as English...

From this we can infer that Mr Dzingai does not think that English should be compulsory.

Mr Gumbo, a teacher qualified to teach History and Physical Education also responded as follows:

... if possible, H/E should be made compulsory also...

These views may suggest that teachers have views; on compulsory core-curriculum, that should be further probed.

Responses of teachers to questions on the subject knowledge status of H/E, when compared with other subjects, were the opposite of those of students [Table 18:20; 22; 23; 24]. Only one question was significant at the $P < 0,001$ level. Teachers were of the view that W/W was more important than H/E; the only subject which students did not feel was of equivalent importance to H/E. This lack of significance could be attributed to a number of factors.

The sample size, unlike that of the students' sample was small. This could make it difficult to obtain a significant result. However, given the views of the two teachers, Mr Dzingai and Miss Gumbo, who seemed to have argued for the equality of subject knowledge, another explanation could be that the questions were controversial and debatable. In many cases controversial topics result in divided opinions.

4.3.8 *Use and Importance of H/E*

Students' opinion on the personal importance and usefulness of H/E were assessed [Table 17:12;13;15]. Two of the students' responses were significant. Those questions dealt with the usefulness of H/E skills at home and for teacher training. From the results, the students were of the view that H/E skills were important and relevant for use at home

[Sig.=P<0,005 level]. They also felt that H/E was important for students' opportunities and teacher education programmes [Sig.=P<0,005 level]. This means, by implication, that students do not prioritise H/E for "A" Level or university courses like they do for teacher education programmes or for home use. This finding is historically grounded in that H/E became popular in teacher education colleges prior to its introduction at university and "A" levels. Also, Mvududu's [1985] account of the evolution of H/E in Zimbabwe ascribed H/E to teacher education programmes rather than to other fields of education and training.

Teachers' responses on those same questions matched with those of students. Teachers agreed that H/E skills were important for use at home [Sig.=P<0,005 level] [Table 18:6;9;10]. They were also of the opinion that H/E offered opportunities in teacher education programmes and other forms of employment [Sig.=P<0,005 level each]. They did not agree significantly on the importance and usefulness of H/E for either university or "A" Level training.

From the discussion above three conclusions can tentatively be drawn. Both teachers and students in this school were of the view that H/E skills were important for use at home. They also felt that the subject had professional training opportunities in teacher education programmes.

The teachers were also of the view that H/E had greater opportunities in other forms of employment than at either "A" Level or university training. We may surmise that the traditional occupational bias against H/E can still be discussed in these views, and that it may take some time yet before H/E is seen as a "worthy" "A" Level and university subject.

4.3.9 *Other Role Players*

Teachers were asked to comment on how they thought their headmaster was handling school affairs that related to H/E. The position of the headmaster is crucial in influencing events in the school. The headmasters' views and attitude towards H/E could easily be spread amongst teachers and students. Teachers, however, were of the view that their headmaster was very positive and supportive in his handling of H/E programmes in the school [Sig.=P<0,005 level] [Table 18:25].

4.3.10 *Students' Attitudes*

Students' attitudes towards H/E were also measured. It was established that H/E was a tiresome and laborious subject [Sig.=P<0,001 level] [Table 17:19]. However they also agreed that the subject was enjoyable [Sig.=P<0,001 level]. Teachers were of the opinion that although H/E was a labour and work related subject, it was both creative and enjoyable. As Miss Tagona said:

Students are required to design an article and calculate the material needed and finally make the article, thereby encouraging a lot of creativity.

And as Miss Pasi said:

The ZNFC [Zimbabwe National Foundation Course] subjects, Metalwork, Woodwork, and H/E syllabuses offer creativity.

We may infer that, although the teachers felt the subjects offered scope of creativity, that the students, while finding the subject enjoyable, were more aware of the repetitive and laborious aspects of the H/E subjects.

4.3.11 *Additional Information From Students*

This section deals with analysis of unstructured interview data gathered from respondents. The idea behind this technique was to widen the scope of information gathering so as to explore the wider opinions of teachers and students towards H/E. As was pointed out in Chapter Three, unstructured responses were difficult to analyse. Additional information cannot be tested significance. However it is interesting to examine some of the issues raised by the respondents. A rule of thumb for selecting these issues was that any issue that was raised by at least five respondents was considered worth reporting. Students' spontaneously mentioned the following advantages of doing H/E:

- H/E skills are marketable
- H/E skills could be used at home
- H/E skills could be used to start self-help projects after school.
- H/E was good in that students could consume the food after F/N practical lessons! [This came from boys.]
- H/E offered opportunities for further education.

Some of the advantages put forward by students were partly covered by the questionnaire. But the way they were presented by the respondents made it possible to see the way the students put the issues themselves. The question of opportunities for the establishment of small ventures of a self-reliance nature could have had its basis in the concept of EWP; coming from the students' involvement in Production Units [PUs] at their school. Secondly, the largely urban backgrounds of many of the students could also have played a role [Table 12]. Most urban centres have since developed informal sector free market practices which students could have associated with H/E skills.

The disadvantages of doing H/E were listed as follows:

- H/E was prone to accidents.
- H/E required expensive inputs in equipment and repairs.
- The subject was not open for "A" Level in many schools.
- Subject skills were often despised by people.
- It was not easy to obtain a job inspite of having H/E skills.
- Lack of equipment, led students to share what was available.

4.3.12 *Additional Information from Teachers*

Teachers were also given an opportunity to supply any information they wished to. What emerged from teachers was the following:

- Teachers of ZNFC in C/S, C/M and T/T had to be paid more than ordinary technical and academic subjects.
- H/E syllabus should have PUs being incorporated into the official syllabus.
- H/E should be compulsory.
- H/E offered solutions to problems created by Economic Structural Adjustment Programmes [ESAP]. On this point, Miss Manyika wrote:

With the introduction of ESAP, people need to be tough and to be self-reliant... by taking seriously these technical subjects.

This additional information from teachers like that of students was difficult to quantify. It too was selected on the basis of mention by at least five teachers. Out of this information, emerged some pertinent factors which could be contributory sources of positive or negative perceptions of H/E. The need for better remuneration for teachers of the ZNFC programme could have been prompted by the higher demands of that syllabus when compared with the work loads of other subjects.

4.4 Conclusion

The analysis of data discussed in this chapter represents an attempt to account for the opinions and views of teachers and students towards H/E at Rusununguko Secondary School. Some of the results had several plausible interpretations, while the quantitative data lays a basis for solid information on which further investigations can be based.

CHAPTER FIVE

5. GENERAL FINDINGS

5.1 Results

The result of this study lends support to the researchers' initial supposition that the successful design and implementation of a curriculum that combines academic and technical subjects in schools remains a challenge to educationalists in both the developed and developing countries. Similarly, the debate on the importance, usefulness, relevance and appropriateness of technical subjects in schools remains unresolved [Foster, 1965; King, 1991]. But Leclercq's [1994] recent contribution to this debate seems to offer an educational resolve to the debate, in that, he sees present technical/vocational and general academic education as inevitably merging towards "the end of mutual disregard" [Leclercq, 1994:50].

Initiatives to improve the position of low-status subjects have taken various forms under different learning and teaching circumstances. In Zimbabwe, for example, curricular initiatives in the areas of H/E have been gradual and incremental, up to 1980. Thereafter, technical subjects were widely introduced in the formal and traditionally academic schools as full examinable subjects. H/E which embraces F/F, F/N, T/T and C/S, is being vocationalised and assimilated to the more prestigious subjects like Science. At the same time, the subjects have found place in teacher education and university training. The ZNFC course, however, signals a marked step in bridging the gap between industry and the school in the sense that both industry and the school jointly assess students' performance in T/T. The questions that then came to the fore for this investigation are: To what extent have these initiatives made an impact on the attitudes of teachers and pupils? Or does the unchanged academic component

of the curriculum still exert a decisive influence on curriculum attitudes? An attempt to answer these questions was the main thrust of this investigation.

Given the magnitude of the problems associated with technical subjects and the curriculum in ordinary schools, answers to the two questions in the preceding paragraph could not, on their own, be expected to suggest solutions to curricular problems of this magnitude. Rather, the investigation aimed to highlight some of the intricate, theoretical and practical problems associated with the implementation processes involved. Certainly, there were no simple solutions discovered in this investigation. Instead, pointers that emerge out of the study raise a number of curricular questions as well as policy planning questions whose answers lie in further research work.

Negative or positive perceptions of H/E at this school were influenced by official policy decisions. Issues related to this finding were the official syllabus; the question of whether a subject was core-curricular or optional. There were also school based forms of perceptions towards H/E. These had to do with programmes that were planned and executed by the people in the school at their various levels of operations: the head of school; subject departmental activities and teacher-student activities in the learning and instructional processes. Examples of issues that emerged from this study were official examination results of H/E, enrolment and staffing, subject choices and other pedagogical activities.

The other category were factors contributed by pressure from the general public. In this category, examples were found to be the poor perception of H/E by the general public, students, parental expectations and involvement in what goes on at the school. The last category, also related to the preceding one, is socio-economic considerations.

5.2 The Importance of the Study

This case study, it is hoped, should be of some importance to educationists with interests in technical/vocational schooling in general. The study should be of interest to H/E educationists in particular. In this group are H/E teachers, subject advisors and education officers. The investigation could also be of relevance to the people at the school where the investigation was done. Rusununguko Secondary School teachers, students and the Education Division of ZIMFEP could well make use of this study. The study is also important in that issues that remain unanswered have come to the fore. Two questions that emerged clearly are: What difference would it make if compulsory subjects were treated as equal to non-compulsory subjects? How can the problem of unpopular, but compulsory subjects be matched with students' interest and motivation to learn?

5.3 Limitations of the Study

In spite of the conclusions reported in this chapter, this project also had its own limitations. Some of the problems are discussed in Chapter 3. The project was carried out on a very small budget. This curtailed the range of investigating methods possible. The time spent on, especially the school observation, was unfortunately rather short. The sample size is small and restrictive in that it targets a particular form level with a limited number of students doing H/E. This might have been one of the possible explanations behind the non-significance of X^2 values measured on some of the questions.

Some of the recommendations made are not readily implementable at the school without the involvement of ministry officials. Also, some of the recommendations made require long-term investigations which require that funds be available. In most cases funds will not be easy to find. Since the present

project is one of the few studies carried out on attitudes towards H/E, it is certain that the investigation will have left out other critical issues. Lastly since this is a case study, its results are not automatically applicable to other schools or situations, because factors that help develop attitudes or perceptions are also dictated by particular and situational circumstances. These all require far more investigation than the present study.

In the section below, some of the findings established in the study are extrapolated to make a number of possible solutions. These are however tentative and limited by the overall limitations of the study.

5.4 Proposals for Curriculum Change

5.4.1 Gender and the Curriculum

It was established that there are more boys than girls at the school. However, the reverse is the case when it comes to the H/E department. It was further established that both teachers and students are in favour of H/E being done by both boys and girls. The following are possible solutions:

1. The school should aim to enrol as many girls as boys in order to address this gender imbalance [Table 1]. The same should be done in the H/E department [Roux, 1985].
2. Efforts should be made to bring about a greater awareness of gender problems at the school and in society as a whole [Stanworth, 1988].

5.4.2 Students' Academic Expectations and Status of Subject Knowledge

The investigation established that academic expectations of students were higher in English, Mathematics, Science and

History than in H/E. H/E was found in each case to be a second-choice subject. H/E, was, however, viewed on a par with W/W. The dominance of academic subjects over technical subjects was confirmed but what also emerged were curricular questions on the criteria used to determine core-curricular subjects. It was further established that inter-departmental activities were very limited, resulting in strong subjects boundaries in this school [Bernstein, 1981, Young, 1981]. This reinforced subject status differentials. To this end, it is recommended that if H/E is to be elevated from its present position, the school has to consider some of the following options.

1. The implications of Young's [1992] concept of the connectivity of knowledge could provide a starting point for the first option. In this option, knowledge had to be reorganised in such a way that no subject had status advantage over any other. To this end, the distinction between technical and academic subjects must be dissolved. It will, however, be difficult to implement this option at one school without the help of ministerial intervention. Even curriculum re-organisation, is a drastic step with far-reaching implications. However, a possible first step with this option could be to induct teachers into the concept of Young's [1992] connectivity of knowledge. This would entail, first, the identification of personnel with the requisite expertise to lead, design and monitor staff development programmes at the school. The inducted teachers would act as policy advocates for this option. If possible, the school could be designated a pilot project through which the option could be planned, monitored and eventually tested.

There are, of course, added advantages in this approach in that innovation at grassroot level trains teachers to move away from being passive elements in educational

planning processes. Rather, they begin to have some measure of control of curricular planning. Secondly, through the learning experience itself, self-confidence in the experimenters, which is essential to expand past the pilot phase, is cultivated. But, as pointed out earlier, this innovation is highly unlikely in one school only.

2. A second option would be to adopt Paetcher's [1993] approach to subject knowledge transformation and improvement. This approach, entails the assimilation of low status knowledge to higher status knowledge. The problem with this approach is that it is one-sided. It is H/E that would be assimilated to the more prestigious subjects like Mathematics and Science. The Cambridge Syllabus [1992] that was cited in Chapter Two of this project, favoured this assimilative approach. Like Young's [1992] connectivity concept, Paetcher's [1993] option would be easier to implement if there existed a macro-curricular design for all schools. However, the possibility of this option being successfully executed lies in the fact that Paetcher's views, were based on the experiences of a study carried out in one school in England. The recommendation, therefore, has an empirical reality to its credit. However, it has to be realised that, the success of an innovation elsewhere, is no evidence of success under different conditions. But even if this approach is to succeed, it is likely to suffer from problems often associated with many school based curricular innovations: they do not easily result with reform [Simmons, 1980].
3. A third option would be to adopt pedagogic activities that attempted to reduce the high visibility of subject boundaries [Bernstein, 1981, Young, 1981, Stanworth, 1983]. While subjects and their teachers retained their original positions, teachers would now, in addition, have

to integrate teaching activities across boundaries of subjects and classes. For example, a Biology topic on the digestive system could be planned and taught by the H/E teacher in the Science department; while a topic on minerals in food substances could be better handled by the chemistry teacher in an H/E lesson. Inter-subject departmental activities of this type may well reduce teacher perceptions of both subject and subject knowledge differences. The advantages of this option would be that the activities were school and teacher based. The change process would also be easier to monitor, redirect and evaluate. The disadvantages of this approach would be that the teachers remained specialists in their subjects, while also being identified with other subjects in the school. Subjects might then retain their previous position, but might also be viewed as sharing many concepts with each other, at least on a practical level. The weakest point of this approach would be that it is the nature of knowledge, however, that remains unchanged.

4. Another option that could be considered, although with problems of course, would be the North Korean model [Young, 1981]. This model places the emphasis on economic and political differentiations rather than on traditional subject knowledge. In the process, the school curriculum is seen as closer to the economy, and many activities of learning became industrial and technological in orientation. This approach would encounter problems in Third World countries like Zimbabwe, where both industry and technology are very underdeveloped. However, a beginning could be laid by matching curricular work with levels of technology and industrialisation deemed attainable within the Zimbabwean context. The major problem with this approach is, whether syllabus change would always be able to match the pace at which technology outside the school was developing. This is also one of the main arguments put

forward by critics of technical subjects in schools [see Lillis, et. al. 1984].

5. The last and most conservative of the options would be, to let the initiative remain in the hands of the CDU, so that solution and the pace of change remains the prerogative of the national policy makers, while the school merely implements what is planned by the planners. The obvious disadvantages with this option are that sometimes nothing is effected, or if it does, it may lack relevance to particular school situations.

5.4.3 *Constrained Choice Of H/E*

The situation where students were not free to make the subject choices they wanted to, is very unpopular in the school. Although there is no evidence to suggest that the practice affected students' performance, teachers felt the practice was a source of demotivation. The following recommendations may begin to address the problem.

1. Greater interest in both instruction and learning might be achieved if curricular choice was democratised in this school [Goodson, 1988].
2. Adequate infrastructure, in the form of more technical working rooms, should be made available in the school. This allows students to make choices of subjects they have interest in. In any case, adequate infrastructure has the added advantage of having more equipment and free space during learning times.

5.4.4 *Expense*

While it was noted that one of the disadvantages of H/E is that it requires expensive inputs and recurrent costs, cost

effectiveness could be promoted if teachers developed their students' manipulative skills fully in the handling and care of available equipment. Mahlunge's [1983] reference to the development of students' manipulative skills were vital, not only in carrying out learning tasks, but in the good care and proper handling of the available equipment. When proper skills are developed in students, the rate at which breakages and accidents occur is reduced. The pedagogical process becomes cost effective in general.

Given the fact that opportunities for further education [beyond "O" Level] in H/E, are more in teacher education programmes, than at "A" Level, it is suggested that the school should consider opening "A" Level classes which would cater for the H/E subjects. In any case, results in H/E for the period 1990-1993, seem to support this idea.

6. Funding The School Based Project

Some of the options discussed in this chapter, suggest that the school could profitably initiate pilot projects. This implies that funding might be available. Given the general scarcity of funds, it would further mean that external sources of funding of the projects might be one of the options for the school. King's [1991] views on how donor funds have been used to sabotage educational initiatives on the continent, should be a caution. The nature, form and interests of the possible donors should be carefully assessed. The donor personnel, and the monitors and evaluators of programmes, should be conversant with the local conditions: the education system, relevant subject skills, industrial training needs, syllabus content and the nature of teaching methodologies that would be relevant. The interests and involvement of community structures, cannot be overlooked. In King's [1991] view, projects funded by both the WB and IMF failed because poorly prepared personnel were used. Secondly, the donors carried out the project with strings attached in favour of meeting agendas most desirable to them, rather than the recipient of

educational aid. Such an approach to donor funding may, of course, mean that very little, if any, donor funds become available for use by schools like Rusununguko.

7. Future Research

This study found it necessary that further investigations be carried out by other researchers. The following recommendations should be considered.

1. Future research should consider a broader based sample of schools, students and teachers in schools that offer the type of curriculum in this study.
2. Researchers should focus on whether an education system with core-curricular subjects, differs from a system in which no school subjects are compulsory.
3. Future research should also focus on the level at which technical and general academic education are inevitably merging towards "the end of mutual disregard" [Leclercq, 1994].

8. Conclusion

The investigation was able to make definite and indefinite conclusions. On the extent to which various initiatives have gone in improving the status of H/E and other technical subject processes which should see people's attitudes towards the subject as being improved, this investigation concluded as follows:

1. The widening of the curriculum, which included the introduction of several subjects comprising the main subjects called H/E, was evident in this school.
2. The ZNFC course in T/T, has resulted in a new educational phenomenon, in which, curricular

work is shared between the school and the industry.

3. The subjects were taught up to "O" Level. Further opportunities for these subjects lay largely in teacher education, and to a lesser extent, "A" Level and university education.
4. It was also established that H/E had acquired some features of the science syllabus, which in the past, were not part of the subject.
5. H/E accommodated both boys and girls, thus moving tentatively away from the traditional pattern, with its belief that, it was a subject for girls rather than boys [Measor, 1983 Nisbet, 1968].
6. H/E is not reserved for slow learners. Students of differing abilities were seen to be doing it [Roux, 1983].
7. The introduction of technical subjects in schools, rather than in technical colleges, was viewed as necessary in developing students' technical skills at the early stages of education and training.

In spite of all this, the gender bias attitude to the subject has not disappeared. The subject has not assumed enough popularity and respect among boys to match interest and enrolment in subjects like Mathematics, Science and English.

Some ways through which educationists could possibly improve the situation were discussed. Finally, however, the problems associated with a curriculum that combines academic and technical subjects, remains a challenge to educationists. That challenge, however, invites concerted research work from interested educationists.

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APPENDICESTABLESTABLE 1STUDENT ENROLMENT AT RUSUNUNGUKU SEC. SCHOOL

	No.	% of total enrolment
No. of girls	262	33
No. of boys	531	67
Total no. of girls & boys	793	100
Boarding Students	733	92
Day Students	60	8

TABLE 2STUDENT ENROLMENT IN HOME ECONOMICS (H/E)

	No.	% of total enrolment
Boys	82	10,3
Girls	214	26,9
Total	296	37,2

TABLE 3STUDENT ENROLMENT IN H/E BY SUBJECT AND GENDER

	Girls	%	Boys	%	% of total enrolment
F/F	115	39	32	11	50
F/N	99	33	50	17	50
T/T *	11	4	-	-	4
	214	72	82	28	100

* NB. Students doing T/T also do F/F.

TABLE 4**FORM 3 H/E STUDENT ENROLMENT BY SUBJECT AND GENDER**

	Girls	%	Boys	%	% of total form 3 school enrolment*
F/N	34	17	7	4	21
F/F	20	10	13	7	17
Total	54	27	20	11	38

* The total number of students in form 3 is 200

TABLE 5**ANALYSIS OF TEACHERS BY QUALIFICATIONS**

	No.	% of total no. of teachers
Academic Subjects only	21	58,3
Academic plus any Tech. Subject	10	27,7
Technical Subject(s) only *	5	14
	36	100

* There were 4 H/E teachers plus 1 Agriculture teacher

TABLE 6**GENDER PROFILE OF TEACHERS**

	No.	% of total no. of teachers
Female Teachers	14	39
Male Teachers	22	61
Total	36	100

TABLE 7TOTAL STUDENT ENROLMENT BY SUBJECT

	No. of students	% of total enrolment
English Language	793	100
English Literature	185	23
Shona	793	100
Core Science	714	90
Mathematics	793	100
Geography	793	100
Agriculture	650	82
History	582	73
Art/Craft	371	47
Accounts	199	25
Building Studies	160	20
M/W	159	20
F/N *	149	19
F/F *	147	19
Biology	76	10
Physical Science	76	10
W/W	46	6
T/T *	22	3
Cabinet Making (C/M)	22	3
Technical Graphs (T/G)	20	3

* H/E subjects

TABLE 8ANNUAL FEES PER STUDENT

	Amount in \$Z
Tuition	495
Boarding	1 650
General Purpose	90
School Development Association (P.T.A)	345
Industrial Technical Subject Fees (approximated)	25
Total:	2 605

TABLE 9**EXAMINATION FEES**

	Amount in \$Z
ZJC per subject	8
"O" Level per academic subject	60
"O" Level per technical subject	66

- NB. (1) ZJC candidates are expected to sit for at least six subjects in all.
(ii) "O" Level candidates should enter for five subjects or more.

TABLE 10

ADMINISTRATION PARTICULARS OF RUSUNUNGUKO SECONDARY SCHOOL	
Registration Number	5151
Type of School	Government
Province	Mashonaland East
Provincial Code	18
District	Goromonzi
Council Code	Number 222
Council Area	Bromley/Ruwa
Division	Commercial Farming Area
Department Number	1420 (Education)
Station Number	7485 (Education)

TABLE 11**STUDENT ENROLMENT BY RURAL/URBAN RESIDENCE**

	RURAL No.	%	URBAN No.	%	Total % of each gender in school
Girls	97	37	165	63	100
Boys	281	53	250	47	100
Total	378	48	415	52	100

TABLE 12**PASS RATE FOR ALL SUBJECTS AT "O" LEVEL 1990 - 1993**

	1990	1991	1992	1993	Average Total
	70,6	69,2	68,7	71,2	69,9

TABLE 13**PERCENTAGE PASS RATE IN H/E: 1990 - 1993**

	1990	1991	1992	1993	Average
F/N	88,5	94,6	90,0	89,5	90,65
F/F	80,6	48,0	84,2	55,5	67,07
Average	84,55	71,3	87,1	72,5	78,86

TABLE NO. 15
STUDENTS NOT DOING H/E BY GENDER, AGE AND SUBJECT

	GENDER		AGE												SUBJECTS															
	F	M	14	15	16	17	Eng	Math	Sh.	Hist	Geo	Sc	Bld.	M/W	Agric	W/W	O*	%												
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%												
Female	5			1	6	4	22		5	28	5	28	5	28	3	17		3	17	1	6	1	6							
Male		13	72	3	17	6	33	1	6	13	72	13	72	13	72	3	17	7	39	4	22	10	52							
Total	5	28	13	72	3	17	4	23	10	55	1	6	18	100	18	100	18	100	18	100	6	34	3	17	10	56	5	28	11	68

• Other Subjects

• Eng - English; Math - Mathematics; Sh. - Shona; Hist - History; Geo - Geography; Sc - Science; Bld. - Building; M/W - Metalwork; Agri - Agriculture;

W/W - Woodwork

TABLE NO. 16
TEACHER PROFILE BY QUALIFICATIONS, SUBJECT AND PERIOD OF SERVICE

	GENDER		PERIOD OF SERVICE (Yrs)										QUALIFICATIONS										TECHNICAL SUBJECT TAUGHT										
	F %	M %	0-5 %	5-10 %	10-15 %	+5 %	Acad. %	A/T %	Tech. %	Bld. %	H/E %	M/W %	Agric. %	W/W %	O* %	Acad. %	A/T %	Tech. %	Bld. %	H/E %	M/W %	Agric. %	W/W %	O* %	Acad. %	A/T %	Tech. %	Bld. %	H/E %	M/W %	Agric. %	W/W %	O* %
Female	9	45	5	25	2	10	2	10	2	10	2	10	2	10	2	10	4	10	3	15	1	5	4	20	1	5	1	5	4	20	1	5	1
Male		11	55	7	35	3	15		1	5		5	2	10	1	5	2	10				2	10	2	10	2	10	2	10	2	10	1	
Total	9	45	11	55	12	60	5	25	2	10	1	5	6	30	10	30	4	20	4	20	1	5	4	20	2	10	2	10	2	10	3	15	2

TECH. SUBJECT DONE AT SCHOOL (continuation of the above table)									
H/E	%	Agric.	%	M/W	%	W/W	%	Bld.	%
Female	6	30	1	5					
Male		3	15	3	15	3	15	3	15
Total	6	30	4	20	3	15	3	15	3

- Other Subjects
- Acad. - Academic; A/T - Academic and Technical; Tech - Technical; Agric. - Agriculture; Bld. - Building; H/E - Home Economics; M/W - Metalwork; W/W - Woodwork

TABLE 17
STUDENTS CHI-SQUARE LEVELS OF SIGNIFICANCE

	X ²	LEVEL OF SIGNIFICANCE
<u>ON: GENDER PERCEPTIONS</u>		
1. ... more suitable for girls than boys	0,866	NS
2. ... more suitable for boys than girls	19,562	P<0,001
3. both boys and girls	19,562	P<0,001
<u>SLOW LEARNERS/LOW ACHIEVERS</u>		
4. ... an easy subject	9,062	P<0,005
5. ... students ... not hardworking	14,176	P<0,001
<u>SUBJECT KNOWLEDGE STATUS</u>		
6. ... with English	5,538	P<0,05
7. ... with Mathematics	4,800	P<0,05
8. ... with Science	5,538	P<0,05
9. ... with WoodWork	0,307	NS
10. ... with History	6,533	P<0,05
<u>IMPORTANCE/USEFULNESS OF H/E</u>		
11. ... jobs ... pay very little money	17,666	P<0,001
12. ... Use of H/E skills at home	30,062	P<0,001
13. ... for "A" Level purposes	0,133	NS
14. ... for University courses	1,133	NS
15. ... for teacher training courses	8,692	P<0,001

<u>CONSTRAINED CHOICE OF H/E</u>		
16. Affected ... "0" Level results	0,533	NS
17. ... dropping of the subject	1,562	NS
18. Parents' complaints	5,125	P<0,05
<u>STUDENTS' INTEREST</u>		
19. Tiresome and labourious subject	11,312	P<0,001
20. An enjoyable subject	18,411	P<0,001
23. ...freely chosen H/E	6,0810	P<0,01
24. ...parents pleased about H/E	10,9393	P<0,001

NS = Non-Significant.

TABLE 18**TEACHERS' CHI-SQUARE LEVELS OF SIGNIFICANCE**

	X²	LEVEL OF SIGNIFICANCE
A. <u>TECH. SUBJECTS/ SCHOOL CURRICULUM</u>		
1. Tech. subjects... tech. colleges only.	18,000	P<0,001
B. <u>EQUAL JOB OPPORTUNITIES</u>		
2. Non-Tech & Tech. equal opportunities	8,714	P<0,005
C. <u>SUBJECT KNOWLEDGE BOUNDARIES</u>		
3. H/E and Mathematics	8,777	P<0,005
4. Science and H/E	9,666	P<0,005
5. Other tech. subjects and H/E	0,333	NS
D. <u>IMPORTANCE/USEFULNESS OF H/E</u>		
6. ...H/E skills at home	9,500	P<0,005
7. ...for "A" Level purposes	0,285	NS
8. ...for University Courses	3,571	NS
9. ...Teacher Education	10,625	P<0,005
10. ...other forms of employment	8,000	P<0,005
E. <u>IMPACT OF CONSTRAINED CHOICE</u>		
11. ... effects ... on H/E results.	0,625	NS
12. ... students' interests..	8,333	P<0,005
13. H/E trs' motivation.	10,125	P<0,005
14. Parents complaints.	1,333	NS
F. <u>GENDER PERCEPTIONS</u>		
15. Boys ... more than girls.	0,666	NS
16. Both boys and girls.	9,666	P>0,005
17. Girls more than boys.	2,882	NS
G. <u>SLOW LEARNERS/LOW ACHIEVERS</u>		
18. ... suitable for low achievers.	11,153	P<0,001
19. ... less challenging jobs	11,842	P<0,001

H. <u>SUBJECT KNOWLEDGE STATUS</u>		
20. ... with English	0,285	NS
21. ... with Mathematics	0,500	NS
22. ... with Science	0,750	NS
23. ... Woodwork	12,25	P<0,001
24. ... History	1,666	NS
I. <u>OTHER ROLE PLAYERS</u>		
25. ... H/M's attitude ...	9,800	P<0,005
26. ... average students' attitude ...	1,000	NS
27. Non-H/E teachers ...	0,600	NS

NS = Non-Significant.

SELF ADMINISTERED QUESTIONNAIRES FOR STUDENTSSection A:

Enter information about yourself by ticking the box that is most relevant about you.

1. Form: 1 2 3 4
2. Sex: Female Male
3. Age: 11 12 13 14
- 15 16 17 18 and above
4. Subjects:

English		Maths		Shona	
History		Geography		Building	
Metalwork		Science		H/E	
Agriculture		Woodwork		Any other	

Instructions

1. Tick the column under the number which reflects your opinion about H/E for each statement.
2. If you disagree with the statement, tick columns 1 or 2. If you are not sure, tick column 3. If you agree with the statement, tick columns 4 or 5. An example has been done for you.

	Agree		Neutral	Disagree	
	5	4	3	2	1
(a) H/E teaches students to plan good meals in Food and Nutrition.	✓				
(b) H/E does not develop skills for use in life.					✓
3. You are also asked to give brief explanations where possible.					
4. Where it is not clear, be free to ask for assistance.					
Part 1					
1. H/E is more suitable for girls than boys.					
2. H/E is more suitable for boys than girls.					
3. H/E is suitable for both girls and boys.					
Part 2					
4. H/E is an easy subject. Explain your rating.					

	5	4	3	2	1
5. H/E should be done by students who are not very hard working. Give reasons for your rating.					

Part 3

	5	4	3	2	1
6. H/E leads to jobs which pay very little money. Explain you rating.					

Part 4

When compared to other subjects, H/E is as important as:

7. English					
8. Maths					
9. Science					
10. Woodwork					
11. History					

Part 5

H/E is useful and important for:

Rate the usefulness and importance of the following to you.

12. skills at home.					
13. "A" Level purposes.					
14. University courses.					
15. Teacher Training Courses.					

Part 6

In this school, students do not have the chance to choose H/E or not. This has:

	5	4	3	2	1
16. Affected H/E results (to be poor) at "O" level.					
17. Led students to drop the subject.					
18. Been complained about by parents.					
Part 7					
19. H/E is a tiresome subject which involves a lot of hard work.					
20. H/E is an enjoyable subject.					

Part 8

21. What do you consider to be two advantages of doing H/E?

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.....

22. What do you consider to be two disadvantages of doing H/E?

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23. If you were given the freedom to choose H/E when you first came to this school, were you going to choose H/E as one of your subjects?

Give reasons for your answer.

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.....

24. Would your parents be pleased to hear that you were doing H/E?

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.....

Give reasons for your answer

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.....

25. Add anything you may wish about H/E.

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SELF - ADMINISTERED QUESTIONNAIRES FOR TEACHERS

Section A:

Tick the box that relates to the most relevant information about yourself.

1. Sex: Female Male

2. No of years in the service.

0 - 5 years

5 - 10 years

10 - 15 years

Over 15 years

3. Subjects for which you were trained to teach. Choose.
Academic subjects only

Academic subjects only

Academic plus Technical subjects

Technical subjects only

Specific technical subjects you were trained to teach (if applicable)

.....
.....
.....

Academic subjects only

Academic plus Technical subjects

Specify technical subjects you studied if any

.....
.....
.....

5. Subjects at University (if applicable)

Academic only

Academic plus technical subjects

Technical subjects only

Instruments:

In the following sections, you are asked to do the following:

1. Tick the column of the number which reflects your opinion about H/E or Technical subjects.
2. If you disagree with the statement, tick columns 1 or 2. If you are not sure, tick column 3. If you agree with the statement, tick columns 4 or 5. An example has been done for you.

	5	4	3	2	1
(a) H/E teaches student to plan good meals in Food and Nutrition.		✓			
(b) H/E does not develop skills for use in life.				✓	

3. You are also asked to give brief explanations where possible.
4. Where it is not clear, be free to ask for further assistance.

Section B. (Part 1)

	Agree		Neutral		Disagree	
	5	4	3	2	1	
<p>1. Teaching technical subjects should be a responsibility of technical colleges rather than schools.</p> <p>Briefly explain the reasons for the rating you have given.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>						
<p>2. Students without a technical subject have equal job opportunities with those who have done a technical subject.</p> <p>Briefly explain</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>						

<p>Part 2</p> <p>Inter-departmental activities with H/E are well done in:</p>					
<p>3. H/E and Mathematics.</p>					
<p>4. Science and H/E</p>					
<p>5. Other technical subjects and H/E</p> <p>Briefly explain your ratings.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>					
<p>Part 3</p> <p>H/E is useful and important for:</p>					
<p>6. skills at home.</p>					
<p>7. "A" level purposes.</p>					
<p>8. University courses.</p>					
<p>9. Teacher Education Courses.</p>					

<p>10. skills for other chances of employment.</p> <p>Briefly comment on your ratings.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>H/E skills gives opportunity to join into the hotel industry/catering and garment making.</p> <p>Part 4</p> <p>Although students in this school have little room in deciding whether to do H/E or not:</p>					
<p>11. This has poorly affected H/E results.</p>					
<p>12. H/E students' interest toward the subject has gone down.</p>					
<p>13. H/E teachers' motivation has been affected.</p>					
<p>14. Parents have reacted to this situation.</p>					

<p>Part 5</p> <p>H/E is suitable for:</p>					
<p>15. Boys more than girls.</p>					
<p>16. Both boys and girls.</p>					
<p>17. Girls more than boys.</p> <p>Make any other comments about your views in this section.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>Part 6</p>					
<p>18. H/E is suitable for low achievers and slow learners.</p>					
<p>19. It generally leads to less challenging jobs.</p> <p>Briefly explain your ratings.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>Part 7</p> <p>When compared to other subjects, H/E is as important as:</p>					
<p>20. English</p>					
<p>21. Maths.</p>					
<p>22. Science.</p>					
<p>23. Woodwork.</p>					

<p>24. History.</p>					
<p>Briefly explain your ratings.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>Part 8</p> <p>What are your answers to the fact that.</p>					
<p>25. The H/M's attitude towards H/E is positive.</p>					
<p>26. The average student's attitude towards H/E is positive.</p>					
<p>27. Non-H/E teachers' attitude towards H/E are positive.</p>					
<p>Part 9</p> <p>To what Degree:</p>					
<p>28. Are technical subjects (H/E included) viewed as physical labour and work related subjects?</p> <p>(Briefly explain)</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>					

29. Do Technical subjects offer creativity in students? Briefly Explain.

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30. Does H/E create high expectations in students (i.e for employment or higher learning)?

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Any other information:

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