

AN EVALUATIVE STUDY OF A  
WORK TRAINING PROGRAMME FOR  
EDUCABLE MENTALLY RETARDED ADOLESCENTS

by

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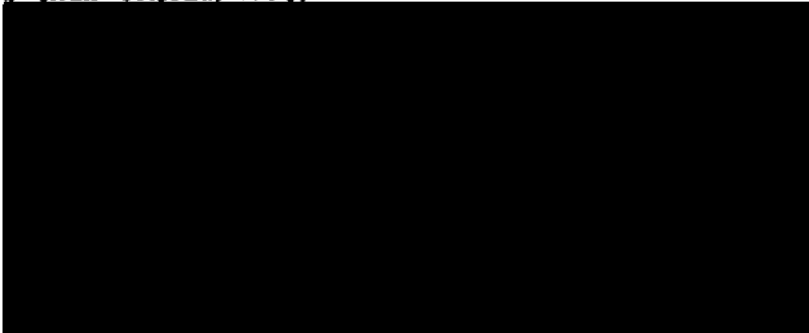
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#### ABSTRACT

The study examined a work training programme which had been developed at the Dean Heights School for the Educable Mentally Retarded. This school in Victoria, British Columbia serves adolescents between the ages of fourteen and seventeen. An experimental group and a control group were chosen by random selection. At the end of the experimental treatment employers tested both groups, making assessments of personality traits, work habits, and probability of permanent employment.

It was hypothesized that there would be no significant difference between the groups on the following factors: specific personality, specific work habits, general personality, general work habits and probability of permanent employment.

All were sustained but the hypothesis dealing with general personality was rejected. Thus the experimental group was supported statistically on one hypothesis only. The other four hypotheses were inconclusive. The data tends, however, to support the contention that work training programmes are effective but this observation is tentative rather than conclusive.



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## CHAPTER I

### INTRODUCTION

#### The Nature of Mental Retardation

Before discussing any aspects of curriculum for the mentally retarded it is necessary to have a clear understanding of what is meant by the term mental retardation. There are many definitions. Love (1968, p. 2) defines the mentally retarded as children or adults who, as a result of inadequately developed intelligence, are significantly impaired in their ability to learn and to adapt to the demands of society. Kolburne (1965, p. 1) defines retardation as a mental disability that critically handicaps a person in his natural maturational processes involved in learning, performance, social growth and behaviour. It impairs the intellectual growth to such a degree that throughout his life the individual is limited and cannot function adequately nor successfully in his social and personal adjustments. It is important to note that these definitions are couched in terms of the demands of society and thus whether a person is judged retarded or not could well depend upon the society in which he lives.

In Canada, as in many industrial countries, 3 percent is the figure often utilized when estimating the number of citizens classified as mentally retarded (Love, 1968, p. 9). This means that 30 out of every 1000 Canadians suffer to a greater or lesser degree from this

affliction. Of these 30 approximately 4 have intelligence quotients under 50. In most cases these people are easily identified and are most likely cared for in an institutional setting. These are the retarded who were born with massive defects and who are easily given a clinical description; mongolism, microcephaly, hydrocephalus and cretinism are the most common disorders. There are other defects in this severely retarded range but they account for a very small fraction. Neither professional nor layman have difficulty distinguishing these 4 in 1000 as they are obviously retarded by their level of functioning, and almost always by their appearance and actions.

It is when identification of the other 26 in 1000 is attempted that difficulties may arise. Writers usually refer to this group as the mildly retarded and the borderline retarded (Heber, 1961). Those who have an IQ between 55 and 69 are classified as mildly retarded and are usually quickly recognized by society. Those in the IQ range between 70 and 84 are classified as borderline retarded and many of these people are not recognized as retarded by the society in which they live. Often it is a matter of social context. The individual raised in a rural farming community may function in this setting perfectly adequately whereas the same individual in a sophisticated urban atmosphere may be quickly labelled as sub-normal.

As a general rule the mildly retarded and borderline retarded do not suffer from organic defects whereas the severely retarded do. In the author's experience as principal of a school for the retarded, he has observed that apparent physical defects are very few in the upper level of these retarded individuals but lower down on the scale of

intellectual functioning the organic defects increase in number.

Just as it is more difficult to find obvious physical problems in the upper range of the retarded it is also more difficult to find a cause for their retardation. There are over five hundred known or suspected causes of mental retardation. Some of the most common are prematurity, chromosome abnormalities, metabolism error such as PKU, brain injuries, childhood diseases, the RH factor, X-ray or German measles during pregnancy, and heredity. In spite of the large number of possibilities most professionals are of the opinion that these known or suspected causes account for less than twenty-five percent of all cases of retardation. In over seventy-five percent of the cases the specific cause has not been isolated. There is some evidence that many of these individuals are retarded due to socio-economic factors. The lower socio-economic segment of society contains twice as many mildly retarded and borderline retarded as the middle or high economic group. It has been suggested that the main reason for the disproportionately high figure is lack of mental stimulation during the formative years (Love, 1968, p. 5). When these children enter school they are behind in their mental development and their level of achievement is usually much lower than their peers. Eventually they are channeled into special classes and categorized as educable mentally retarded. They become one of Canada's 3 percent or in terms of population, one of Canada's 648,000 individuals whose work habits, abstract reasoning, personality traits and social skills are considered retarded when compared with the vast majority of the population.

This study is primarily concerned with those EMR pupils who

usually function just below the level of normal achievement and a discussion of the major characteristics of this group will aid in understanding the scope and difficulty of the problem this research focuses upon. These individuals, when classified according to IQ, are the borderline retarded and in the upper half of the mildly retarded. They generally appear normal until some degree of academic performance is expected. This failure to function in the abstract academic area is just one of many characteristics which set these people apart from their fellows and probably the only one which they all have in common. Another characteristic which many have, but not all, is an inability to evaluate critically their own performance. They frequently judge the quality of their work to be higher than it actually is. Many have a tendency toward perseveration and stereotyped response providing they are having some small degree of success at the task. This means that many times they are unable or unwilling to show enough initiative to attempt something different but, and this appears dichotomous, they often rush unthinking into new situations, having little concept of what is required. This trait is reflected in the conceptions that they often possess concerning their future occupations. In the writer's experience most of these pupils' plans for future employment are unrealistic when compared with current performance. This unrealistic picture of the future is probably partly due to the sheltered environment of special classes and partly due to the inability to generalize or to transfer knowledge gained from one area to another. This characteristic hampers the EMR person considerably as it means that in order to master a particular skill he needs to learn and practise it in the setting in

which it will be used. If the EMR individual is then expected to transfer and apply this skill to a new and unfamiliar situation it is highly probable that he will be unsuccessful. Teachers and employers can therefore be placed in the position of re-teaching a skill which they have previously taught successfully. The aggravation which may result can be a detriment to the welfare of the mentally handicapped.

Another characteristic possessed by many of these individuals is the difficulty of distinguishing right from wrong in subtle situations. This causes a wide variety of problems, ranging from serious breaches of the law which leads them into courts and prisons, to minor social offences which irritate others and often promote conflict. These minor inappropriate behaviours may be as simple as obscene language in a public place or borrowing things without asking, but they cause a great deal of social conflict for these individuals. Problems also arise when they perceive themselves to be wronged. Due to their lack of judgment and weak emotional control their reactions to these situations are often instantaneous and irrational thus compounding problems for themselves. However their reactions to stress situations may be largely passive and withdrawn or perhaps quite rational. In short, emotional unpredictability is a characteristic common to most of these individuals.

Equally common to most individuals in the EMR category is their inability to make judgments. Whether a decision is small or large it requires certain abstract mental steps and they have great difficulty performing them. Thus simple situations become complicated, wrong decisions are made and problems result. Often the problem is one of

irresponsibility. The decision they make may appear to be obviously correct to themselves, but others with more insight are unable to comprehend their sense of priorities. They are often unable to judge that a short term and rather insignificant event is not important in the larger context and as a result they are often judged irresponsible. This inability to judge the relative importance of situations also can account for their characteristic lack of persistence. To focus on a situation where the goal is long range is most difficult for them. Because the world demands the ability to stay with a task until it is complete they may once again be labelled irresponsible.

Such a catalogue of negative characteristics would seem to condemn this group to a non-productive and dependent role in society. Such however need not be the case. The most important characteristic of these individuals is that they are educable, thus it should be possible for society to find some method of preparing this section of our population so that they can contribute to society and gain some measure of independence. At present, society has assigned the preparing of these individuals to the public school system and this paper will deal with one school's effort to find some viable method to help prepare the EMR individual for a satisfactory role in his society.

#### Statement of the Problem

The problem concerns the devising of a school programme designed to serve the needs of educable mentally retarded individuals. At the Dean Heights School in Victoria, British Columbia, a special work training programme has been developed for adolescents placed by the

school system in this category. Throughout the three years that this complex task has been undertaken the staff, in the belief that these pupils have progressed in formal academic work as far as is practicable, have emphasized occupational preparation as the school's major function. It seemed best to encourage growth in work habits and personality skills, with the belief that this would make the EMR student more acceptable to employers.

The purpose of this specific research is to test the previously developed work training programme by asking employers to make assessments of the personal traits, work habits and general suitability for employment of two groups, those who have received the work training programme and those who have not.

Significance

Dean Heights School is an expensive operation to maintain and in these times when both accountability and economic restrictions are much in the forefront of educational thought a controlled analysis of what is being accomplished in this school should be of interest to the teachers, the parents, the school district administrators and the School Board. A more austere economic climate can also place further restrictions on the opportunities that these individuals will have of obtaining employment. This helps create both increased personal problems for the EMR and social problems for the country. Because this group comprises approximately 3 percent of the population and because many EMR citizens need special help to enable them to adjust to our

rapidly changing society this research seems both timely and appropriate.

### Assumptions

There are four general assumptions underlying any work programme for the educable mentally retarded.

1. The educable mentally retarded are capable of developing to the extent that they can function adequately in society.
2. The educable mentally retarded are incapable of functioning without special training.
3. Training specifically for work ought to take precedence over further academic efforts, even though many types of work may require some academic training.
4. Training specifically for work ought to take precedence over the relatively new concept of leisure time training, even though employment suitable to the EMR seems to be rapidly disappearing.

These assumptions do not limit this specific study but they do limit to some extent the number of people who would find the results pertinent.

The assumptions specific to this research that were made before the project was undertaken concerned the ability of the employers who completed the rating scale.

1. It is assumed that the employers were capable of making reliable judgments.
2. It is assumed that the employers were honest in their reporting.
3. It is assumed that the employers were capable of arriving at an accurate assessment in a one week period.

To help minimize any effect from these assumptions employers were chosen carefully. All employers were experienced in the handling of these youngsters and they were pre-trained in the use of the rating scale. The importance of careful assessment, accuracy, and honesty in the reporting procedure was stressed. In all situations they were given experience in making the assessment quickly and most of the employers considered a one week judging period to be of adequate length.

#### Delimitations

There are also delimitations of this study which must be considered.

1. The research is taking place in one school only and this school is populated solely by EMR pupils. As most EMR pupils are semi-integrated in regular schools this particular isolated situation detracts from generalizations which might be made.
2. A further delimiting factor is the nature of the Victoria area. The economic base of the community is light industry and the service industry. Victoria lacks the heavy industrial base where EMR citizens can often be absorbed in menial occupations. Consequently the employers are representative of this area only and any conclusions reached in this study should be useful in the local setting but wider generalizations will only be possible with considerable reservation.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Philosophical Considerations

As was seen in the previous chapter the EMR group of our population suffers many characteristics which detract from their ability to function in society, yet limited training and education are possible. Such an education, however, is slow, long and expensive. The question as to the justification of such time, energy and money being spent on an effort which has yet to be demonstrated as effective over the long term cannot help but arise.

For those that would question the massive efforts put out on the education of this group it needs to be stressed that we live in a democratic society which has as one of its basic tenets the dignity and worth of the individual. Many educationists clearly base their philosophy on this premise. Cohen in Lord (1964, p. 44) states that this underlying thought must be present. Waite (1971, p. 96) states:

A free society must provide ways and means of developing and refining the abilities of its members in order to sustain and perpetuate itself.... Public schools must provide the fullest possible opportunities to meet the educational needs of citizens without regard to economic or social status, race, religion or abilities.

Waite (1971, p. 96) elaborates further by stating that:

Today, the keystone of our public school programs is the inherent right of every child

to a public supported education to the maximum of his ability to profit from such education.

Kirk and Johnson (1951, p. 116) also support the philosophical concept that in a democracy these youngsters have an undeniable right to fulfillment. They emphasize that:

The point of view underlying the education of the mentally handicapped assumes that inherent in the philosophy of democracy is the doctrine that all children are entitled to education according to the limit of their capacities. "All men are created equal" has been interpreted to mean that all are equal before the law and have equal rights to an education even though they do not have equal abilities to learn.

Any public education system that exists to serve a democratic society, when that society places a premium on the rights of the individual, is given a highly responsible and difficult task. The basic goal of all education should be to assist the pupil to develop to his fullest capacity. It should aid the pupil in becoming a worthy citizen; in developing economic efficiency and achieving a high level of social functioning. Since these lofty aims apply to all within the school system it becomes obvious that the education of the handicapped is going to require a considerable amount of effort if their potential is going to be realized. The system has this obligation. Abraham (1964, p. 1) puts it succinctly when he points out that in any system where the philosophy of education is based on educating every child to his capacity, then that system cannot afford to make exceptions. What it must do is adapt its curriculum so that every individual is effectively provided for.

To adapt the curriculum to meet effectively the needs of every educable mentally retarded pupil is a formidable undertaking. It is most important that curriculum planners have a clear understanding of the philosophy which will serve as their frame of reference. When a philosophy has been postulated, as in this section, then those characteristics which are most likely to constitute an effective curriculum must be identified. This is the task of the next section.

#### Characteristics of an Effective Curriculum

A curriculum can only be judged effective if it accomplishes the goals which society has set for it and does so respecting the rights of every individual within its charge. To be effective and appropriate it should take into account the present characteristics of the student, the educational, vocational and social prognosis of the individual and must reflect the student's environment and the culture in which he lives (Johnson, 1963, p. xvii). For the education system to attend adequately to all of these criteria is difficult because the educable mentally retardate's present characteristics are so varied; and their educational weaknesses so abundant that their vocational and social prognosis is one of probable sub-functioning. To reflect properly their environment and cultural milieu is also difficult as EMR pupils usually come from lower socio-economic homes and it is generally argued that public education systems tend towards a middle class value orientation.

Perhaps the way to develop an effective curriculum is to allow it to grow out of each child's successes, as recognized by child, teacher and parent (Baumgartner and Lynch, 1967, p. 30). All three must

feel satisfied; the student needs to be receiving positive learning experiences based on his individual strengths and both teacher and parent need to feel that these positive learning experiences are educationally worthwhile. The problem then becomes one of what is the most effective content to make the curriculum acceptable and the learning situation positive. Most parents prefer concentration on academic subjects and many educators seem to support this in practice although in theory educators are inclined to favour social growth and work oriented curriculums as most effective for EMR pupils. It is generally accepted by most people that one of the products of the school system should be an economically self-sufficient individual and if this is the case then in a democratic system the EMR should have an equal chance for economic independence. This point is made by many writers who make it very clear that a programme should lead both naturally and realistically for those with sufficient ability, toward gainful employment (Sniff, 1962; Eskridge and Partridge in Lord, 1964; Baumgartner and Lynch, 1967; Love, 1968 and Kolstoe, 1970): These writers also emphasize the fact that a curriculum with this goal is realistic as it has been proven many times that EMR pupils can be successful workers. The task now is to explore the literature in an attempt to discover what kind of curriculum is most effective in helping to accomplish the goal of gainful employment.

#### General Theory on Curriculum Content

There is a large volume of theoretical literature concerned with what material should be included in a curriculum for EMR pupils

and in the theory two main themes emerge. The first theme is: these pupils' needs do not differ in degree but in kind and a watered down academic programme does not fill their needs. The second theme is: community work oriented programmes seem to be the most effective learning experience for these pupils and actual work experience in the community should be an integral part of work oriented programmes.

The first theme; that these pupils needs differ in kind not in degree is emphasized repeatedly in the literature. Johnson (1963) deplores the practice of watering down the curriculum and states that this technique is largely a waste of time as it does not take into account that these pupils' needs are different. He also makes the point that these pupils are not "late bloomers" and continuing stress on academic subjects using this for a rationale is basing a programme on false hope. For the extremely slow learner abstract challenges are beyond them and a more practical curriculum is required. Sniff (1962), Karlin and Berger (1969), the Cheshire Education Committee Report (1963) and Freeland (1969) are four other works that support the theory that the curriculum must be changed and not diluted. The point is further emphasized by Lord (1964) when he states that an unrealistic academic orientation continues to prevail and Long (1966) in her review of the literature cites many authors who claim that there should be less stress on academic material and more stress on the development of personality, social and vocational skills.

The reason for the continuing stress on an academic curriculum is probably because both parents and teachers are trained to the academic mold and to break with this tradition is most difficult.

Because our educational system is geared for the normal we think in these terms and the curriculum is apt to be watered down and spread over a greater period of time. Kolburne (1965, p. 11) states very well the maze through which many teachers attempt to find their way.

We give them more drill. We explain more. We try to use simpler language. We try to adjust experiential and project methods. We teach them objectively, we think, though what is objective to us is abstract to them. We supply remedial work. In such ways we hope and expect the mentally handicapped to acquire the necessary concepts and skills that their normal brothers and sisters do.

Or, when we are driven to it, we schedule more handwork, manual training, crayoning, weaving, etc., because we think or hope that they can do better in such activities and to allow more time for their intellectual maturation. In other words, because of their inability to understand and to learn the standard curriculum through more or less standard methods and techniques, we supply normal types of readiness and busy work to help prepare them for some academic work in the future. However they still do not seem to learn and progress.

Love (1968) reinforces Kolburne when he writes that today the academic oriented curriculum, generally, dominates the special class programme and this pre-occupation with reading, writing and arithmetic is the result of the background of special class teachers, who almost always began their careers as regular classroom teachers where high value is placed on academic work. He also suggests by referring to Ingram (1960), that this diluted programme is wrong and that it is a great waste to force the mentally retarded to spend a great deal of time on something for which they are ill-fitted to learn. Even if constant reinforcement enables an EMR pupil to absorb some abstract material it

is apt to be quickly forgotten and even if remembered his ability to apply what he has learned is limited. Kolburne (1965) supports this view and points out that they must be taught and trained on the practical level to function in daily life and emphasis on a diluted academic programme is of little value. Perhaps the strongest statement this author found was one by Eskridge, quoted in Lord (1964) when he makes his position most clear:

In school the greatest single factor that deprives retarded children of later vocational success is the blind determination of educators and parents to mold them into 3R scholars. Despite volumes of proof that academics are the least important of all the skills needed by retarded individuals, an appalling number of special teachers and principals still insist....

The second theme, work oriented programmes, finds many exponents, some of whom develop entire books centered around developing curricula which reflects a work-centered philosophy. Kolstoe (1970) is one of these men and his book reveals clearly that his philosophy embraces a work-oriented curriculum as an item of prime importance. He feels there should be a pre-vocational programme where the pupils concentrate on the study of occupations and where they have an opportunity to find out about the world of work through study. From this they should proceed to job training on campus thence to work experience in the community.

Kirk and Johnson (1951) express the same philosophy in their book on educating the retarded when they say that by adolescence the pupils should have mastered to the limit of individual ability the

essentials of the tool subjects and it is now time to apply them to functional situations. They then proceed to explain curriculum suggestions and these are clearly preparation for living and working in the community and they point out that as the learner matures in social skill and job ability he must devote an increasing number of hours to exploration and learning in actual work experience situations.

Eskridge and Partridge (1963) are two other exponents of a concentration on the learning of work skills as the most meaningful approach to preparing these students for the world. They stress that problems encountered on the job are essential parts of the programme because studies (Cohen, 1960; Kanter, 1970) have indicated that the mentally handicapped lose more jobs by failure to adjust to work situations than to the inability to perform the actual assigned work. For this reason they advocate actual experience on the job combined with a curriculum oriented around work preparation.

In order to share knowledge concerning work oriented programmes an institute on this subject was conducted in Los Angeles in 1964. This was under the direction of F. E. Lord, Chairman, Department of Special Education, California State College, and in the preface of his report on the institute he expresses the hope that some realism can be added to secondary school learning by basing curriculum upon work education programmes. He states that work oriented programmes should come to grips with the limitations and the life potentials of the retarded and for this reason encourages curriculum development and research into this area. Deno in Lord (1964) confirms from her experiences as consultant in special education and rehabilitation that real life tests, that is,

work simulations and on the job experience are useful devices in the training of retarded youth at the secondary level. Waidelich (op. cit.) also minimizes the value of the watered down curriculum and emphasizes that the goal is to keep the curriculum practical and functional and to accomplish this it should be work oriented and built around the knowledge and skills needed to function effectively in the community, including at least two years of actual work experience in community jobs.

Murphy (op. cit.) stresses the value of work orientation programmes by emphasizing the value of work experience in the community. He feels that on-the-job placement motivates the student to apply the basic skills he has absorbed in his preceding school years and encourages the development of a good self concept as his chances of success are much greater than in the classroom. He stresses the value of on-the-job experience in training these youngsters to the various roles in society and he also points out the additional benefit of the community becoming familiar with the problem. Such statements certainly reinforce Bernard Shawn who in his article in 1959 declared that work experience in the community was the most meaningful education for EMR pupils and stated that the programme which he had investigated was a success. Cohen (1962) also stresses the value of day work in the community because it gives the retarded person experiences from which he can decide the types of work he prefers. It also serves as a familiarization period and gives him a realistic sample of general world experiences. The reality aspect of work experience is very valuable and Bitter (1967) reinforces all the points which Cohen (1962)

discusses. These men represent the general opinion of most theoretical writing in that they favour community work experience in a work-oriented curriculum that places minimum stress on academic work. However, when the empirical research in this area is investigated the evidence in favour of work-oriented curriculums is not at all conclusive.

#### Empirical Research on Curriculum Content

Burris (1967) in a Ph.D. dissertation at the University of Southern Mississippi evaluated the Mississippi Cooperative Special Educational-Vocational Rehabilitation Programme. When pupils from this programme were compared with a control group who were not part of the programme there was no significant difference at the .05 level in ability to obtain or retain employment but there were recognizable differences favouring the experimental group. This research can only give minimal support to special programmes and Burris recommended that more research be done in this area.

Lawter (1968) at the University of Oklahoma, in his Ph.D. dissertation, evaluated a work study programme and concluded that the special programme under scrutiny was successful and as in the previously quoted study recommended that more research be done. He also recommended that more work study programmes should be developed and statistically evaluated.

A Ph.D. study at Wayne State done by Baskin (1969) entitled "The Vocational Self-Concept of Selected Adolescent EMR Girls," found that there was inadequate involvement of the school in providing pre-vocational instruction and experience for these girls. The author

recommended that secondary programmes for retarded youth need continuing evaluation. This recommendation would appear to be most apt for the programme recently developed at Dean Heights, the subject school for the research done in this thesis.

Chaffin, et. al. (1971) conducted two followup studies to investigate the post-school adjustment of EMR subjects from the Kansas Work-Study Programme and a comparison sample from neighbouring school districts. The results were not conclusive but it was indicated that most of the EMR students would be employed in the competitive labour market without the benefits of a work study programme. Those, however, who were part of the programme seemed to be functioning better than the control group. This implied that the programme attained limited success and that more research into the area should be conducted. Chaffin suggested that greater precision in present procedures should result in achievement of maximum vocational potential for every educable mentally retarded individual. He also suggested that the rating scale as developed by Kolstoe (1961) and Warren (1961) would be useful as a testing instrument for refining programmes. It is this rating scale that is being used in this research project.

A study which strongly recommended further research on curriculum is one done by Sparks (1966). He found no significant difference between success on the job and whether the retarded worker had been in a regular class or part of a special class programme. He also found no significant difference between reading achievement, arithmetic achievement, length of stay in school, length of work training and later success on the job. The inconclusive findings of

Spark's research on curriculum suggest that a controlled analysis of any work training programme could contribute to the area of curriculum development for the retarded.

Two other studies concerned with the effectiveness of work study programmes are Ducharme (1968) and Nelson (1969). Neither of these researches was done using control groups and consequently their results are based on the subjective, and perhaps biased, responses of the people involved in the programmes. However, both researchers reached the conclusion that the practical work oriented curriculum is superior to one that is academically centered. Both suggested continued expansion of these programmes but recommended that more empirical research is needed to test the effectiveness of the various components of work oriented programmes.

A recent Doctoral Dissertation which adds support to work oriented programmes is that of Kanter (1970). In his study, which dealt solely with EMR pupils, he found that there was no significant correlation between IQ and occupational success or failure. A further finding revealed that only 6% lost jobs due to their inability to work while 94% lost their jobs for lateness, absenteeism, attitude and other social and personality factors. This led the author to endorse most highly the realistic aspect of the community work experience phase of work oriented programmes. It would be hoped that repetitive experience on the job would enable EMR pupils to develop adequate social abilities to retain employment. Implicit in this recommendation is the need for further research into how effective are work training

programmes in changing work habits, social abilities and personality factors.

Love (1968) refers to a most interesting study by Howe (1967) in which the post school adjustment of EMR students with work-study experiences was contrasted with a group that had special classes for the same period but without benefit of school sponsored work experience placement and supervision. Howe found that there was no significant difference in overall adult adjustment. These findings certainly suggest that not all EMR students in vocational level classes need community placement as part of their training programme.

Love (1968) also refers to a study by Chaffin, et. al. (1967) which reported a study identical to Howe's research but in this case, in all differences measured, the results were in favour of the work study experimental group. This was particularly noticeable in employment rates. Of the experimental group 95% were employed contrasted with 70% of the control group.

Love (1968) points out that the majority of the research indicates that the presence of work study programmes is beneficial but that there is no concise evidence to demonstrate their necessity for the successful preparation of the EMR youngster for employment.

After a review of the literature the writer concluded that the general theory supports work oriented programmes but that the empirical research is inconclusive. It follows that a controlled study of some aspect of the work oriented curriculum recently developed at Dean Heights could possibly make a contribution to the field of curriculum development for the educable mentally retarded. It was decided to test

the effectiveness of the work training aspect of the curriculum.

The present study has been designed to perform this task.

Details of the design will be discussed in Chapter III.

## CHAPTER III

### DESIGN OF THE STUDY

#### Definitions

For the purpose of this study the following operational definitions were used.

1. Educable Mentally Retarded - Those pupils who have been placed in Dean Heights School because their I.Q. ratings are between 55 and 84. These I.Q. ratings encompass the mildly retarded and the borderline retarded as defined by Heber (1961) in the American Journal of Mental Deficiency. These pupils have been unable to function adequately in the regular programme in the elementary school and are judged incapable of proceeding to the regular occupational programme in the Junior Secondary Schools of Victoria.
2. Standard Dean Heights Programme - A continuation of training in the fundamentals of arithmetic, reading, social studies and language arts. Also contained in the programme are physical education, art, home economics and industrial education. The grade level of all subjects is between one and five.

3. Work Oriented Programme - The Standard Dean Heights Programme with four hours of Work Training included. The four hours were gained by reducing each subject proportionately to the time allotted to it.
4. Work Training - On-the-job training under the direct supervision of a teacher. It consisted of two hours per week in either private homes or local businesses and two hours per week in production line work in the school's industrial education shop.

#### Hypotheses

The present study was designed to test the following hypotheses.

- H<sub>1</sub> There will be no significant difference between the experimental and control groups on the sums of the specific personality and social adjustment factors of the employee rating scale.
- H<sub>2</sub> There will be no significant difference between the experimental and control groups on the sums of the specific work habits and efficiency factors of the employee rating scale.
- H<sub>3</sub> There will be no significant difference between the experimental and control groups on the general personality and social adjustment factor of the employee rating scale.
- H<sub>4</sub> There will be no significant difference between the experimental and control groups on the general work habits and efficiency factor of the employee rating scale.
- H<sub>5</sub> There will be no significant difference between the experimental and control groups on the probability of permanent employment factor of the employee rating scale.

### Procedure - General

The post-test only design will be used as it is described in (Stanley and Campbell, 1963, p. 25),

R	X	O
R		O

where R is a randomly selected group, X is the treatment, and O is the observation.

The experimental group was given the Work Oriented Programme and the control group was given the Standard Dean Heights Programme. The experimental treatment began on October 4, 1971 and continued for twenty weeks, ending the week of February 28, 1972. The testing was done during the two weeks beginning March 6, 1972.

### Sampling

1. Population - The first and second year pupils at Dean Heights School who are perceived by the staff to be employable. They have an age range of 14-16. There is the possibility that the population could be generalized to include other EMR adolescents in North America.
2. Sample - The selection process consisted of each of the six staff members rating independently each pupil's potential or lack of potential for employment. Only those pupils who were rated by four or more staff members as having a potential for employment were included in the sample. Twenty-six pupils were selected from the total population of forty. The fourteen not selected were

considered to have minimal potential for employment and it was felt that these pupils would obscure results. It should be noted that the fourteen pupils not used were eliminated for a variety of reasons. Six were eliminated because their level of functioning was too low. These pupils were borderline trainable. It was felt that four were too emotionally unstable to be placed in the community for the testing procedure. Two were considered to attend school an insufficient amount, one was eliminated on the grounds of appearance and one for medical reasons. The above figures reflect the main reason only; in many cases the individual was considered unsuitable for more than one of these reasons.

3. Sample Size - There were twenty-six in the sample; thirteen in the experimental group and thirteen in the control group. Eight boys and five girls were in each group. These numbers are realistic as this is the average class size for EMR pupils and the research is designed to test a programme in the actual school situation.
4. Selection of the Groups - The sixteen boys from the sample were numbered and the table of random numbers was used to assign them to the experimental and control group. A similar procedure was followed with the ten girls from the sample.

After the groups had been selected the teachers gave

an independent opinion of the quality of each group. Two teachers considered the experimental group to be slightly better adjusted socially and to possess slightly superior personality skills and work habits. Two teachers considered the control group to be slightly better in these areas and two teachers were of the opinion that there was no difference between the groups.

#### Procedure Regarding Variables

1. Teacher Personality - Each group received instruction from all six teachers. This helped counterbalance any effect of teacher enthusiasm and personality. As an added control each teacher taught the same subject to both the control and the experimental group. This meant that the teachers used the same material and taught similar lessons to both groups.
2. Rosenthal Effect - This phenomenon of the teacher's expectations of a group influencing the performance of that group did not appear to present a problem. Prior to the experiment the six teachers involved discussed thoroughly the problem of expectations and all agreed that a conscious effort would be made to treat both groups equally. Also, during the course of the experiment the importance of equal treatment was often discussed and the staff strove to maintain a highly professional and unbiased attitude toward the entire experiment. This

conscious effort not to place higher expectations on the experimental group or lower expectations on the control group minimized the possibility of the Rosenthal Effect.

3. Re-active or Hawthorne Effect - The pupils were unaware that they were part of an experiment, and they remained so until after the testing was completed. It is credible that these pupils could remain unaware because the school has various programmes and activities and the Work Training Programme, which has been in the school for the past three years is but one of these. For these reasons the Hawthorne Effect on the experimental group was non-existent.

Any re-active effect on the control group, either positive or negative, was also non-existent for the same reasons that pertain to the experimental group. They were just another group in the school and, as with the experimental group, had no idea they were part of an experiment and this situation was maintained until the testing was completed.

4. Maturation - This was controlled as it was manifested equally in both groups.
5. Selection - It is generally recognized that the most effective method of eliminating bias in selecting groups is to use the table of random numbers. Although the

numbers involved in this research are small, totaling only twenty-six, it is necessary to assume that any explanation of differences are not attributable to prejudiced or faulty assignment of pupils. Random selection should make this a reasonable assumption.

6. Attrition - This aspect is one of concern. Because of the small numbers in the groups any loss could detract from statistical analysis. This is particularly the case if experimental students were the only ones to leave school. If the "school-leaver" is the poorer student and worker as is generally the case then his leaving will bias results in favour of the hard worker and the conscientious. This will increase the chance of rejecting the null hypotheses. The reasons for all lost pupils will be analyzed carefully in Chapter V, as these reasons could be a most revealing indictment of either the control or experimental programme.
  
7. Home and Community Environment - The effect of these variables on personality and work habit skills were controlled by randomization in the assigning of the pupils to the two groups. The homes from which they come range from those whose attitude is strongly work oriented to those who are characterized as part of the welfare culture. The community environment ranges from very low socio-economic areas to those areas which are considered to be high on the socio-economic scale. These are just

two of many outside variables. When dealing with class groups and their multiplicity of extraneous variables the problem is so complex that random selection is the most effective means of control.

8. Employer Variability - This is observer or tester variability in this experiment. Effects of this variable were minimized by having each employer observe one pupil from each group. The employers were not aware of the details of the experiment.

The most suitable employers were selected on the basis of co-operation and sincerity during the pilot study. These employers had demonstrated that they had the ability to understand the rating scale and that they realized the importance of reliable and frank assessments.

#### Instrumentation

1. The Instrument Itself - The instrument used was the employee rating scale which was developed and used by Dr. Oliver P. Kolstoe for a vocational and rehabilitation programme sponsored by the United States Federal Government and under the direction of the University of Southern Illinois. A copy of the instrument is in Appendix A.
2. Validity of the Instrument - In the pilot project the employers were asked if the items on the rating scale

reflected the qualities they looked for in employees. The consensus was that both the personality and social adjustment factors and the work habits and efficiency factors summarized very well those traits that are important if an employee is to be judged satisfactory. Fount G. Warren conducted a study to determine if certain specific and/or general factors were instrumental in the employment or unemployment of the mentally handicapped and to validate the rating scale consisting of these factors. Warren (1961) reported that seven of the nine personality and social adjustment factors were instrumental in the employment of the mentally handicapped and that they were statistically significant at less than the .05 level. The two not statistically significant at less than the .05 level were significant at the .06 and .09 level. Of the seven work habits and efficiency factors four were reported statistically significant at less than the .05 level. The remaining three were statistically significant at the .08, .14 and .15 level. It is to be noted that of the five specific factors not statistically significant at less than the conventional .05 level three were statistically significant at less than the .10 level. Even the two at the .14 and .15 level cannot be discounted as factors that do not play an important role as there are writers who argue that statistically significant levels such as these are acceptable in educational research.

Warren's study concerned males only but during the pilot study employers in the Victoria area considered the form equally applicable to male and female employees. In this writer's three years of experience as work experience co-ordinator for the Victoria School District he had the opportunity to talk with hundreds of foremen and employers regarding the qualities they wish employees to possess. The specific factors on this rating scale are referred to repeatedly as desirable traits of good employees and the lack of these qualities as reasons for dismissal, both of male and female employees. There seems to be considerable indication that the specific items on this employee rating scale are indeed those qualities which employers deem desirable in employees.

Warren also found that both the general personality and social adjustment and the general work habits and efficiency factors were statistically significant at less than the .01 level. He points out that these two total factors clearly differentiate between subjects who subsequently became employed and those who did not. The pilot study for this research clearly supported Warren's findings. Employers seem to have an aptitude for predicting the success or failure of potential employees by making an overall assessment. Employers felt the overall assessment was valid because this is the method that they use in the actual working and judging situation.

Also found statistically significant at less than the .01 level was the general factor; probability of permanent employment. In Warren's study every pupil whom the testing employers stated they would not hire failed to obtain employment after the training programme was completed. Unfortunately, in his brief report in the American Journal of Mental Deficiency he does not state how many pupils who were predicted as employable actually obtained employment.

In the pilot project for this research, of the eighteen assessments pertaining to pupils who have now left school there were six predictions of unemployment and twelve predictions of employment. For this study pupils were considered employed if they worked more than 75% of the time since leaving school. Of the six predictions of unemployment five have been unemployed more than 90% of the time and one has been employed the entire time. Of the twelve predictions of employment eleven have been employed more than 75% of the time and one has had occasional housework only and, by the above criteria, is unemployed. These results, which corroborate Warren's findings, would indicate that the employers seem to be able to predict employment possibilities. Also in this writer's experience as work co-ordinator he has observed that employers can predict with accuracy who will be either successful or unsuccessful in holding employment. It would appear that the general question of probability of

permanent employment is a valid inclusion in this rating scale.

3. Reliability of the Instrument - To obtain information on the degree to which the scale would give consistent results was the main aim of the pilot project which was conducted in the spring of 1971. Employers made an assessment of a student employee and approximately four days later a second assessment was obtained. The first assessment was done on a Friday and the employers were not aware that they would be repeating the assessment until after the initial rating was completed. At the time of the second assessment it was obvious to this observer that the employers were unable to remember what they had recorded on the initial assessment. Many expressed dismay that they would not fill in the rating scale the same as they had the first time. They were assured that the repeat assessment was testing the scale and not them and that filling out the form differently did not reflect poorly on their judgment but revealed rather that the rating scale was not constructed as well as it should be. Most professed satisfaction with this explanation but the fact that their judgment could also be under examination undoubtedly remained in their minds.

Thirty double assessments were obtained and the consistency of the results on all the specific factors show

that this part of the test is reliable. Due to the nature of the data it is extremely difficult to apply a standard statistical technique in order to arrive at a reliability coefficient therefore the complete tables of results are presented in Appendix B. The presentation of the tables is necessary so that any change in rating can be observed. Some changes are obvious but others are hidden. This occurs when an assessment moves from one category to another and at the same time another assessment moves in the opposite direction thus cancelling out the first move. In this thesis such situations are called hidden cross-overs and are recorded underneath the individual charts.

An inspection of the charts and the explanations underneath should reveal to the reader a satisfactory degree of reliability on the sixteen specific factors which make up the first section of the employee rating scale.

The results of the testing on the three general factors show equal reliability as can also be observed by examining the charts. The general personality and social adjustment factor had one change in thirty assessments; the general work habits and efficiency factor had no changes in thirty assessments and the probability of permanent employment factor, when the ratings are compressed to the "yes" and "no" categories also show no changes in thirty assessments. Before compression six changes occurred in this category. An examination of the two charts for this

factor reveals that these changes are relatively unimportant.

The charts to demonstrate the reliability of the three general factors are in Appendix B.

#### Data Collection

Twenty-two different employers were used to collect the data. The pupils were assigned to the various employers where they worked every morning for five days. All assignments to employers were done by random selection. At the end of the five days employers completed the employee rating scale. In order to encourage frank appraisals neither pupils nor parents were permitted to see the completed rating form and an assurance to this effect was made to the employers before the assessment period began.

Each pupil was assigned to two work experiences which resulted in assessments from two different employers. This helped minimize observer variability for each pupil. It also enabled each employer to assess a pupil from each group thus minimizing variability between the groups.

Table I on the following page illustrates the pattern used in assigning the pupils to the various employers.

TABLE I

## ASSIGNMENT OF PUPILS TO EMPLOYERS

Employer	First Assessment	Second Assessment
#1	E <sup>1</sup> Male	C <sup>3</sup> Male
2	C <sup>1</sup> Male	E <sup>5</sup> Male
3	C <sup>2</sup> Male	E <sup>6</sup> Male
4	E <sup>2</sup> Male	C <sup>7</sup> Male
5	E <sup>3</sup> Male	C <sup>1</sup> Male
6	C <sup>3</sup> Male	E <sup>2</sup> Male
7	C <sup>4</sup> Male	E <sup>4</sup> Male
8	E <sup>4</sup> Male	C <sup>2</sup> Male
9	E <sup>5</sup> Male	C <sup>5</sup> Male
10	C <sup>5</sup> Male	E <sup>3</sup> Male
11	E <sup>6</sup> Male	C <sup>4</sup> Male
12	E <sup>7</sup> Male	C <sup>6</sup> Male
13	C <sup>6</sup> Male	E <sup>7</sup> Male
14	C <sup>7</sup> Male	E <sup>7</sup> Male
15	C <sup>8</sup> Female	E <sup>9</sup> Female
16	E <sup>8</sup> Female	C <sup>9</sup> Female
17	C <sup>9</sup> Female	E <sup>8</sup> Female
18	C <sup>10</sup> Female	E <sup>10</sup> Female
19	E <sup>9</sup> Female	C <sup>8</sup> Female
20	E <sup>10</sup> Female	C <sup>11</sup> Female
21	E <sup>11</sup> Female	C <sup>10</sup> Female
22	C <sup>11</sup> Female	E <sup>11</sup> Female

Where E is an experimental student and C is a control student.

### Analysis of the Data

Hypothesis One pertaining to the specific personality and social adjustment factors and Hypothesis Two pertaining to the specific work habits and efficiency factors were analyzed using Chi Square.

Hypothesis Three pertaining to the general personality and social adjustment factor was analyzed using the Fisher Exact Probability Test.

Hypothesis Four pertaining to the general work habits and efficiency factor and Hypothesis Five pertaining to the probability of permanent employment were analyzed using Chi Square.

Chi Square was used to analyze this data because it was the most suitable statistical technique available for the nominal data obtained. It was necessary to use the Fisher Exact Probability in one instance due to the small expected frequencies in one of the columns.

The results of this analysis of data will be reported in the following chapter.

## CHAPTER IV

### RESULTS

The data was analyzed using Chi Square where possible. In one case it was necessary to use the Fisher Exact Probability Test. In order to reject any of the five null hypotheses it was previously determined that a probability level of .05 or less was needed. The results follow.

Hypothesis 1 - There will be no significant difference between the experimental and control groups on the sums of the specific personality and social adjustment factors of the employee rating scale.

TABLE II

#### SPECIFIC PERSONALITY AND SOCIAL ADJUSTMENT RATINGS

	less than average	average	more than average	total
Experimental Group	19	162	17	198
Control Group	32	150	16	198
Total	51	312	33	396

With two degrees of freedom the Chi Square value needed to reject the null hypothesis at the .05 level is 5.99. The value obtained was 3.80 therefore the null hypothesis was SUSTAINED.

Hypothesis 2 - There will be no significant difference between the experimental and control groups on the sums of the specific work habits and efficiency factors of the employee rating scale.

TABLE III

## SPECIFIC WORK HABITS AND EFFICIENCY RATINGS

	less than average	average	more than average	total
Experimental Group	33	97	24	154
Control Group	45	96	13	154
Total	78	193	37	308

With two degrees of freedom the Chi Square value needed to reject the null hypothesis at the .05 level is 5.99. The value obtained was 5.12 therefore the null hypothesis was SUSTAINED.

Hypothesis 3 - There will be no significant difference between the experimental and control groups on the general personality and social adjustment factor of the employee rating scale.

TABLE IV

## GENERAL PERSONALITY AND SOCIAL ADJUSTMENT RATINGS

	less than average	average	more than average	total
Experimental Group	1	21	0	22
Control Group	7	15	0	22
Total	8	36	0	44

Due to the numbers in the first column being too small to satisfy the requirements of Chi Square the Fisher Exact Probability Test

was used. The probability level obtained was .023 therefore the null hypothesis was REJECTED.

Hypothesis 4 - There will be no significant difference between the experimental and control groups on the general work habits and efficiency factor of the employee rating scale.

TABLE V

## GENERAL WORK HABITS AND EFFICIENCY RATINGS

	less than average	average	more than average	total
Experimental Group	8	12	2	22
Control Group	10	11	1	22
Total	18	23	3	44

It was necessary to collapse this table. With the one degree of freedom resulting from collapsing the table the Chi Square value needed to reject the null hypothesis at the .05 level is 3.84. The value obtained was .38 therefore the null hypothesis was SUSTAINED.

Hypothesis 5 - There will be no significant difference between the experimental and control groups on the probability of permanent employment factor of the employee rating scale.

TABLE VI  
 PROBABILITY OF PERMANENT EMPLOYMENT RATINGS  
 RESULTS BEFORE THE CATEGORIES ARE COLLAPSED

	yes	probably yes	no	probably no	total
Experimental Group	5	9	4	4	22
Control Group	7	3	4	8	22
Total	12	12	8	12	44

In order to analyze these results using Chi Square it is necessary to collapse the "yes" and "probably yes" categories. The "no" and "probably no" categories also need to be collapsed. This does not detract from the statistical analysis of this hypothesis. Table 7 contains the results of collapsing the categories.

TABLE VII  
 PROBABILITY OF PERMANENT EMPLOYMENT RATINGS  
 RESULTS AFTER THE CATEGORIES ARE COLLAPSED

	yes	no	total
Experimental Group	14	8	22
Control Group	10	12	22
Total	24	20	44

With one degree of freedom the Chi Square value needed to reject the null hypothesis at the .05 level is 3.84. The value obtained was 1.47 therefore the null hypothesis was SUSTAINED.

The results reported in Chapter IV will be further summarized and discussed in Chapter V.

## CHAPTER V

### DISCUSSION AND CONCLUSIONS

#### Introduction

Of the five null hypotheses tested four were sustained and one was rejected. These findings tend to support those writers who contend that work training programmes do not measurably affect, in a positive manner, the personality traits or work habit skills of EMR adolescents. However, those writers who contend that work training programmes are effective can also find some support in this research, though to a lesser extent. A visual inspection of the data reveals that in every instance the experimental group appeared to perform at a higher level than the control group, but not high enough to attain statistical significance at the .05 level. This consistency of results can be advanced as evidence suggesting that work training programmes do have some of the positive results their advocates claim for them.

For purposes of clarification the five hypotheses will be examined individually. Hypotheses 1 and 3 will be discussed in that order, then hypotheses 2 and 4 followed by hypothesis 5.

For further clarity the results are tabled below in the same order as the hypotheses are discussed.

TABLE VIII  
RESULTS SUMMARIZED

Personality and Social Adjustment Factors	H 1 - Specific Factors	Not Significant
	H 3 - General Factor	Significant at the .023 level
Work Habits and Efficiency Factors	H 2 - Specific Factors	Not significant at less than the .05 level but significant at the .08 level.
	H 4 - General Factor	Not Significant
Probability of Permanent Employment	H 5	Not Significant

The experimental group is supported statistically by hypothesis 3. It also receives support from the result of hypothesis 2. Hypotheses 1, 4 and 5 offer no statistical support to the experimental group.

Personality and Social Adjustment Factors

Hypothesis 1, concerning the specific personality and social adjustment factors, was sustained. A superficial inspection of the table on page 40 however, reveals that the experimental group has 13 fewer less than average ratings and 12 more same as average ratings. Such evidence as this, if considered by itself, is weak. However, when placed in context with the results of the other four hypotheses it gains some credibility. All five results seem to favour the experimental group. Thus this individual result could be construed as

supportive evidence of a directional nature that work training does have a positive effect on EMR adolescents. However, the following detailed analysis of the specific personality and social adjustment factors indicates that this supportive evidence, when certain main aims of the programme are considered, is extremely weak.

It was predicted that self-confidence was a factor which would show measurable improvement after the work training programme. The results, however, reveal the groups to be almost equal, nine control students and eight experimental students being judged by the employers as inadequate on this factor. Within the limitations of the instrument and the design of the study the conclusion must be that the work training did not positively affect self-confidence. A possible explanation could be that more time than five months is needed to lessen the feeling of inadequacy which has been built into these young people through their years of frustration and failure. Another possibility is that the time was sufficient to begin changing their self-concepts but the programme was inadequate. Another conjecture is that, even in the menial tasks which were required of them, they were meeting failure; thus re-inforcing their negative self concepts.

Any one of these three possible explanations or any combination of them could occur in any individual. In most cases, however, the first two are the most probable. These adolescents have had years of unsuccessful academic school experience in which to learn that they are unworthy. Even if they are successful at new and non-academic work it would not be surprising if it took a considerable amount of time to erase their negative self-concepts and to re-build

their attitudes so that they can feel positively about themselves. The second possible explanation, that the programme was inadequate for changing self-concept is also plausible. A weakness in the programme was the lack of concrete rewards for a job well done. Had there been pay commensurate with the trainee's performance while on work training it seems highly likely that he would be more apt to begin considering himself as a human being of some worth. This should help to build, to some extent, the self-confidence which the rating sheets showed to be so lacking.

As a further check on the written rating scale the researcher questioned many of the employers regarding these pupils' lack of self-confidence. The general consensus remained that the average beginning employee was much more self-confident than were the EMR adolescents they assessed. The point was pursued to ensure that it was not just first encounter reticence and the employers questioned held firmly to their opinions. It would certainly appear that this area is one on which educators of the EMR should concentrate.

Another specific personality and social adjustment factor that warrants comment is that of mixing socially with others. Part of the work training programme was specifically directed toward encouraging adult social behaviour while on the way to the job, during the coffee break, and when returning to the school. In this area there are 14 less than average ratings out of the total of 51. Of these 14 there are 7 unsatisfactory ratings from each group. It is apparent that the programme had little if any effect on the experimental group. Three possible explanations can be put forth; the five months training was

too brief, the work training programme was not adequate, or these pupils, due to the restrictive nature of their handicap will remain unable to mix socially with the average worker. The latter is perhaps the most likely explanation of the three. The EMRs' lack of conversational ability causes them to be labelled as boring by their fellow workers. This disability, coupled with a frequent inability to act appropriately, makes it difficult for normal social interaction to occur. Endeavouring to improve their skill in these areas is most difficult because their lack of conversational ability is possibly due to an inherently poor memory and their inappropriate reactions are probably the result of lack of insight. The majority of these students remained isolated during the assessment period and it is likely that on future jobs they will remain relatively isolated from fellow employees who are of average ability.

The two specific factors of self-confidence and mixing socially account for 31 of the 51 less than average ratings. An inspection of the chart presented in Appendix C shows the remaining 20 to be distributed fairly evenly among the other 7 factors. The distribution is similar with the more than average ratings. The total of 33 is distributed quite evenly across the 9 factors and no pattern is obvious.

Hypothesis 3, dealing with the employer's general opinion of personality and social adjustment, was rejected. This was the only area in which the experimental group was demonstrated to be statistically different from the control group. Superficially this rejection is incompatible with the findings of hypothesis 1 which was sustained.

However, a detailed investigation into the individual rating sheets reveals that these findings are entirely plausible.

The first concern at these results is for internal consistency between these two items. One would expect a high degree of agreement between the specific factors and general factor on each individual pupil rating sheet and this is the case. Of the 9 pupils with 3 or more less than average ratings on the specific factors 7 are rated as less than average on the general factor and 2 are rated same as average. What is not accounted for is the degree of negative feeling the employer may have regarding one or more of the specific factors. The fact that there are 14 fewer less than average ratings for the experimental group combined with the unknown quality of degree can help explain the statistical significance of this general factor and the lack of statistical significance of the combined specific factors.

The difficulty employers had in making judgments on the specific factors may be of interest. The personal nature of the questions made them feel very uneasy. Such uneasiness is reflected in the number of same as average ratings. A total of 78% fall in this category compared with 63% same as average judgments in the specific work habit factors in hypothesis 2. This implies that judgments may have been biased to the average on the specifics thus when it came time to make a general judgment accuracy improved because the assessors did not feel inhibited. The general factor category enabled the employers to respond as they felt because an exact justification was not required. They could think such things as "the worker just does

not fit" or "he puts everybody off". This is completely non-quantitative and vague but employers frequently make their judgments this way when pressed for specifics. This employer characteristic could lead to the tentative conclusion that, in this area of the rating scale, the general factor may be a more accurate predictor of future success in employment than are the specific factors.

In summarizing the discussion regarding the personality and social adjustment area, it would appear that the experimental group was slightly superior to the control group. This conclusion is based on the results of the analysis of the general factor, where a significant level of .023 was obtained.

#### Work Habits and Efficiency Factors

Hypothesis 2, concerning the specific work habit factors, was sustained. However, as is the case with hypothesis 1, a superficial inspection of the data on page 41 reveals that the experimental group appeared to do better than the control group. The experimental group has 12 fewer less than average ratings and leads the control group in more than average ratings by 11. Although this difference is not significant at the usual statistical levels it does show significance at the .08 level. This could be considered as supporting directional evidence that the work training programme did perhaps affect positively the work habits of the experimental group.

The two factors which concerned employers the most were understands work and shows initiative. The experimental group has 17 and the control group has 21, for a total of 38 less than average

ratings out of 78. This represents 48%, which is considerably more than the 28% one would expect if each factor received its proportion of the total. Employers expressed great concern with these items and this writer speculates that training in the vital areas of understanding and initiative is difficult but not impossible, providing suitable tasks within the student's ability and interest range are selected. Understanding of menial tasks can be developed by giving these youngsters many hours of on-the-job experience. Initiative is much harder to develop. If lack of initiative results from lack of understanding then failure may be a foregone conclusion. If it results from lack of training then it is correctable. Most employers are quickly aggravated by continually having to show an employee the next task that needs to be performed. It is therefore the responsibility of those involved with adolescent EMR students to foster in these young people the initiative to seek out and to begin work and not to wait always for the employer to give specific instructions.

The other two factors which the employers judged most severely were completes work on time and quality of work. These are two aspects which the work training programme concentrated upon and inspection of the data in Appendix C would indicate that some success was attained. There are 9 less than average ratings for the experimental group and 17 for the control group. This is most encouraging for the experimental programme as it indicates that these EMR adolescents can be trained to perform tasks at a level satisfactory to employers. Concentrated training on these factors in any programme designed for these pupils might be a fruitful approach.

The remaining three specific factors are only rated less than average 14 times which comprises 18% rather than the expected 42%. An inspection of the chart in Appendix C also reveals that these 14 are distributed fairly evenly among the items and between the two groups. A general explanation for the paucity of less than average ratings is that the employers were not concerned with these three factors in a beginning and brief assessment and therefore devoted more observation to the last four. A combination of the brief time with employer reluctance to give them opportunity to be truly tested on the safety conscious, on time and careful with materials and property factors might also help account for the few low ratings. It can be speculated that these three factors would become increasingly important if the students remained on the job for longer periods of time.

An interesting aspect of the work habit ratings is the more than average column. In the personality section the balance comes in the same as average column, 162 for the experimental group compared to 150 for the control group, but in the work habit section the ratings are almost equal, being 97 to 96. The difference is in the more than average column; the experimental group leads the control group 24 to 13. The ratings in this section are distributed evenly with the experimental group maintaining an apparent superiority in all factors but one. This can be construed as limited supporting evidence for the work training programme. Little else can be commented on as no clear pattern emerges. Therefore, the general factor will now be examined.

Hypothesis 4, dealing with the employers' general opinion of work habits, was also sustained. This apparently conflicts slightly

with hypothesis 2 on the specific factors, which, although not statistically significant at the predetermined .05 level, was significant at the .08 level. This, however, does not detract from the internal consistency of the test. An inspection of the assessment forms reveals that all those pupils who received three or more less than average ratings on the specific work habit factors were judged as less than average on the general factor. Those who received two less than average ratings on the specific factors were rated average on the general factor except in two cases. In one case the employer rated only one specific factor as below average, but that was enough to cause him to rate the general factor as below average as well. Discussion with the employer revealed that the worker was so poor in this one area that any other assets were nullified. The inspection reveals that employers' opinions were consistent between the specific factors and general factor on the rating scale thus the internal consistency of the test seems to be satisfactory.

A possible explanation, which was alluded to above, could be the degree of feeling which employers possess toward the various individual factors. Due to the small number of subjects involved it only needs two or three rating sheets where a disproportionate number of specific factor ratings are compared with the general factor rating to cause apparent contradiction in results. For example, the case mentioned above, which was an experimental student, illustrates this point. In this situation one less than average rating on the specific factors is equal to one less than average on the general factor and, therefore, causes results to appear contradictory. A similar

phenomenon would also occur if a control student were to have far above the average number of three sub-standard ratings. This actually occurs two times. Thus the balance is tipped toward divergence between the two groups on the specific factors and a convergence on the general factor.

In summarizing the discussion regarding work habits and efficiency, it would appear that the experimental group is slightly superior to the control group. On the general factor there is no evidence that either group is superior but the results of the specific factors are statistically significant at the .08 level. This concludes the discussion of the first four hypotheses and hypothesis 5 will now be considered.

#### Probability of Permanent Employment Factor

Hypothesis 5, the employers' prediction of permanent employment, was sustained. However, an inspection of the data on page 43 reveals that the experimental group appears to have a slightly better probability of obtaining permanent employment than does the control group.

#### Qualitative Addenda

Apart from the statistical data that was gathered there are three subjective observations which can contribute to the value of this thesis.

One of these observations concerns the attrition rate. Each group started with 13 and ended with 11. Before the experiment began each teacher gave an independent opinion of each pupil's chances of remaining in the school for the year. Both the experimental pupils who

left were considered by the staff to be probable school leavers. In one case the work training programme delayed the pupil's leaving school because he received much positive re-inforcement from his success on the job and from the temporary relationship he and the teacher developed. Unfortunately, a community problem of long standing caused him to be placed in another setting. In the other case the work training programme hastened the pupil's departure because it demanded performance. Because the pupil was capable of doing the task and he knew the teacher expected results he remained at home where nothing was expected of him. From these two cases it can be said that the work training programme can affect school leaving in either a positive or a negative manner. There were also two pupils in the control group who were considered probable school leavers. One of these left due to personal reasons and the other left immediately after the testing period. In this latter case, it was actually the testing period which caused him to remain in school. There had been considerable difficulty with this boy and the problem reached the crisis point just as the testing period was being organized. At this time it was decided by everyone that he would remain until after he went on work experience for the two week testing period and that a final decision would be made at that time. The boy was completely unaware that he was in an experiment and he remained in school only because he wished to go on the impending work experience. At the completion of this period he decided to withdraw and seek employment. The other pupil who left during the course of the experiment did so because his family moved to another country.

It was stated in chapter III above that an analysis of the

school leavers might reveal important aspects of the work training programme, but the attrition was not unexpected. It was hoped that the experimental programme would have had greater influence on holding the very difficult pupils in school. It would appear that this was not the case. However, in the experimental class there was a small group of pupils who are of interest. They consisted of three boys, who, while not considered probable school leavers, were considered to have the potential for leaving if some unfortunate incident occurred during the year. By the chance of random selection the control class did not have a group such as these. None of these boys were lost and it might be argued that the work training programme helped to prevent problems from developing. This contention must remain conjecture as there is no empirical evidence to support it.

Another observation concerns the relationships which the experimental students developed with each other when they functioned together as a group. They developed an observable group spirit when they were together with the teacher who supervised their work training. They began to place work expectations on each other, and could become quite outspoken if certain members did not do their share of the work. They also began to expect each other to behave in an adult fashion in coffee break situations and when one member of the group was both selfish and immature at these times they began criticizing him. Eventually the group reached the limits of their frustration and they requested that he be removed. He remained for a short time, but this was the pupil who eventually left due to problems in the community. It was the group belief that they worked together more effectively after

he left. This indicates that the experimental class was beginning to learn that, in order to work effectively together, a group must have good inter-personal relationships. The boys in the experimental group seemed to benefit from the relationships which they developed while on the work training programme.

The third observation concerns the relationships which various members of the experimental group developed with the teachers who supervised their programme. As the year progressed a much better relationship developed, probably for two reasons. Most of the students met with success on the job. Therefore, they felt better about themselves because they could see that what they had done was good, and that the praise they received was truly earned. Also, because the teacher worked along with the students a certain feeling of comradeship developed. Thus discipline problems seldom arose to interfere with the relationship between the student and the teacher. In most cases this improved relationship transferred to any academic classes which the teacher took with these students. This is a considerable gain as these students are usually negative in the academic area. From direct observation it would seem that the work training programme helped certain teachers build better relationships with many of the students and this had a positive effect on all facets of the students' school life.

In summarizing the discussion regarding the qualitative addenda, it would appear that the work training programme affected positively many of the trainees in the programme. However, this is

opinion only and must remain in the realm of speculation as there is no empirical evidence to support this claim.

#### Recommendations for Further Research

On the basis of the experience generated by this thesis and its findings the following further research is suggested:

1. A study is needed to help separate the relative value of the role of personality and work habits.
2. A study is needed to determine if the specific factors or general factors are a more accurate predictor of EMR adolescents' working future.
3. A study is needed to determine the relative importance of the specific factors to each other.

A replication of this study should be undertaken using greater numbers of subjects and extending over a longer period of time. The incorporation of monetary reward commensurate with performance during work training sessions should also become part of the design of any future study. If a more extensive study were undertaken it would be greatly enhanced if a record of the trainees' performances could be maintained for approximately five years after graduation. This last point is most important. Such a longitudinal study of graduates from any work training programme could make a worthwhile contribution to knowledge in the field of how best to prepare the EMR for a useful and self-fulfilling role in society.

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APPENDIX A

VOCATIONAL ADJUSTMENT TRAINING WORK REPORT

Employer's Evaluation

Trainee's Name .....

Employer's Name ..... Address .....

Date Started ..... Date Completed ..... Time on job....

Job Title ..... Supervisor .....

	FACTORS	AVERAGE EMPLOYEE		
		Less than	Same as	More than
GROUP I PERSONALITY & SOCIAL ADJUSTMENT	Self-confidence			
	Cheerful			
	Cooperates with supervisor			
	Cooperates with other employees			
	Respects supervisor			
	Minds own business			
	Accepts criticism			
	Mixes socially with other empl.			
	Neat and clean			
	(Other)			
GROUP II WORK HABITS & EFFICIENCY	On time			
	Safety conscious			
	Careful with materials & property			
	Completes work on time			
	Quality of work			
	Understands work			
	Shows initiative			
	(Other)			

\*\*\*\*\*

	FACTORS	AVERAGE EMPLOYEE		
		Less than	Same as	More than
GROUP III GENERAL RATING	GROUP I - Personality and social adjustment			
	GROUP II - Work habits and efficiency			
	Would you be as willing to hire this individual as you would your average applicant, if a job were available? YES.....PROBABLY.....PROBABLY NOT.....NO..... If above answer is "PROBABLY NOT" or "NO" please answer the following: Would hire IF (State conditions) ..... ..... .....			

Please add below any additional comments that you feel would help give a clearer or more accurate description of this trainee.

APPENDIX B

RESULTS OF THE DOUBLE ASSESSMENT:  
 SPECIFIC FACTORS AND GENERAL FACTORS

16 Specific Factors

Confidence	less than average	average	more than average	total
First Assessment	10	15	5	30
Second Assessment	10	16	4	30

One obvious change

No hidden cross-overs

Total changes - one

Cheerful	less than average	average	more than average	total
First Assessment	1	22	7	30
Second Assessment	1	23	6	30

One obvious change

Two changes resulting from one hidden cross-over

Total changes - three

Cooperates With Supervisor	less than average	average	more than average	total
First Assessment	0	21	9	30
Second Assessment	0	22	8	30

One obvious change

No hidden cross-overs

Total changes - one

Cooperates With Other Employees	less than average	average	more than average	total
First Assessment	0	25	5	30
Second Assessment	0	25	5	30

No obvious changes

Two changes resulting from one hidden cross-over

Total changes - two

Respects Supervisor	less than average	average	more than average	total
First Assessment	0	26	4	30
Second Assessment	0	26	4	30

No obvious changes

Two changes resulting from one hidden cross-over

Total changes - two

Minds Own Business	less than average	average	more than average	total
First Assessment	0	25	5	30
Second Assessment	0	26	4	30

One obvious change

No hidden cross-overs

Total changes - one

Accepts Criticism	less than average	average	more than average	total
First Assessment	2	25	3	30
Second Assessment	2	26	2	30

One obvious change

No hidden cross-overs

Total changes - one

Mixes Socially With Other Employees	less than average	average	more than average	total
First Assessment	8	19	3	30
Second Assessment	8	19	3	30

No obvious changes

No hidden cross-overs

Total changes - none

Neat And Clean	less than average	average	more than average	total
First Assessment	0	28	2	30
Second Assessment	0	28	2	30

No obvious changes

No hidden cross-overs

Total changes - none

On Time	less than average	average	more than average	total
First Assessment	2	27	1	30
Second Assessment	2	27	1	30

No obvious changes

No hidden cross-overs

Total changes - none

Safety Conscious	less than average	average	more than average	total
First Assessment	3	27	0	30
Second Assessment	2	28	0	30

One obvious change

No hidden cross-overs

Total changes - one

Careful With Materials And Property	less than average	average	more than average	total
First Assessment	1	26	3	30
Second Assessment	1	28	1	30

Two obvious changes

No hidden cross-overs

Total changes - two

Completes Work On Time	less than average	average	more than average	total
First Assessment	9	20	1	30
Second Assessment	10	19	1	30

One obvious change

Two changes resulting from  
one hidden cross-over

Total changes - three

Quality Of Work	less than average	average	more than average	total
First Assessment	9	18	3	30
Second Assessment	10	17	3	30

One obvious change

No hidden changes

Total changes - one

Understands Work	less than average	average	more than average	total
First Assessment	10	19	1	30
Second Assessment	11	18	1	30

One obvious change

No hidden cross-overs

Total changes - one

Shows Initiative	less than average	average	more than average	total
First Assessment	11	15	4	30
Second Assessment	12	13	5	30

Two obvious changes

No hidden cross-overs

Total changes - two

### 3 General Factors

General Personality And Social Adjustment Factor	less than average	average	more than average	total
First Assessment	2	25	3	30
Second Assessment	3	24	3	30

One obvious change

No hidden cross-overs

Total changes - one

General Work Habits And Efficiency Factor	less than average	average	more than average	total
---	----------------------	---------	----------------------	-------

First Assessment	11	15	4	30
---------------------	----	----	---	----

Second Assessment	11	15	4	30
----------------------	----	----	---	----

No obvious changes

No hidden cross-overs

Total changes - none

Probability of Permanent Employment	Yes	Probably Yes	No	Probably No
---	-----	-----------------	----	----------------

First Assessment	10	8	6	6
---------------------	----	---	---	---

Second Assessment	11	7	9	3
----------------------	----	---	---	---

Four obvious changes

Two changes resulting from  
one hidden cross-over

Total changes - six

It is important to note that although there were changes in the positive category these changes stayed on the positive side. The same is true with the negative category. When the chart is compressed this fact is clearly demonstrated and the reliability is evident.

Probability of Permanent Employment	Probably Yes And Yes	Probably No And No	Total
First Assessment	18	12	30
Second Assessment	18	12	30

No obvious changes

No hidden cross-overs

Total changes - none

APPENDIX C

INDIVIDUAL RATING SCORES

Experimental Group - E; Control Group - C

Specific Personality and Social Adjustment Factors

Compared to average employee Groups	Less		Same		More	
	E	C	E	C	E	C
Self-Confidence	8	9	14	12	0	1
Cheerful	2	3	18	15	2	4
Cooperates with supervisor	0	2	19	17	3	3
Cooperates with other employees	0	1	20	20	2	1
Respects supervisor	0	2	20	17	2	3
Minds own business	0	2	16	18	6	2
Accepts criticism	2	3	20	19	0	0
Mixes socially with other employees	7	7	15	15	0	0
Neat and clean	0	3	20	17	2	2
Other	0	0	0	0	0	0
Totals	19	32	162	150	17	16

General Personality and Social Adjustment Factor

Compared to average employee Groups	Less		Same		More	
	E	C	E	C	E	C
General factor	1	7	21	15	0	0

Specific Work Habits and Efficiency Factors

Compared to average employee Groups	Less		Same		More	
	E	C	E	C	E	C
On time	1	3	16	17	5	2
Safety conscious	4	3	15	18	3	1
Careful with materials & property	2	1	17	20	3	1
Completes work on time	4	9	15	11	3	2
Quality of work	5	8	14	10	3	4
Understands work	9	10	10	10	3	2
Shows initiative	8	11	10	10	4	1
Other	0	0	0	0	0	0
Totals	33	45	97	96	24	13

General Work Habits and Efficiency Factor

Compared to average employee Groups	Less		Same		More	
	E	C	E	C	E	C
General factor	8	10	12	11	2	1

Probability of Permanent Employment Factor

Employers' response Groups	Yes		No	
	E	C	E	C
Probability of employment factor	14	10	8	12

VITA

Surname: TUBMAN ..... Given Names: ROBERT THOMAS .....

Place of Birth: VICTORIA, B.C. .... Date of Birth: JUNE 23, 1934 .....

Educational Institutions Attended, with Dates of Entering and Leaving:

VICTORIA COLLEGE, VICTORIA .....	1954 to 1956
VICTORIA COLLEGE, VICTORIA .....	1957 to 1958
VICTORIA COLLEGE, VICTORIA .....	1959 to 1962
.....	..... to .....

Degrees, Diplomas, Etc., Awarded, with Dates and Names of Institutions:

B.Ed. (Sec.) .....	1962	University of B.C. (Victoria College) .....
.....	.....	.....
.....	.....	.....
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Honors and Awards:

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