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## Differential outcomes of various models of work experience

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**DIFFERENTIAL OUTCOMES OF  
VARIOUS MODELS OF WORK EXPERIENCE**

**By**

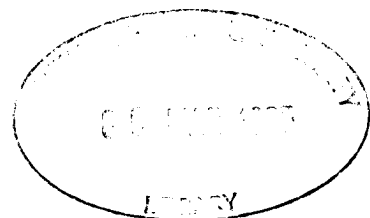
**Peter Sinclair B.Ed., Post-Grad. Dip. Ed. St.**

**A Thesis Submitted In Partial Fulfilment of the  
Requirements for the Award of**

**Master of Education**

**at the School of Education,  
Edith Cowan University.**

**Date of Submission: 31.1.95.**



## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

## Abstract

In Western Australia an increasing number of secondary school students participate in work experience programs. Different models of work experience are becoming more common. The Ministry of Education promotes the use of four such models. The purpose of this study was to examine the outcomes of work experience, as perceived by secondary school students in selected Government Schools, to see if there were any differences according to the model of work experience used. These perceptions were further examined to see if there was a significant difference in perceived outcomes according to other independent variables of student gender, year level, geographic location, duration of work experience or recency of work experience.

Data were collected by means of a questionnaire. Students completing work experience in the survey period in responding government secondary schools with appointed Youth Education Officers were asked to complete the questionnaire using a Likert Scale of attitude response.

The results of the questionnaire were analyzed using multiple analysis of variance. This gave an objective measure of the extent of achievement, as well as indicating any significant differences according to the independent variable examined.

The study concluded that work experience produces positive outcomes in areas related to the employability, career choice, educational attitude and social development of students.

No evidence was found to suggest that there is a significant difference in any of these outcome areas according to the independent variables of model of work experience used, the year level of the students or their geographic location.

The data did support conclusions of significant differences in one or more outcome areas for the independent variables of gender, length of work experience and recency. No independent variable produced significant differences in all outcome areas.

No evidence was found to suggest that there is a significant difference in any of these outcome areas for any of the independent variables according to the model of work experience used.

## Declaration

"I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or a diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text."

Signature

A black rectangular box redacting the signature.

Date

31/1/95

## Acknowledgments

I particularly wish to acknowledge the help and assistance of Dr Murray Lake of Edith Cowan University, both with the conduct of the research and with the preparation and presentation of this thesis. His guidance and understanding were invaluable.



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## Chapter One: Introduction

This chapter will introduce the reader to the study. It will explain what it is the study sets out to do, illustrate the background to the problem and define certain parameters within which the study will operate including the definition of terms, assumptions and limitations. It will state precisely the questions the study sets out to answer.

### a) Statement Of Purpose

The purpose of this study was to examine the outcomes of work experience, as perceived by secondary school students in selected Government Schools, to see if there were any differences according to the model of work experience used. These perceptions were further examined to see if there was a significant difference in perceived outcomes according to other independent variables of student gender, year level, geographic location, duration of work experience or recency of work experience.

### b) Background Of Problem

The first formal work experience program in Western Australia began as a curriculum innovation in the 1960's. Since that time work experience programs have grown, in incidence and in acceptance, to be an expected part of most student's secondary education. Virtually all secondary schools in Western Australia have established work experience programs. Similar programs are to be found in all states of Australia.

The Ministry of Education expends significant resources, through its central office and in its schools, on the administration and development of work experience programs. Similarly, the effort involved from parents and employers is considerable.

Moves to increase the vocational relevance of post compulsory secondary education may see Government Schools in Western Australia undergo further expansion of work experience programs in terms of the number of students involved, the range of models of work experience offered and the number of times an individual student is offered work experience.

The range of possible expected outcomes for work experience programs is extensive. Most programs specify outcomes expected of students as a result of work experience. The Ministry Of Education in Western Australia has established educational features common to all models of work experience. It is claimed that:

Work experience gives students the opportunity to:

- make decisions concerning their future;
- experience the world of work;
- practice and develop life skills;
- match their abilities and interests to vocational pathways; and
- incorporate subject based learning into the world of work.

(World Of Work, 1990)

Various models of work experience are used to offer different learning contexts for the student. The Ministry of Education currently advocates the use of four such models or contexts for work experience:

- i) Job Sampling Work Experience
- ii) Negotiated Work Experience
- iii) Research Based Work Experience
- iv) Work Shadowing

Learning opportunities leading to possible outcomes for students are listed by the Ministry of Education for each model:

i) Job Sampling Work Experience

This model builds on the students' desire to test emerging vocational preferences and it enables them to:

- perform tasks within an adult workplace environment;
  - undertake significant work tasks; and
  - gain first hand experience of the world at work.
- (Job Sampling, 1990)

ii) Negotiated Work Experience

This model allows the students the opportunity to:

- develop and display their competence in making decisions and performing significant tasks;
  - gain experience in task negotiation, drafting of project proposals and resource and project management; and
  - gain confidence from performing tasks that are valued within the adult work environment.
- (Negotiated Work Experience, 1990)

iii) Research-Based Work Experience

This model allows the opportunity to learn about the world of work in a way which links experiential work directly to the classroom. It enables students to:

- perform tasks within an adult workplace environment;
  - undertake significant research tasks; and
  - gain first hand experience of the world of work.
- (Research Work Experience, 1990)

#### iv) Work Shadowing

This model builds on the students' desire to test emerging vocational preferences and enables them to:

- gain first-hand knowledge/understanding of employment not usually accessible to students (e.g. managers);
- observe the work roles of adults in their workplace environment;
- gain first-hand knowledge of the world of work;
- focus on the role, values, feelings and perspectives of a number of workers; and
- access a variety of occupations.

(Work Shadowing, 1990)

The possible outcomes of work experience are many and varied and are usually grouped together. Watts (1983, p. 6) uses six main groups of outcomes, listed as vocational, motivational, socio-educational, anticipatory, placing or custodial. Straton and Murray (1984) in studying the outcomes of work experience in Tasmania and Western Australia established four categories: student employability, career choice, educational attitude and social development.

The educational features listed by the Ministry of Education as being common for all models of work experience all fall within one of Watt's (1983) categories, that of vocational outcomes. No features are listed to reflect outcomes within any other categories. By focussing expectations within the one category, the Ministry of Education provides a narrow and prescriptive view of the purposes and possibilities of work experience. The student outcomes for each of the four models of work experience are similarly taken from the vocational category.

These educational features are stated so broadly that they are examples of what are described by Gage and Berliner (1975, p. 75) as expressive objectives. They describe what could be learned rather than what should be learned. They



are all encompassing and provide little direction to help determine which model of work experience would best suit the needs of individual students. The opportunities do, however, give the student a licence to explore the world of work in order to satisfy their own needs. In this sense, they do not limit learning.

The student outcomes for each model of work experience, as listed by the Ministry of Education, are stated more explicitly than the learning opportunities. They are worded more in the form of instructional objectives (Gage et al., 1975, p. 74) and give more indication of what should be learned from each experience. As a consequence, they provide both the work experience organizer and the student with possible reasons for selecting a particular model of work experience.

Previous studies of work experience have tended to focus on the efficiency of gaining placements at the school level or on the intent of administration at the system level. These studies have relied on subjective opinion as to the relevance and efficiency of work experience. No study has been undertaken of the effectiveness of different models of work experience in achieving student outcomes.

### c) Statement Of Problem

The Ministry of Education has in recent times endorsed new models of work experience for use in schools. This has caused some uncertainty amongst those with an interest in the organisation of work experience as to which model best suits the organiser's purposes and the appropriate circumstances for the use of each model.

Additionally, there has been some dispute about the value of work experience in certain circumstances. Different stakeholders in the curricula of schools debate the worth of work experience for particular students. It is frequently difficult for organizers of work experience to convince other decision makers within the school and community that work experience results in worthwhile outcomes for female students, country students or Year 11 and 12 students. Equally, doubt exists as to whether two weeks work experience is better than one week or whether the outcomes of work experience last past the first few weeks.

The purpose of this study was to examine the outcomes of work experience, as perceived by secondary school students in selected Government Schools, to see if there was a significant difference according to the model of work experience used, student gender, year level, geographic location, duration of work experience or recency of work experience.

#### d) Definition Of Terms

For the purposes of this research the following definitions and meanings are held.

##### Work Experience:

A single encounter that provides students with "work-based experiences in vocational areas and opportunities to explore the workplace. This enables students to better prepare themselves for the transition from school to work". (World Of Work, 1990, p. 1)

##### Learning Opportunity

An experience which provides the possibility of a student meeting particular objectives.

## Outcome

An actual consequence or effect that results from the participation of a student in work experience. For the purposes of this study outcomes will be examined in terms of student perceptions.

## Model Of Work Experience:

A pattern of organization used to structure individual work experiences in order to emphasise particular learning opportunities.

## Program Of Work Experience:

A set of multiple work experiences designed for one student or for a group of students.

## Gender:

The sex, male or female, of the student undertaking work experience.

## Year Level:

The number of years of successful study undertaken by a student at primary and secondary school. Year level includes the current year of study.

## Duration:

The length of time for which a student is engaged in a single work experience within a work experience program.

**Recency:**

The length of time that has elapsed since the completion of a work experience.

**Geographic Location:**

The geographic positioning of the school attended by the student undergoing work experience. This is defined as either "metropolitan" or "country" according to the maps prepared by the Ministry of Education of Western Australia as shown in Appendix 1.

**Student Employability:**

A construct which explains the potential of a student to be considered by an employer as a suitable employee according to factors listed by School Leavers (1987).

**Career Choice:**

A construct which explains a student's preference for a likely future vocation.

**Educational Attitude:**

A construct which explains a student's disposition towards further formal instruction.

**Social Development:**

A construct which explains a student's cultural and societal maturation.

#### e) Research Questions

The major question addressed in this study is as follows:

- i) In what ways do particular models of work experience result in differential outcomes?

A subsidiary question to be addressed in this study is as follows:

- ii) In what ways do the variables of student gender, year level, duration of work experience, recency of work experience and geographic location result in differential outcomes?

#### f) Assumptions

It is assumed for the purposes of this study that all Youth Education Officers have received formal in-service training in the organization of work experience programs and that all have access to any necessary resources for conducting such programs.

It is further assumed that Youth Education Officers conduct the various models of work experience according to the descriptions and information promoted by the Ministry Of Education in Western Australia.

A third assumption is that Youth Education Officers administer the questionnaires used for data collection in this study according to the instructions supplied and that no significant variations occur.

Finally, it is assumed that students in schools participating in work experience programs administered by Youth Education Officers have a similar curriculum background in respect to work experience and that preparation and debriefing appropriate to the work experience occurs for each student.

#### g) Limitations

This study has several limitations, namely:

- Only Government Schools with appointed Youth Education Officers were included in the study. Private schools and Government schools without Youth Education Officers were excluded. Since certain assumptions have been made regarding the training and preparation of Youth Education Officers to run work experience programs it was considered that this would provide some measure of control over the quality and conduct of such programs.
- Data collected was limited to one source: students. Whilst it is acknowledged that valuable information can be obtained from parents, teachers and employers it is beyond the scope of this study to include data from all these sources.
- The type of data to be collected from students is restricted to their perceptions of the likely outcomes of work experience. Thus the study is limited to impressionistic data. This is because work experience deals with social skills and long term behaviour changes. No valid, objective data collection methods or instruments within the scope of this study were evident.

- The preparation of employers and their treatment of students on work experience is a variable that cannot be controlled due to the unique nature of every placement. The effect of this variable must be considered when interpreting the results.

## Chapter Two: Literature Review

This chapter will examine relevant literature to ascertain information pertinent to the study. The review will examine the processes of work experience programs including the rationale for their existence, the outcomes they are designed to achieve and the models of work experience used in their conduct. The review will highlight variables identified in the literature that are considered by authors to be critical to the outcomes of work experience. Previous research will be examined to determine a rationale for this study as well as to provide a justification for its conduct.

### a) Definitions

Work experience comes in many forms and is practiced in many places. As a consequence it means different things to different people. Whilst several explanations were available, few definitions were found. Banks (1986, p. 4) states that:

Work experience is any planned activity which forms part of an educational process, which introduces young people into a work environment in which they see and/or carry out tasks without taking on the full responsibility of a worker.

Sires, Bloom, Miller, Quinn, Rhiner, Smith, and Weaver in Elrod (1986, p. 1) give a slightly different definition when they explain that work experience is:

An educational process designed to provide students with career education experiences which will assist them in making realistic decisions allowing them to function as independently as possible in the world of work.



Both definitions view work experience as an educational process. The emphasis for Banks (1986) is for students to experience work without full responsibility. It is implied that such experiences will then provide informed bases for the on-going educational process. Sires et al (1986) are more explicit in describing the role of work experience as one of assisting in decision making. Bank's position can be interpreted as a more narrow view of work experience, focussing on the role of a worker, as opposed to Sires et al, whose use of "career opportunities" implies a broader concept of decision making. The Victorian Ministry of Education in its policy statement Ministerial Policy: Work Education (1989, p. 7) concurs with Sires et al (in Elrod 1986, p. 1) when it views work experience as "one of a number of means by which students can participate in community based experiential learning".

The Western Australian Ministry of Education defines work experience as follows:

Work experience is a learning program for students that provides them with work-based experiences in vocational areas and opportunities to explore the workplace. This enables students to better prepare themselves for the transition from school to work (World Of Work 1990, p. 1).

This latter definition is consistent with the view of work experience as an educational process. Work experience is also linked to the broader perspective of transition from school to work.

#### b) Rationale For Work Experience

Work experience is practiced in many countries in the world, usually as a part of a broader program. Work experience is assumed by many authors to be a part

of education in the world of work or as preparation for the transition from school life to a place in the community. Price (1991, p. 4.) views work experience as the "most substantial link" between schools and industry. Such a school - industry link is seen as an aspect of the broader field of work education. In reviewing such programs in a number of countries Price goes on to say that whilst these programs operate differently in different countries their existence in Australia demonstrates that they are "a part of a world wide cooperative effort to bridge the apparent gap that has developed between the education and industry sectors (1991, p. 11.).

Price (1991) reviews school - industry link programs in several countries around the world including Britain, the United States of America, Cuba and Brazil. The author explains that while these countries have widely varying "political, social, economic and industrial sectors" the essential features of such programs remains the same, with work experience as the strongest visible exemplar.

The links between schooling, further education, training and working life are stressed by Victorian Ministry of Education (1989). When these links are viewed from the position of social justice, assumptions are made that schools need to prepare students adequately for post school life and that students need to be fully informed of post school options.

In its publication, *Schools and Work* (1978), the Education Department of Western Australia sets out two main educational concerns relating to the transition from school to the community. These are the provision of equal opportunity and the supply of trained workers. It is claimed that schools can assist in three ways, by:

- regulating the flow of students from school to the community;

- preparing students for work through general education; and,
- conducting vocational preparation schemes such as work experience.

Schools must decide whether work experience is placed in a discrete Kindergarten to Year 12 career education program or whether a whole school approach to vocational training is to be adopted (The Current Situation, 1987). In either instance it is important that work experience is placed in a wider context than simply an extra curricula activity that interferes with other learning. Price (1991. p. 48) agrees, claiming the time is right for a shift in the emphasis of the debate from the administrative aspects of work experience to the curriculum aspects. Cumming (1987) lists many potential reasons for including work in the school curriculum. These are listed under the broad headings of educational, equity, economic, social, cultural, political and philosophical.

It is maintained by Cole (1988a) however, that schools do not realize the potential of work place based experience as a basis for learning opportunities. It is suggested that the full potential is not achieved because schools focus too much on how to organize programs and not enough on relating work experience to classroom based learning.

Whilst the majority of authors extol the virtues of work experience, several highlight deficiencies in work experience practice. The very success of the work experience program is, in many instances, its own downfall. Work experience often proves so popular that little effort is made to further improve the quality of the experience. One report views work experience as a "seduction program that gives positive feedback" (Report On Work Experience, 1984, p. 4). The growth of work experience has seen the experience itself become the focus of attention to the detriment of organization and curricula context. School Industry Links

(1988, p. 24) argues that "We all think work experience is such a damn good idea that we fail to be critical about it". As a result, work experience tends to be stereotyped in terms of time and nature. A broader, multidimensional view of work experience is called for. Cole (1988a, p. 5) explains that the traditional type of work experience, although popular, needs to be "open to change or be supplemented by other approaches as it appears to be becoming less appropriate for meeting the range of demands facing young people entering today's workplace". Several authors including Barnes, Johnson and Jordan (1988), Cole (1988a), National Conference (1988) and Watts (1983) expand on this point by detailing a range of models of work experience to meet different needs.

### c) Outcomes Of Work Experience

Work experience is seen as a means to achieving a wide range of outcomes. These outcomes result from a multitude of purposes and vary greatly in nature. In viewing work experience as the best established and most visible link, Price (1991, p. 4) argues that the purpose is to increase the knowledge and understanding that schools and industry have of each other.

Watts (1983, p. 6) argues that:

The claims made for work experience are many and varied. At times, indeed, it seems to be regarded as a panacea for all the ills of the education system, offering everything from inspiration to redemption.

Most of the declared and latent objectives attached to it can however be grouped into six broad categories. These categories are:

- Motivational: increasing the meaning and significance of schooling to the student;

- Socio-educational: to enable student to acquire life skills, knowledge and understanding of self and of society more effectively in the work setting than can be achieved in the classroom;
- Vocational: to help students in choosing their future occupation;
- Anticipatory: to help students experience the minor difficulties of work to enable them to cope better in the real situation;
- Placing; to establish links between students and a particular employer; and
- Custodial: to provide an alternative for truants and disruptive students.

Not all authors use the same categories. Categories are arbitrary based on groupings of like outcomes according to the conceptualization of the author. Sutton and Overman (1988) list four objectives which they consider to be appropriate to the next decade. These aims, however, are restricted to the broad area of vocational knowledge and skills and do not include areas such as personal or social development. They are similar to the previously listed aims held by the Ministry of Education in Western Australia for work experience in government schools.

Straton et al (1984) state that "work experience programs are justified primarily in terms of their outcomes for students". They go on to list outcomes of work experience in four main areas: student employability, career choice, educational attitudes and social development, all of which were described in Definition of Terms. These outcome categories are considered the most suitable for this study for two reasons:

- They encompass a broader spectrum of possible outcomes.
- They resulted from the only study of outcomes of work experience in Western Australia.

#### d) Models Of Work Experience

Many different models of work experience exist. The reason for variation in student outcomes can be attributed to variations in the models of work experience as well as to differences in students. The purposes of different models for many work experience organizers may well be to achieve different student outcomes.

Perhaps Cole (1988a, p. 2) sums up the purposes of work experience best when he says "the range of purposes that are claimed to underpin work experience programs vary substantially". The same author states further, that "schools adopting workplace based programs need to be clear about the kinds of learning objectives they are seeking to attain and to relate these to the kinds of program they design" Cole (1988a, p. 13) . It is possible that this can best be achieved through the expanded use of different models of work experience, a view supported by Price (1991, p. 48) and by Work Experience Review (1988, p. 8).

The above position maintains that different models of work experience should be used to achieve different planned learning outcomes. This view is consistent with an approach that sees the student as the focus with the model of work experience being selected to meet the students anticipated needs.

The four models of work experience suggested by Cole (1988b), Price (1991) and Work Experience Review (1988) are the same as those adopted by the Ministry of Education in Western Australia. The Ministry Of Education state that "schools may use different models of work experience but all share common

educational features" (World Of Work, 1990, p. 1). This view is in contrast with that of the previous authors in that work experience is the focus. All models of work experience are seen as having common features which provide the same benefits to all students. Students benefit only to the degree that their needs are congruous with the experience offered.

#### i) Job Sampling

Job sampling is the model of work experience which currently is most in use. Also known as vocational work experience or job testing, this model involves the student in work experience in the vocation or career the student wishes to pursue. The student assumes the role of the worker in that vocation as much as possible and assists or observes other workers when the skill level of the task is too high for the student to perform. The primary focus of the experience is the work task, with the student seeking to find out or confirm if this is the job that they wish to pursue in the future.

The strengths of this model are described in Job Sampling (1990, p. 4) as the motivation of the student to try out desired vocations and the placement of the student in an adult role in an adult environment. The weaknesses of the model are the tendency to reinforce stereotyping involved in the student's choice of occupation and the overshadowing of general learning about the workplace by the student's motivation to learn about the specific vocation.

#### ii) Negotiated Work Experience

Negotiated work experience involves the student, employer and teacher in the negotiation of a work project to be completed by the student. The project should

achieve specific outcomes for the student as well as being of use to the employer.

By involving the student in negotiation and discussion before the experience and by agreeing on the role of the student during the experience, it is intended that negotiated work experience will overcome the problem of students being assigned trivial or menial tasks. It also allows the student to demonstrate their ability at task management, negotiation and decision making. According to Negotiated Work Experience (1990) this model is intended to increase the likelihood of quality work experience, even at the cost of greater time consumed in its administration.

The initial weakness of this model is the time consumed in organizing the experience. Also, students are less likely to gain an appreciation of various work roles and the changes taking place in various work practices (Cole 1988, p. 13).

### iii) Research Based Work Experience

Research based work experience involves the student in conducting research at the work place. The topic of the research is selected beforehand by the class or teacher and the work place is selected on the basis of its potential to yield suitable data. The focus of student learning is on "the work place as a learning resource" (Research Work Experience, 1990, p. 2) and on the work processes carried out in the work place.

Research based work experience blends work and research activities allowing the student the opportunity to perform work as well as to observe or enquire into work roles and environments. As a weakness, this model places little emphasis



on the performance of challenging tasks, meeting adult expectations or gaining a sense of the demands they will have to meet in adult life.

#### iv) Work Shadowing

In work shadowing the student's task is to "shadow" an employee to "observe levels of job skills not usually available in job sampling" (Work Shadowing, 1990, p. 2). The student follows a worker, using a blend of observation and interview to focus on the role of the worker rather than specific tasks.

Similar to research based work experience, the strength of work shadowing is the appreciation of various work roles and the changing nature of work practices. Opportunities are provided to come into contact with positive role models. Work shadowing provides little opportunity however, to perform challenging work tasks or to manage significant tasks in the workplace. Subsequently, this model provides students with very limited feedback regarding their skills and social competence in a work setting.

Both Cole (1988a, p. 13) and Watts (1983, p. 11) stress that some objectives are more effectively attained by different models of work experience. Cole (1988a, p. 14) goes further in saying that objectives should be clearly delineated before the work experience is organized. Different objectives for work experience may be held for different students and the appropriate model of work experience should be chosen on the basis of its potential to achieve those objectives. Some work places will suit particular objectives better than others.

It should be recognized, however, that models of work experience are not discrete. A negotiated work experience may contain elements of job sampling

and both job sampling and research work experience may involve work shadowing. A model of work experience may contain elements of other models but each is notable for the potential it provides to maximize the achievement of particular objectives that may be held.

#### e) Selected Variables

A significant number of variables were identified in the literature as impinging upon the likelihood of students achieving particular outcomes from work experience. A frequently raised concern was the link between work experience and the curriculum. Authors such as Cole (1988a, p. 3), Watts (1983, p. 6) and Watkins 1988 p. 5) expressed the need for work experience to be linked to the formal teaching curriculum of the school. In supporting the need for such integration, Price (1991, p. 59) explains that it is not just a matter of adding another piece of content to the school curriculum but rather adopting a methodology or perspective which offers students the opportunity to achieve purpose and understanding in what they learn by linking existing school content to the world of work.

The preparation of students through classroom activities in readiness for work experience is known as briefing. After work experience has been completed, the clarification and enhancement of the learning experiences through classroom activities is known as debriefing. The briefing and debriefing of students for work experience was seen as a critical occurrence by several authors and publications including Rainforest (1989, p. 2), Work Experience Review (1988, p. 3), Workshop On Work Experience (1989, p. 1), Perspectives (1988, p. 2) and National Conference (1988, p. 3).

In its publication, 'Creating Links' (1989), the Western Australian Ministry of Education examines in detail the integration of work experience aims with subject or curricula aims. The theory and practice needed for a learning process to result from experience is dealt with extensively in the publication Debriefing Students (1989). Watkins (1988, p. 95) concludes that even where the experience results in negative views, where they are "discussed and debriefed properly, positive outcomes accrue".

Taking a slightly different view, Price (1991, p. 50) considers that only by the expanded use of different work experience models will work experience be integrated into the curriculum. To demonstrate how this integration can occur the author advocates the development of curriculum support materials for all curriculum areas as well as on-going training and development for teachers.

School organization was seen as not readily lending itself to satisfactory arrangements in regard to work experience (Working Party, 1988, p. 2). Laslett, Reeve and Shulz (1985, p. 131) conclude that many programs of work experience are deficient in the quality of work experience offered. The quality of work experience is adversely affected by such organizational constraints as:

- the non integration of work experience into the curriculum,
- lack preparation of students before the experience,
- failure to ensure that employers are aware of the needs of the student and can meet the requirements of the placement,
- inappropriate placements due to lack of available employers,
- the heavy demand for placement in some vocational areas
- the high expectation placed on the organizer by the school to place all students, and
- limited time for the organizer.

Furthermore, it is considered that most of the teacher time available for work experience is spent in "the administration of work experience programs and not on ensuring the quality of the experience" (School Industry Links 1988, p. 24).

The preparation of employers in advance to receive students for work experience is viewed critically in Working Party (1988, p. 2). Lack of preparation, however, is considered the norm by Rainforest (1989, p. 1) and in Perspectives (1988, p. 2).

Work experience programs should state clearly their purposes and objectives according to Straton et al (1984, p. 44). The need for teachers to brief students on the objectives of work experience was stated in Workshop on Work Experience (1989, p. 2) whilst in Work Experience Review (1988, p. 5) it is claimed that many employers are confused about the aims of work experience.

Gender, class and ethnic bias have been identified in the literature as important variables affecting the quality of work experience for the student. Many of the adults who are significant to a student may have strong convictions about the work roles of young people. These convictions influence young people to the extent that students come to the "threshold of the working world with biases against work inimical to concepts of job satisfaction and responsible work practices" (Work Experience Review, 1988, p. 9). Because of the influence of these significant adults on the values of the student, the student may approach work with established convictions about the role of their gender, class or race which preclude job satisfaction or responsible work performance in particular situations. Barnes et al (1988, p. 435) explain that students will be drawn to careers that "resonate with both their school and family experiences". They go

on to say that they see little evidence of schools working to break down gender stereotypes. Equality of opportunity is one of two major concepts in transition education (Schools And Work, 1978, p. 4).

Geographical location was seen as being of critical importance to the outcomes of work experience (Conference Report 1989, p. 3). It was reported in Work Experience Review (1988, p. 10) that isolation created its own peculiar problems in the "execution and evaluation of work experience". These problems included the inability of smaller towns to provide a range of work experiences in both the number and variety of placements. Additionally, smaller schools were seen as having less resources to cope with the organizational requirements of work experience.

The duration of work experience was viewed as an important variable in the conduct of work experience by authors including Sutton et al (1988, p.4) and Workshop Report (1988 p. 4). Robertson and Dunnell (1981, p. 42) claim that employers consider that longer work experience "enable the student to overcome their initial awkwardness and allow them to experience fully their work environment".

The recency of work experience was seen as affecting the students perceptions of work experience by two authors. Barnes et al (1988 p. 6) considers that work experience occurs at a critical moment in adolescence and that no matter how long the delay between the experience and the interview the "experience was always particularly vivid in their minds". Steinburg (in Straton et al, 1984, p. 29) dissents with this view when he claims that the effects of work experience "appear to wash out soon after program completion". Any study of the effects of

work experience would therefore need to consider the time elapsed between the experience itself and the gathering of data.

#### f) Review of Research Methodologies

The incidence and scope of research carried out in the area of work experience is not commensurate with the number of work experience programs conducted. Cole (1988a) explains that the fundamental rationale of work experience has not been systematically reviewed (p. 2) and that, whilst there is a great deal of literature on work experience programs, very little has been written on how such programs could be evaluated, or how student outcomes could be assessed (p. 21).

Many reviews of work experience focus on the efficiency of the general organization and administration of programs. Price (1991. p. 47) explains that "discussion has focussed on administration, with success measured in terms of numbers participating rather than the quality of experience". Such reviews as National Conference (1988), Rainforest (1989) and Work Experience Review (1988) concentrate on strategies to implement work experience placements more effectively. These studies are based on the subjective impression that work experience is a valuable experience for the student. Accordingly, they focus more on the teacher outcomes of the number of placements made, the type of students catered for and the cost of the program in terms of human and physical resources. They do make suggestions to improve the quality of the experience for the student but they do not provide any evidence, other than the subjective feelings of organizers and teachers, of student outcomes.

Other studies of work experience focus on individual programs, highlighting as examples those that use particular models or that serve particular groups of students. These studies provide valuable information about how to administer programs effectively for particular models or target groups but still do not provide any evidence, other than subjective feelings, of student outcomes. Such studies are numerous and include Wright (1988) who evaluates a School-Industry compact, Schmalle (1987) who focuses on a school based enterprise, Dever and Sitlington (1987) who evaluate and describe a program for handicapped youth and Shackleton (1985) who looks at programs for out of school youth.

Some studies consider the difficulties encountered in examining whether work experience programs are successful in achieving set aims. Straton et al (1984) explain that the primary justification of work experience programs is the attainment of student outcomes (p. 8). They identify, however, three main difficulties in identifying these outcomes. First, they claim that most expressed outcomes are concerned with student attitudes or social skills. Changes in such areas take a great deal of time and are difficult to detect. Secondly, the most knowledgeable sources of information about work experience are the student and those people closely concerned with the student. Information from employers, parents, teachers and the students themselves, however, is likely to be impressionistic and subject to bias. Thirdly, the authors claim that it is difficult to ensure adequate internal validity in any research design to enable outcomes to be linked with work experience with any degree of confidence.

Robertson et al (1981, p. 14) argue that some outcomes of work experience are more obvious and measurable than others and that these more observable outcomes have an assured validity. The authors comment that other outcomes,

such as changes within students or in relationships between students and others, are harder to measure but are perhaps more important outcomes.

Watkins (1981) argues for the use of a "hunt and peck" ethnography as the most effective research method in examining the culture of the work place with which the student is confronted in work experience. This type of ethnography allows the researcher to find the hypothesis that best fits the reality rather than a more positivist research method, which tries to make the reality fit preconceived hypotheses. This argument fits open ended research which seeks to find the effects, both positive and negative, of work experience, allowing the researcher to examine possible changes and outcomes in all domains of learning. It is less suited to a more closed research emphasis that sets out to examine achievement of specified outcomes.

Robertson et al (1981) based their research on the assumption that following the organizational guide-lines laid down by the supervisory educational body, in this case the Ministry of Education, would effectively achieve for students the outcomes set down for work experience. No evidence to support this assumption was presented. The authors hoped to assess the achievement of both the observable and the more subtle student outcomes of work experience by measuring the school's adherence to the supporting guide-lines.

Despite the questionable basis for the research, some data pertaining directly to the outcomes were collected. A combination of questionnaires for work experience organizers and case studies within schools was used to collect data. In the case study schools, chosen according to criteria, a series of interviews with staff, students, employers and other related community members was used.



Barnes et al (1988) conducted a study in 26 British schools. The research data were generated primarily from interviews with teachers and where it "proved appropriate" (p. 2), interviews with students. This information was supplemented by observation of student classes and in a few instances by visits to the work site.

Straton et al (1984. p. 9) used a combination of interviews, both face to face and by telephone, and self report questionnaires utilizing open responses, closed responses and rating scales to gather data. As strategies to overcome the difficulties mentioned previously, data were collected from a variety of sources and by a variety of methods.

#### g) Summary

From the review of literature it is evident that work experience can be viewed as the most tangible link between schools and industry and as such, is a part of the educational process of preparing students for the transition from school to the community. Several authors consider it critical for work experience to be integrated into the school curriculum rather than be conducted in isolation. Work experience can be viewed as part of an overall methodology of providing relevance to content rather than content in itself.

The possible outcomes of work experience are comprehensive. Several authors advocate the use of different models of work experience to achieve different outcomes. Those models frequently advocated by Australian authors correlate with the models of work experience promoted by the Ministry of Education in Western Australia.

Those variables identified in the literature as affecting the quality of work experience include:

- integration with the curriculum
- school organization
- identification of the aims of work experience
- gender bias
- geographical location
- duration of the experience
- the recency of the experience.

The majority of literature focuses on reviews of the administrative processes of work experience. Little has been written in the area of evaluation of programs or assessment of outcomes. That research in the area suggests difficulty in valid measurement of long term and behavioural changes accruing from work experience. One study was highly relevant to the present circumstances. Straton et al (1984) investigated the outcomes of work experience in Western Australia. This study utilized a variety of instruments and methods and was essentially an open ended study design to identify outcomes. It treated all work experience as the same and did not consider the differences between various models of work experience.

### Chapter Three: Theoretical Framework and Model

This chapter will link the findings of the literature review to the framework of the study. In so doing it will highlight the variables to be measured and show their relationship to the model of work experience used and to the expected outcomes of work experience. Two theoretical models will be presented which will relate these variables to a set of hypotheses.

The eventual outcomes of any work experience program are affected by a range of variables. The literature review identified several such variables, the intermix of which can be expected to influence the likelihood of students achieving any expected outcomes.

Figure 1 shows the relationship between work experience, the different independent variables and the dependent variable outcomes. These elements form a linear model of work experience.

As every school is unique, so every work experience program is subject to different parameters, constraints and variables. Schools apply certain limitations to their work experience programs before the organizer begins the planning. These limitations form system parameters within which the work experience organizer must operate. Work experience may be limited to students in a particular year, or may be offered to students in any year. The experience may last a day, a week or two weeks. It may be limited to local businesses or may be extended, especially by country schools, to include a variety of businesses in more distant locations.

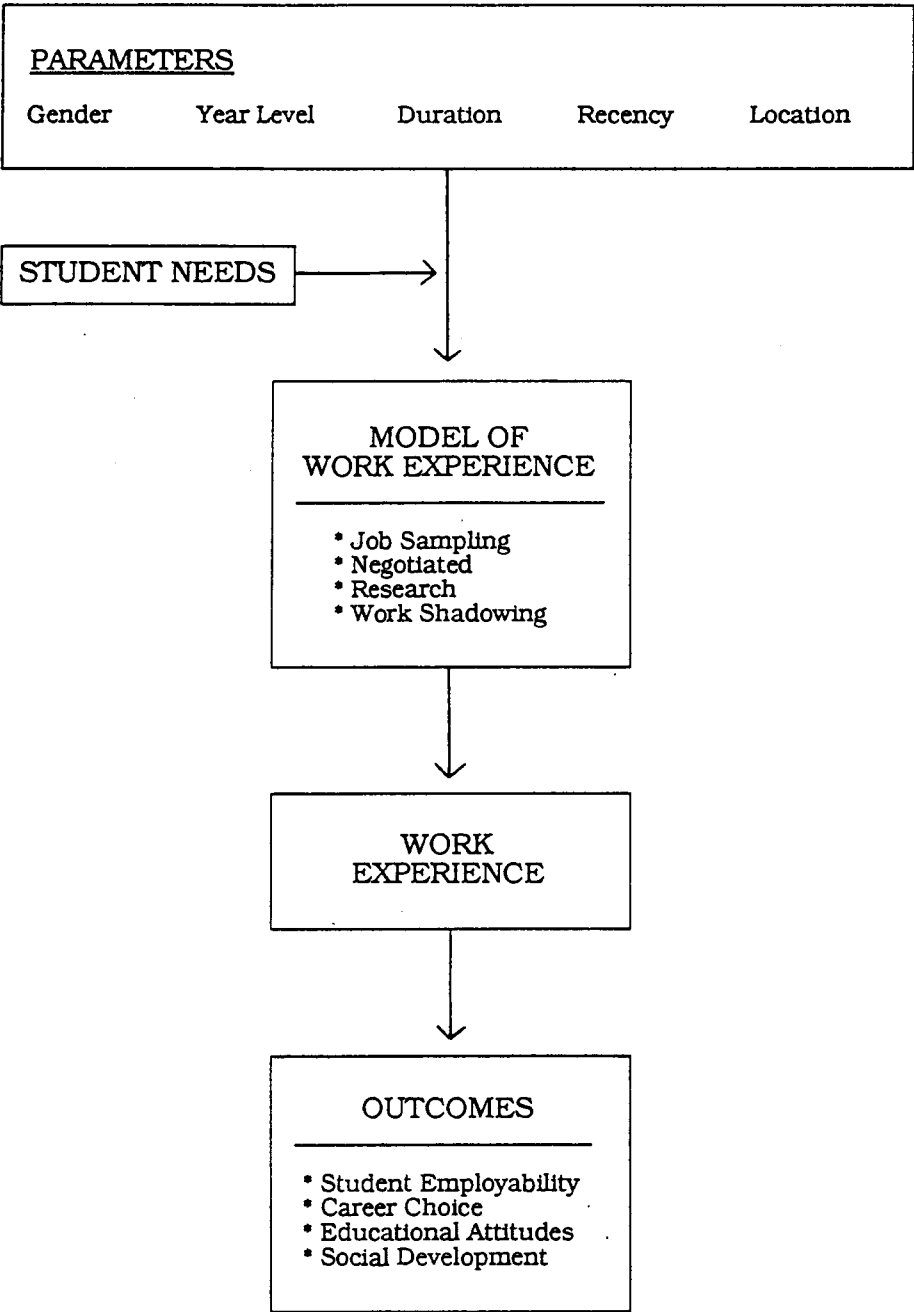


Figure 1: Linear Model Of Work Experience Variables.

After the decision has been made to conduct a work experience program for a particular set of students at a particular time, the organizer must accept that certain variables have at this stage of the model been determined and that these variables act as a set of parameters within which the program must operate in order to achieve any proposed outcomes. Variables which are set at this stage of the model include the year level and gender of the students for whom work experience is intended, the geographic location of the school and usually the duration of the work experience.

If it is accepted that different models of work experience can be used to achieve different learning objectives or reach different proposed outcomes (Work Experience Review 1988, p. 8; Cole 1988a, p. 13) then the organiser and student can affect the possible outcomes of the proposed program by selecting the model of work experience best suited to the needs of the student.

The selection of the model of work experience pre-supposes an appraisal of student needs. The organizer and student must confer to examine the student's position in the transition from school to employment. Is the student exploring the world of work or do they have a specific vocation in mind? Does their chosen vocation allow for hands on experience by the student during work experience or is the vocation more suited to observation? Is the student seeking experience in specific job skills or are they seeking generic experience of a category of work? These broad questions and a myriad of others must be considered if the student's needs are to be determined. Such a determination is critical if a particular model of work experience more suited to a student's particular desired outcomes is to be selected. By establishing a concord between student needs and the outcomes of a particular model, the work experience organizer can select the model that provides the greatest potential to satisfy student needs.

After the most appropriate model of work experience has been selected the organizer can proceed to arrange the work experience. The student proceeds with the experience and certain outcomes result.

No empirical data are available to substantiate the outcomes that result from the application of different models of work experience. The only previous substantial investigation of the outcomes of work experience in Western Australia was conducted by Straton et al in 1984. This research focussed on the outcomes of work experience in general, however, and did not differentiate between different models of work experience.

The student outcomes listed by the Ministry of Education for each advocated model of work experience are limited to those in the vocational realm (Watts, 1983., p. 6). Any study based on the Ministry's outcomes would therefore be similarly limited. The literature indicates that a broader range of student outcomes could be expected. Straton et al (1984) identified outcomes of work experience in Western Australia as falling into the categories of student employability, career choice, educational attitudes and social development. Since these four areas cover a broader range of outcomes than those indicated by the Ministry and because they are derived from the only study pertinent to Western Australian work experience outcomes they are more suited to use in this study.

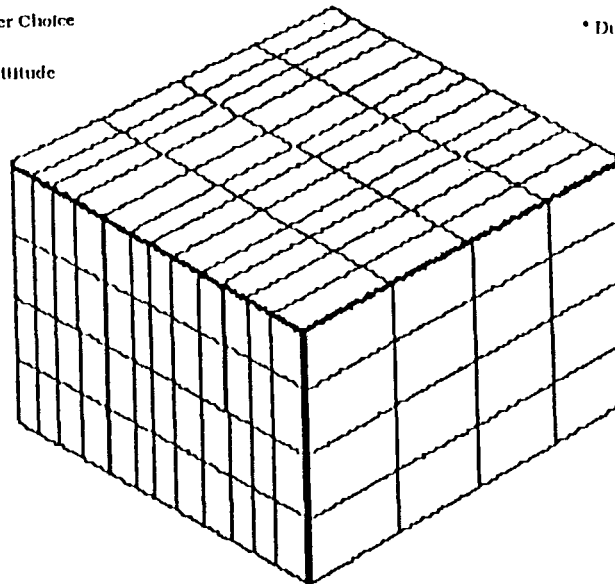
Figure 2 shows the relationship between the outcomes of work experience as identified by Straton et al (1984) and the model of work experience itself. When the resulting array is placed in relation to variables which form parameters to the

DEPENDENT VARIABLES

- Student Employability
- Career Choice
- Educational Attitude
- Social Development

INDEPENDENT VARIABLES

- Gender
- Year Level
- Duration
- Recency
- Location



- Job Sampling
- Negotiated
- Research
- Work Shadowing

MODELS OF  
WORK  
EXPERIENCE

Figure 2: Matrix Depicting The Interaction Of Dependant Variables With Independent Variables According To The Model Of Work Experience.

organization of work experience, such as gender, year level, duration of work experience, recency of work experience and geographic location a matrix of individual cells results. This matrix allows an examination of the outcomes of work experience according to each of the independent variables. By examining the model it can be seen that there are a great many cells in the matrix, any two of which can be compared for significant difference. Each of the independent variables, including model, can be compared individually for significant differences in outcomes.

Such an examination will allow a determination of the following hypotheses:

- There is no difference in perceived outcomes for boys and girls participating in work experience.
- There is no difference in perceived outcomes for students of different year groups participating in work experience.
- There is no difference in perceived outcomes for students participating in work experience of different durations.
- There is no difference in perceived outcomes for students participating in work experience that occurred less than seven days before than for students participating more than seven days before.
- There is no difference in perceived outcomes for students participating in work experience in the country than for students in the city.



- There is no difference in perceived outcomes for students participating in different models of work experience.

Subsequently, by considering model of work experience as a variable which can be manipulated by the work experience organizer to suit the needs of the student, it will be possible to investigate significant differences in outcomes for each of the independent variables according to the model of work experience used.

This additional analysis will allow a determination of the following hypotheses:

- There is no difference in perceived outcomes for boys participating in a particular model of work experience than for girls participating in the same model.
- There is no difference in perceived outcomes for students in one year level participating in a particular model of work experience than for students in a different year level participating in the same model.
- There is no difference in perceived outcomes for students participating a particular model of work experience for a given duration than for students participating in the same model for a different duration.
- There is no difference in perceived outcomes for students participating a particular model of work experience that occurred less than seven days before than for students participating in the same model more than seven days before.

- There is no difference in perceived outcomes for students participating a particular model of work experience in the country than for students participating in the same model in the metropolitan area.

## Chapter Four: Design Of Study

This chapter will provide a detailed description of the research steps planned for the conduct of this study. It will include information on the collection and analysis of data, including details of the data collection instrument and the selection of a sample.

### a) Design

In selecting a research design for this project the primary concern was to answer questions about work experience. The study does not seek to manipulate variables or outcomes but seeks to describe what is happening as a result of current practices. For this reason, a descriptive research design was most appropriate.

Feedback on the nature of student performance during work experience could come from four potential sources:

- the student,
- the employer,
- the work experience organizer, or
- the parent.

Each of these has important information to contribute. The central purpose of work experience however, is to achieve desired student outcomes. Further, the desired student outcomes for each work experience should be unique to each student. Therefore the most comprehensive source of information was perceived to be the student. They are the one person consistently involved in all phases of work experience. The student is the one who best understands.

Often, students fail to articulate their desired outcomes for work experience to others.

Whilst information from all sources may have been valuable in validating conclusions regarding the outcomes of work experience, it must be remembered that the primary purpose of this research was not to discover outcomes per se but to see if outcomes differed according to particular independent variables. For these reasons it was decided that students would be the most appropriate source of information for this study.

Given the large number of students in the sample the use of a self reporting questionnaire was considered to be the most economical and efficient means of obtaining the data necessary for this study.

#### b) Data Collection Instruments

Information regarding the students attitudes to various outcomes of work experience was needed. Various demographic data were also sought. This necessitated identifying possible outcome areas and variables that were appropriate to the study.

Since there were no naturally occurring data relating to outcomes of work experience that would be suitable for the basis of this study a data collection instrument was needed. Since no standardized instruments were available it was necessary to construct one. The use of a questionnaire would allow for a large number of respondents from geographically diverse areas to be included in the study.

It was decided to limit the length of the questionnaire so that it could be completed in a short form period or as a part of some other lesson. It was felt that this would not only encourage students to complete the questionnaire but that it would encourage Youth Education Officers to administer it. Closed form or structured items were sought as this would further encourage students to complete the form. Structured items would also facilitate data analysis.

Since student attitudes were involved, an attitude scale was an appropriate form of response. A Likert Scale was chosen as being suitable for the purposes of this study. This would allow for closed responses from a large number of respondents. Additionally, a Likert Scale would enable objective scoring of responses, simplifying data tabulation. Since an undecided result for any item is possible with a Likert Scale, it was felt that an undecided response should be available to each respondent in the questionnaire. For this reason a five point rather than a four point Likert Scale was used. The undecided response was placed at the end of the scale in an attempt to prevent respondents from simply choosing a neutral median score. Genuine responses of agreement or disagreement were more likely to be elicited with the undecided response still available to genuinely undecided subjects.

The format chosen for the questionnaire was a standard, optically scanned survey response form. This form is presented in Appendix 2. This allowed for all response forms to be optically scanned for accurate inclusion of results into a database. That is, human error in transposing the questionnaire responses into a database for statistical analysis would be eliminated. For a study involving a large number of respondents, elimination of this source of error would enhance the validity of conclusions. A set of "Instructions For Optical Scoring Sheets"

was developed to facilitate the administration of the questionnaire. These are included as Appendix 3.

The demographic data to be collected was keyed into the Survey Identifier Box at the top of the form. The questions regarding the outcomes of work experience were included in the body of the form.

Independent variables included in the demographic data included:

- Gender.
- Location.
- Length of work experience.
- Year level.
- Time elapsed since completing work experience.
- Model of work experience.

These variables were identified from the Literature Review as being those most likely to have an effect on the outcomes of work experience.

The only previous research into outcomes of work experience in Western Australia was Straton et al (1984). Their study found that student outcomes of work experience could be grouped into four broad areas: student employability, career choice, educational attitudes and social development.

Questionnaire items needed to be developed which would reflect the four main outcome areas identified by Straton et al (1984). It was felt that five items representing each of the four outcome areas would allow sufficient sampling validity for each construct without causing the questionnaire to become too long. Consequently, twenty closed items were needed, five for each outcome area. Eventually, the items representing each outcome area were grouped together so

that students could respond to items representing different aspects of the same construct one after the other.

Since it is employers who make the decision whether or not to employ someone, the items for the outcome area of Student Employability were chosen from a list of employability factors as preferred by employers (School Leavers, 1987). This list of factors was the result of a survey of employers in New South Wales and was the most recent and geographically relevant list available. The five items eventually chosen for the construct of student employability are listed :

Work experience has helped me to:

- Appreciate the importance of being responsible for what I do.
- Appreciate the importance of cleanliness in my appearance and work.
- Appreciate the importance of doing what the employer wants.
- Appreciate the importance of showing interest in the job.
- Appreciate the importance of showing good manners.

The items representing the outcome area of Career Choice were chosen to reflect the PAIN Model (Department of Employment, Education and Training, 1991) of personal attributes a person should consider when contemplating which career might best accommodate them, namely:

- Personality
- Abilities and aptitudes
- Interests
- Needs and values.

This model is explained in the author's annual publication "Job Guide" which is supplied free to secondary schools throughout Australia each year and is frequently used in schools as a basis for curriculum development in career studies prior to choosing work experience vocational areas.

The five items eventually selected for the construct of career choice were:

Work experience has helped me to:

- Decide whether or not that is the job I want.
- Decide whether or not my personality suits that particular job.
- Decide whether or not I have the ability to do that particular job.
- Decide whether or not that job suits my particular needs.
- Learn more about that particular job.

Items representing the last two outcome areas of Educational Attitudes and Social Development were developed in consultation with:

- Classes of students who had been on work experience,
- Youth Education Officers,
- Vocational Education teachers, and
- Work Studies teachers.

Initially, items representing aspects of students' Educational Attitudes and Social Development were taken from data collection instruments used by Straton et al (1984). Two different classes of work experience students and a group of Youth Education Officers were asked to add to the list any other aspects they felt were important. These aspects were formed into items. Groups of Youth Education Officers, Vocational Education Teachers and Work Studies Teachers were asked to rank the items in order of importance of outcome. The items were then placed in a rank order according to the consensus of opinions. Finally, groups of students were asked their opinions as to the importance of the items as desired outcomes of Work Experience. The student consensus was in accord with the ranking already established. These items were then included in the questionnaire.



Items chosen to represent the construct of Educational Attitudes were:

Work experience has helped me to:

- Decide what level of education I need.
- Realize the importance of continuing my education.
- Realize the importance of making the most of my skills and abilities.
- Realize how my studies at school can help get the job I want.
- Become more determined to get better marks and grades at school.

Those items representing the construct of Social Development were:

Work experience has helped me to:

- Appreciate the value of working with different adults.
- Appreciate the value of being treated like any other worker.
- Be more confident in my dealings with other people.
- Realize that I can work successfully with adults.
- Improve my relationships with other people.

Sample questionnaires and Instruction Sheets were tried out with different classes of secondary students and Youth Education Officers in two different schools. Since the standard, optically scanned survey response forms were not available at that time, the questionnaire was printed on plain white paper in a similar format. Responses were sought from the students regarding the wording of the questions and their suitability in representing the outcome areas they were designed to depict. Accordingly, changes were made to the wording of the items where the meaning was not clear. Care was taken not to alter the intent of the item. Similarly, responses were sought from both the students and the Youth Education Officers regarding the clarity of the instructions and changes made accordingly.

### c) Sample

The target population was all government secondary schools in Western Australia who had a Youth Education Officer to administer the school's work experience program, a total of 82 schools. This delineation allowed some control over the variable of administrative procedure, since all Youth Education Officers receive in-service instruction and provide clerical support for such programs.

Since work experience is an on-going program, a time span of eight school weeks in 1991 was selected. The survey period was from week one, term three until week eight, term three of the 1991 Western Australian School Year. According to Sinclair (1990), this span would include a minimum of ten percent of the total number of students participating in work experience programs for the year and would include significant numbers in each of the likely response categories of the independent variables. All students participating in work experience programs in the target population in the selected time-span were included in the proposed sample.

Attempts were made to contact the Youth Education Officers of the 82 Schools in the sample. In each case a letter and two telephone calls were made. This letter is included as Appendix 4. Youth Education Officers from 61 schools responded with likely numbers of work experience students. A further two schools indicated that they would not participate. The Youth Education Officers from these schools indicated that they were fortunate to get permission to take students from class for the work experience itself and were not willing to ask for permission for any further follow up activities. The Youth Education Officers of 19 schools did not respond to either the letter or to the two telephone messages.

The effect on the sample of the two schools who indicated that they had work experience students but could not participate in the survey for administrative reasons needs to be considered. Schools without Youth Education Officers were excluded from this study on the assumption that this would ensure some administrative expertise and efficient organizational basis for the work experience programs being examined. The two schools concerned identified themselves as lacking in sufficient time for effective curriculum development and follow up activities. Their subsequent non participation in the study strengthens the argument that all schools in the survey have a similar and effective curriculum link for their work experience programs.

Of the 61 schools to reply, 25 indicated that they had no work experience during the selected time span. Accordingly, it could be expected that of the 19 schools who did not respond, a certain number would also have no work experience during the selected time span. A comparison of the schools who did not respond with the participation of that school in work experience in 1990; as reported in Sinclair (1990); indicates that the proportion of non-responding schools with no work experience in the selected time span approximates the proportion of responding schools with no work experience in the selected time span. This indication is not conclusive however. Although it could be anticipated that the majority of schools would maintain a similar pattern of work experience involvement from year to year, some changes could be expected.

Six weeks after the survey period, 86% of schools had returned the questionnaires. A total of 929 student responses were received for processing.

#### d) Procedures

Application was made to the Ministry of Education for permission to conduct research in government schools. This was granted on the understanding that the final decision to participate resided with the Principal of each School.

For several reasons it was determined to ask the Youth Education Officer in each school to administer the questionnaire to the appropriate students. First, students were more likely to complete the questionnaire if it was administered by someone in authority from within their school. Second, Youth Education Officers were more likely to be able to access students since all students should be involved in pre and post work experience counselling organised through the Youth Education Officer. Third, Youth Education Officers were likely to be interested in the results of such a survey and therefore more likely to participate in administration of the survey than other teachers.

The Youth Education Officer of each school was contacted to determine if the School had any students participating in work experience during the time of the survey. Based on Sinclair (1990), the numbers involved for each school in the survey period could be expected to vary from zero to several hundred. Since schools have such widely varying work experience programs it was not financially feasible to simply send numerous copies of the questionnaire to each school.

Letters were sent to all Principals asking for permission to conduct research within their school. A copy of this letter is included as Appendix 5. In the letter it was suggested that the Youth Education Officer might be willing to conduct the survey.

Included with the letter to Principals were a number of questionnaires for the Principal to pass on to the Youth Education Officers to administer. The number in each case corresponded to the numbers of likely students participating in work experience in each school in the survey period, as identified by the Youth Education Officers. Also included were several copies of the "Instructions For Optical Scoring Sheets" for the teachers administering the questionnaires; a School Identification Form, included as Appendix 6, to allow identification of which Schools were returning the questionnaires; and a self addressed envelope for return of the completed questionnaires. The envelopes were not stamped but included a return courier code to allow the questionnaires to be returned via the Ministry of Education's Courier Mail system. The return envelopes were also marked with a code number to allow identification of the returning school in case the School Identification Form was not included.

Questionnaires were returned periodically throughout the survey period. This was due to different schools completing the work experience at differing intervals within the eight week survey period. As completed questionnaires were returned the name of the returning school was recorded. At the end of the survey period, letters were sent asking all Youth Education Officers who had not returned the questionnaires to do so. Four weeks after the reminder letters were sent, telephone calls were made to remind those Youth Education Officers who still had not returned questionnaires. That four week period included two weeks of School holidays when Youth Education Officers were unavailable for contact. Six weeks after the survey period, the survey response forms were taken for scanning and no further responses were accepted.

#### e) Data Analysis

Data were analysed at five main levels. First, a frequency count was conducted to determine the occurrence of responses for each of the possible outcomes of the independent variables. This indicated if there were a meaningful number of responses to work with for each possible outcome. If one outcome had a low number of respondents, analysing the variance between two outcomes would give invalid information.

At the second level of analysis the mean score and standard deviation for each item on the test was calculated. This indicated whether students' perceptions of work experience were positive or negative. Further, it provided evidence of the strength of those perceptions and indicated whether all students had similar strengths of response.

Students were asked to respond to items on the questionnaire by selecting from a five point scale that ranged from "Strongly Agree" to "Strongly Disagree". Each of these responses was given a numerical value as shown in Table 1.

As previously discussed in Chapter Four, the "Undecided" response was included at the end of the Likert Scale. The "Undecided" response however, should receive a numerical value in between the "Agree" and "Disagree" responses. In this way, numerical responses could vary from "1" to "5", with responses closer to "1" indicating agreement with the item statements, responses closer to "5" indicating disagreement with the item statements and responses closer to "3" indicating indecision.

Thirdly, a test of construct validity was conducted on the items representing each outcome area. Each of the outcome areas can be considered a construct. That is, each is a non observable trait. You cannot see the trait itself, only observe its effect. Consequently, the five items designed to represent student employability were tested to find the degree to which they were all measuring the same construct.

Table 1

Numerical Value of Item Responses

| Item Response     | Letter | Numerical Value |
|-------------------|--------|-----------------|
| Strongly Agree    | A      | 1               |
| Agree             | B      | 2               |
| Undecided         | E      | 3               |
| Disagree          | C      | 4               |
| Strongly Disagree | D      | 5               |

If a high degree of validity were found it would be legitimate to add the scores together and to consider them as one score. If not, then the items would need to be considered independently. Similarly, the constructs of career choice, educational attitudes and social development were tested.

The test used was the Lertap test (Lertap, 1988) for construct validity which uses a measure of Alpha Cronbach reliability to compute the validity of adding test items. If the constructs did not yield an acceptable score on the Lertap test then items would need to be considered independently. Gay (1987) explains that validating the test of a construct involves the testing of hypotheses deduced from a theory involving the construct. Mehrens and Lehmen (1986, p. 122) support this, suggesting that a reliability co-efficient of 0.65 may suffice where decisions are made concerning groups.

Next, a test of multiple analysis of variance was conducted. This allowed examination of each of the independent variables according to each of the dependent variables or constructs to see if there was a significant difference in results. That is, the independent variable of gender was tested to see if males and females produced significantly different scores for the construct of student employability. Similarly, gender was tested against the other constructs of career choice, educational attitudes and social development. The other independent variables of year level, duration, recency, location and model were also tested in turn against each of the constructs.

The Duncan test (Duncan, 1955) was used for analysis of variance. This allowed for multiple analysis of variance when there were more than two possible categories of response for an independent variable.

The level of significance or alpha level chosen for this test was 0.05. Hence any significant difference reported had a 5 percent chance of having occurred by accident due to sampling differences. Alternatively, it can be considered that there was a 95 percent chance that any significant difference reported was



accurate. This level of significance is a commonly accepted level in education research.

The Duncan Test controlled the Type I error at the level of significance chosen. As a consequence, it controlled the possibility of incorrectly accepting a significant difference at 5 percent. If a lower alpha level were chosen, it would have significantly increased the chance of a Type II error, that is, of incorrectly accepting that there was no significant difference when there really was.

Finally, a multiple analysis of variance was conducted to determine any significant difference in perceived outcomes for students in each model of work experience according to the different independent variables. That is, results for students completing the four different models of work experience of job sampling, negotiated, research and work shadowing were compared against gender to see if there was a significant difference in effect on perceived student outcomes. Similarly, results of each model were compared with the other independent variables of year level, duration, recency and location for significant difference in outcomes.

## Chapter Five: Analysis of Results

This chapter will provide a detailed analysis of data collected according to the proposed analysis presented in the last chapter. This will be at five main levels:

- Frequency of Response
- Item Scores
- Construct Validity
- Analysis of Variance
- Multiple Analysis of Variance

The chapter will provide not only a statistical presentation drawn from the raw data but an interpretation of the results.

### a) Frequency of Response

The students were asked to respond according to possible outcomes of the independent variables of gender, year level, duration, recency, location and model of work experience. For each independent variable, possible outcome responses were listed and the students were asked to select the appropriate one.

i) Gender

For gender, two possible outcomes of Male and Female were listed. Responses received in each of these categories are shown in Table 2.

These results show a relatively even split between male and female respondents, with slightly more female students undertaking work experience in the sample. If it is assumed that there were approximately even numbers of males and females in each year cohort then it would seem that work experience is taken up evenly by both male and female students.

Table 2

Number of Responses by Gender of Students

| Group  | Number of Responses | Percentage of Responses |
|--------|---------------------|-------------------------|
| Male   | 439                 | 47.3%                   |
| Female | 490                 | 52.7%                   |

## ii) Year Level

For year level, the five secondary year levels of Year Eight, Year Nine, Year Ten, Year Eleven and Year Twelve were listed. Responses received in each of these categories are shown in Table 3. This indicates that most work experience occurs in year ten with substantial placements occurring in year eleven. Work experience has traditionally been viewed as appropriate for year ten students who were moving to employment in the following year rather than returning to complete year eleven and twelve. The increase in retention rates from year ten to year eleven over the past several years has resulted in the questioning of this view by some schools and communities. The 13.5 percent of work experience conducted in year eleven, as shown in Table 2, would indicate that schools do not offer adequate work experience programs to match the increased retention of students into year eleven courses.

Only 1.1 percent of those students who were involved in work experience were in year twelve. This result is consistent with the view expressed frequently in schools that interruptions should be minimized in the final year of study before tertiary entrance. Even in times of high unemployment, however, this figure is disproportionate to the number of students moving directly from year twelve into employment or job seeking rather than to further training. With only 10 responses, results for year 12 students must be considered cautiously for the purposes of

Table 3

Number of Responses by Year Level of Students

| Group   | Number of<br>Responses | Percentage of<br>Responses |
|---------|------------------------|----------------------------|
| Year 8  | 0                      | 0.0%                       |
| Year 9  | 0                      | 0.0%                       |
| Year 10 | 794                    | 85.5%                      |
| Year 11 | 125                    | 13.5%                      |
| Year 12 | 10                     | 1.1%                       |

this study as 10 represents a small sample size for most inferential statistical measures.

No responses were received by year eight or year nine students. The traditional view has been that students in these years are too young and too far removed from employment for work experience to be useful. Increased retention rates of students from year ten to year eleven and year eleven to year twelve would make work experience for year eight and nine students seem even less likely. It should be noted, however, that work experience models such as work shadowing and work observation are intended to be useful even to students this young, especially if they were studying units in a career education stream.

### iii) Duration

For duration of work experience, the categories listed as possible responses were One Week, Two Weeks, One Day Per Week and Other. The first three are the most common timing arrangements for work experience in Western Australia according to Sinclair (1990). Responses received in each of these categories are shown in Table 4. The results indicate that the most common duration for work experience was one week. Significant placements were made for a period of two weeks but only twelve responses indicated work experience for one day per week. As a consequence, results involving this outcome should be treated cautiously. The last possible outcome of Other could involve any timing arrangement other than the three already mentioned. Accordingly, any analysis of this category would be obscure.

Table 4

Number of Responses by Duration of Work Experience

| Group          | Number of Responses | Percentage of Responses |
|----------------|---------------------|-------------------------|
| 1 Week         | 656                 | 70.6%                   |
| 2 Weeks        | 226                 | 24.3%                   |
| 1 Day Per Week | 12                  | 1.3%                    |
| Other          | 35                  | 3.8%                    |

#### iv) Recency

For recency, the respondents were asked to indicate if the work experience occurred 1-7 Days Ago, 8-14 Days Ago, 15-21 Days Ago or More Than 21 Days Ago. Responses received in each of these categories are shown in Table 5. This reveals that almost 70 percent of students completed the questionnaire more than three weeks after finishing work experience. This means that these students had returned to school for a minimum period of three weeks before completing the survey. As a consequence, the washing out of work experience effects predicted by Steinburg (in Straton et al 1984, p. 29) could be expected to have occurred. In contrast, 148 students (or 15.9 percent) completed the survey in the week after returning from work experience. For these students, it could be expected that work experience would still be "vivid in their minds" as foreseen by Barnes (1988 p. 6).

Sufficient responses were also received in the intervening categories to allow analysis of the differences between all groups. As a consequence the question of whether or not the effects of work experience decrease markedly after the experience is over can be examined.

Table 5

Number of Responses by Recency of Work Experience

| Group          | Number of Responses | Percentage of Responses |
|----------------|---------------------|-------------------------|
| 1-7 Days Ago   | 148                 | 15.9%                   |
| 8-14 Days Ago  | 66                  | 7.1%                    |
| 15-21 Days Ago | 67                  | 7.2%                    |
| >21 Days Ago   | 648                 | 69.8%                   |



v) Location

For location, students were classified according to whether their school was in the country or metropolitan area according to the Ministry Of Education categories. These categories are included in Appendix 1. Responses received in each of these categories are shown in Table 6.

The results indicate that, whilst the majority of over 80 percent of respondents were from metropolitan schools, 18.7 percent of respondents were from country schools. This is sufficient to allow meaningful comparison between the two groups to determine if location has a significant effect on the outcomes of work experience.

Table 6

Number of Responses by Location

| Group        | Number of Responses | Percentage of Responses |
|--------------|---------------------|-------------------------|
| Country      | 174                 | 18.7%                   |
| Metropolitan | 754                 | 81.2%                   |

#### vi) Model

For the independent variable of model, the four models of Job Sampling, Negotiated Work Experience, Research Work Experience and Work Shadowing were listed as possible outcome responses. These are the four models of work experience promoted by the Ministry Of Education in Western Australia. Responses received for each of these possible outcomes are shown in Table 7.

These results indicate that Job Sampling is the most frequently used model of work experience. This is in accordance with the findings of Sinclair (1990). This frequent occurrence can be understood by examining the history of work experience models in Western Australia. The job sampling model was for many years the only model of work experience promoted by the Ministry Of Education. Other models of work experience were introduced in Western Australia in 1989. Students, employers, parents and Youth Education Officers are all familiar with the job sampling model. It is likely that the majority of these stakeholders still consider the primary outcome of work experience as being the gaining of first hand experience of a particular vocation. This outcome is seen to be best achieved by the job sampling model and such a view is likely to continue the dominance of this model.

The results shown in Table 7 indicate that insufficient responses were received in the category of research based work experience to allow meaningful analysis.

Research is one of four models of work experience being actively promoted by the Ministry of Education in Western Australia. Since different models of work experience are held to result in different learning outcomes (Cole 1988a p., 13, Work Experience Review 1988, p. 8) utilization of this model may have resulted

Table 7

Number of Responses by Model of Work Experience

| Group          | Number of Responses | Percentage of Responses |
|----------------|---------------------|-------------------------|
| Job Sampling   | 695                 | 74.8%                   |
| Negotiated     | 131                 | 14.1%                   |
| Research       | 1                   | 0.1%                    |
| Work Shadowing | 102                 | 11.0%                   |

in significantly different outcomes, perhaps more desirable outcomes for some students, than those resulting from the other models used. Certainly it is reasonable to expect that this was the reason for the promotion of the research based work experience model by the Ministry of Education.

Why then has this model not been better utilized in Schools. The low response rate may be due to the following; namely:

- Research based work experience may be best conducted at a time of year that fell outside the sample time-span.
- The outcomes intended by those people involved in the organization of work experience may not have correlated with the outcomes proposed for this model of work experience.

- Those people concerned with the organization of work experience may have perceived no tangible benefits in utilizing the research based model of work experience.
- Research based work experience involves a great deal of time and preparation in interviewing students and employers for the purpose of arranging and co-ordinating the research. Compared with other models of work experience, this allocation of time may have been perceived by Youth Education Officers as being disproportionate in terms of the anticipated outcomes of research work experience.
- Youth Education Officers may have been under pressure to complete a certain number of work experience placements in a fixed time and may not have the time to spare to arrange research based work experience.

#### **b) Item Scores**

By adding the numerical values for all respondents to a particular item, the mean response and standard deviation of responses for that item can be calculated. These are shown in Table 8. These indicate whether the responses to items indicate a positive, undecided or negative effect. By referring to Table 1 it can be noted that the highest score possible is five and the lowest score possible is one. An undecided score would be near the mid-point of three. The items on the questionnaire are all phrased positively, so that agreeing with the item would indicate a positive effect from work experience resulting in a score of one or two. Disagreement with the item would indicate a negative effect from work experience resulting in a score of four or five.

Table 8

Mean Response and Standard Deviation by Item

| <u>Item</u> | <u>Mean</u> | <u>Standard Deviation</u> |
|-------------|-------------|---------------------------|
| ITEM 1      | 1.68        | 0.67                      |
| ITEM 2      | 1.79        | 0.88                      |
| ITEM 3      | 1.58        | 0.73                      |
| ITEM 4      | 1.53        | 0.69                      |
| ITEM 5      | 1.54        | 0.75                      |
| ITEM 6      | 1.64        | 0.91                      |
| ITEM 7      | 1.91        | 0.94                      |
| ITEM 8      | 1.68        | 0.80                      |
| ITEM 9      | 2.03        | 0.98                      |
| ITEM 10     | 1.53        | 0.81                      |
| ITEM 11     | 1.97        | 1.03                      |
| ITEM 12     | 1.97        | 1.13                      |
| ITEM 13     | 1.70        | 0.85                      |
| ITEM 14     | 1.76        | 0.96                      |
| ITEM 15     | 1.91        | 1.07                      |
| ITEM 16     | 1.84        | 0.88                      |
| ITEM 17     | 1.66        | 0.84                      |
| ITEM 18     | 1.72        | 0.82                      |
| ITEM 19     | 1.68        | 0.79                      |
| ITEM 20     | 1.80        | 0.96                      |

Number of responses per item = 929.

As a consequence, if an item were to average between five and three it would indicate a negative effect from work experience. Conversely, if an item averaged between three and one it would indicate a positive effect from work experience. Table 8 shows that the means range from a high of 2.03 for Item 9 to a low of 1.53 for Items 4 and 10. This denotes that respondents were in strong agreement with the statements made in the questionnaire. These results indicate that respondents perceived strong positive effects of work experience in the areas represented by items in the questionnaire.

The standard deviations for each item give further information concerning the spread of scores about the mean. On a standard curve approximately 68 percent of responses are expected within one standard deviation of the mean. By adding the standard deviations to the means for each item we can see the range of scores for the majority of the students. The highest score recorded by adding the standard deviation to the mean is 3.1 for Item 12. This indicates that the majority of scores ranged from 1.0 or "Strongly Agree" to 3.1 or "Undecided", with the mean of 1.97 indicating an average response of "Agree". All other items had slightly more positive responses.

These results are consistent with those obtained by Straton et al (1984). Their research found probable small but positive outcomes of work experience in each of the four outcome areas. It must be remembered that those authors used different data collection methods than used in the present study. This difference in data collection methods may account for the difference between the strong approval by students of items in the questionnaire in this study and the small positive outcomes found by Straton et al (1984).

### c) Construct Validity

Analysis of results would be more meaningful if the items from the questionnaire that were designed to represent one outcome area could be added together to give one score. This would allow for analysis of results in terms of construct areas rather than individual item scores. Since there were four outcomes areas used, this would mean analysing the six different independent variables in terms of four outcome scores each instead of 20 item scores each.

Each of the four outcome areas of student employability, career choice, educational attitudes and social development are constructs. To see if the scores of the five items representing each of these constructs could be added without biasing results, a test of construct validity was carried out. The test of construct validity used was the Lertap Test (Lertap, 1988). The results of these tests are shown in Table 9.

Results indicate that items representing educational attitudes and social development produced Lertap scores in excess of 0.7. This is sufficient to accept that the items representing these areas had sufficient construct validity to enable them to be combined to give one score.

Items representing student employability initially gave a reading of 0.68. By examining the mean and standard deviation of each score, it was possible to anticipate which items could be excluded to allow a more acceptable score. Thus, by eliminating Item 1 and recalculating the Lertap Score, it can be seen that Items 2, 3, 4 and 5 gave a more valid score of 0.70. These four items could then be considered to have sufficient construct validity to enable them to be combined to give one score.

Table 9

Construct Validity of Questionnaire Items

| Construct                | Items          | Lertap<br>Coefficient |
|--------------------------|----------------|-----------------------|
| Student<br>Employability | 1, 2, 3, 4, 5  | 0.68                  |
|                          | 2, 3, 4, 5     | 0.70                  |
| Career<br>Choice         | 6, 7, 8, 9,10  | 0.68                  |
| Educational<br>Attitudes | 11,12,13,14,15 | 0.71                  |
| Social<br>Development    | 16,17,18,19,20 | 0.77                  |

Items representing career choice also gave a reading below 0.7. In this instance however, eliminating one or even two items did not allow a greater co-efficient to be produced. Nevertheless, the co-efficient produced for all five items was still a relatively high one of 0.68.

As a result of the Lertap Test, further analysis proceeded on the basis of four construct scores rather than twenty item scores.



The mean score for each of the four construct areas can now be calculated as shown in Table 10. These results indicate that respondents perceived strong positive effects of work experience in each of the construct outcome areas.

These results are consistent with those obtained by Straton et al (1984). Their research found probable small but positive outcomes of work experience in each of the four outcome areas. It must be remembered that those authors used different data collection methods than used in the present study. This difference in data collection methods may account for the difference between the strong approval by students constructs represented by items in the questionnaire in this study and the small positive outcomes found by Straton et al (1984).

Table 10

Mean Response by Construct

| Construct             | Mean |
|-----------------------|------|
| Student Employability | 1.63 |
| Career Choice         | 1.76 |
| Educational Attitudes | 1.86 |
| Social Development    | 1.74 |

#### d) Analysis of Variance

The Duncan Test of multiple analysis of variance was conducted for each construct for each independent variable. Since there were four constructs and six independent variables this gave 24 different sets of results. Results are presented in six tables by independent variable, each table including the results for each of the four constructs or dependent variables.

The Duncan test of multiple analysis of variance ranks the means of the various possible groups and allocates them one or more letters. In this case the letters "A" and "B" are used. Where two groups have the same letter, no significant difference is found at the selected probability level. Where means have different letters, a significant difference is found at the selected probability level. The probability level chosen for this research was 0.05.

#### i) Gender

Applying the results of the Duncan Test to the independent variable of gender gives the results shown in Table 11. The mean scores for male and female respondents to the construct of employability have been allocated different letters in the Duncan Test. This indicates that there is a significant difference between males and females in the results achieved for the construct of student employability. Similarly, different letters have been allocated to the mean scores for male and female respondents to the construct of social development, indicating a significant difference. In both cases, the lower score for females indicates a significantly more positive effect than for males for both construct

Table 11

Duncan's Multiple Range Test for Variables by Gender

| Variable                 | Gender | Mean | Duncan<br>Grouping |
|--------------------------|--------|------|--------------------|
| Student<br>Employability | Male   | 1.68 | A                  |
|                          | Female | 1.58 | B                  |
| Career<br>Choice         | Male   | 1.79 | A                  |
|                          | Female | 1.73 | A                  |
| Educational<br>Attitudes | Male   | 1.90 | A                  |
|                          | Female | 1.82 | A                  |
| Social<br>Development    | Male   | 1.80 | A                  |
|                          | Female | 1.70 | B                  |

areas of student employability and social development. It can be concluded from these results that on the basis of student perceptions, work experience has a more beneficial effect for girls than for boys in the areas of student employability and social development.

Mean scores for male and female respondents for the construct areas of career and education were allocated the same letter in the Duncan Test. This indicates that no significant difference was found between male and female respondents in either of these construct areas.

#### ii) Year Level

The results of the Duncan Test for students in different year groups indicates that there is no significant difference in any outcome area between year ten, year eleven and year twelve students. This is shown in Table 12 by the allocation of the same letter in the Duncan Grouping column for all groups of respondents. Remembering that means scores for each construct area indicate strong positive outcomes for all four constructs, these results support the notion that work experience is equally effective in all three year groups.

Table 12

Duncan's Multiple Range Test for Variables by Year

| Variable                 | Year    | Mean | Duncan<br>Grouping |
|--------------------------|---------|------|--------------------|
| Student<br>Employability | Year 10 | 1.64 | A                  |
|                          |         |      | A                  |
|                          | Year 11 | 1.59 | A                  |
|                          |         |      | A                  |
|                          | Year 12 | 1.38 | A                  |
| Career<br>Choice         | Year 12 | 1.78 | A                  |
|                          |         |      | A                  |
|                          | Year 10 | 1.78 | A                  |
|                          |         |      | A                  |
|                          | Year 11 | 1.63 | A                  |
| Educational<br>Attitudes | Year 12 | 2.06 | A                  |
|                          |         |      | A                  |
|                          | Year 11 | 1.87 | A                  |
|                          |         |      | A                  |
|                          | Year 10 | 1.85 | A                  |
| Social<br>Development    | Year 10 | 1.78 | A                  |
|                          |         |      | A                  |
|                          | Year 11 | 1.60 | A                  |
|                          |         |      | A                  |
|                          | Year 12 | 1.52 | A                  |

### iii) Duration

The variable of duration, when tested, provided significant differences in outcomes for some groups. It can be seen from Table 13 that for the construct of student employability, students who did work experience for two weeks had a mean score significantly different, in this case lower, than those engaged in work experience for one day per week. Because of the scoring system used, this lower score indicates a significantly more positive effect from work experience. However, neither group was significantly different from the group of students who engaged in work experience for one week. From these results, it could be inferred that two weeks work experience produced significantly better results in the area of perceived employability outcomes than work experience of one day per week but that neither timing arrangement was significantly different from work experience of one weeks duration.

This can be explained in terms of an extended experience giving students greater insight into the characteristics employers felt made students more employable. However it must be remembered that the number of responses in the category "One Day Per Week" was 12. While the Duncan Test takes account of this by demanding a greater difference to recompense for the low sample size the result must still be treated with some caution.

Table 13  
Duncan's Multiple Range Test for Variables by Duration

| Variable              | Duration   | Mean | Duncan Grouping |   |
|-----------------------|------------|------|-----------------|---|
| Student Employability | 1 Day/Week | 1.83 | A               |   |
|                       |            |      | A               |   |
|                       | Other      | 1.71 | A               | B |
|                       |            |      | A               | B |
|                       | 1 Week     | 1.64 | A               | B |
|                       |            |      |                 | B |
|                       | 2 Weeks    | 1.56 |                 | B |
| Career Choice         | 1 Day/Week | 1.92 | A               |   |
|                       |            |      | A               |   |
|                       | 1 Week     | 1.76 | A               |   |
|                       |            |      | A               |   |
|                       | 2 Weeks    | 1.75 | A               |   |
|                       |            |      | A               |   |
|                       | Other      | 1.64 | A               |   |
| Educational Attitudes | Other      | 2.15 | A               |   |
|                       |            |      | A               |   |
|                       | 1 Day/Week | 2.05 | A               |   |
|                       |            |      | A               |   |
|                       | 2 Weeks    | 1.86 | A               |   |
|                       |            |      | A               |   |
|                       | 1 Week     | 1.84 | A               |   |
| Social Development    | 1 Day/Week | 1.77 | A               |   |
|                       |            |      | A               |   |
|                       | 1 Week     | 1.76 | A               |   |
|                       |            |      | A               |   |
|                       | 2 Weeks    | 1.71 | A               |   |
|                       |            |      | A               |   |
|                       | Other      | 1.63 | A               |   |

No significant differences were found between groups of respondents for the other three construct areas of career choice, educational attitudes and social development. That is, for these three construct areas, no organizational pattern produces greater effects than any other.

#### iv) Recency

Table 14 gives results for the independent variable of Recency. These indicate significant differences between groups for the constructs of educational attitudes and social development.

For educational attitudes it can be seen that students who completed work experience between 1 and 7 days prior to the questionnaire had a significantly higher mean score than students who completed work experience between 15 and 21 days ago. That is, students who completed their work experience 15 - 21 days ago perceived a significantly better effect on their educational attitude as a result of work experience than those whose work experience was more recent. This result is consistent with the opinion of Barnes et al (1988, p. 6) who consider that the experience always remains apparent but at odds with Steinburg (in Straton et al 1984, p. 29.) who considers that students perceptions of the positive outcomes of work experience should diminish as time passes, not increase.

This result, however, is not consistent with the results for those students in the groups "1-7 days ago", " 8-14 days ago" and "more than 21 days ago". Between these groups there was no significant difference. It is as though the 67 students in the "15-21 days ago" group had outstandingly positive work experiences that have skewed the results.



Table 14

Duncan's Multiple Range Test for Variables by Recency

| Variable              | Recency        | Mean | Duncan Grouping |   |
|-----------------------|----------------|------|-----------------|---|
| Student Employability | 1-7 Days Ago   | 1.65 | A               |   |
|                       |                |      | A               |   |
|                       | >21 Days Ago   | 1.64 | A               |   |
|                       |                |      | A               |   |
|                       | 8-14 Days Ago  | 1.57 | A               |   |
| Career Choice         |                |      | A               |   |
|                       | 15-21 Days Ago | 1.51 | A               |   |
|                       |                |      |                 |   |
|                       | >21 Days Ago   | 1.79 | A               |   |
|                       |                |      | A               |   |
| Educational Attitudes | 1-7 Days Ago   | 1.73 | A               |   |
|                       |                |      | A               |   |
|                       | 8-14 Days Ago  | 1.66 | A               |   |
|                       |                |      | A               |   |
|                       | 15-21 Days Ago | 1.65 | A               |   |
| Social Development    |                |      |                 |   |
|                       | 1-7 Days Ago   | 1.99 | A               |   |
|                       |                |      | A               |   |
|                       | >21 Days Ago   | 1.84 | A               | B |
|                       |                |      | A               | B |
| Educational Attitudes | 8-14 Days Ago  | 1.79 | A               | B |
|                       |                |      |                 | B |
|                       | 15-21 Days Ago | 1.75 |                 | B |
|                       |                |      |                 |   |
|                       | 1-7 Days Ago   | 1.80 | A               |   |
| Social Development    |                |      | A               |   |
|                       | >21 Days Ago   | 1.76 | A               |   |
|                       |                |      | A               |   |
|                       | 8-14 Days Ago  | 1.66 | A               | B |
|                       |                |      |                 | B |
| Educational Attitudes | 15-21 Days Ago | 1.58 |                 | B |
|                       |                |      |                 |   |
|                       |                |      |                 |   |
|                       |                |      |                 |   |
|                       |                |      |                 |   |

The tests for social development show a similar set of results, with the "15-21 days ago" group showing a significantly better result than both the more recent "1-7 days ago" group and the more distant "more than 21 days ago" group. There was no significant difference between the "15-21 days ago" group and the "8-14 days ago group".

No significant difference was found between any groups for the perceived outcomes of student employability or career choice.

The original purpose of including this independent variable was to examine the effects of time elapsed on students' perceptions of work experience. The results do not indicate that work experience produces strong positive outcomes that decline as the memory of work experience fades. This is particularly so for students who have been back at school for three weeks or more.

#### v) Location

Results in Table 15 show that the Duncan Grouping has allocated the same letter to the mean scores for both country and metropolitan respondents for all construct areas. This indicates that no significant difference was found in the perceived outcomes of work experience for students living in country and metropolitan areas. These results support a conclusion that students from country schools gain equally positive effects from work experience as students from metropolitan schools.

Table 15

#### Duncan's Multiple Range Test for Variables by Location

| Variable              | Location     | Mean | Duncan Grouping |
|-----------------------|--------------|------|-----------------|
| Student Employability | Country      | 1.63 | A               |
|                       | Metropolitan | 1.62 | A               |
| Career Choice         | Metropolitan | 1.77 | A               |
|                       | Country      | 1.71 | A               |
| Educational Attitudes | Country      | 1.87 | A               |
|                       | Metropolitan | 1.85 | A               |
| Social Development    | Country      | 1.79 | A               |
|                       | Metropolitan | 1.74 | A               |

#### vi) Model

Results in Table 16 indicate a significant difference between models of work experience for the construct of educational attitudes. Mean scores for those students participating in the work experience models of job sampling, negotiated work experience and work shadowing were all significantly lower, that is more positive, than students participating in research based work experience for this construct. However, since only one subject completed work experience in this model the result cannot be considered as meaningful. No significant difference was found between the mean scores of respondents in the construct areas of student employability, career choice or social development. This indicates that for the perceived outcome area of educational attitude there is no evidence to support the claim that one model is any different to the others.

Similarly for the perceived outcome areas of student employability, career choice and social development, no significant difference was found between groups utilizing the different models of work experience.

These results support the conclusion that no one model is more effective than any other for perceived outcomes in the areas of student employability, career choice, educational attitudes or social development. It must be noted, however, that the model of research based work experience has not been effectively examined.

• Table 16

Duncan's Multiple Range Test for Variables by Model

| Variable                 | Model          | Mean | Duncan<br>Grouping |
|--------------------------|----------------|------|--------------------|
| Student<br>Employability | Research       | 2.20 | A                  |
|                          |                |      | A                  |
|                          | Work Shadowing | 1.80 | A                  |
|                          |                |      | A                  |
|                          | Job Sampling   | 1.62 | A                  |
| Career<br>Choice         |                |      | A                  |
|                          | Negotiated     | 1.54 | A                  |
|                          |                |      |                    |
|                          | Research       | 2.00 | A                  |
|                          |                |      | A                  |
| Educational<br>Attitudes | Work Shadowing | 1.77 | A                  |
|                          |                |      | A                  |
|                          | Job Sampling   | 1.76 | A                  |
|                          |                |      | A                  |
|                          | Negotiated     | 1.74 | A                  |
| Social<br>Development    |                |      |                    |
|                          | Research       | 3.00 | A                  |
|                          |                |      |                    |
|                          | Work Shadowing | 1.93 | B                  |
|                          |                |      | B                  |
|                          | Negotiated     | 1.86 | B                  |
|                          |                |      | B                  |
|                          | Job Sampling   | 1.84 | B                  |
|                          |                |      | B                  |
|                          |                |      |                    |
|                          | Work Shadowing | 1.84 | A                  |
|                          |                |      | A                  |
|                          | Job Sampling   | 1.74 | A                  |
|                          |                |      | A                  |
|                          | Negotiated     | 1.70 | A                  |
|                          |                |      | A                  |
|                          | Research       | 1.40 | A                  |

#### e) Multiple analysis of Variance

A multiple analysis of variance was conducted to determine any significant difference in perceived outcomes for students completing the four different models of work experience of job sampling, negotiated, research and work shadowing compared with the independent variables of gender, year level, duration, recency and location.

The program used to conduct the multiple analysis of variance was the SPSS program (SPSS, 1990). This program compares each possible grouping of the variables being examined for significant difference in outcomes and calculates an F ratio. If the value of F is greater than 0.05 then no significant difference exists between any two groups for the variables being examined. A value of 0.05 or less indicates a significant difference in outcome areas between two or more groups. If this were the case, further analysis would be needed to identify which of all the possible groups had a significant difference in one or more outcome areas.

Table 17 lists the significance of the F ratio for each effect of model of work experience by the independent variables of gender, year level, duration, recency and location. It can be seen that the significance of F is greater than 0.05 in all cases. This indicates that there is no significant difference in any outcome areas for any possible groupings of the independent variables according to the model of work experience used.

Table 17

Multiple Analysis of Variance of Independent Variable by Model by Outcome

| Effect                 | Outcome               | Significance<br>Of F |
|------------------------|-----------------------|----------------------|
| Gender by<br>Model     | Student Employability | 0.63                 |
|                        | Career Choice         | 0.18                 |
|                        | Educational Attitudes | 0.49                 |
|                        | Social Development    | 0.59                 |
| Year Level by<br>Model | Student Employability | 0.52                 |
|                        | Career Choice         | 0.50                 |
|                        | Educational Attitudes | 0.32                 |
|                        | Social Development    | 0.78                 |
| Duration by<br>Model   | Student Employability | 0.72                 |
|                        | Career Choice         | 0.72                 |
|                        | Educational Attitudes | 0.10                 |
|                        | Social Development    | 0.91                 |
| Recency by<br>Model    | Student Employability | 0.12                 |
|                        | Career Choice         | 0.89                 |
|                        | Educational Attitudes | 0.30                 |
|                        | Social Development    | 0.52                 |
| Location by<br>Model   | Student Employability | 0.82                 |
|                        | Career Choice         | 0.11                 |
|                        | Educational Attitudes | 0.12                 |
|                        | Social Development    | 0.92                 |

## Chapter Six: Conclusions and Recommendations for Further Research

This chapter will present conclusions drawn from the statistical presentations made under the analysis of results as well as answering the research questions provided in Chapter 1. The chapter will conclude with recommendations for further research that have eventuated from considerations eventuating from this study.

### a) Conclusions

The purpose of this study was to examine the outcomes of work experience, as perceived by secondary school students in selected Government Schools, to see if there were any differences according to the model of work experience used. These perceptions were further examined to see if there was a significant difference in perceived outcomes according to other independent variables of student gender, year level, geographic location, duration of work experience or recency of work experience.

This study proposed to use student perceptions of the outcomes of work experience to investigate if they varied according to the independent variable of the model of work experience used. Additionally, it was proposed to determine if there was a difference in the outcomes of work experience contingent upon other independent variables of gender, year level, duration of work experience, recency of work experience and geographic location.

Whilst evidence was collected from students on a self report basis, the study did not set out to determine the degree of effect of work experience. Rather, it set



out to establish if there was a significant difference in outcome depending upon the independent variable being examined.

This study supports the conclusion that work experience produces positive outcomes in areas related to the employability, career choice, educational attitude and social development of students.

The proposed hypothesis that there is no difference in perceived outcomes for boys and girls participating in work experience is rejected. The data in the study supports the conclusion that work experience produces a more positive effect in females than in males in areas related to the employability of students and the social development of students. There was however, no evidence to suggest any difference in outcomes in the areas related to the career choice of students or the educational attitudes of students.

The hypothesis that there is no difference in perceived outcomes for students of different year groups participating in work experience is supported by this study. No significant differences were found between the year levels of the students for any of the perceived outcome areas of student employability, career choice, educational attitude or social development.

The proposed hypothesis that there is no difference in perceived outcomes for students participating in work experience of different durations must also be rejected by this study. There was evidence that work experience of two weeks duration produces more positive effects in the area of student employability than work experience for one day per week. Work experience of two weeks duration was not found to be significantly different from work experience of one week. No significant differences were found for the perceived outcome areas of career

choice, educational attitudes or social development for the independent variable of duration of work experience.

Testing on the recency of work experience produced anomalous results for the constructs of educational attitudes and social development. No significant difference was found between any groups for the perceived outcomes of student employability or career choice. Whilst the hypothesis that there is no difference in perceived outcomes for students participating in work experience that occurred less than seven days before than for students participating more than seven days before must be rejected on the basis of the results produced, these results do not support the theory that the effects of work experience decline markedly in the first few weeks.

This study accepts the hypothesis that there is no difference in perceived outcomes for students participating in work experience in the country than for students in the city.

The analysis of variance found no significant differences in any of the four perceived outcome areas depending on the model of work experience used. It must be noted that insufficient data for meaningful analysis were gathered on the research model of work experience. Possible reasons for this were discussed in Chapter 5. Consequently the hypothesis that there is no difference in perceived outcomes for students participating in different models of work experience is accepted.

It was proposed in the theoretical framework that by considering model of work experience as a variable which could be manipulated by the work experience organizer to suit the needs of the student, it would be possible to investigate

significant differences in outcomes for each of the independent variables according to the model of work experience used.

The multiple analysis of variance found no significant differences in the perceived outcomes areas of student employability, career choice, educational attitude or social development for students completing any of the three different work experience models of job sampling, negotiated and work shadowing when compared with the independent variables of gender, year level, duration, recency and location. Again, the model of research based work experience has not been adequately examined due to insufficient data.

As a consequence, this study supports the following hypotheses:

- There is no difference in perceived outcomes for boys participating in a particular model of work experience than for girls participating in the same model.
- There is no difference in perceived outcomes for students in one year level participating in a particular model of work experience than for students in a different year level participating in the same model.
- There is no difference in perceived outcomes for students participating a particular model of work experience for a given duration than for students participating in the same model for a different duration.
- There is no difference in perceived outcomes for students participating a particular model of work experience that occurred less than seven days before than for students participating in the same model more than seven days before.

- There is no difference in perceived outcomes for students participating a particular model of work experience in the country than for students participating in the same model in the metropolitan area.

It can be concluded that for the perceived outcome areas measured, there is no difference in outcomes between the three work experience models of job sampling, negotiated or work shadowing for either the general school population represented by the sample or for groups within the population defined by the independent variables of gender, year level, duration, recency or geographic location. That is, no evidence was found in this study to support the notion that different models of work experience achieve particular outcomes better than other models, whether that be for boys or girls, year ten, eleven or twelve students, students doing one or two weeks work experience, or for country or metropolitan students.

This study provides some evidence to assist organizers to select the model of work experience that fits school based parameters most aptly, confident that one weeks work experience will prove as effective as two weeks and that the effects do not decline markedly after the first few weeks. Work experience organisers can plan work experience without being assailed by doubts that work experience does not work as well for girls, country students or lower school students.

In summary, the main research question can be answered thus: particular models of work experience do not produce differential outcomes.

The subsidiary research question can be answered: The data does support conclusions of significant differences in one or more outcome areas for the independent variables of gender, length of work experience and recency, although no independent variable produced significant differences in all outcome areas. No significant differences were found in any outcome areas for the independent variables of year level or geographic location.

#### b) Recommendations

This study indicates that further research into work experience is called for. This study was unable to effectively investigate the outcomes of work experience for year eight and nine students or those outcomes accruing from the research model of work experience due to the lack of respondents in these categories.

The positive outcome areas of work experience in Western Australia need further delineation and validating. The results of this study and that of Straton et al (1984) are not enough. There is a dearth of research to justify having work experience in the formal school curriculum. Most writings in the area focus on the efficiency of organization rather than the outcomes of work experience, leaving the justification of work experience to intuition and experience. If work experience is beneficial, it must be supported by further evidence.

In addition, investigation needs to be made into the degree of effect of work experience and the relationship between work experience and part time work. Part time work is an increasing occurrence amongst school children in Western Australia and can be expected to influence the outcomes of work experience.

This study is necessarily limited by its inability to control all the variables impinging upon work experience and by the difficulties associated with data collection. This study acknowledges the effect of variables such as:

- the preparation of students for work experience through links to formal curricula.
- the quality of debriefing of students after work experience.
- the quality of communication between school and employer.
- the variation in preparation of employers conducting work experience programs.
- the effect of extensive programs of repeated work experience.

Each of these variables would make a valuable focus for further study.

Finally, the difficulties in collecting data related to the students' social skills and attitudes in possible outcome areas of work experience suggest the need for long term research involving the development of further data collection methods.

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Appendix 4 Letter to Youth Education Officers

Peter Sinclair  
Youth Education Officer  
Girrawheen Senior High School  
Calvert Way  
Girrawheen WA 6066                      Courier Code: B 130

Dear YEO,

This is a short letter to ask you for your help in a project which will, I hope, provide some benefit for YEO's in the future.

As a part of my Masters thesis, through Edith Cowan University, I hope to survey all students who do work experience in third term, weeks 1 - 8, 1991. The survey will be a short simple one that will take no more than 10 - 15 minutes, allowing it to fit easily into Vocational Education lessons or into most form room periods. Obviously though, I cannot get to all schools to administer it so I am asking for your help in organizing for the survey to be completed and sent back to me.

To facilitate entering data from the 1000 or more students who do work experience in the target time span, the questionnaire will utilize a survey response form that can be optically scanned for simple data input into a computer. The questions are printed on a single sheet with answers being placed on the same sheet. A blank sample is enclosed for your information.

Also enclosed is a short abstract explaining the thesis.

In order to send you the appropriate number of survey forms, I need to know how many students you anticipate will be placed on work experience during weeks 1 - 8 of third term. I would appreciate it if you could send me the information on the tear off sheet below.

Thanks very much for your help, it is appreciated.

Kind regards,

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Name of School .....

Number of students anticipated for Work experience  
in weeks 1 - 8, third term, 1991 .....

Appendix 5 Letter to Principals.

Peter Sinclair  
Youth Education Officer  
Girrawheen Senior High School  
Calvert Way  
Girrawheen WA 6066

Courier Code: B 130

Dear Principal,

I am writing to you to seek your permission to conduct research with students from your school.

I am a Youth Education Officer from Girrawheen Senior High School and am currently completing my Masters thesis at Edith Cowan University. The thesis examines the differential outcomes of work experience programs and involves a short survey of students who participate in work experience of any kind in:

*Term Three, Weeks 1 - 8, 1991.*

The survey is completed anonymously with neither students nor schools identified on the response forms. On the completion of the research, a copy of the results will be forwarded to your Youth Education Officer for possible future use.

For your further information an abstract of the research is enclosed. If you have any further queries or need more information, please do not hesitate to contact me at the address above.

I have previously spoken to the Youth Education Officer in your School in order to ascertain the number of students who may be involved in the survey. The Youth Education Officer has indicated that, subject to your permission, they would be willing to administer the survey in your school on my behalf.

If you are willing to allow this research to be carried out, may I suggest that you pass this letter, along with the accompanying forms to your Youth Education Officer. If you cannot help I would appreciate it if you could return this package in the self addressed envelope included.

Thank you for your consideration.

Yours sincerely,

## Appendix 6 School Response Form

Please fill in the name of your school in the space below and return this slip with the completed survey forms.

This slip will only be used to identify which schools have returned the forms in order that I may send reminder notices to those schools who have not. The name of your school will not be included in the research data.

Thank you.

School

Name:

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