This is to certify that the

dissertation entitled

General Education Perception and Skill Measurement

presented by

Luciana V. D'Arcangelo

has been accepted towards fulfillment
of the requirements for

Ph D. degree in Educational Administration

Major professor

Date June 21, 1994

GENERAL EDUCATION PERCEPTION AND SKILL MEASUREMENT

By

Luciana V. D'Arcangelo

A DISSERTATION

Submitted to
Michigan State University
in partial fulfilment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Educational Administration

1994

ABSTRACT

GENERAL EDUCATION PERCEPTION AND SKILL MEASUREMENT

By

Luciana Vittorina D'Arcangelo

A trend throughout the last decade of the twentieth century has been to increase the general education component of college programs. This investigation is in response to the need for more research on this segment of education as it has ranged in acceptance from comprising one hundred to zero percent of college programs.

General education has attracted particular attention in the midst of today's technological society for two reasons. One is the need to inculcate technology into our society within the context of a broad understanding of not only the superficial, but also the more profound consequences of technological change. The other is an understanding that global decisions cannot be made on the basis of one or even a few specialized perspectives.

This study was conducted to determine, first of all, whether a general education course composed of Psychology, Sociology, Philosophy and Ethics, is perceived by the students to have a significant effect on their general education skills. It was also performed to assess the instruments used.

Fifty students in a new, virtually cross college, general education course in an inter-city college in Ontario were surveyed in this pretest-posttest control group design. The

students were asked to rank their perceived ability on 108 general education skills on a Likert-type scale.

The data collected supported the hypothesis that the students undertaking the general education course would perceive their general education skills had improved by a significantly greater degree than would the control group.

The results of the three tiered open-ended questionnaire, further indicated a student perceived interest in and an appreciation of the relevancy of the general education skills.

The findings were discussed from the vantage point of the impact a general education course is perceived by students to have on their general education skills and the capacity of the instruments to yield consistent results.

DEDICATION

This dissertation is dedicated to my family and particularly to my father, Francesco (Chechi) D'Arcangelo-Gattolini who offered the moral support that constituted the beacon that led me to the completion of this dissertation. It is also dedicated to my mother Florina D'Arcangelo in De Monte whose loyalty and dedication to her children is beyond question.

ACKNOWLEDGEMENTS

I wish to thank my exceptionally dedicated committee members. I, particularly, want to thank Dr. Raines, my committee chairperson, for his patience and leadership throughout the program and dissertation planning phases of my doctorate. His encouragement, enthusiasm and planning expertise provided the clarity required to decipher the, ultimately logical, series of stages that comprise the dissertation process.

Secondly, I would like to express my very sincere gratitude to Dr. Arden Moon, my dissertation advisor, whose dissertation draft reviews and recommendations were invaluable in guiding me through the steps necessary in proposal preparations, data collection and analysis, and dissertation writing. His unfailing dependability, keen knowledge of research and admirable writing acuity are very simply exemplary.

Thirdly, I would like to take this opportunity to thank Dr. Louis Heckhuis, my third committee member, whose unfailing assistance, dedication to work and unquestionably intricate knowledge of the series of doctoral requirements have made him an invaluable resource person to whom I was

fortunate to be able to turn to for advice.

Fourthly, I owe sincere gratitude to Murial Fung at the University of Toronto whose computer technology skills, statistical acumen, research perception and consultation ability were very helpful.

Last, but, by no means least, I would like to express my heartfelt appreciation to Dr. Howard Hickey, also my committee member, to whom not only I, but the entire group at Humber, is indebted to for the social concern, political acumen and incomparable leadership that made the entire MSU-Humber program a reality.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

GENERAL EDUCATION PERCEPTION AND SKILL MEASUREMENT

CHAPTER 1

INTRODUCTION

In the past two decades, "only highly educated workers have seen their compensation rise: the real earnings of blue-collar workers have fallen" (Krugman & Lawrence, 1994, p. 44): This has occurred within the context of the uncanny rapidity of technological change.

To understand the educational implications of rapid technological change, it is first important to understand that even a "skill", most commonly affiliated in people's minds with quick, hands-on, compartmentalized training, is defined as "the mastery of craft, that is the knowledge of processes and materials; the ability to conceptualize the product of one's labour and the technical ability to produce it" (Turk, 1992, p. 21)

According to James Turk, the director of labour in Ontario, therefore,

> far from de-emphasizing a solid general education in the humanities, social and natural sciences, the implications of the emerging 'technological society' are that we should be stressing this type of education more than ever. (Turk, 1992, p. 23)

In response to the widely held notion that technology

will require increased specialization, Turk claims that:

> Certainly there is a necessary place for people specializing in technical matters, but that may be no greater a need in the future than it has been in the past. More likely, there will be a lesser need for such specialized education. Given the power of what can be done with the new technologies, even our scientists will need a sound, general education more than ever. It will be essential for them to have a humanistic perspective from which they pursue their scientific achievements. The quality of our everyday lives, even the future of humankind, is dependent on scientists realizing the broader implications of what they are doing. (Turk, 1992, p. 23)

It is necessary to look to history to provide an answer, as to why general education diminished or in some cases disappeared in Canadian Colleges to begin with. Gregor claims that Canada's relatively sparse and widely dispersed population has evolved a regionalism and subsequent vast differences in economic development throughout Canada. He goes a step further and deduces that this coupled with foreign investment and control were

> factors that influenced public policy touching on higher education..Canada has not had a strong tradition of industrial and technological research and development and, in the matter of its workforce, it has had a tendency to import the skilled workers it required. (Gregor, 1979, p. 9)

But Canada is becoming more nationalistic according to Dennison. This trend began in the western provinces that were among the first to be influenced by the more federal and

therefore more uniform United States system for higher education. As a consequence, there is now talk in the mid and eastern provinces of articulation agreement between colleges and universities for example. Articulation agreement, better known as transfer in the United States, was a highly contentious issue in Canada: Dennison confirms overtly expressed territorialism evidenced by the enormous amount of lobbying undertaken by the universities under the auspices of Claude Bistle who was absolutely determined to protect the integrity of the university. He was determined, upon the establishment of the college system, that nothing would draw students away from the unversity. (Dennison, 1992)

The fact that articulation is now one of five reform issues currently underway within the Ontario college system is an indication of more fluid access to non-degree and degree sectors of higher education even in eastern Canada. Improving general education is the very first in order of priority of the five reforms. The remaining three are generic skills, new directions in programming and research and development. (George Brown College, 1993, p. 14)

The Ontario college system is actively renewing a commitment to general education. In its attempts to ensure that general education is functional, it is calling for increased accountability through the measurement of general education Outcomes.

Evidence of the aforementioned trend was communicated in

a review of the mandate of Ontario colleges entitled "Vision 2000": Quality and Opportunity". This updated mandate set out by the Ministry of Colleges and Universities contains the outcomes that should be achieved through exposure to general education:

> Education has an essential role to play in the development of a world which is peaceful, environmentally sound, equitable and economically viable. Education should help to balance individual and community needs, and foster personal initiative and cooperation within human relationships based on mutual respect.
>
> Education should give people the opportunity to develop the skills and knowledge they need to adapt to and make a constructive contribution to the world in which they live. Education should enhance students' choices and opportunities, and promote the development of individual potential. It should also assist learners in developing their respect for cultural integrity and self-determination of those whose language and traditions may be different from their own. (Ministry of Colleges and Universities, 1990, p. 169)

The ministry's second recommendation further affirms the need for a greater emphasis on general education. It reads:

> There should be a significant increase in the generic skills and general education content of programs leading to a college credential to ensure an equivalence of learning outcomes between these components and specific occupational skills." (Ministry of Colleges and Universities, 1990, 170).

The third of the ministry's forty recommendations, and, also, one which this study can provide some clarity for, is

that

> There should be system-wide standards for all programs leading to a college credential. Such standards must focus on the learning outcomes expected of graduates from a program. (Ministry of Colleges and Universities, 1990, p. 170).

The student perceptions of general education outcomes analyzed in this study offer a student view of what such outcomes may be. In this sense, such data can serve as a springboard for exit standard criteria. Specifically, this research addresses student perceptions of general education outcomes with a view to also determining whether the instruments designed are effective means of assessing the impact of general education.

DEFINITION OF GENERAL EDUCATION

General education is more concerned with learning outcomes than content or methodologies. It is a broader education offered with a view to enabling transference from career to career. It is additionally, balanced in its emphases on social usefulness on the one hand and personal intellectual, emotional and moral development on the other.

It is by its very nature accommodating of the specific needs of not only the individual but also of a particular setting and a specific era. (Morse, 1972, p. 4) That is, it is also concerned with the individual's historical context. Jackson claims, for example, that it should encompass "the social context in which our daily lives are embedded".

(Jackson, 1989, p. 81)

Paul Dressel concurs by drawing attention to historical factors as a means to shedding light on the rationale that led to past decisions and events. He does this with a view to emphasising the importance of having acquired a sufficiently broad vantage point from which to make necessary changes in our current milieux. (Dressel, 1977) Within this context, "general education encourages students to know and understand themselves, their societies and institutions, and their roles and responsibilities as citizens." (Fanshawe College, 1992, p. 1)

Miami-Dade Community College in Florida was the college deemed by a national panel of experts as being representative of the best community colleges in the United States of America. Its history of reforms that established its excellence included incorporating a core general education requirement.

> In the fall of 1981, the general education courses were implemented... These classes were designed not as introductions to majors or specific discipline, but as interdisciplinary courses that could help students learn about themselves, the world around them, and their relationship to that world. These courses would provide the basic general education that the Miami-Dade committee found was fundamental to a true education and that had been missing in the self-advised, "open-access" system. (Roueche & Baker, 1987, p. 38)

In pursuit of the realization of high expectations,

Miami-Dade administration articulated outcomes in five general education core courses:

> Liberal education requirements should be expanded and reinvigorated to ensure that (1) curricular content is directly addressed not only to subject matter but also to the development of capacities of analysis, problem solving, communication, and synthesis, and (2) students and faculty integrate knowledge from various disciplines (National Institute of Education, 1984, p. 43)

In addition to seeking to integrate otherwise compartmentalized education, general education facilitates the parallel goal of holistic development. General education therefore, makes it possible to fulfil mission statements for higher education as these claim to assist in promoting the following dimensions of student development:

1. Values, integrity, communication skills
2. Critical thinking, analysis, synthesis, evaluation
3. Professional or vocational preparation
4. Interpersonal competency
5. A sense of identity

(Cardinal Newman, 1852 in Chickering, 1982 p. 2-3)

Our scholastic system has traditionally weighted the cognitive (Perry, 1970) (Allport, 1955) (Havinghurst, 1972) and competence (Chickering, 1982) (Bloom, 1956) strata of student development very heavily.

Although there is no question as to their importance, it is imperative that the two aforementioned dimensions of adult development be integrated into a more holistic form of human development that incorporates autonomy (Loevinger, 1976)

(Chickering, 1982) (White, 1976) (Sanford, 1966) (Heath, 1968) (Maslow, 1971) (Frankl, 1984) (Rogers, 1983) (Erikson, 1959) (Marcia, 1972) (Vaillant, 1977); emotional control including commitment and caring (Maslow, 1971) (Gilligan, 1979) (White, 1976) (Sandford, 1966) (Gould, 1972); integrity (Chickering, 1982); creative intelligence (de Bono, 1967) and altruism (Frankl, 1984) (Maslow, 1971).

Don Rippey, former Vice President at the University of Texas in Austin and author of 'Student Development', claims 90% of those who lose their jobs do so for reasons other than lack of vocational, intellectual or basic skills (Rippey, 1987). If one adds to this claim the flexibility required to become successful by being catapulted into an average of five careers, one can begin to understand the recent resurgence of general education. Briefly, general education is sought to provide the behavioral, social, intellectual, emotional and personal skills (Morse, 1972, p.4) necessary to feel fulfilled and remain employed.

It follows logically, then, that the purpose of general education, "as a whole, is to help individuals to understand themselves, their society, and the world in which they live so they can participate effectively as citizens in a democratic society and the contemporary world community" (George Brown College General Education Course definition, 1993).

A perceived personal and social need for general education surfaced after numerous town hall meetings at all

the Ontario colleges. Ontario's Council of Regents consequently requested the implementation of 50% general and generic education in each of the programs offered at Ontario Colleges. This was not in contrast to, but, rather, a reminder of the original mandate for the Colleges of Applied Arts and Technology as it was enacted by Davis in 1967: It claimed that 30% of all programs within the Colleges of Applied Arts and Technology (CAAT) would be a general education component (and 20% generic skill education) so as to maintain its promise to offer a comprehensive education.

The rationale for maintaining a general education component proportional to the vocational component in the community college can be succinctly summarized in the futurist, Naisbitt's, emphasis on "the need to return to the ideal of a generalist education...if (he claims) you specialize too much, you may find your specialty becoming obsolete in the long-run. As a generalist committed to **lifelong education**, you can change with the times". (Naisbitt, 1984, p. 100)

Consistent with this perception is Mokawk College's President, Mr. Keith McIntyre's, statement to the effect that "big business and big labour who hold 16 of the 22 seats on the Training Boards, (compared to colleges that hold 1)" (McIntyre, 1992) and who will clearly dictate what will transpire over the next decade within the community college system in Ontario, are asking for more general education to

enhance job transferability and broaden human empowerment.

General education is similarly defined in Vision 2000 as

> the broad study of subjects and issues which are central to education for life in our culture. Centred in, but not restricted to, the arts, sciences, literature and humanities, general education, as conceived here, encourages students to know and understand themselves, their society and institutions, and their roles and responsibilities as citizens." (Ministry of Colleges and Universities, 1990, p. 35)

It is further,

> more subject oriented (the specific subjects generally being Psychology, Sociology, Philosophy and Ethics) and contained in a particular course,...or organized into a human studies program..." (Ministry of Colleges and Universities, 1990, p. 35.)

The first section of this chapter defined and stated the function of general education. The next section will begin to describe its historical context.

HISTORICAL BACKGROUND

The following historical data are intended to expound on the historical context and function of general education.

Between the determination of the universities to maintain their integrity and the dawning of the human capital theory, the colleges were born. O'Banion claims that general education was the best thing that the colleges inherited from the Universities. (O'Banion, 1992)

The fact that the colleges were formed in the United States prior to their establishment in Canada is viewed by Dennison to be reflective of a difference in Federal Philosophy toward education in general and general education in particular (Dennison, 1986). The educational system in Canada prior to 1960 was viewed by Morrison to be "a fine screen through which children could be shaken, and only the most capable and the most persistent coming through" (Morrison, 1973, p. 234).

The Federal view of education in the United States however was deemed to be "the avenue to material success and equality of opportunity and as an essential social responsibility in a society requiring an educated electorate". (Clark, 1973, p. 61) Dennison claims Monroe thought the western regions of Canada were affected by this democratization of education. (Munroe in Dennison, 1986, p. 2)

A historical overview of the effects of World War I on the flourishing of general education evident in the 1930's is evidence of the effects of Canadian federal intervention on general education. The following passage reveals Sawhill's view of the effects of legislative changes on general education:

> Although most major universities and virtually all non-technical four year colleges remained committed to broad degree programs in the liberal arts, these disciplines were overshadowed by the government's financial power and

> seemingly insatiable appetite for the technical specialist.
>
> Hosting thousands of programs, from space and medicine to weaponry and covert intelligence, universities became the servants of government...The Department of Health, Education and Welfare was established under President Eisenhower to administer the government's interest in the classroom. Gradually at first, and then with increasing momentum, the federal government began to intrude itself into the management of education...In their zeal to comply with the welter of regulations and restrictions attached to government-funded research, universities abdicated more and more of their educational and management prerogatives. (Sawhill, 1979, p. 114).

Paul Axelrod makes the same argument for Ontario in his text called Scholars and Dollars (Axelrod, 1982). Sawhill claims, further, that other bodies were employing their monetary strength to influence education and sway it toward specialized ends. For example, he believes that another mammoth body of concentrated funds, the corporations, was also vying for control of the educational system so as to align it to its specialized needs:

> ...they turned to the universities for basic and applied research in science, technology, and management, with the same...results. Business and industry are the nation's largest employers; their needs for personnel--supported by their wealth and implemented by the seasonal visits of recruiters on campuses--encouraged students to sacrifice broad courses of study in a variety of disciplines to the narrow pursuits that guarantee them employment upon graduation.
>
> So again, in the confrontation between the values of liberal education and the rewards of concentration, the

> liberal arts have lost, and lost badly. (Sawhill, 1979, p. 115)

Eventually, academics themselves began to follow suit even though specialization in science and technology was viewed by humanists and scientists as "antithetical to the traditions and tenets of the liberal arts" (Sawhill, 1979, p. 115). But a turning point seemed to have occurred with the formation of the Ontario Community Colleges in 1967, a process that included the mandate of adding general education to the technically specialized institutions and "would enrich the previously isolated milieu of the specialized institution... training would become education, and specialized education would become more liberal." (Dennison, 1986, p. 243)

A major underlying difference does, however, still exist between Canadian and United States colleges: Joliet, the very first community college established in the United States in 1901 was created for the explicit purpose of ultimately assisting students to transfer into university. Whereas in Canada, transfer to University was not incorporated in community college mandates. The only exceptions to this in Canada were the church run colleges classiques, in place prior to 1956 and offering a classical general education most closely akin to the European model (Dennison, 1986, 2) and the CEGEPS (College d'enseignement general et professionnel) in Quebec.

Although the current, 1990 Vision 2000 report explicitly

included "the question of transfer of college students to university", (Gallagher, 1990, p. 11) this issue is still not resolved in Ontario.

In the 1990's while government also continues to withdraw subsidy during budgetary restraints from departments that are continually more pressed to prove productivity, it is interesting to note that general education faculty has not been reduced. This is a possible indication of its perceived necessity even in the strictly productive sense that constitutes government and corporate accreditation.

However, as is evident in the third recommendation of the Ministry of Colleges and University's "Vision 2000" document, the pressure to prove productivity, that is, a call for a focus on learning outcomes is a current resurgence through CSAC (College Standards and Accreditation Council) to which the results of this research will serve to respond.

The ensuing statement of the problem will serve to clarity the reason why this perception study was done.

STATEMENT OF THE PROBLEM

There is a need to design and field test means of assessing general education outcomes. This need has been drawn from the basic assumption underlying college mandates to respond to society's general education concerns by creating programs suitable for their clientele and community support base.

The basic assumption underlying the study is that community colleges have a mandate to respond to the general education concerns of a society by creating programs that are suitable for their clientele and community support base.

The research itself is a perception study. The following segment will serve to explain why it was selected.

RATIONALE FOR A PERCEPTION STUDY

The following pages will state the advantages and disadvantages of selecting perception as a medium for analysis as opposed to test grades or observer evaluation. Snygg and Combs' five characteristics of the self report will be defined and discussed in view of the compensations that have been made in the study to minimize its disadvantages. Its characteristics will also be discussed from the vantage point of perception's inherent advantages over other means of performance evaluation.

The first and, perhaps, the least advantageous of Snygg and Comb's self report characteristics is the clarity of subject awareness. It is Combs and Snygg's view that both transient (role specific) self-concept and permanent self-concept vary in clarity depending on the richness and clarity of the perceptual field (Snygg and Combs, 1959, p. 440). However, it has also been deduced that marks are also affected (Smith, 1964) by self-concept and that observer evaluations are affected both by the observer's view of self and the

observer's view of the person being observed. (Purkey, 1970)

A second characteristic of the self-report that also tends to undermine its credibility is the student having insufficient vocabulary to express what s/he perceives s/he has learned (Combs and Snygg, 1959, p. 440). This is also true of any essay or short answer test question that elicits marks. This, too, is similarly true of lack of understanding on multiple choice tests and precision of expression on observation reports.

The first instrument used in the study, the Likert-Type survey, is an attempt to compensate for this disadvantage of self-reports by listing the general education skills and by supplying an "I don't understand" option if ambiguity still exists. After running the pilot, the list of skills was further reduced to simple language and the skills that were perceived to be poorly understood were rewritten or deleted. Finally, an 'I don't understand' rank was kept in the pretest-posttest instrument. Those skills that were marked 'I don't understand' were removed prior to analysis.

The third and fourth characteristics of the self report, namely, social expectancy and both freedom from threat and the degree one feels personally inadequate (Combs and Snygg, 1959, p. 441), very clearly threats to validity in a marks driven, student named required test, are diminished in the two tests administered in the study. The subjects were told their name did not have to appear anywhere on the questionnaires, thus

diminishing or eliminating the social expectancy and degree of personal inadequacy connected to revealing one's identity.

Finally, the subject's cooperation (Combs and Snygg, 1959, p. 441) is a factor that is connected to a desire or lack thereof to write a test or be evaluated by another party. This was diminished to as great a degree as possible in the study by giving the students choice as to whether or not to participate. Only those who chose to participate in the study did so. Although, no one who was asked refused.

If we turn, specifically, to those who expound on the meaningfulness of grades as a medium for gauging achievement which is thought by most to be a more effective means of evaluating student performance, some interesting insights are revealed:

> The difficulties involved in defining and maintaining an academic standard hardly need elaboration. The particular difficulty dealt with here arises from the fact that the measures, or units used in the classroom for local tests are so often specific to a particular situation. When the number of correct responses on an achievement test is used to describe a student's performance, this number will fluctuate according to the particular selection of questions making up the test. The educational significance of the student answers is peculiar to these questions as well as to all the other circumstances which may affect the scores. The result of this condition is that the level of a student's achievement, whatever it actually is, may be described by a variety of percentage marks, each of which is characteristic of his performance on any one of an almost

> unlimited number of possible examinations and written under a wide variety of conditions. Thus neither comparisons nor conclusions can be drawn in any very meaningful way on the basis of the proportion of correct responses alone. ...An achievement letter-grade of "A", for example, may be defined as indicating that the individual obtained a score which was among the highest 5% of the scores made by the group of students taking the test. On this basis the description of the student's achievement remains the same whether the examination was easy or difficult for the group as a whole. (Smith, 1964, p. 2)

In addition to the intervening variables of question selection, setting and varied levels of difficulty, the secretary for the British Columbia Research Council, Smith, adds the Normal Curve method of distributing grades which assumes that groups do not vary from one to the next. (Smith, 1964, p. 4)

A third form of evaluation is the observation method. This means of evaluation falls under two categories: One is the more removed, closer to quantitative research type wherein "observers of human behaviour have been encouraged to be as passive, uninvolved, and detached as possible, in order to facilitate their learning and avoid disrupting the person being observed." (Purkey, 1970, p. 62) The intent in this type of observation is to objectify the perception of the individual observed by separating observer bias from the observed. (Carbonara, 1961)

Combs takes an entirely different approach to the

observation method, one that is more akin to qualitative research: He encourages utmost involvement, curiosity and acquiring a feel for the situation. (Combs, 1965).

An objective as possible approach or subjective exploratory inference notwithstanding, Purkey reaffirms that "the meanings we assign things, people and events are products of our past experience and the processes of how we view ourselves". (Purkey, 1970, 63). Further to the point on drawing of inferences, Purkey additionally claims that sometimes a person "with a seriously negative self concept will look fine" (Purkey, 1970, 64). That is, observer biases are not always overtly detectable.

Therefore, according to Purkey, even the most objective forms of observation drawn by such means as the double blind design are influenced by the inherent self perceptions and biases of the observer. (Purkey, 1970, 64) A final form of information gathering is third party interventions reported in a repertoire of forms:

> "case histories, cumulative folders, anecdotal reports, information picked up in the teachers' lounge, or any other secondary or indirect information. They involve the perceptions of a third party. While they are sometimes useful, they are also an important source of bias and misunderstanding." (Purkey, 1970, 65)

As a self understanding exercise on internal biases associated with the process of observation, Purkey recommends that the observer ask him/herself the following revealing

questions:

> How do I feel about this person. What sorts of things might distort my perceptions on how this student sees himself and others?" Try to include a number of observations on different days, to avoid misunderstandings based on a person's "off-day". Finally avoid jumping to conclusions." (Purkey, 1970, p. 65)

On the basis of what researchers in the validity of grades and observer evaluations have found, it appears that it would be educationally improvident to make the assumption that grades or observer evaluation are more valid means of determining general education outcomes.

As for the inherent disadvantages of perception studies, this study has at the very least included all general education outcomes accessible in the Ontario college system. This was done in an attempt to minimize the problem of inadequate vocabulary on the part of the subject to express him or herself.

Secondly, it has minimized the issue of the degree to which the subject is willing to cooperate by involving only those who wished to participate in the study.

Thirdly, every effort was made to minimize the effects of the intervening variables of social expectancy and freedom from threat and the degree to which one feels personally inadequate. The participants were asked not to write their names on the perception questionnaires.

Purkey also mentions that there are other authorities in perception studies who have taken the position that perception studies are sources of both valid and reliable data. Both Rogers and Allport, for example, contend that the most direct source of information is the individual about whom we require information. (Rogers, 1951, 1983) (Allport, 1955). Sarbin and Rosenberg deduced from their studies that self-perception studies can be meaningful and efficient sources of information. (Sarbin and Rosenberg (1955). And Strong and Feder concur that self-reports are a valuable source of information (Strong and Feder, 1961, p. 170).

In this study of student perceptions of general education outcomes performance, three rules of doing self-perception studies "whether the self-report inventory you use is commercially prepared or locally produced" (Purkey, 1970, p. 62) have been adhered to. They are:

> 1. Stress the fact that there are no right or wrong answers. The student is to express those ideas he holds true about himself.
> 2. All self-report inventories should be administered under conditions which are as unthreatening as possible.
> 3. Maintain the confidentiality of the results. (Purkey, 1970, 62)

According to Purkey, numerous other studies have indicated that "...evaluative statements made by the individual about himself are valid and reliable data." (Purkey, 1970, 60)

INSTRUMENTATION

To begin the search for an appropriate instrument to use in eliciting student perceptions, it was important to gain a sense of what the Ontario Colleges viewed as general education skills.

The procedure that was followed to collect as many general eduction outcomes as possible that would form the list of general education outcomes expected of the student population at the 23 Ontario colleges is depicted below:

1. Collected as many general education outcome lists as the Ontario colleges agreed to provide.
2. Attended cross college meetings to ascertain the intended meaning of each of the outcomes obtained.
3. Attended all conferences held in Ontario on general eduction to enhance understanding of outcomes and contexts under which they were expected.

Additional steps that were taken to minimize error were as follows:

1. Revised and simplified outcomes to form an easily understood list of skills.
2. Ran a pilot study to decipher whether the items on the list were understood.
3. Removed those items that students indicated they had not understood.
4. Added an "I don't understand" rank to the Likert-type questionnaire to control for any further misunderstandings on the actual study.
5. Removed items ranked "I don't understand" prior to doing the analysis on the data.
6. Separated outcomes into three categories that were tested for

reliability prior to analysis.

7. Controlled for the possible intervening variables of participant sex and age as well as time of test administration.

8. Ensured that equal numbers of males to females and equal numbers of post-secondary and mature students participated. Also ensured that both morning and afternoon treatment groups were randomly selected.

9. Randomly selected the three groups that were to be used for the treatment groups out of a larger pool of classes exposed to the general education course.

VALIDITY AND RELIABILITY

The validity and reliability of evaluating general eduction skills through self reports are important in deciphering the validity of the data collected. Validity is a gauge of the degree to which an instrument measures what it says it is measuring. Reliability is a gauge of how consistent the findings are on repeated tests.

In response to the validity issue, the Likert-type instrument in the study is reflective of all the general education outcomes that were accessible from the 23 Ontario colleges. That is, every attempt was made to encompass in the instrument as many of the general education outcomes as the colleges revealed and expressed consensus on.

With regard to reliability, three treatment groups were subjected to the pretest-posttest analysis so that the outcomes amongst the three treatment groups could be compared for reliability. The performance of the three groups was

consistent. That is, each of the three groups subjected to the same treatment achieved gain scores after being exposed to the general education course.

PURPOSE OF THE STUDY

The purpose of this study is, therefore, to design and field test two survey instruments that serve to elicit student perceived learnings among the sample of four inter-city college student classes three of which were exposed to a general education course in a selected community college in Ontario. After collecting all the general education outcomes that the Ontario colleges were willing to share at cross-college meetings and conferences, a list of general education skills was set out in simplified language.

A Likert-type rating questionnaire was devised to incorporate this list whose components the students in the study were ultimately asked to rank. This constituted the quantitative research instrument. An open-ended enrichment and description questionnaire was administered to the treatment group. This has been included in Appendix B.

The purpose of the group comparison section of the study was threefold: 1) to determine to what extent college students enrolled in general education courses in an inter-city Ontario college perceived they had improved in the three broad categories of general education skills: a) "Work Related", b) "Social" and c) "Personal". It was also

intended 2) to decipher from a three part open-ended questionnaire what specific general education skills were perceived by the students to be general education outcomes.

Finally, the study aimed to assess the capacity of the instruments designed for this study to consistently determine general education outcomes over three treatment groups tested.

Fifty students in a general education course, comprised of Psychology, Sociology, Philosophy and Ethics, in an inter-city college in Ontario were surveyed in this pretest-posttest control group design. The full-time post-secondary students whose average age is 30 were asked to rank their perceived ability on 108 General Education Skills on a Likert-type scale.

The sample was composed of fifty percent males and fifty percent females, fifty percent 29 years of age or younger and fifty percent 30 years of age or older out of the student population among the 23 Ontario colleges. One of the treatment groups had its general education class in the morning and the other two had theirs in the afternoon. The only class available which did not have to take the general education course formed the control group. This class was held at noon.

Briefly, a list of general education outcomes that comprised the quantitative research instrument was obtained by collecting all the general education outcomes that the Ontario colleges were willing to share at meetings and conferences. This list of outcomes was revised and reduced to facilitate

understanding.

The mean item response differences between the pretests and posttests of the treatment groups' self-perceived rankings and those of the control group were then compared via an ANOVA and a planned multiple comparison. The mean differences of the males were compared to the females'. Those of the 29 and under year olds were compared to those of the 30 and older year olds. Finally, the morning treatment group was compared to the afternoon groups. These comparisons were made to test for effects of the possible intervening variables of sex, age and time.

An open-ended post-general education course questionnaire was given to the students who had completed the general education course to add enrichment and description on self perceived gains beyond that allowed by the quantitative research.

The relationship of the instrument to the course and program objectives is a very direct one. The list of skills were a revised and simplified version of the outcomes included in the objectives for general education by the Ontario colleges that chose to share them.

This research design was chosen for four reasons. First and foremost, it is client centred. Secondly, I chose this design because it controlled for the possible intervening variables of time, gender, age and vocational program. Each of the treatment groups were drawn from a different vocational

program. Thirdly, student reported self perceived learnings were selected because, as has been expounded on by Purkey (1970) et al., it is a more direct source of information on learnings than the other person observation method.

It is, additionally, not limited by the more truncated sample of test learnings that grades are based on and whose selection hinges on the importance the instructor chooses to attach to them. The fourth and final reason this design was chosen is that it included an open-ended questionnaire that would render outcomes that might have been left out by those who prepare course objectives.

STATEMENT OF HYPOTHESIS

The hypothesis of the study is that the groups subjected to the core general education course would perceive that they had improved their general education skills to a significantly greater degree than would the control group that was not subjected to the core General Education course. ($\overline{X}e > \overline{X}c$).

There is a growing volume of literature stressing the importance of understanding self, society and meaning in an ever changing "future shock" disoriented, superindustrialized society (Turk, 1992) (Toffler, 1970) (Czemy, 1988) (Naisbitt, 1984).

This literature coupled with growing empirical evidence for the need for effective general education skills to compensate for a myriad of ineffective coping and survival

strategies lead to the assumption that students will show gain scores in general education skills as a result of exposure to the type of general education that incorporates Psychology, Sociology, Philosophy and Ethics. General education skills are deemed to do two things for individuals. The first is to make them more employable. (Gainer, Meltzer, The Association of American Colleges, The National Council for Occupational Education (NCOE) and The Community College Humanities Association (CCHA) in Carnevale et al., 1990)(Vogler and Armistead, 1987) The second is to make them happier and more capable of participating effectively in their society. (Socrates, Plato, Aristotle, Whitehead, Bagley, Plutarch, St. Basil, St. Augustine and Seneca in Baskin, 1966) (Cardinal Newman in Chickering, 1982)

Answers to the following questions were sought:

1. How would a sample of inter-city college students from a student population comprising the 23 Ontario colleges completing a semester long course in general education compare with a sample of control group college students who have not taken the general education course on a pre and post self assessment test of general education learnings?

2. What intervening variables such as age, gender and time needed to be assessed to determine their respective influence on self perceived learnings among experimental group verses control group.

More specifically, answers to the following questions

were sought as a result of collecting student perceptions:

1. What, if any, were the students' perceived general education skills at the onset of their general education course in three different vocational programs in the experimental group?

2. What, if any, were the students' perceived general education skills at the onset of the spring semester in the control group?

3. What, if any, were the students' perceived general education skills at the end of the same general education course in the experimental group?

4. What, if any, were the students' perceived general education skills at the end of the same semester in the control group?

5. What, if any, was the difference in the pre and post course questionnaire perceptions in the experimental group and in the control groups.

6. What, if any, were the perceived knowledge, attitudes and skills deemed by the students to be their general education outcomes?

7. Did the Likert-type instrument yield consistent results across treatment groups?

DETAILED OBJECTIVES

The objectives of the research were:

To compare pretest-posttest perceptions of general

education learnings among vocationally oriented students who were taking a general education course (the treatment group).

To compare pretest-posttest perceptions of general education learnings among vocationally oriented students who were not taking a general education course (the control group).

To find whether answers differed within and between experimental and control groups.

To find whether answers differed between sexes so as to decipher whether sex was an intervening variable.

To find whether answers differed between post secondary and mature student as defined by those who were 29 years of age or younger and those who were 30 years of age of older at the time of the study and, therefore, to determine whether age is an intervening variable.

To determine whether time of instruction has an impact on perceived general education outcomes.

To determine via an open-ended research questionnaire which general education course outcomes and/or other impact students in the treatment groups perceived.

To determine whether the instruments yielded consistent results.

This first chapter has given an overview of the context in which general education has regained its importance. It has, additionally, served to define general education and to trace some of the reasons for its devaluation in the college

system by tracing a series of historical events. Finally, this chapter has given the reader an overview of the study, the intent of which was, first, to devise and assess a means for measuring student perceived learnings in general education on a pretest - posttest control group design experiment, and secondly, to measure what the students' perceived general education learnings were.

Chapter 2 is a review of the literature in general education from its origin in classical literature to its inclusion in current college curricula.

CHAPTER 2

CHAPTER 2

REFERENCES TO RELATED LITERATURE

The ensuing review of the literature on general education begins by tracing general education from its appearance in classical literature to its inception in the North American college system. Studies that have been done on general education will also be reviewed with a view to providing evidence for the societal relevancy of general education. Finally, practices evident in the Ontario College System today will also be reviewed.

HISTORICAL EVOLUTION OF GENERAL EDUCATION

If we were to travel back in time to ask of Socrates: Whom then do you call educated?, his response, would be strikingly akin to the current outcomes for general education. Socrates' answer is reflective of a synthesized hierarchy of advanced thought processes and appropriate behaviours that evolve as a result of exposure to general education:

> "First, those who manage well the circumstances which they encounter day by day, who posses a judgment which is accurate in meeting occasions as they arise, and rarely miss the expedient course of action: Next those who are decent and honourable in their intercourse with all men bearing easily

> and goodnaturedly, that which is unpleasant or offensive in others, and being themselves as agreeable and reasonable to their associates as is humanly possible to be; Furthermore, those who hold their pleasures always under control, bearing up under them bravely and in a manner worthy of our common nature; Finally, and most important of all, those who are not spoiled by their successes, who do not desert their true selves, but hold their ground steadfastly, as wise and sober-minded men, rejoicing no more in the good things which have come to them through chance than in those which through their own nature and intelligence are theirs since birth.--Those who have a character which is in accord, not with one of these things, but with all of them, these I maintain are educated and whole men, possessed of all the virtues of a man." (Socrates in Hutchins and Adler, 1959, p. 185)

But many of the classics prior to Socrates as well as many after him have been proponents of the tenets of general education.

Following in the footsteps of Socrate's divine mission in pursuit of virtue and truth, Plato (c 427 - 347 BC) defines the outcome of general education as enlightenment. By way of his allegory of the cave in The Republic, he leads the listener to an understanding that one learns to accept what one perceives as reality, just as cave dwellers may learn to accept shadows emitted by their bonfire as real entities.

He goes a step further to explain that it is the function of general education, and particularly its inquiry (dialectic to Plato) component, that permits one to distinguish between perception and reality. Plato deduces that it is from this

broad acquisition of knowledge that one becomes the surest, bravest, fairest, noblest, most generous and keenest of human beings. (Plato in Baskin, 1966, p. 531-552) To Plato, the purpose of general education is to promote ethics:

> "...true knowledge (he claims) consists in grasping divine Ideas and...the highest Idea is the moving principle of the world--Goodness...education therefore has an ethical purpose, for it is by understanding moral ideas--courage, beauty, love--that men are led to virtue" (Plato in Baskin, 1966, p. 530-531)

Aristotle (c. 384 - 322 B. C.) who's education plan was to comprise the Trivium and Quadrivium of the Middle Ages was responsible for directing the Western World's intellectual life. Although he was an exemplary generally educated person, that is, his "scholarship embraced the whole range of human knowledge" (Baskin, 1969, p. 2), he was in fact, a teacher of art, natural science, politics, logic and philosophy. He contributed to humanity a method of inquiry. Yet he stated that "Reason may make mistakes and fail in attaining the highest ideal of life..." (Aristotle in Baskin, 1966, p. 4). Moral discipline he therefore claimed was that which should underlie the golden mean and man's "nature, habit and reason" (Aristotle in Baskin, 1966, p. 2)

In as much as Aristotle endeavoured, unlike Plato, his teacher, to synthesize body and soul (hylomorphism), he nevertheless evolved polarities between them. And through a general education, he believed that

> some men do succeed in rising far above the level of their physical nature. As they do so, their spiritual selves become increasingly dominant; their thoughts abstract more and more from the particularities of everyday life; and they approach, although they never completely attain, the state of rarefied actuality of which the Unmoved Mover is the final end and final form" (Brameld, 1971, p. 269)

Lucius Annaeus Seneca's (c. 4 B. C. - 65 A. D.) work specifies and defines various outcomes of general education. In his words as quoted in Baskin:

> A happy life consists in a mind which is free, upright, undaunted and steadfast beyond the influence of fear or desire. A man must be accompanied by a continual cheerfulness, a high happiness, which comes indeed from on high because he delights in what he has. If we attain to this, then there will dawn upon us those invaluable blessings, the repose of a mind that is at rest in a safe haven, its lofty imaginings, its great and steady delight at casting our errors and learning to know the truth, its courtesy and its cheerfulness, in all of which we shall take delight.
>
> Virtue is a lofty quality, sublime, royal, unconquerable, untiring. You will meet virtue in the temple, the market-place, the senate-house, manning the walls, covered with dust, sunburnt...; you will find pleasure sulking out of sight, seeking for shady nooks.
>
> The highest good is immortal. It knows no ending, and does not admit of either satiety or regret; for a right-thinking mind never alters or becomes hateful to itself, nor do the best things ever undergo any change...
>
> A man should be unbiased and ought not to be conquered by external things. He ought to feel confidence in his own spirit, and so order his life as to be ready alike for good or bad fortune. But let not his confidence be without

> knowledge, nor his knowledge without steadfastness. Let him abide by what he has determined, and let there be no erasure in his doctrine. (Seneca in Baskin, 1966, p. 641-642)

Plutarch (c. 50 - 120 A. D.), claims the following of what may evolve from exposure to general education: It is an exemplary portrayal of the benefits that may be reaped from the democratization of general education:

> "If anyone thinks that those who have not good natural ability cannot to some extent make up for the deficiencies of nature by right training and practice, let such a one know that he is very wide of the mark, if not out of it altogether. For good natural parts are impaired by sloth; while inferior ability is mended by training: and while simple things escape the eyes of the careless, difficult things are reached by painstaking. The wonderful efficacy and power of long and continuous labour you may see indeed every day in the world around you...By toil what is contrary to nature becomes stronger than even nature itself..." (Plutarch in Baskin, 1966, p. 553)

St. Basil (c. 330-379) had a broadening effect on general education. He claimed that "...we, if wise, shall take from heathen books whatever befits us and is allied to the truth, and shall pass over the rest." (St. Basil in Baskin, 1966, p. 67) His other contribution to general education was his stress on the ethical issue of matching word to action through discipline. His tenets of building virtue, knowledge, discipline and industry were basics of a general education

that, if lacking, lead to "hopelessly incurable melancholy" (St. Basil in Baskin, 1966, p. 71) in old age over things that might have been done when one still could have.

Thomas Aquinas, the so called "angelic doctor" (Brameld, 1971, p. 271) of the thirteenth century remains popular due, fundamentally, to the fact that he preached one of the functions of general education: the integration of practical reality with lofty aims:

> ...he was able to preserve an authoritarian creed while at the same time encouraging critical reflection. Following Plato and Aristotle, Aquinas postulated pure form, intellectual and spiritual, as the compelling power, the final end, beyond all matter. Following Plato and Augustine, he interpreted man-on-earth as preparation for man-in-heaven...he never disparaged or ignored man-on-earth and because he recognized the importance of daily work, pleasure, creation, and association, he has commanded a host of followers in the modern era--a host quite possibly larger than the following of any other one philosopher in Western history. Even in our own time, Thomism (as we may term it) continues to have many adherents. For it can comfort and persuade men who may desire to justify both the reflective and the dogmatic, both the earthly and the divine. (Brameld, 1971, p. 271-272)

Although French was the language of the aristocracy from the Norman conquest till the fourteenth century, the most advanced general education centres prior to 1066 were the Benedictine monasteries in England. From the twelfth century renaissance there were, according to Aldrich, five forms of medieval higher education.

They were the cathedral schools for the clergy offering theology and law; tutoring offered by the Dominican, Franciscan, Carmelite and Augustinian friars in the arts, philosophy and theology; the Franciscan masters, Roger Bacon and William of Ockham in the thirteenth and fourteenth century Oxford schools; the monastic Cistercian order at Oxford Rewley Abbey and the monastic Benedictine order at Gloucester College; and finally St. Mary's College for the Augustinians. (Aldrich, 1982, 128). All taught what in today's general education is philosophy, social justice, the arts and ethics.

The fifteenth and sixteenth centuries saw the recruitment of fee payers. Francis Bacon remarked of the Jesuit order's 'Ratio Studiorum' that "concerning human learning and moral matters, I may say...they (the Jesuits) are so good that I wish they were on our side". (Bacon in Baskin, 1955, p. 310)

The conformity legislation of the 1660's precipitated a number of small institutions formed by such individuals as Thomas Cole and his pupil, John Locke whose denominational principles did not conform to religious orthodoxy. "Until the 1690's they were private, even clandestine affairs, usually with but one tutor instructing a small group of students in his own house". (Aldrich, 1982, 142) The eighteenth century academies were more public but their educational content was still generic and general education.

Immanuel Kant (1724-1804), through his brilliant ability to synthesis his breadth of knowing, weaves the perennial and

integrative essence of general education into destiny itself. The noble task with which he endows education is unfolding in human beings all those natural gifts yet undeveloped. His idealism is reflected in his belief that just because the general education required to attain all of a human being's potential has not yet led him/her to the

> "realization of his true destiny...it is by no means impossible...it is nothing else than the conception of a perfection that has not yet been realized...the idea of an education which will develop all man's natural gifts is certainly a true one...In times past men had no conception of the perfection to which human nature might attain. We ourselves have not yet become perfectly clear on the subject. This much, however, is certain: no individual man, whatever may be the culture of his pupils, can insure the fulfilment of their destiny. To succeed in this high end not the work of individuals, but that of the whole human race, is necessary" (Kant in Baskin, 1966, p. 327)

This German philosopher of the modern period stresses therefore that a global elevation of consciousness is the mission of general education, attainable, he claims, through both the realization of each individual's natural gifts and the acquisition and adherence to shared values:

> Under the present system of education man does not fully attain the object of his being. For how differently men live! Uniformity can prevail among them, only when they act according to the same principles, which have become to them a second nature. (Kant in Baskin, 1966, p. 327)

Finally, Kant explains that the success of general

education hinges on each individual's understanding that its aims and values are intrinsic to the individual rather than external impositions. In his segment on ethics in general education, he states that:

> It was seen that man was bound to laws by duty, but it was not observed that the laws to which he is subject are only those of his own giving, though at the same time they are universal, and that he is only bound to act in conformity with his own will; a will, however, which is designed by nature to give universal laws. (Kant in Baskin, 1966, 323)

In brief, general education should also, according to Kant, assist one to become disciplined, discrete, refined and moral. For "it is not enough that a man be fitted for any end, but he must also acquire the disposition to choose only good ends". (Kant in Baskin, 1966, 323)

Kant was one of the first Professors of Education, a field of study for training teachers created by the Germans, according to Armytage, in about 1730. Kant apparently lectured in pedagogy at Konigsberg in 1776-7. And Armytage concurs that Kant, who had been influenced by Rousseau and Montaigne, "regarded education as a means by which each generation enabled its successor to strive towards perfection" (Armytage in Gordon, 1980, p. 165).

> This was a much grander vision of the goal of education than had existed but four centuries earlier when "colleges were usually endowed by prelates or other wealthy benefactors, and had strong personal or regional connections. For example in 1314 Walter Stapledon, bishop

> of Exeter, founded Exeter College at Oxford for thirteen scholars from the counties of Devon and Cornwall. Scholarships were available for undergraduates of two years' standing to support them for up to thirteen years whilst they studied for the higher degrees. (Aldrich, 1982, p. 128)

Armytage quotes John Minter Morgan's definition of general education in Morgan's description of the qualities a Professor of Education should possess:

> The Professor of Education should possess a knowledge of more than the general principles of all the sciences; but he would, of course, be inferior to the other professors in their respective departments. It would be his province to combine all their different objects; to point out the relative importance of each science; their mutual dependence; and so, to consolidate them in the mind as to give consistency and strength to the character...To him it would belong to render all acquisitions of the pupil tributary to his happiness: so that whether he was distinguished in the Classics, in Natural Philosophy or in Mathematics, he would possess comprehensiveness of mind and expanded feeling of benevolence. It carries with it in a safe, quiet, but undistinguished manner, all other reforms; it invades no vested interests; offends no prejudice; it conciliates sects and parties, by offering one common ground upon which all can meet, and discover in each other more good qualities and better intentions than had ben imagined. (Morgan as quoted by Armytage in Gordon, 1980, p. 166)

Armytage claims that Robert Owen also spoke at the London Tavern on the 21st of August in 1817 and "insisted (with forceful reiteration) that education was not only confined to the intellectual processes, but included the whole human

being" (Armytage in Gordon, 1980, p. 167).

Alfred North Whitehead (1861-1947), a metaphysician and professor of Philosophy at Harvard, wrote a treatise on the philosophy of education whose impact was most felt in England. It was this English Educational System which was seen by Einstein as one that should serve as a model for other countries. Whitehead, in his writings on science in general education, stresses the importance of general education claiming that it is that which generates concentration and integration. Education, as conceived by Whitehead,

> ...is to be dominated by the claims of general education, and extended attention to any special subject is to be limited by the claims of the whole balanced curriculum. In the case of a pupil of any reasonable ability there will be time for some specialism; but the ruling principle is, that where the claims of the two clash, the specialism is to be sacrificed to the general education. (Whitehead in Baskin, 1966, p. 720-721)

Whitehead was, also, a proponent of maintaining connectedness amongst all forms of education. He believed that the source of dissatisfaction with the educational system of his time was compartmentalization of subjects. To Whitehead, such general education outcomes as creativity had the same source in human nature: "again facts are exciting to the imagination in so far as they illuminate some scheme of thought" (Baskin, 1966, p. 719).

Albert Einstein (1879-1955) concurred with Whitehead. In his words,

> "the development of general ability for independent thinking and judgement should always be placed foremost, not the acquisition of special knowledge...The school should always have as its aim that the young man leave it as a harmonious personality, not as a specialist. This in my opinion is true in a certain sense even for technical schools, whose students will devote themselves to a quite definite profession...The most important motive for work in the school and in life is the pleasure in work, pleasure in its result and the knowledge of the value of the result to the community. In the awakening and strengthening of these psychological forces in the young man, I see the most important task given by the school. Such a psychological foundation alone leads to a joyous desire for the highest possessions of men, knowledge and artistlike workmanship. (Einstein in Baskin, 1966, 195-196)

Einstein shared John Dewey's (1859-1952) belief that "all education proceeds by the participation of the individual in the social consciousness of the race" (Dewey in Baskin, 1966, 177). Dewey also believed that education in general, was psychological and sociological. That is, its aim is to both develop the individual and his/her desire to effectively contribute to society.

But it was William Bagley (1874-1946) who initially noticed the trend towards an increased demand for the white-collar occupations whose schooling has always included the greatest proportion of general education. He, in this way, brought to the forefront the integration of general education into the practical domain. As indicated in the introductory statements, the demand for the white-collar occupations he

notes below, has continued to increase in its momentum to this day:

> ...it is of the utmost significance to education that this recent turn of the Industrial Revolution has not only reduced the proportion of workers needed in industry and farming, but has also increased the numbers needed in the white-collar occupations...This transformation has come very suddenly--almost overnight...It is within our power as an organized and responsible group to make the American school the greatest single constructive force in American Life. (Bagley in Baskin, 1966, 56-64)

In 1882 Cardinal Newman reiterated many of the outcomes listed above in his view of what General Education should do.

> 1. raising the intellectual tone of society
> 2. cultivating the public mind
> 3. purifying the national taste
> 4. supplying true principles to popular enthusiasm and fixed aims to popular aspirations
> 5. giving enlargement and sobriety to the ideas of the age
> 6. facilitating the exercise of political power and refining the intercourse of private life
> 7. giving a person a clear conscious view of his/her own opinions and judgments, a truth in developing them, an eloquence in expressing them, and a force in urging them
> 8. teaching her/him to see things as they are, to go right to the point, to disentangle a skein of thought, to detect what is sophisticated and to discard what is irrelevant
> 9. preparing her/him to fill any post with credit, and to master any subject with facility
> 10. showing her/him how to accommodate her/himself to others, how to throw her/himself into their state of mind, how to bring before them her/his

> own, how to influence them, how to come to an understanding with them, how to bear with them
>
> 11. being at home in any society, having common ground with every class; knowing when to speak and when to be silent;
>
> 12. being able to converse; being able to listen; being able to ask a question pertinently, and gain a lesson seasonably, when s/he has nothing to impart her/himself;
>
> 13. being ever ready yet never in the way;
>
> 14. being a pleasant companion and a comrade you can depend upon;
>
> 15. knowing when to be serious and when to trifle;
>
> 16. having a sure tact which enables her/him to trifle with gracefulness and to be serious with effect;
>
> 17. having the repose of a mind which lives in itself, while it lives in the world, and which has resources for its happiness when it cannot go abroad;
>
> 18. having a gift which serves him in public, and supports him in retirement, without which "good fortune is but vulgar, and with which failure and disappointment has a charm." (Cardinal Newman in Chickering, 1981, p. 2)

Twenty years after Cardinal Newman gave this speech, the first college was born in North America. Terry O'Banion in his very special manner of visiting gently with a Humber College audience the history of the community college in North America, spoke of its inception in 1901.

O'Banion claimed that the first college was created as a remediation centre for the underprepared student at the University of Chicago. It was located in Joliet High School and symbolized an opportunity for those who could not get into a university to get educated. According to John Dennison, an

authority and author of a book on the Canadian Colleges, the philosophy of the college system is rooted in four values: Social justice, quality, liberty and loyalty. (Dennison, 1986).

These four values were inherited from the University of Heidelberg. They constitute recurrent issues in the general education programs composed of Psychology, Sociology, Philosophy and Ethics. The course whose student perceptions were studied falls into this category of general education. It constitutes a vestige of the German influence on North American Higher Education. And it is one way that "Educational thought in particular was especially enriched by the personality of Karl Mannheim (a notable sociologist at the University of Heidelberg)"...(Armytage, 1969, p. 107) The first chairman of the National Advisory Council on Education, Sir Fred Clarke along with T. S. Eliot in his Notes 'Towards the Definition of Culture' written in 1948 claim that Mannheim had also "helped many to see the necessity of democratic planning to ensure the maintenance of freedom: a lesson which German exiles, above all, had learned the hard way..." (Armytage, 1969, p. 108)

But while, in the United States, the college was created to enhance scholastic success or permit transfer to Universities, this has not been the case in Canada. Dennison, Professor of Higher Education at the University of British Columbia, reminds us of the overtly expressed territorialism

evidenced by university lobbying. The universities, under the auspices of Claude Bistle, were absolutely determined to protect the integrity of the university. The fact that the transfer program between the colleges and universities is still not under way in Ontario is evidence of the resistance to it.

The only truly effective transfer program in Canada, according to Dennison, is the CEGEP's in Quebec, a very unique genre of college in Canada as they are not only university preparatory programs, but also, unlike all other colleges in Canada, free. (Dennison, 1986)

Nevertheless, according to Harris, "As in French Canada, the same two purposes - the training of clergy and the general education of the future leaders of society underlay the establishment of the first colleges and universities in English-speaking Canada (The first Jesuit classical college opened in 1635) ...As John Stuart Mill long ago reminded us, men are men before they are lawyers, doctors, businessmen, or priests" (Harris, 1976, p. 27).

According to O'Banion, colleges portend to be open-door institutions; student centred institutions; teaching colleges; community based institutions, innovative institutions but, finally, comprehensive programs. This implies the inclusion of the general education that the classics spoke of as it relates to a specific college's milieux.

So what then was the schism that caused education to

break away from the holistic, exclusively general education that the aforementioned authors/educators spoke of? According to Marshal McLuhan, the author of "The Media is the Message", it was the English Industrial Revolution that split the psyche into its specialized components by moulding people into repetitive automatons to satisfy the needs for mass production in industry, thereby disintegrating the more balanced, generally evolved personality. (McLuhan, 1977) Today, people of various departments within our educational institutions don't talk much to each other any more, he claimed. They have all developed such highly specialized and, ultimately, segregating languages. Craig in his critical analysis of the theories of general education concurs by reminding us that "in November of 1984, then chairman of the National Endowment for the Humanities, William J. Bennet, released an extensive report expressing concern for the lack of coherence and vitality in the undergraduate curriculum..." (Craig, 1992 p. 1)

But this problem is not an inherent fault of technology itself, but rather of the methods humans have employed to inculcate technology into society:

> Government tells us that high technology industries are the only hope for economic growth. At the same time there are foreboding statistics on job loss. In 1983 a secret federal government study estimated that between one-quarter and one-half of all jobs in manufacturing would be eliminated by the end of the decade. It said similar changes would occur in business and financial services,

> where a quarter of all present jobs would disappear. The reason? The invasion of the workplace by the silicon microchip.
>
> It is not surprising, then, that many people respond to the new electronic marvels not with excitement, but with fear. The foreign-sounding lingo of "bytes" and "modems", "videotex" and "robotics" leaves us feeling a little stunned. The idea of machines humming along at speeds of ten million operations per second is incomprehensible and disorienting. Children come home with news of the magic they're learning to perform on the computer at school. People yearn for assurance that their lives won't be altered beyond recognition. (Czemy, 1988, p. 7-8)

Czemy attempts to explain how general education can assist to inculcate technology into our society in a more humane manner:

> The changes in industry, business, government and communications affect everyone--whether people understand them or not. An analysis of these changes, how and why they are coming about, would equip us to both benefit from the advances and help prevent the nightmares from coming true. (Czemy, 1988, 7-8)

As for technology itself, Ginzberg, for example, claims that "In general...most...have failed to give technology its due." He further explains that this 'error' in perception of technology is due to the 'static line of inquiry' that is used by economists that consider employers' profit margins, but do not consider such broader implications of technology as 'the quality of the workplace and the home'. (Ginzberg, 1982, p. 3)

So it is not technology itself, but rather 'top down insertion' manner of inculcating it onto society (Czemy, 1988)

without due respect for the human element that causes concern.

Yet, according to O'Banion, the colleges represented new hope. He thought the 1960's were particularly important years for American colleges because the segregation that separated various minority groups gave way to the people's college. More colleges therefore became more accessible to more people. This has an impact on the function of instructors, their college and the college system. Human rights which is a dominant issue in our multi-cultural colleges, for example, has become a major component of the general education courses offered at Canadian colleges. The second major function of a people's college is maintaining, in the student populace, a sense of self-worth lest they acquire the belief that they are second rate citizens who could not get into university. This is another reason for maintaining the 'self understanding' and 'our place in our society' sections of the general education component within each program at our colleges. (O'Banion, 1992)

In the 1990's "there is an emerging consensus that every curriculum needs broadening" (Elson, 1992, p. 56). Such works as Bloom's 'The Closing of the American Mind' have reawakened interest in general education. New innovative general education programs like that at the University of South Florida's New College or Evergreen State College in Washington are being established. According to Elson, restructuring is required to allow such programs to materialize:

> Academia's code word for the future...is accountability--both to the students it hopes to serve and the public that pays the bills, either by taxes, tuition or gifts. In Hiatt's view, "too many higher education institutions have been run like government, and that means they have been run badly." One inevitable consequence of imitating or emulating government has been bureaucratic bloat: a self-perpetuating nomenklatura of assistant deans, development officers and other office-bound personnel. "Harvard doesn't have a financial problem, it has a management problem," contends B.U.'s Silber.
>
> Some innovative schools--Rice among them--have chosen to dismantle their bureaucracies to devote more resources to labs, libraries and classrooms "Higher education has to see itself as having an enhanced obligation to society and the community.(Elson, 1992, p. 56)

The ensuing studies are indicative of the need for improved general education programs that Elson's accountability to the students and to the public at large implies.

STUDIES IN GENERAL EDUCATION

The significance of general education is evident in a number of studies: An Association of American Colleges study on the skills and abilities 113 executives ranked the highest revealed that over fifty percent chose the following as top priorities: interpersonal skills; reasoning ability; verbal communication skills; willingness to assume responsibility; ability to identify and formulate problems; willingness to listen to opinions of others; ability to adapt to change;

developed sense of ethics and morality. (Hiley, 1984, p. 3) (Nolte, 1990, p. 15)

Additionally, Walter H. Nolte, the Dean of Occupational and Continuing Education, Tacoma Community College, Tacoma, Washington, notes that "Technical skills fall down on this list in comparison to more general abilities" (Nolte, 1990, p. 15): Of 2000 Washington businesses surveyed in 1985 by the Washington State Commission for Vocational Education (CVE), the 700 respondents listed the following "competencies desired by employers of individuals educated in community colleges and vocational/technical institutes: Positive work habits and attitudes (81%); command of English Language (79%); reasoning and problem-solving skills (79%); reading and writing skills (78%); oral communication (78%); Math and Science (76%); interpersonal skills (74%); technical and vocational skills (71%); social and economic studies (50%)". (CVE 1985 in Nolte, 1990, p. 15)

Furthermore, "In 1990, Carnevale, Gainer and Meltzer released a major study that confirmed businesses' desire for the basic skills described above, but also indicated a need to learn skills, resourcefulness, self esteem, motivation and goal setting abilities, and knowledge of leadership and organizational culture. Business and industry may be able to make up shortcomings in technical training; however, they are less capable of teaching basic skills, work habits and personal relations." (Nolte, 1990, p. 16)

THE SIGNIFICANCE OF GENERAL EDUCATION

President Gordon of Humber College concurred with the above studies claiming that many employers do prefer generally educated students which they can then mould to their specific job skills. He further claims that faculty have taken over some of the familial roles. Not only are they information givers and mentors, but also surrogate parents of those from dysfunctional or broken homes. (Gordon, 1992) This latter function may very well be a key reason for the resurgence of general education. It was more so the case in the past that parents were the "culture transmitters" (Combs and Snygg, 1959, p. 93). It may be partially due to the increased absenteeism of parents from the home and, therefore, from their children, that the cultural aspect of general education has regained importance in our educational institutions. Combs and Snygg explain that a person can only see him/her self

> in terms of his experience and the treatment he receives from those responsible for his development. He is likely, therefore, to be strongly affected by the labels which are applied to events by other people. As this experience with them contributes to need satisfaction or frustrates, through such satisfaction he is likely to perceive things as good or bad, desirable or undesirable, friendly or hostile, etc. Once such perceptions have become part of this perceptual field they may persist as important determinants of behaviour for the rest of his life. Such values, in turn, affect his perceptions so that even the things he sees and hears may become functions of his cultural experience...Persons with whom we are strongly identified provide us with

> anchorages or constancies in terms of which we make judgments about the world about us. (Combs and Snygg, 1959, 93.)

Professor Chris Clark makes a poignant statement about the influence that educators can exert in the following question:

> How can we serve our present society better as well as generations to follow by taking the moral dimension of teaching as seriously as we do test scores and transcripts? For at its core teaching is a matter of human relationships. And human relationships, whatever else they may be, are moral in character and consequences. After parent and child, the most profoundly moral relationship our children experience is that between the teacher and the taught. (Clark, 1990, p. 251-265)

Psychiatrist Alice Miller offers a vivid portrayal of the implications of failure to acknowledge the importance of the moral dimension in teaching:

> Faced with the power of adults and the social conspiracy of denial, we and our children repress our feelings, idealize or excuse those who abused us, and tragically, perpetuate the victimization of the next generation. (Miller, 1990, p. 93)

Naisbitt in the 1990's continues to echo the need for General Education by ensconcing it in our rapidly changing milieu and offering it as the only stable, time enduring education. It offers a needed contrast to the rapidly out-dated, specialized education which, along with an overvalued dollar and a world wide recession assumed to be due to

computer technology (Krugman and Lawrence, 1994) has landed Ontario in a high unemployment rate.

James Turk, the Director of Ontario labour aptly reaffirms the validity of general education in our technological society:

> The dangers of a misplaced emphasis on more technical knowledge at all levels of the education system are several.
>
> First, false expectations are being created. Students will be primed with the myth about the skills their future jobs will require, and then, when they get jobs (if they get jobs), they will discover the cruel joke of their skilled training for what they find to be deskilled jobs.
>
> Second, the rush to emphasize computer literacy and a more technical curriculum can force a de-emphasis of more important educational priorities that today's and tomorrow's students will require, not only for their jobs but for greater fulfilment in their lives.
>
> The deskilling of work means that people will have increasingly to find meaning outside their work. The rapidity of technological change means that people will likely shift jobs (regardless of whether they shift employers) more frequently in their working lives. The greater availability of information and the burgeoning quality of that information will put greater pressures on people who want to be informed and active participants in their society.
>
> All of these factors mean that the priorities for education from kindergarten through university, including technical and vocational programs, must be to provide people with the capabilities to think critically, and to develop their cognitive, expressive and analytical skills to the fullest. It must, as well, provide people with extensive knowledge of their social, cultural, political and economic

> institutions, and prepare and encourage them to participate actively in the shaping of decisions that affect their lives.
>
> Far from de-emphasizing a solid general education in the humanities, social and natural sciences, the implications of the emerging "technological society" are that we should be stressing this type of education more than ever...even our scientists will need a sound, general education more than ever. It will be essential for them to have a humanistic perspective from which they pursue their scientific achievements. The quality of our everyday lives, even the future of humankind, is dependent on scientists realizing the broader implications of what they are doing...all will need a tough, critical, informative general education--beginning at the primary levels--if we are to achieve our fullest potential as individuals and as a society. (Turk, 1992)

Although it is difficult to deny the impact technology has had on the educational system, it is equally important to avoid the tendency to blame everything on technology and to remember two things: One, the fact that Ginzberg claims that technology has not been granted enough credit and, two, as Sawhill and Axelrod, quoted in the introduction, claim, there have been other powerful influences affecting the status of general education, namely: government and corporations. Also general education is important in the face of attrition rate soaring at the 40% mark; half of college students dropping out during the first semester; and current educational research unveiling such reasons for scholastic failure or dropout as lack of meaningful interaction with two

significant individuals; lack of organizational skills; ineffective study habits; lack of commitment (Roueche and Baker, 1987); and such reasons for failure in the work force as personality conflicts, which, according to Rippey, hover around 90% (Rippey, 1987). Given such findings, there should be little doubt as to the importance of general education which fosters the aforementioned skills. Along with this stated societal need for general education, there lies a concomitant need for research to decipher effective means of developing general education skills.

In our pursuit of valid implementation strategies, it is important to avoid focusing exclusively on competency based approaches to evaluation of delivery modes. These restrict evaluation to specified training objectives in terms of fragmented behaviours and performances. These are in turn said to constitute the 'required competencies' of a job or a 'life role'. (Jackson, 1989, p. 79) This splitting of behaviours is usually indicative and facilitative of total control management.

Frank Smith, the author of "Insult to Intelligence" calls this "programmed learning...a ritualistic teaching of non-sense, educational junk food, instruction with no significant intellectual content." (Smith, 1986) It is specifically to avoid the narrow focus of competency based evaluation that I have included broader general education outcomes. The design of the study also included both quantitative research and an

open-ended question to avoid the following pitfall that Nancy Jackson, a professor in the Faculty of Education at McGill University eloquently embraces in the following quote:

> The simplistic pursuit of one-dimensional "competence" obscures many essential features of everyday working knowledge which have long been at the heart of the struggle between working people and their bosses. In particular, it obscures many aspects of mastery in performance which depend upon general comprehension of the work process rather than the accomplishment of specific tasks. These are the forms of working knowledge which underlie "good judgement" on the job, including reliable intuition for routine problem solving or "trouble-shooting" and safe reflexes in unpredictable or even emergency situations. They also provide the basis for much of the job satisfaction of workers, including occupational identification and pride in work... (Jackson, 1989, p. 81.)

Far from limiting vision to narrow competencies, general education allows individuals to see beyond the competency paradigm to relative decision making. The environmental scanning requirements earlier depicted by Morrison (1992) is further evidence of the need for the broad general knowledge that serves as a necessary precursor to effective decision making in all areas of endeavour.

It is evident that it is important for managers and leaders whose decisions touch the lives of numerous others to obtain the general education required to know and understand the consequences of their actions. Terry O'Banion's view of

why comprehensive general education programs have not been widely implemented provides a rationale for the need for the aforementioned studies: He feels the faculty (Vogler and Armistead claim college administration as well)(Vogler and Armistead, 1987) have not wholly endorsed general education. A proposed five year plan for orientation to and introduction of effective college general education Programs has been included in appendix C.

More recently, the futurist, Naisbitt, forecasts the return to "the ideal of a Generalist Education" (Naisbitt, 1984, p. 100). This return to general education is a reversal of, or perhaps a reaction to the effect of the industrial revolution which Marshall McLuhan claimed was a "bloodier and more violent revolution than that of 1789" (McLuhan, 1977), for it split the psyche.

A return to general education swings the pendulum back to right hemisphere, creative, simultaneous functions currently lauded, under the umbrella of simultaneous "intuition" as today's leaders' key decision making tool. According to Agor, this intuition is rooted in a general education. It is a broad knowledge of past occurrences, coupled with a creative, exploratory tendency and the ability to sense possibilities and implication. (Agor, 1983)

Unlike generic and vocational education, general education is the only form of education that has as its content the learner; as its goals individual development.

Moreover, general education has the additional, exclusive and crucial function of integration that unfolds a more balanced, healthier, more generally effective individual.

Therefore, the more in depth an understanding one has of self and the social setting in which one functions, the more capable one is of managing the situation well: That is, the locus of control rests more so with the individual than with the external environment.

Buckminster Fuller defined this synergy as a stronger, more stable, resilient, cohesive and complex outcome than can be predicted from each of or the sum of all of the parts. (Fuller in Hampden-Turner, 1981, p. 148) Scott Peck concurs, as does Fowler with reference to Piaget, Erikson and Kohlberg, by placing the broad acquisition of truth fostered by general education in the third of his four levels of human development theory. At this level he claims that if the 'sceptic/ individual'...seeks truth deeply enough and widely enough, as I've suggested, they do begin to find what they are looking for, and get to fit enough pieces of truth to catch glimpses of the big picture..." (Peck, 1993, pp 124-125)

Fuller warns that in our 'cultural mania for specialization' "we are blind to synergistic principles, but we would do well to bear in mind that the chief reason for evolutionary extinction is over-specialization". (Fuller in Hampden-Turner, 1981, p. 148) Succinctly, general education is the educational avenue through which maximum human potential

can be fostered, and, given the demand for multiple and transferable skills, perhaps the educational means through which we will survive our current economic crisis. (Turk, 1992)

Roger B. Smith believes general education will "spur the evolution of an ethical and humanistic capitalism--a system that stimulates innovation, fosters excellence, enriches society and dignifies work". (Smith, 1990, p. 66) In view of the significance of general education noted above, the structure of the Ontario college system now, and in the future, might be envisioned as follows:

Now: $--> Vocational Skills ---> Vocationally Related Generic Skills --> Broader Humanities

Future: $--> General Education ---> Generic Skills --> Industrial Skills

The beginning of the arrow denotes the funding priority; its tip the point at which funding is focused now, and might in the future diminish. This is due to the recognition of the rate at which specific job skilled individuals are becoming deskilled (Turk, 1992), unemployed and ultimately, therefore, dependent on social services.

Finally, Michael Park, one of the contributing authors to the Vision 2000 document, claims that

> "to be effective, a college's general education program must be planned and

> coordinated by an autonomous group within that college, (This also makes possible accountability for general education programs) with the counsel of an external general education advisory committee (preferably all college stakeholders)." (Park et al., 1989, p.i)

O'Banion warns us of the alternative: a watered down version of a distribution program characterized by faculty abandoning their responsibility for general education and thereby deserting the notion of a comprehensive college. This is diametrically opposed to the student run University of Bologna facsimile of the campus of the future painted by John Elson. In Elson's article, Robert Wood, professor of Democratic Institutions and Social Order at Wesleyan University and Peter Diamandopoulos, president of Adelphi University on New York's Long Island, argue for a balance in education that encompasses a core curriculum of ethics, arts and sciences. (Elson, 1992, p. 52)

But there are other cogent arguments for the inclusion of general education in all college programs. Dennison claims that one of these arguments is connected to the diverse nature of college students. He reminds us that, since a college education will be, for many college students, the only formal higher education experience they will have, it is here that they should acquire the skills for responsible involvement in the democratic process: "They form a substantial segment of the body politic who will carry a responsibility for the future condition of society in its may aspects--political,

financial, legal, industrial, and sociocultural." (Dennison, 1986, 242)

He further explains that as a large sector of the middle management in the business and industry of a nation, "they need a general as well as technically specialized education". (Dennison, 1986, 242) Dennison's third argument for general education deals with the original intent to include it as part of each program upon the inception of the Ontario colleges. This was mentioned in the introduction as part of the mandate of the Ontario colleges. But Dennison actually goes a step further to claim that:

> More practical arguments for general education in colleges are associated with the original design of the college concept. The colleges often subsumed a plethora of other institutions: vocational schools, technical colleges, schools of art, music, agriculture, adult learning centres, and later, hospital schools of nursing, police academies, and evening colleges. It was assumed that the new institutions would enrich the previously isolated milieu of the specialized institution. Students and faculty would gain from the formal and informal encounters with those from fields of endeavour unrelated to their own. In effect, training would become education, and specialized education would become more liberal. (Dennison, 1986, 242-3)

The fourth argument Dennison presents in favour of general education deals with the importance of a generally educated work force within the sphere of rapid change and its concomitant requirement for adaptation. Dennison supplements

his fifth rationale for general education with Sidney Hook's claim that unless there has been exposure to a general education one cannot be sure that students are in a position to make an educated selection of their field of study.

Finally, Dennison reminds us of Sorensen's study in which varied levels of college staff were to prioritize the aims of the colleges. The results indicated an acknowledgement of the importance of general education outcomes over those of vocational outcomes. (Dennison, 1986, p. 243) The author claims that, given this consensus was established, what now needs to be done is to assess general education's inclusion and effectiveness. One can start by looking at the various models of general education being offered.

CURRENT PRACTICES IN ONTARIO COLLEGES

In contrast to Ontario colleges, general education in the United States includes generic skills. (O'Banion, 1992) That is, in addition to the general education skills evident in the outcomes of the general education programs offered at Ontario colleges, the United States includes literacy and numeracy under the umbrella of general education, namely, English and Mathematics.

This inclusion of generic skills within the general education component is fundamentally responsible for the prevalent notion that general education is not well defined. General education is the dimension of student development

which fosters altruistic "values, integrity, critical thinking, analysis, synthesis, evaluation, interpersonal competency and a sense of identity" (Chickering et al, 1981, p. 2) and the particular way these are fostered within one's particular milieu, that is, within one's culture.

The general education outcomes articulated by three colleges in Ontario that have recently launched a comprehensive general education program, namely, Humber College, George Brown College and Fanshawe College depict the breadth of the general education component. A comprehensive range of pertinent outcomes inherent in the above programs have been incorporated in the survey instrument.

Nevertheless, all of the general education delivery systems can be reduced to one of five models, each indicative of selected general education outcomes. They are specifically those deemed to be most appropriate for the students in each particular setting: a specificity that is a critical element of general education (Morse, 1972). Each model can also be construed as incorporating varying degrees of universal general education concepts or more specialized societal, cultural, community or individual specific general education skills.

Liberal Studies Model

The first of the three models infers that general education should be cast within the context of liberal

education since its outcomes are 'closely congruent' with the meaning of general education. According to Michael Park, a former member of The General Education Committee for Ontario colleges and contributor to the Vision 2000 process, "a student's General Education curriculum under this model would consist of courses or components of courses explicitly labelled as and informed by the precepts of such disciplines as psychology, philosophy and geography." (Park, 1992)

Shopping List Model

The second model lists learning outcomes and/or areas of knowledge and skill that are set in a different framework than the discipline-specific Liberal Arts Model. Although the list is composed of thirty specific outcomes, they can succinctly be summarized under the following ten categories:

1. Self-understanding and understanding others
2. Understanding science and technology
3. Understanding societies and social change
4. Understanding Political issues and institutions
5. Understanding Cultural issues and institutions
6. Understanding International issues and institutions
7. Understanding Ecological, economic and ethical issues
8. Understanding Business issues and institutions
9. Understanding Labour issues and institutions
10. Understanding and appreciating historical, aesthetic and cultural literacies (Park, 1992)

It is worthy of note that, in this model, it is recommended that the body under whose auspices the discrete general education courses are offered designate specific outcomes derived from an 'official list': Again, this is an attempt to make general education relevant to specific individuals in specific milieus.

Interdisciplinary Model

The third model is, unlike the first and second models, not discipline-specific but rather focused on broad general outcomes. This model has been implemented by the State of New Jersey and is composed of four interdisciplinary outcomes of which only the last would comprise general education outcomes in Ontario where generic and general education are differentiated:

> 1. Acquiring the basic skills necessary for college-level work
> 2. Acquiring the general intellectual skills necessary to critically analyze and utilize information
> 3. Familiarity with a variety of modes of inquiry
> 4. Appreciation for the human condition and ethical issues (Park, 1992)

Western Civilization Model

Yet a fourth model is still evident in such colleges as Centennial College in Ontario. This fourth model is one based exclusively on western civilization to the exclusion of all

other cultures. According to the general education chairperson at this college, the students are currently applying pressure to incorporate a more global general education component. The model, as it stands, is an example of a cultural form of general education.

Functional Course Model

Finally, Dennison (1986) commends Grant MacEwan Community College in Alberta for having implemented what can most succinctly be categorized as an issues based form of general education following a study by a task force at the college. It more closely resembles the United States model by virtue of the fact that is has incorporated the generic skills. Such issues as stress, choice, adjustment, and interdependence and spirituality amongst others have, in this model, been placed under four course content areas. They are:

1. Generic Learning Skills
2. Life and Learning
3. Global Community
4. Culture in the Value System

(Dennison, 1986, p. 249)

Dennison claims that general education should be made the responsibility of each and every teacher. But he also claims that "if the reform of general education is to succeed, it is evident that a commitment to reform must be college-wide and supported at all institutional levels" and further that "a monitoring system" is necessary for its success. (Dennison, 1986, p. 249)

Humber College has one such department that oversees general education. The department has its own faculty but welcomes other faculty who wish to participate in the delivery of instruction in areas of interest relevant to general education. This system has, according to the department chairperson and coordinator, worked effectively for a number of years now.

In summary, the variance among application models is indicative of the degree to which generic skills have been incorporated into the general education component. The reason for incorporating generic skills is that although general education emphasizes content (the human being in his/her particular milieu, in his/her particular era),

> ...nonetheless, in retrieving, shaping, analysing and evaluating content, students of General Education are also required to develop and refine high-level Generic Skills, an inherent by-product of General Education. (Fanshawe College, 1992, p. 1)

Succinctly, then, the degree of generic skill content in a specific general education component is tailored to the specific needs of a specific student populace to foster the development of the generic skills required to engage in the various levels of general education.

Finally, the notion that general education does not have specific outcomes is questionable, as is the notion that its effectiveness can't be measured. Fanshawe College lists 69 discrete general education outcomes. Humber College

identifies 38; George Brown College delineates 50, each adhering to the specific needs of the particular community each serves.

This study is at least one means of evaluating general education. Macomb Community College has evaluated its general education component on the basis of student perceptions, persistence, academic achievement, educational-vocational redirection, and involvement and claims that "There has been the desired change in attitudes and participation on the part of the students and an increase in general knowledge in the subject area" (Munroe, 1966, p. 79)

In achieving these outcomes general education adheres to one of the most important values of the community college: To serve the specific community in which the college is situated. (O'Banion, 1992) It was, in part, the intent of this quantitative research to measure the degree to which articulated general education outcomes are achieved. This was done via the student ranked perceived general education skill achievement.

O'Banion, who is the director of the League for Innovation in the Community College, also maintains that general education is effective from the point of view that "it changes people's lives" (O'Banion, 1992). M. S. Knowles claims that general education elicits flashes of insight (Knowles, 1980) or events which result in Kuhn's Paradigm Shift, the ability to perceive things in an entirely different

way.

Agor also argues that a broad knowledge of past occurrences, coupled with a creative, exploratory tendency and the ability to sense possibilities and implications constitute a form of intuition that is necessary to make effective decisions (Agor, 1983). And Morrison describes the broad and integrative general education skills that enable one "to understand the external environment and the interconnections of its various sectors and to translate this understanding..." into its relevancy within a particular ambience. (Morrison, 1992, p. 86).

O'Banion recapitulates his own general education wherein the "Personal Development" course and the "Individual in the Environment" course were fundamental components; and wherein the questions of Who am I? Where am I going? and What difference does it make? were key areas of concern. These three questions are a direct parallel to the title of the text compiled at George Brown College for the core general education course: Self, Society and Meaning.

Finally, O'Banion further claims that, contrary to some individuals' notion to the contrary, students do like general education. An analysis of student evaluations of general education done at Humber college is in accord with this view. According to the coordinators of the program, the general education courses there have maintained the highest rankings among all the courses at the college.

The student perception sector results of the Macomb Community College study (Munro et al., 1966) also concurs with O'Bannion's view. As do the results of the Miami-Dade study (Roueche and Baker, 1987). But this study additionally found that Miami-Dade, whose program of study included a five section general education curriculum: Communications, Humanities, The Social Environment, The Natural Environment and Individual Growth and Development, had a positive effect on grade. That is,

> "The spring 1985 CLAST examination (An exam that must be passed to get an A.A. Degree) produced some impressive results for Miami-Dade. The 87.5% of Miami-Date students who passed all four subtests represented a better performance than that of students at the local universities, both of which admit only well-qualified students". (Roueche and Baker, 1987, p. 85)

This study was conducted across socioeconomic strata.

In conclusion, Lukenbill & McAbe expound on five values that represent the worth of general education: They are, succinctly, integration of knowledge to provide a broad perceptual field from which to draw solutions to life's problems; motivation for life-long learning; enhancement of self-actualization; the ability to find value in both required and chosen endeavours and the a profound understanding of concepts, a comprehension of societal and institutional growth and global developments and applications of the scientific process. (Lukenbill & McAbe, 1978, p. 31)

These two authors expound on these values by stating that:

> Mankind has progressed by expanding ideas, and individuals must be aware of this progress if they wish to realize their own intellectual potential. Likewise, students need a historical perspective to be able to evaluate the significance of events and to make judgments concerning current events as they develop. In an age which is so widely influenced by science and technology, individuals must also understand the scientific process of science if it is to remain a means for progress and not the master of our lives. (Lukenbill & McAbe, 1978, p. 31)

This second chapter has provided a historical overview of how general education has evolved. It has also discussed the studies done in and rationales for the significance of general education. Finally, current practices in general and in Ontario colleges in particular were explained along with guiding principles that underlie their implementation.

Chapter 3 is comprised of an explanation of the design and methodology used in the study on general education perception and outcome measurement.

CHAPTER 3

CHAPTER 3

DESIGN AND METHODOLOGY

This chapter will explain who the subjects of the study were and how they were selected. It will also explain the instruments used as well as the research design, procedure, data analysis and limitations and delimitations of the study.

SUBJECTS

First year students in four different programs in the Spring semester at an Ontario college made up the sample used in the study. The age range of these students was 19 to 45. They were of mixed socioeconomic status and race. Both sexes were included.

The three treatment groups were randomly selected by drawing three classes out of a box containing all the classes that would be subjected to general education that semester. The control group was the only group available who would not be taking the general education course that semester.

INSTRUMENTS

The performance measures used were the difference between student perceptions of general education outcomes on the

pretests and posttests. The instrument used to obtain the pretest and posttest results was a Likert-type questionnaire. The list of skills all students were asked to rank themselves on was drawn from a list of general education course outcomes collected from as many of the Ontario colleges as were willing to share them.

The list of skills were then revised and simplified so as to make them more easily understood. An open ended question was also asked so as to analyze student perceptions of acquired general education outcomes. This constituted the enrichment and description of the student reported perceptions.

RESEARCH DESIGN

This pretest-posttest control group applied research experiment on student perceptions was designed to generate data based on empirical evidence that, when analyzed statistically, would indicate whether a general education course was perceived to have a significant effect on the general education skills listed in the Likert-type questionnaire.

Two questionnaires were administered. The first was a Likert-type rating questionnaire. This constituted the pretest administered to the three treatment groups and the control group at the onset of the semester. It was also the posttest for both the treatment and control groups at the end

of the semester. An open ended, three tiered questionnaire was also administered to supply enrichment and description of student perceived outcomes of the same general education course.

There were three treatment groups and a control group. The first and second treatment groups participated in the survey in the morning and the third did so in the afternoon. The control group took part in a regular full-time program but did not participate in a general education Course. the research design chart is provided below.

Research Design

Group (Gr.)	Time	n	Sex	Age	Treatment
Treatment Gr. 1	Morning	12	50% Male 50% Female	50% ≤29 50% ≥30	General Education
Treatment Gr. 2	Afternoon	12	50% Male 50% Female	50% ≤29 50% ≥30	General Education
Treatment Gr. 3	Afternoon	12	50% Male 50% Female	50% ≤29 50% ≥30	General Education
Control Gr. 4	Noon	14	50% Male 50% Female	50% ≤29 50% ≥30	

The quantitative analysis question is therefore: Is the difference between the posttest mean item response and the pretest mean item response of general education perception ratings of the treatment group greater, less than or equal to the difference between the posttest mean item response and the pretest mean item response of general education perception

ratings of the control group?

This can be explained in three simple steps:

A. (Treatment Groups Posttest mean item response score) - (Treatment Groups Pretest mean item response score) = Treatment Group Mean Item Response Difference score.

B. (Control Group Posttest Mean Item Response score) - (Control Group Pretest Mean Item Response score) = Control Group Mean Item Response Difference.

C. (Treatment Group Mean Item Response (Posttest-Pretest) Mean Difference) - (Control Group Mean Item Response (Posttest-Pretest) Difference = Significant or Insignificant Mean Item Response Difference between the treatment and control group).

The open-ended questionnaire analysis question was: What, in the student's view expressed on a three part open-ended survey, has specifically been acquired through participation in the general education course. This question was divided into three sections. They were "Knowledge I acquired", "Things I learned to do" and "Values and attitudes I learned".

The Three Propositions of the Study

The following is the framework of the study as set out in Austin's (1993) Three Step Proposition (a, b, c) Model.

a) We want students to achieve various general education

outcomes. (Those listed in the quantitative research instrument.)

b) We don't know the full array of ways to measure whether they have achieved those outcomes.

c) Although we want students to achieve various General Education goals, we don't know the full array of ways to measure whether they have achieved those outcomes.

Research proposition: The core general education course composed of Psychology, Sociology, Philosophy and Ethics is a model.

The test is: The degree to which the courses are perceived to effect change in general education skill acquisition? That is, to what extent is this course an affective way of acquiring general education? It is also an assessment of the two instruments used in the study.

Methodology: Two ways to decide whether there has been a change in general education skills are:

1. Student Perception (Pre-Post course tests)
2. Course Evaluations (Open-ended questions)

The way to decide whether the quantitative instrument is an effective means of evaluating student perceptions in to note whether the responses of the three treatment groups were consistent.

PROCEDURE

The subjects in both the treatment and the control group

participated in their chosen full-time programs. The treatment group also participated in a semester long core general education course.

The general education course was three hours in length and was held each week throughout an 18 week semester. One of the treatment groups attended the aforementioned general education classes in the morning, the other two treatment groups attended them in the afternoon. This was done to control for the possible effects of time, (a possible intervening variable) that might have a significant influence upon the results of the study.

The outcome or independent variable in this study was the difference between the students' pre and post general education course "general education outcomes ratings". An open-ended question on student evaluations of the course provided data for additional enrichment and description study of the various nuances of student perceived general education skill acquisition. This was administered after the subjects were exposed to a core general education course of the type described in the foregoing section.

Selection of the Sample The subjects in this course were naturally selected. That is, they were the students currently enrolled in three programs that had just introduced a general education component. Three classes of the total pool of classes were selected at random for the study, but the control

group constituted the only group available by virtue of the fact that they were the only group who were not taking the general education course. This sample was obtained from the population of students at one inter-city community college out of the 23 Ontario community colleges.

Selection of a Perception Study

While the five limitations of using student perceptions are listed in the introduction, all the measures taken to remove or minimize those limitations that might pose a threat to internal and external validity (Purkey, 1970) are also listed there. The limitations of the other means of evaluating general education considered, namely, testing and observation are also listed in chapter 1. Some of the limitations of the latter two means are difficult and in some cases impossible to remove or minimize.

According to Best and Kahn, authors of "Research in Education", "knowing the limitations and doing the best that he or she can under the circumstances, the researcher may conduct experiments, reach valid conclusions, provide answers to important questions, and solve significant problems" (Best and Kahn, 1986)

As was expounded on in the introduction, a perception study was chosen due to the fact that it is client centred. That is, it would serve to reveal both students' general perceptions of their general education course via the open-

ended questionnaire and whether the students themselves perceived they had improved their General Education skills to a more significant degree than did the control group by way of the quantitative research.

DATA ANALYSIS

An analysis of variance and a planned multiple comparison were used to decipher whether a) there was a difference between the treatment groups' pretest and posttest course perception of general education skill level and b) whether the mean item response difference of the treatment groups differed from that of the control group.

Finally, the data obtained in the open-ended question was categorized into the various types of answers given and a percentage of each rendered. "Inter-scorer reliability" (Best & Kahn, 1986, p. 155) of the open-ended question tabulations was maintained by asking two other people to tabulate a number of sub-sections on the qualitative open-ended questionnaire data so as to establish that the data was consistently tabulated.

LIMITATIONS

All instructors who taught the course attended approximately 15 meetings during the semester to ensure equal coverage of these specific segments of the course: Psychology, Sociology, Philosophy and Ethics and their concomitant generic

skills. Also there was only one control group available to compare the three treatment group to. As the open-ended questionnaire was a course evaluation, it was not administered to the control group as this group did not take the general education course.

DELIMITATIONS

With the researcher's committee's permission, The study did not go beyond the boundaries of one inter-city college in selecting subjects. The implementation of general education is a very long standing, regularly reviewed and yet still contentious issue in the CAAT (Colleges of Applied Arts and Technology) system in Ontario. The open-ended question was, however, added to the quantitative research to add richness and description beyond that which an exclusively quantitative analysis inclusive of general education outside of the perimeters of my college would permit.

Definitions and models of general education from a broad number of general education curricula were, however, included in the "Background" and "Review of the Literature" chapters. Finally, a broad range of general education outcomes encompassing of all those that could be collected from the Ontario colleges was included in the survey instrument.

Work Plan

Date	Task
January, 1993	-Compile Instrument and submit Human Subject Project Review Application
May	-Administer Pre General Education Perception Survey Pilot
June	-Administer Gen Ed. Perception Survey
Sept. to Dec.	-Analyze Data
September 1992 to June, 1994	-Write Dissertation
June, 1994	-Oral Defense

DISSEMINATION: Debriefing -- The dependent variable in this experiment was how the student reacted to exposure to the general education course (and, specifically, whether there was a perceived improvement in general education skills evidenced by the difference between the pretest and posttest general education skill ranking survey). The researcher was interested in how involvement in this type of general education course is perceived to effect general education skills. Thus the independent variable was exposure to this general education course. Finally, the study served to assess the two data collection instruments used.

This chapter described the subjects of the pretest-posttest control group design. In addition it discussed the instrument and how it was formulated and what the dependent, independent and possible intervening variables were. Finally, the procedure, data analysis, limitations and delimitations of the study were described. The next chapter will state the findings of the study and discuss their

interpretations.

CHAPTER 4

CHAPTER 4

FINDINGS AND INTERPRETATIONS

Chapter 4 will serve to present the findings of the study. It will also serve to present the interpretation of the results.

The treatment groups perceived greater improvement of general education skills than did the control group in the quantitative analysis performed on the data.

The variables that were marked "x" for "I don't understand" by any student were removed from the pool of data prior to the analysis. These variables were skill numbers 6, 16, 18, 23, 24, 32, 33 and 71.

ANOVA

ANOVA is a statistical technique used to test the null hypothesis that several population means are equal. Its name is derived from the fact that it examines the variability in the sample to determine whether there is cause to believe the population means are not equal. Therefore, it allows one to draw conclusions about means based on an examination of the variability. This is important to do since even large differences between observed means are not considered statistically significant if there is a lot of variability in

the groups. (Norusis, 1990, p. 269)

The decision to use an analysis of variance rather than the multiple t approach is directly related to each statistical method's probability of making a type-1 error: In the case of an ANOVA, the probability of doing so is equal to α for the entire null hypothesis $\mu 1 = \mu 2 = \ldots = \mu p$, whereas, in the case of the multiple t approach, the probability of making a type 1 error is equal to α for each of the multiple t tests. Briefly, the probability of making the error of rejecting one or more true null hypotheses increases as the number of hypotheses increase. Since we are testing one null hypothesis in the ANOVA and a number in the multiple t approach, the chances of making a type 1 error via an ANOVA is less than that of making a type 1 error via a multiple t approach. (Kirk, 1990, p. 452)

Since the reliability, or internal consistency, of the theoretical categories (Work related; social and personal) was greater than .90 for each theoretical category, three composite variables representing these three theoretical categories were used in the analysis.

Both ANOVA and planned comparison method were used to analyze the date. ANOVA is used to compare group means. This was used when the sexes: 1.) male; 2.) female) and the two age groups: 1.) $\leq$ 29; 2.) $\geq$ 30) were compared. However the planned comparison method which allows one to design which combinations of treatment groups are compared to the control

group had to be used to differentiate between the effects of each of the three categories within each of the treatment group and the way they each compared with the control group.

The $\leq .05$ value that is used as a level of significance indicates that there is a 5% or less probability of making a type-1 error. In other words there is a 5% or less chance of rejecting the null-hypothesis when it is true. Concurrently, it follows that there is a 95% probability that the ANOVA null-hypothesis should be rejected. This also means that there is a 95% likelihood of there being significant differences between the treatment and control group.

For the purpose of the following analysis, the mean of the remaining 100 items was compared (8 of the 108 were removed because they were ranked "I don't understand"). A oneway ANOVA was performed to compare the mean item response on the pretest, posttest and the difference (the posttest-pretest). The group means and the standard deviations on the pre-test, post-test and the difference between the pretest and the posttest for each of the treatment groups and for the control group are listed in tables 1 through 3 respectively. The probability of making a type-1 error in rejecting the null hypothesis is stated in the text following each table. The .05 alpha level is used throughout this chapter.

Table 1. Treatment and Control Group Means and Standard Deviations on Pretest

Group	Mean	Standard Deviation
Treatment group 1	3.8289	.3670
Treatment group 2	3.7060	.6432
Treatment group 3	3.7121	.4230
Control group	3.7275	.5308

Legend: Treatment = Those who took the General Education course
Control = Those who did not take the General Education Course

There is no significant difference between the treatment pre-test mean item responses and those of the control group. This indicates that the treatment groups and the control group had acquired similar degrees of general education skills at the onset of the experiment, that is, prior to subjecting the treatment group to the general education course.

The F test obtained from the ANOVA $F(3,46) = 15$, $p<.92$, verifies that there is a 92% chance of making the type-one error of rejecting the null hypothesis, which is the hypothesis that the mean of the experimental group will be equal to the mean of the control group, when the null hypothesis is in fact true. This is greater than the acceptable .05 chance of making a type-one error.

Therefore the treatment and control group means are not considered to be significantly different at the onset of the study. This indicates that the treatment and control groups had not perceived they had acquired significantly different levels of general education skills at the beginning of the experiment.

The group means and standard deviations on the posttest for each of the treatment groups and for the control group are shown in table 2 below, as is the probability in this case of making a type-1 error in rejecting the null hypothesis when it is in fact true.

Table 2. Treatment and Control Group Means and Standard Deviations on Posttest

Group	Mean	Standard Deviation
Treatment Group 1	4.2743	.2195
Treatment Group 2	4.1931	.4239
Treatment Group 3	4.1814	.4088
Control Group	3.7319	.4732

In the case of the posttest, $F(3,46) = 5.13$, $p<.01$, there is a significant difference between the treatment and control group means item responses.

Table 3. Treatment and Control Group Means and Standard Deviations on Posttest-Pretest =Performance (Perceived General Education Skill Improvement)

Group	Mean	Standard Deviation
Treatment Group 1	.4453	.3987
Treatment Group 2	.4871	.5821
Treatment Group 3	.4693	.4317
Control Group	.0043	.3020

The difference between the mean item response treatment and control group differences (posttest minus pretest), is very significant, $F(3,46) = 3.82$, $p<.02$ at the .05 alpha level, indicating that there is a highly significant difference in general education skill performance between the treatment groups and the control group.

Statistically Based Outcome Sub-Category Selection

An internal consistency, or reliability test was run on each of the three theoretical categories of general education skills used in the instrument, namely, a) Work Related b) Social and c) Personal. This was done to decipher whether these would be statistically valid categories to group the data for further analysis.

Reliability is a test of consistency of measurement. A

reliability coefficient of .90 or higher is considered highly reliable; whereas a reliability coefficient of less than or equal to .80 would cause one to raise serious questions about the reliability of the category. (Kirk, p. 174)

The reliability (standardized Cronbach's coefficient alpha) of the theoretical categories of 'Work Related', 'Social' and 'Personal' general education skills were respectively: .9372, .9050 and .9143.

All of the theoretical skills had high internal consistency or reliability. These theoretical categories were therefore used to pool group means into in the ANOVA (analysis of variance).

A Treatment-Control Group Planned Comparison of the Three Outcome Subcategories: Work Related, Social and Personal

A Second part of the process of unfolding the data involved a more specific analysis of variance. In this case, the mean pretest, posttest and (posttest minus pretest) difference scores of each of the three subcategories statistically chosen for their reliability in the treatment group were contrasted with those in the control group. A planned comparison was used for the purpose of this analysis.

No significant difference was detected among the groups in the pretest. That is, significance levels were not less than .05.

Specifically, at the .05 alpha level, the pre-test

contrasts between each of the first, second and third treatment groups and the control group in the 'Work Related general education skills category' were $p<.558$, $p<.635$ and $p<.868$ respectively. This was expected as, at the time the pretest was taken by all four groups (three treatment and one control) none of the groups had been exposed to the general education course.

This analysis confirmed that, since there were no significant differences between each of the treatment groups and the control group in the pre-test, their overall general education skills were not perceived to be different at the onset of the experiment, that is, prior to the initiation of the general education course.

The posttest contrasts between each of the treatment groups and the control groups in the 'Work Related' general education skills category were found to be significant. The p-values were $p<.004$, $p<.020$ and $p<.032$ respectively.

Whereas, there was no significant difference between each of the treatment groups and the control group in the pre-test for the 'Personal' general education skills category. The p-values were $p<.099$, $p<.344$ and $p<.536$ for treatment groups one through three respectively. But there was a significant difference between each of the treatment groups and the control group in the posttest for the 'Personal' general education skills category. The p-values were $p<.001$, $p<.010$ and $p<.034$ respectively.

In the final 'Social' general education skills category, the p-values of the pre-test were $p<.435$, $p<.553$, and $p<.318$. Since the p-values are greater than .05, they are not significant. The p-values of the treatment-control group contrast in the post-test for the treatment groups 1, 2 and 3 were $p<.005$, $p<.060$ and $p<.012$. Thus there was a significant difference between treatment group one and the control group and also between treatment group three and the control group as each of the two p-values were $<.05$.

The contrast of the treatment and control group differences between the pre and post tests in the "Social" category yielded the following p-values: $p<.001$, $p<.038$ and $p<.000$ respectively. The treatment verses control group mean contrast was therefore significant in this category as well. The p-value of the contrast of the treatment and control groups' difference scores in the 'Work Related' category were $p<.017$, $p<.014$ and $p<.035$ respectively. All were significant.

The following are the bar graphs for the comparison of the mean item responses for the 'Work-Related', 'Social' and 'Personal' subcategories for each of the three treatment groups and for the control group.

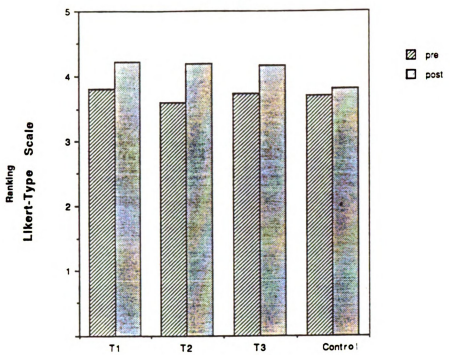


Figure 1. Mean Ranking on Perceived "Work Related" General Education Skill Acquisition

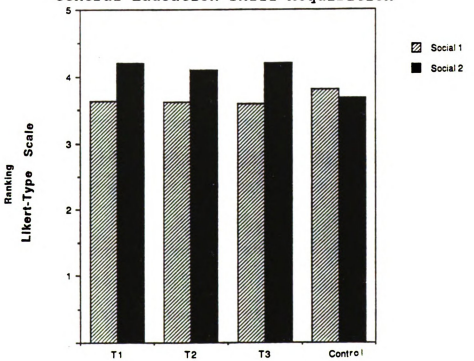


Figure 2. Mean Ranking on Perceived "Social" General Education Skill Acquisition

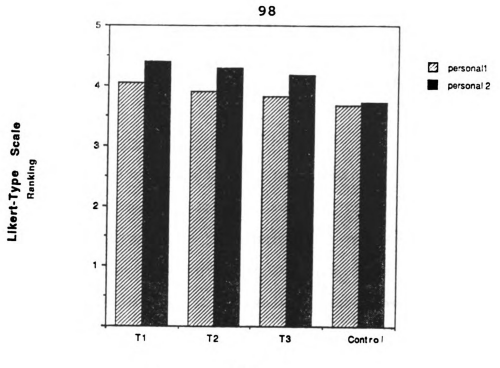


Figure 3. Mean Ranking on Perceived "Personal" General Education Skill Acquisition

In summary, the oneway ANOVA and planned multiple comparison compared the results of the pre and post test of each of the three treatment groups and the control group and also compared the mean item response differnece (posttest minus pretest) of the treatment groups with that of the control group. These analyses of variance showed that the treatment group perceived that they had improved their general education skills significantly between pre and post tests, whereas the control group perceived they had not.

Because the perceived improvement between pre and post treatment tests is greater than the perceived improvement between pre and post control group tests, it is clear that the

general education course is the variable that, in the students' perception, improves general education skills.

Age and Gender Differences

An ANOVA done to find if performance by males differed from performance by females, showed that there was not a significant difference between the pretest, posttest or (posttest minus pretest) difference mean item responses between the genders. The p-values were $p < .7953$, $p < .6697$ and $p < .8949$ respectively; all greater than .05. Similarly, there was no significant difference in the performance of the younger (less than or equal to 29) and the older (greater or equal to 30) age ranges. The probabilities (alpha level) for the mean item responses were pretest $p < .7577$, posttest $p < .5314$ and (posttest-pretest) difference $p < .7884$ respectively.

Gender Differences Between the Mean Item Responses of the Pre and Posttests Under Each Outcome Subcategory

Another ANOVA was done to note whether there were sex differences in each of the pre and posttests. The F probabilities for the mean item responses that were obtained for each of the three subcategories were: 1) 'Work Related' pretest, $p<.5073$; 'Work Related' posttest, $p<.8280$; 2) 'Personal' pretest, $p<.9875$; 'Personal' posttest, $p<.5718$; 3) 'Social' pretest, $p<.9243$ and 'Social' posttest, $p<.6987$. All were greater than .05, indicating that there were no

significant differences found between the sexes.

Gender Differences Between Treatment and Control Group Total Mean Item Response (Posttest-Pretest) Difference

The next ANOVA was calculated to find whether there were gender differences among the mean item response (posttest-pretest) differences between the treatment and control group. The results were 'Work Related': $p<.6288$; 'Personal': $p<.5712$; and 'Social': $p<.8313$. Again, all are greater than .05. There is no indication of significant sex difference in any of the three categories. Figure 4 illustrates the above findings.

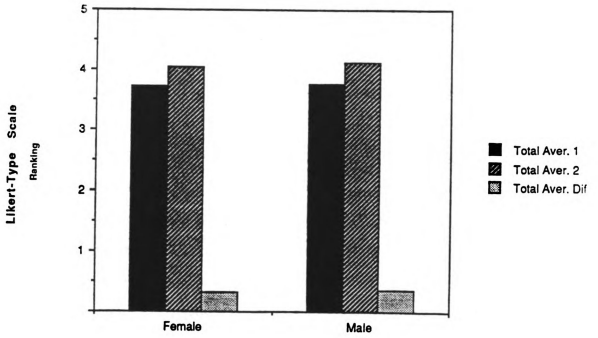


Figure 4. Gender Differences in Pretest, Posttest and Posttest-Pretest on Perception of Skill Acquisition

Age Difference Analysis in the Pre and Post Tests

This ANOVA was done to find whether there were age differences in response to either the pretests or the posttests under each of the general education skills categories. At the .05 alpha level, the results rendered were: 1) 'Work Related' pretest: $p<.5959$; 'Work Related' posttest: $p<.2189$; 2) 'Personal' pretest = $p<.2977$; 'Personal' posttest: $p<.5856$; 3) 'Social' pretest: $p<.5527$ and 'Social' posttest: $p<.9170$. No significant differences were indicated.

Age Differences in (Posttest-Pretest) Difference

Another ANOVA was performed to decipher whether those 30 and older had perceived they had acquired more or less General Education skills than their 29 or younger counterparts. These p-values were as follows: 'Work Related' $p<.5847$; 'Personal' $p<.5507$ and 'Social' $p<.5001$. There were no significant differences in perceived acquisition of general education skills between the younger (less than or equal to 29) and the older (greater than or equal to 30) age groups.

In the third and final part of the unfolding process, an ANOVA indicated that in each of eighteen smaller subcategories divided into 1) eight under 'Work Related' skills; 2) five under 'Social' skills and 3) five under 'Personal' skills, there were also no significant differences between the two age groups as all the probabilities were greater than .05. This

was true in the comparison of the pretest (Table 4), posttest (Table 5) and (posttest minus pretest) difference (Table 6) mean item responses.

Table 4. Pretest Comparison of Eighteen Categories by Age

Three Main Categories	Subcategories	F-Probability
Work Related	1.1	.3409
	1.2	.9168
	1.3	.5166
	1.4	.2493
	1.5	1.0000
	1.6	.6236
	1.7	.6034
	1.8	.1804
Social	2.1	.6604
	2.2	.4809
	2.3	.4298
	2.4	.6222
	2.5	.7671
Personal	3.1	.6542
	3.2	.4135
	3.3	.1835
	3.4	.2869
	3.5	.3111

No significant age difference was detected.

Table 5. Posttest Comparison of Eighteen Categories by age

Three Main Categories	Subcategories	F-Probability
Work Related	1.1	.1993
	1.2	.0829
	1.3	.6851
	1.4	.2999
	1.5	.6337
	1.6	.4313
	1.7	.3456
	1.8	.7786
Social	2.1	.9599
	2.2	.8399
	2.3	.2339
	2.4	.6972
	2.5	.8481
Personal	3.1	.2060
	3.2	.6223
	3.3	.1802
	3.4	.3995
	3.5	.9695

No significant differences were detected.

Table 6. Posttst-Pretest Difference Treatment and Control Group Comparison of Eighteen Categories by Age

Three Main Categories	Subcategories	F Probability
Work Related	1.1	.7749
	1.2	.1842
	1.3	.3883
	1.4	.7862
	1.5	.9230
	1.6	.9233
	1.7	.8568
	1.8	.2844
Social	2.1	.6653
	2.2	.4166
	2.3	.0657
	2.4	.9201
	2.5	.8723
Personal	3.1	.1320
	3.2	.1958
	3.3	.9155
	3.4	.8185
	3.5	.2886

No significant difference detected.

Figure 5 is a bar graph comparing pre, post and post-pretest scores on perception of skill acquisition by age:

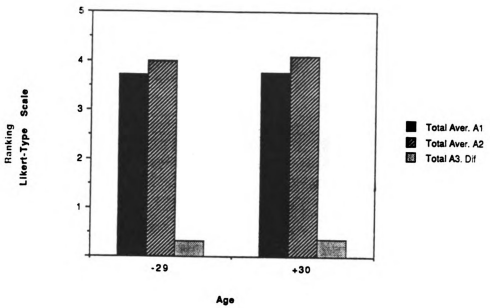


Figure 5. Age Differences in Pretest, Posttest and Posttest-Pretests on Perception of Skill Aquisition

No significant difference was detected.

Figure 6 is a bar graph comparing pre, post and post-pretest scores on perception of skill acquisition by time of test.

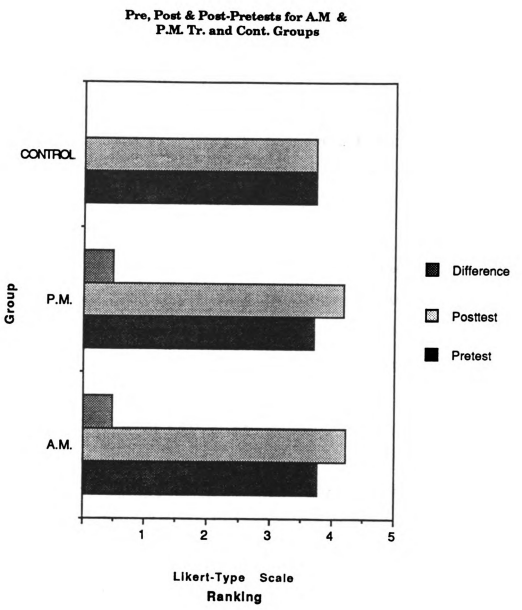


Figure 6. Time of Test (Possible Intervening Variable) Impact on Pre, Post and Post-Pretest Perception of Skill Aquisition

No significant difference was detected.

OPEN-ENDED QUESTIONNAIRE

The following information is evident from the student perceptions claimed on the open-ended questionnaire:

In the 'Knowledge' acquired section of the open-ended question, the student responses were grouped under the following percentages: 20/36 claimed responses under the 'Understand self and others' category; 9/36 under 'Ethics'; 6/36 under Society and its effect and 1/36 under 'Work Related'.

The 'Things I learned to do' question elicited 18 of the 46 responses in the 'Communication' category. The 'Communication' section was further subdivided into two components: 1) 9/18 'Generic - Listening, Speaking, Reading and Writing Improvement' and 2) 9/18 'Human Relations'. A second subcategory in this section was 'Organization'. 11/20 responses referred to organization of 'Thought' and the remaining 9/20 referred to "Work". The third category was 'Well Being'. In this case, 5/5 responses dealt with 'Emotional Control and Dealing With Fears'. In the final category of free responses, 3/3 answers referred to learning to 'Contribute'.

In the final, 'Values and Attitudes' acquisition category, the response subdivisions and their ratio to total number of responses in each main division were: 'Breadth of Understanding', 3/34 claimed responses; 'Objectivity', 6/34; 'Technical Appreciation', 2/34; 'Professionalism' , 1/34;

'Morality', 4/34; 'Self Acceptance and Development', 8/34; and 'Human Relations', 10/34. The parallel percentages are also listed in Table 7 Below.

Table 7. Open-ended Question: Main and Subcategories; Ratios and Percentages

Main Question	Response Subcategories	Ratio of Main/ Subcate-gories	Percentage
1. Knowledge	Understand Self/Others	20/36	55%
	Ethics	9/36	25%
	Society and Its Effect	6/36	17%
	Work Related	1/36	3%
2. Do	Communicate	18/46	40%
	Generic - 9/18 = 50%		
	Hum. Rel- 9/18 = 50%		
	Organize	20/46	44%
	Thought -11/20= 55%		
	Work - 9/20= 45%		
	Well Being/	5/46	11%
	Emotion/Fear control - 5/5 = 100%		
	Contribution - 3/3 =100%	3/46	5%
3. Values/ Attitudes	Breadth of Understanding	3/34	8.8%
	Objectivity	6/34	17.6%
	Technical Appreciation	2/34	5.8%
	Professionalism	1/34	3%
	Morality	4/34	11.7%
	Self Acceptance/Develop.	8/34	23.5%
	Human Relations	10/34	29.4%

The comments listed under the 'Other Comments' Section fell under two distinct categories: 1) 'About the Course' and 2) 'About the Professor'.

In summary, the course perceptions revealed that the students perceived the course to be 'absolutely necessary'; 'needed for life'; 'enjoyable'; 'too great to condense into a

small space'; 'a pride to attend'; 'enlightening'; 'appropriately scaled for program studies'; 'excellent exposure to a broad number of disciplines'; 'educating'; 'a vehicle for societal evolution'; 'enriching'. The so called hidden agenda of the general education component, which those who teach it know cannot merely be compartmentalized into competencies, was expressed in this way by a student: 'In my heart I know there's more to this that I've learned. I just can't pin point or single out what they are'.

The comments under the 'Other Comments' section that were focused on the other category, the instructor, imbued the course instructors with the following leadership qualities: 'Highly knowledgeable', 'pleasant', 'efficient', 'Great Teacher', 'simplifies and clarifies', 'will miss the teacher very much', 'grateful to teacher', 'excellent professor', 'good students result from good teachers', 'interesting', 'stimulating', 'challenging', 'especially likeable'.

The answers to the open-ended question both support and expand on the quantitative data. Educators would do well to remember that quantitative data, by virtue of the fact that it is compartmentalized, is limited by the very questions that are asked. Similarly, the educator would do well to remember that casting a course in terms of objectives does not allow for a "vision of the whole...(and specifically) the social context in which our daily lives are embedded...(it is in this way that) broad educational goals and pedagogical

considerations are rendered invisible, while concepts such as 'efficiency and effectiveness' come to reflect administrative rather than educational concerns." (Jackson, 1989, p. 81)

As stated in the tenets of general education reported in the definition, historical background and literature review sections, course objectives should be based on outcomes deduced from student needs analyses. These course outcomes should, further, be revised as needed, as their intent is to form a flexible framework for optimum human development within a specific milieu.

The data on the open-ended questionnaire added the following dimensions to the quantitative data: In the comments about the course, the following observations were made: 1.) an inspirational dimension to learning was added: 'enlightening', 'enjoyable', 'a pride to attend'. In the same section, the experience of a breadth of knowing was expressed: 'In my heart there's more to this that I've learned; I just can't pinpoint or single out what they are'; 'enriching'; 'too great to condense into a small space'; as was 'organization of thought' to the 'What I learned to do' section.

The remaining comments tabulated on the open-ended question paralleled those listed in the quantitative questionnaire. The leadership skills inherent in the final skill listed in the quantitative questionnaire were the most widely supported in the 'Comments' section when reference was

made to the professor: 'Highly knowledgeable', 'pleasant', 'efficient', 'Great Teacher', 'simplifies and clarifies', 'will miss the teacher very much', 'grateful to teacher', 'excellent professor', 'good students result from good teachers', 'interesting', 'stimulating', 'challenging', 'especially likeable'.

On the quantitative instrument, while the three subcategories of general education all showed significant gain scores in the treatment groups, the 'personal' category was the least significant. However, when the students were asked to respond freely on the open-ended question, most of their comments were of a 'personal' nature.

Both the data on the open-ended questionnaire and that on the quantitative survey were in tandem with regard to the students' perception of general education skill acquisition. That is, significant improvement in general education skills was reported in both the quantitative and open-ended questionnaires after taking the general education course.

CHAPTER 5

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS AND REFLECTIONS

The following chapter will first serve to draw conclusions from the data collected in the study. It will secondly offer some recommendations that may be deduced from the conclusions. In addition, this chapter will discuss the study and literature research; state some implications for future research and end with some reflections on the data collected.

This study was conducted to determine, first of all, whether a general education course composed of Psychology, Sociology, Philosophy an Ethics, is perceived by the students to have a significant effect on their general education skills. It was also performed to assess the effectiveness of the instruments used.

By comparing the mean perceived performance of three groups of students in different programs who took the same general education course to that of the control group, we were able to find whether the difference between the perceptions of the treatment groups regarding the acquisition of general education skills was significantly different from those of the control group. This was accomplished by performing an analysis of variance and a planned multiple comparison on the quantitative data. The open-ended questionnaire responses

were also tabulated and described to note whether they were congruent with the quantitative data.

CONCLUSIONS

Five conclusions can be drawn from the study. The first is that the two instruments used in the study are valid and reliable student perceived means through which accountability to the community for student perceived general education outcomes may be maintained. The second is that student receptivity to learning may be maintained by giving them prompt feedback on the results of the questionnaires. And the third is that it is important to do open-ended research to verify and expand on quantitative research. Information was revealed on the open-ended questionnaire that would not have had the opportunity to be expressed on the quantitative questionnaire.

The fourth conclusion that can be drawn is that students enjoy general education. Many of the comments on the open-ended questionnaire revealed this. That is not to say that they do not enjoy or enjoy their other education more. And the fifth and final conclusion is that students perceive a direct connection between general education and the real world. In fact, the "work related" subcategory of the quantitative research was perceived by the students to be the most significant.

SUMMARY OF FINDINGS

The difference in mean item perception responses between the treatment and control group (posttest-pretest) indicated that students perceive a higher attainment of general education skills after they took the general education course.

The data was then subdivided into three theoretical categories whose reliability was tested. These three categories were 'Work-Related', 'Social' and 'Personal'. This analysis showed that the 'Work-Related' and 'Social' categories were more highly significant than were the 'Personal' categories.

Unfolding the data further into eighteen subdivisions (8 under 'Work Related'; 5 under 'Social' and 5 under 'Personal') indicated which of these showed more significant perceived performance. The most highly significant difference between the treatment and control group were obtained in three subcategories that fell under the broader subcategory of 'Work-Related' skills. These were the 'Interpersonal', 'Communication' and 'Professional Contribution' skills. More highly significant treatment and control group perceived performance differences were also found under the 'Social' main category. These were 'Interpersonal', 'Problem Solving', 'Technical', 'Awareness of Historical Context', 'Tolerance', 'Analysing the Impact of Social Issues', 'Art Appreciation', and 'Understanding of our Governmental System and How It Compares to Others'.

Less significant differences between treatment and control group were indicated in the following 'work related' skills: 'Problem Solving', 'Technical Literacy', 'General Literacy and Numeracy', 'Understanding of Principles Underlying Technical Skills', 'Independent Study', 'Self Development' and 'Understanding of Varied Global Practices'.

The last phase of process of unfolding the data to the mean item perception responses of each of the 100 individual skills revealed particularly significant treatment group gain scores compared to those of the control group in the ensuing skills. Under the 'Work-Related' main categories, these were 'Effective Speaking', 'Media Use', 'Risk Taking' and 'Innovation' Skills. Those under the 'Social' main category were: 'Self and Group Analysis', 'Awareness of Broader Issues Affecting One's Goals', 'Understanding Aboriginal Cultures' and 'Adaptability to Change'.

The less significant differences between treatment and control groups obtained under the 'Work-Related' main category were 'Assessment', 'People and Task Organization' and 'Current Affairs Information'. Those that fell under the 'Personal' main category were 'Assertiveness and Independent Decision-Making' and 'Leadership Skills'.

Finally, the fact that the three treatment groups all showed significant gain scores is an indication of the quantitative instrument's effectiveness. Therefore, there is test-retest reliability. (Best and Kahn, 1986, p. 154)

Concurrent (to open-ended questionnaire) validity (Best and Kahn, 1986, p. 156) was also evidenced.

DISCUSSION

Unfolding the data to decipher significance beyond the total mean response differences between the treatment and control groups was instrumental in revealing those outcome subcategories that were strong and those that were weak.

The results supported the general educational psychology theory that a person's actions, either 'work-related' or 'social', are not necessarily indicative of a person's 'personal' attitudes, values and beliefs. (Purkey, 1970). This theory was confirmed by the data in that the 'work related' and 'social' outcomes were perceived by the students to have been more significantly improved after taking the general education course than were the 'personal'.

The relevance of General Education was evident in the fact that the 'work-related' skills were found to be more highly significant than were both the 'social' and 'personal'.

The instruments may be used to assist in maintaining student receptivity to learning. The students who participated were very receptive to the idea of ranking their general education skills at the onset and at the end of their General Education course, and were particularly eager to get the overall results.

Because the Likert-type pretest-posttest perception

design rendered a good success rate, the students found participating in the exercise very rewarding. They were enthusiastic about seeing the results of the data that indicated a perceived improvement of general education skills. This is in keeping with Miami-Dade's third directive: "To provide more information and feedback to students." (Roueche & Backer, 1987, p. 39) Finally, not only will such measures as have been depicted above, keep the learner receptive to learning, but it also seems likely from our results that the student will be better able to study if the acquisition of the work related skills (ie. problem solving skills) that comprise the first segment of the questionnaire are acquired. In the end, as E. L. Thorndike postulated through the Law of Effect, (Thorndike in Bourne and Ekstrand, 1985, p. 128) that the activities that the student finds rewarding will maintain student motivation.

The very fact that the first third of the skills in the instrument are work related skills indicate a general acceptance by the college system that they are transferable to the work place. But the data further showed that students perceived greater gain scores in the 'work-related' category than they did in the 'social' or the 'personal' category.

RECOMMENDATIONS

First, given the perceptions offered by the students, it seems logical that program curriculum, 'what is taught', be

designed to incorporate a course such as the general education course examined in this study, but with particular emphasis on strategies to develop the weaker outcomes listed above. This should be done with a view to meeting students' reported needs.

It would, specifically, be wise to keep in mind the fact that the 'Personal' category including attitudes, values and beliefs was not as highly significant when formulating general education curricula. It stands to reason that educators should dedicate additional attention and resources to the 'Personal' general education skills that are, according to the student perception data, more difficult to develop.

Second, students also need immediate feedback to remain receptive to learning. The quantitative and open-ended instruments that were designed are relatively quick to analyze via an ANOVA and description respectively. They can, therefore, also be used as a self analysis tool as they lend themselves to fast feedback. This, in turn, served as a motivator in the study: The students who participated were very receptive to the idea of ranking their general education skills at the onset and at the end of their General Education course. But, they were particularly eager to get the overall results.

Thirdly, the quantitative instrument itself can be used in two ways. It can be used as it is, inclusive of all the 108 outcomes of General Education to deduce which skills

students perceive they have improved. The instrument can also be tailored to the needs of a specific model of general education by using only the outcomes in the instrument that are pertinent to that model. And the open-ended question can accompany the quantitative instrument in either case. It is useful for revealing learned outcomes that may not have been included in the quantitative instrument.

At the intra-college level, the data that is collected by the instruments in the study can serve as information to be considered in general education orientation sessions. These should ideally involve all the stakeholders at a college. Therefore the annual advisory committee meetings are excellent forums for presenting student perceptions as they normally include most of the college stakeholders: students, faculty, administration and employers. What needs to be added is more researchers who can provide some evidence for the perceived effectiveness of general education.

At the inter-college level, information obtained from the instruments may be presented to members of various institutions of higher learning in general, but to the members of the 23 Ontario community colleges whose student population the study was based on in particular.

Finally, the quantitative instrument has a fourth application. It can be used as a pretest alone. That is, it can be used to assess student general education needs at the onset of a program.

More research is required to reveal ultimate effectiveness of scholastic activities on student general education outcomes. Such research is necessary as colleges struggle to find solutions to the challenge of meeting an ever changing student body's needs.

IMPLICATIONS FOR FUTURE RESEARCH

Although this study is limited by time restraints, longitudinal studies may be conducted to further verify, scientifically, three broad outcomes of general education. One is what employers portend from experience: Roger B. Smith, former Chairperson of CEO of General Motors Corp., vouches that "there's a connection between managers with a liberal arts education and a corporation's competitive edge". (Smith, 1990, p. 65) Tracking students along their individual job paths to compare the success of comprehensive general education graduates and non-comprehensive general education graduates is a method that may be used to do this. A second broad general education outcome that may be measured is overall scholastic competency of students subjected to a comprehensive general education compared to that of the rest of the student populace. It would also be informative to compare the retention rate of students exposed to general education with that of those who are not. The Roueche and Baker Study at Miami-Dade serves as an example of this type of research. It indicated that in the programs where "students

were required to take five 'core' courses in general education...both achievement and enrolment are rising..."(Roueche and Baker, 1987, 38). "The spring 1985 CLAST examination produced some impressive results for Miami-Dade. The 87.5% of Miami-Date students who passed all four subtests represented a better performance than that of students at the local universities, both of which admit only well-qualified students". (Roueche and Baker, 1987, p. 85)

These, now beginning to be proven, positive effects of the democratization of general education were, you will recall, long ago postulated by Plutarch (c. 50-120 A.D.). It is important, in a science driven era, that general education, though sustained by the culture of the classics mentioned in the literature review, continue to be supported by current research. Such studies may not only be repeated but they may also be stratified into the affects of varying amounts of general education in number of hours, number of courses or types of content to note how each affects scholastic competency and attrition.

It would ultimately make for a series of fascinating future studies to decipher whether a healthier, happier, more successful individual evolved from exposure to general education. In the realm of longitudinal studies necessary to begin to prove some of these broader dimensions of life development, such data sources as death rates, well-being surveys and acquisition and maintenance of professions charts

are examples.

Through such means as these, it is ultimately important to study general education and its effects on behaviours and, if possible, on the quality of life in general. It may be one of the ways in which Marshall McLuhan's main concern with regard to globalization, namely, impersonalization, may be mediated, specifically because general education has as its very content a fundamental concern for the human element.

REFLECTIONS

Based on literary and empirical research, there are three broad reasons for continuation and broadening of effective general education Programs. One is for the sake of providing an avenue of connectedness with the essence of what has been accomplished in the past. Another is for developing in society the ability to envision the global ripple effect prior to deciding to create it. The final reason is perhaps the most important one since it is the well from which the rest are drawn. And that is for the sake of fostering in humans the breadth of knowing that ensconces their lives amidst a realistic global context that engenders in them the ability to make unique future contributions. Because it is such contributions to humanity that, in turn, render them fulfilled in a way that enhances all facets of their lives. For these reasons, general education should become a focal point of future research and some of its outcomes verified if it is to

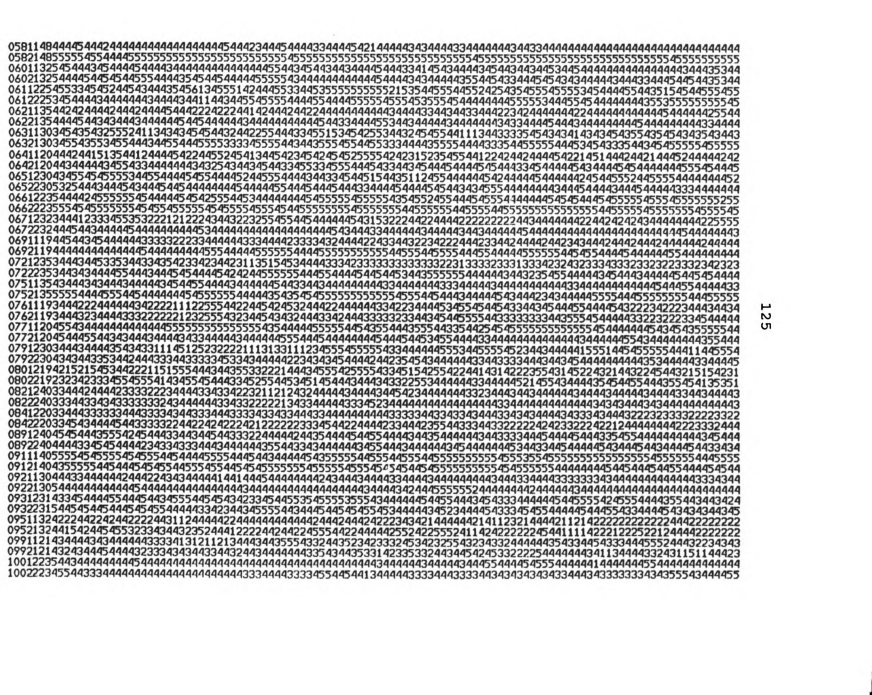
remain an essential, time enduring component of college curricula.

The culminating effect of cumulative exposure to general education is sufficient breadth of knowledge to catch a glimpse of the whole to Peck (1993). It is 'lateral thinking' to deBono (1967); 'shaping fantasies' to Shakespeare (Shakespeare in Ewing, 1977, p. 74); 'the transcendent function' to Jung (1968, p. 146); the 'new altruism' to Farnham (1991); 'universal ethical principles' to Kohlberg (1969); 'integrity' to Chickering (1982); 'expansion of caring' to White (1976); 'a unifying philosophy of life' to Allport (1955); 'ethics, morality, spontaneity, creativity, unconditional love and altruism' to Maslow (1971) and Vaillant (1977); 'transcendence of concern for self' to Frankl (1984); 'wisdom' to Erikson (1959) and 'creative expansion' to Buehler (1962).

Succinctly, it is the inspirational interest and creative intelligence born of breadth of knowledge which lead to novel perception. To the students in this study it is 'enrichment'; 'societal evolution'; 'too great to condense into a small space'; 'enlightenment'; 'interest'; 'stimulation' and 'challenge'.

APPENDICES

APPENDIX A



APPENDIX B

APPENDIX B

OPEN-ENDED QUESTIONNAIRE

We are asking for feedback on the General Education course you took so as to improve student learning. We understand that you may be busy at this time of year. However, we would greatly appreciate it if you would just take a few minutes to answer the following questions.

You do not have to put your name on this form.

Please state what you believe you learned in this course under each of the following categories:

1. **Knowledge I acquired:**

2. **Things I learned to do:**

3. **Values and attitudes I learned:**

Other comments:

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION.

APPENDIX C

APPENDIX C

QUANTITATIVE RESEARCH INSTRUMENT

We are interested in what students believe they have learned.

Individual responses will be kept strictly confidential and the information gathered will be reported in summary form only. We understand that your time is important but we ask you to take the approximately 20 minutes required to rank the skills below so that we can use the information to improve student learning.

Please answer <u>all</u> questions and feel free to make any comments you wish in the margin.

IN RESPONSE TO "<u>I HAVE LEARNED TO...</u>", PUT A CHECK MARK UNDER ONE OF THE SIX CATEGORIES LISTED BESIDE EACH SKILL TO SHOW WHETHER YOU STRONGLY DISAGREE, DISAGREE, ARE UNSURE, AGREE OR STRONGLY AGREE THAT YOU HAVE LEARNED THAT SKILL. PUT A CHECK MARK UNDER "DON'T UNDERSTAND" IF YOU DO NOT UNDERSTAND WHAT THE WORDS MEAN.

WE VERY MUCH APPRECIATE YOUR TAKING THE TIME TO HELP US TO IMPROVE STUDENT LEARNING.

<u>Skill</u>	<u>Rank</u>					
	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Don't Under-Stand
I. WORK RELATED						
1. Listen impartially	--	--	--	--	--	--
2. Understand many forms and styles of written communication	--	--	--	--	--	--
3. Speak effectively	--	--	--	--	--	--
4. Express how I feel without showing disrespect for the rights of others	--	--	--	--	--	--
5. Communicate value judgements effectively	--	--	--	--	--	--

6. Describe objects accurately	--	--	--	--	--	--
7. Display a positive self-image to others	--	--	--	--	--	--
8. Enhance group co-operation	--	--	--	--	--	--
9. Interact effectively with co-workers	--	--	--	--	--	--
10. Maintain promises	--	--	--	--	--	--
11. Appreciate the way others see things	--	--	--	--	--	--
12. Learn from constructive criticism	--	--	--	--	--	--
13. Develop factually based arguments	--	--	--	--	--	--
14. Teach clearly	--	--	--	--	--	--
15. Quickly identify the important things in solving a problem	--	--	--	--	--	--
16. Define the extent of a problem	--	--	--	--	--	--
17. Identify reasonable ways of deciding if an action is appropriate	--	--	--	--	--	--
18. Use reasonable ways of deciphering the value of an action	--	--	--	--	--	--

19. Give rational explanations for stated premises	--	--	--	--	--	--
20. Offer creative solutions to difficult problems	--	--	--	--	--	--
21. Analyze a situation from several perspectives	--	--	--	--	--	--
22. Combine facts and ideas	--	--	--	--	--	--
23. Identify different resourses	--	--	--	--	--	--
24. Plan attainable goals	--	--	--	--	--	--
25. See a plan to completion	--	--	--	--	--	--
26. Assess my needs	--	--	--	--	--	--
27. Set priorities for myself	--	--	--	--	--	--
28. Identify useful resources in solving a problem	--	--	--	--	--	--
29. Organize people to complete a job	--	--	--	--	--	--
30. Scan information to select what is required	--	--	--	--	--	--
31. Detect current trends	--	--	--	--	--	--
32. Design an action plan	--	--	--	--	--	--
33. Use various forms of audio-visual equipment	--	--	--	--	--	--
34. Use a computer	--	--	--	--	--	--
35. Understand technological	--	--	--	--	--	--

terminology						
36. Use varied information sources	--	--	--	--	--	--
37. Read career-related literature	--	--	--	--	--	--
38. Employ career-related mathematics	--	--	--	--	--	--
39. Use statistics in my field	--	--	--	--	--	--
40. Understand the general knowledge that forms the basis of facts	--	--	--	--	--	--
41. Use acquired knowledge in different situations	--	--	--	--	--	--
42. Match my personal characteristics to job opportunities	--	--	--	--	--	--
43. Value the contribution of art and science to our society	--	--	--	--	--	--
44. Identify the values I use in making important life decisions	--	--	--	--	--	--
45. Assess my strengths and weaknesses	--	--	--	--	--	--
46. Assess my values	--	--	--	--	--	--
47. Form a plan for personal growth	--	--	--	--	--	--
48. Create and try new things	--	--	--	--	--	--
49. Be aware of the life skills I acquired through experience	--	--	--	--	--	--

50. Bring about trust in others	--	--	--	--	--	--
51. Accept the consequences of my actions	--	--	--	--	--	--
52. Appreciate the value of life-long learning	--	--	--	--	--	--
53. Keep abreast of new developments	--	--	--	--	--	--
54. Be flexible in committing energy as needs arise	--	--	--	--	--	--
55. Change my views and actions to keep them relevant to current norms	--	--	--	--	--	--
56. Present a positive image my chosen profession	--	--	--	--	--	--
57. Contribute to your community	--	--	--	--	--	--
58. Be responsible for my professional actions	--	--	--	--	--	--
59. Understand the global values of my chosen profession	--	--	--	--	--	--
60. Evaluate long-term effects of an action on the well-being of the human race	--	--	--	--	--	--
61. Remain open-minded	--	--	--	--	--	--
62. Affiliate with individuals of diferent backgrounds and circumstances	--	--	--	--	--	--

63. Adjust to different ways of living	--	--	--	--	--	--
64. Respond to social concerns	--	--	--	--	--	--
65. Have a basic understanding of our multicultural society	--	--	--	--	--	--
II. SOCIAL DEVELOPMENT						
66. Participate in group decision-making by expressing my own point of view while listening to and appreciating differing opinions	--	--	--	--	--	--
67. Encourage all members of a group to make a contriution to a group decision	--	--	--	--	--	--
68. Display tolerance for the ambiguous results of group decision making processes	--	--	--	--	--	--
69. Evaluate my actions and those of others in group situations	--	--	--	--	--	--
70. Display effective social behaviour in varied settings and circumstances	--	--	--	--	--	--
71. Articulate and compare complex group interactions with original group goals	--	--	--	--	--	--

72. Include varied points of view in final results	--	--	--	--	--	--
73. Assess the effects of decisions on others	--	--	--	--	--	--
74. Locate those change agents and resources in society that can help the group to fulfill its goals	--	--	--	--	--	--
75. Use media to inform society of the decisions made by the group.	--	--	--	--	--	--
76. Obtain information about larger issues in society that effect my career path and goals by using all the media that can provide this information	--	--	--	--	--	--
77. Understand literature not directly related to my field to help me to acquire a bigger picture of societal needs and goals	--	--	--	--	--	--
78. Perform and make use of basic mathematical functions and understand basic statistical data	--	--	--	--	--	--
79. Understand and use logical reasoning	--	--	--	--	--	--

80. Acquire a sympathetic understanding of the back ground and goals of founding culture of my society	--	--	--	--	--	--
81. Display patience with ambiguity and an appreciation for interactions that result in positive compromises	--	--	--	--	--	--
82. Examine the broader implications of the social issues arising within discrete courses (e.g., environmental, ethical and spiritual)	--	--	--	--	--	--
83. Appreciate the aesthetic quality of the arts (ie. poetry, music etc.)	--	--	--	--	--	--
84. Comprehend the sources of the processes which govern my and other societies	--	--	--	--	--	--
85. Change with valued changes in the social climate.	--	--	--	--	--	--
86. Understand and respect the human rights of all individuals in the society	--	--	--	--	--	--
III. PERSONAL DEVELOPMENT						
87. Differentiate	--	--	--	--	--	--

among passive assertive and aggressive behaviours						
88. Act assertively while respecting others' rights	--	--	--	--	--	--
89. Be continually aware and respectful of the personal rights of whomever I may come into contact with	--	--	--	--	--	--
90. Understand and be tolerant of others' views while assertively defending my own	--	--	--	--	--	--
91. Act in a respectful and accepting manner toward different cultures	--	--	--	--	--	--
92. Display a desire to learn about others'values and customs	--	--	--	--	--	--
93. Demonstrate appropriate verbal and non-verbal communication skills	--	--	--	--	--	--
94. State my needs and wants without imposing on others inappropriately	--	--	--	--	--	--
95. Act honestly	--	--	--	--	--	--
96. Behave responsibly	--	--	--	--	--	--
97. Understand and accept the consequences of improper actions	--	--	--	--	--	--

98. Develop the skills to continue learning on my own	--	--	--	--	--	--
99. Motivate myself to learn	--	--	--	--	--	--
100. Use that which is gained from self-enhancement	--	--	--	--	--	--
101. Be able to make decisions on my own by appropriately exposing myself to circumstances, mentors and conversations about the consequences of various actions in different circumstances	--	--	--	--	--	--
102. Be self-motivated in solving problems	--	--	--	--	--	--
103. Continuously enhance my originality by exposing myself to various creative mediums	--	--	--	--	--	--
104. Grow by appreciating and contributing to the arts and literature	--	--	--	--	--	--
105. Understand the value of general education in life-long learning	--	--	--	--	--	--
106. Accept personal contribution to community as an aspect of citizenship	--	--	--	--	--	--
107. Use my leisure time constructively	--	--	--	--	--	--
108. Act as a mentor and leader	--	--	--	--	--	--

APPENDIX D

APPENDIX D

IMPLEMENTATION MODEL
IMPLEMENTATION OF GENERAL EDUCATION AND GENERIC SKILLS MODEL
FIVE YEAR ACTION PLAN

I. POTENTIAL INITIAL ACTION PLAN
   1. Call an all stakeholder meeting
   2. Hold voluntary future meetings
   3. Ask what is currently being done correctly
   4. Inquire into areas of improvement
   5. Focus on means of achieving goals
   6. Decipher who the allies are
   7. Decipher who the blockers are
   8. Develop alternative strategies
   9. Analyze a few models of implementation
   10. Set time frames
   11. Discuss with existing groups
   12. Come to an implementation consensus to gain ownership
   13. Work out ways of orienting volunteers
   14. Evaluate progress

II. ORIENTATION
   1. Organize Colloquies for a) Student General Education Credits
      b) Professional Development
   2. Make maximum use of available curriculum hours to implement General Education and Generic Skill hours
   3. Gradually increase General Education and Generic Skill hours
      Recommended increase - 2 or 3 hours per year

III. GOALS
   1. Improve intellectual competence
   2. Develop identity
   3. Develop morals and ethics
   4. Develop interpersonal competence and capacity for intimacy
   5. Develop skills that enhance transferability within and between professions

N.B. General Education and Generic Skills should be, albeit by increments that are sensitive to all of an educational institution's members, an integral part of each and every program in an educational institution if recognition of their documented importance is sought. As with all other skills offered within an educational institution, a department has to be vested with the crucial task of preserving the integrity of General Education and its accompanying Generic skills.

APPENDIX E

APPENDIX E

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING HUMAN SUBJECTS

APPROVAL

MICHIGAN STATE
UNIVERSITY

June 15, 1993

TO: Lucy D'Arcangelo
25 Kippendavie Ave.
Toronto, Ontario
CANADA M4L 3R3

RE: **IRB #:** 93-231
TITLE: GENERAL EDUCATION PERCEPTION AND SKILL MEASUREMENT
CATEGORY: 1-A
REVISION REQUESTED: N/A
APPROVAL DATE: May 12, 1993

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project including any revision listed above.

UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must seek updated certification. Request for renewed approval must be accompanied by all four of the following mandatory assurances.

1. The human subjects protocol is the same as in previous studies.
2. There have been no ill effects suffered by the subjects due to their participation in the study.
3. There have been no complaints by the subjects or their representatives related to their participation in the study.
4. There has not been a change in the research environment nor new information which would indicate greater risk to human subjects than that assumed when the protocol was initially reviewed and approved.

There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. Investigators must notify UCRIHS promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

If we can be of any future help, please do not hesitate to contact us at (517) 355-2180 or FAX (517) 336-1171.

Sincerely,

David E. Wright, Ph.D.
UCRIHS Chair

DEW:pjm

cc: Dr. Arden Moon

OFFICE OF
RESEARCH AND GRADUATE STUDIES
University Committee on Research Involving Human Subjects (UCRIHS)
Michigan State University
225 Administration Building
East Lansing, Michigan
48824-1046
517-355-2180
FAX: 517-336-1171

BIBLIOGRAPHY

BIBLIOGRAPHY

Agor, W. H. "Tomorrow's Intuitive Leaders". The Futurist. 1983, 49-53.

Aldrich, R. An Introduction to the History of Education. London: Hodder and Stoughton, 1982.

Allport, G. W. Becoming. New Haven, Conn.: Yale University Press, 1955.

Armytage, W. H. G. The German Influence on English Education. London: Routledge & Kegan Paul, 1969.

Austin, Ann. Lecture on the Three Step Proposition Model. Michigan State University, Humber Program, Feb., 1993.

Axelrod, Paul. Scholars and Dollars: Politics, Economics and the University of Ontario 1945-1980. Toronto: The University of Toronto Press, 1982.

Baskin, Wade (ed.). Classics in Education. Great Britain: Vision, 1966.

Bloom, B. S. Taxonomy of Educational Objectives. New York: McKay, 1956.

Brameld, T. Patterns of Educational Philosophy. New York: Holt, Rinehart and Winston, Inc., 1971.

Best, John, W. and Kahn, James, V. Research in Education. Fifth Edition. Englewood Cliffs, N.J.: Prentice-Hall, 1986.

Buehler, C. "Genetic Aspects of the Self". Annals of the New York Academy of Sciences. 1962, 96, 730-764.

Bourne L. E. and Ekstrand B. R. Psychology: Its Principles and Meanings. New York: Holt, Rinehart and Winston, 1985.

Carbonara, N. T. Techniques for Observing Normal Child Behaviour. Pittsburgh: University of Pittsburgh Press, 1961.

Carnevale, A. P., Gainer, L. J. and Meltzer, A. S. Workplace Basics: The Essential Skills Employers Want. American Society for Training and Development Best Practice Series. San Francisco: Jossey-Bass, 1990.

Centennial College. General Education Chairperson Seminar n General Eduction Program. George Brown College: March, 1994.

Chickering et al. The Modern American College. New York: Jossey-Basse, 1982.

Clark, S. D. Canada and the American Value System. in "The Canadian Political Process. Rev. Ed. O. M. Krulhak e al. Toronto: Holt Rinehart and Winston, 1973.

Clark, C. M The Teacher and the Taught: Moral transactions in the classroom. In J. I. goodlad, R. Soder, & K. A. Sirotnik (Eds.) The Moral Dimensions of Teaching. San Francisco: Jossey-Bass. 251-265.

Combs, A. W. and Snygg, D. Individual Behaviour: A Perceptual Approach to Behaviour. Revised Edition. New York: Harper and Row, Publishers, 1959.

Combs, A. W. The Perceptual Education of Teachers: A Perceptual View of Teacher Preparation. Boston: Allyn & Bacon, Inc., 1965.

Craig, C. H. Theories of General Education: A Critical Approach. New York: St. Martin's Press, 1992.

Czemy, M. and Swift, S. J and Jamie. Microtechnology and the Future in Getting Started (2nd ed). Toronto: Between-the-lines Publishing, 1988.

de Bono, E. The Use of Lateral Thinking. Middlesex, England: Pelican Books, 1967

Dennison, John, D. and Paul Gallagher. Canada's Community Colleges: A Critical Analysis. Vancouver: University of British Columbia Press, 1986.

Dennison, J. D. Lecture given on The History of Higher Education, Michigan State University, Humber Program, June 6, 1992.

Dexter, E. G. A History of Education in the United States. London: The MacMillan Company, 1911.

Dressel, P. L. and Thompson, Mary M. A Degree For College Teachers: The Doctor Of Arts. Berkeley, California: Carnegie Council on Policy Studies in Higher Education, 1977.

Elson, J. "Campus of the Future" in Time. pp. 52-56 (April 13, 1992).

Erikson, E. Identity and the Life Cycle. Psychological Issues Monograph 1. New York: Internatinal Universities Press, 1959.

Ewing, D. W. "Discovering Your Problem-Solving Style" in Psychology today. p.p. 69-74. 1977.

Farnham, A. "What Comes After Greed? in Ideas for 1991 in Fortune, p.p. 31-59.

Fanshawe College Policy on Content of College Programs. London, Ontario, p.p. 1-7, 1992.

Frankl, V. E. Man's Search for Meaning: An Introduction to Logotherapy. Trans., 3rd. ed. New York: Simon & Schuster, 1984.

Gallagher, P. Community Colleges in Canada: A Profile. Vancouver: Vancouver Community Colleges Press, 1990.

George Brown College. Academic Plan 2002. Special Pull-out Section. Toronto: George Brown College, 1993.

Gilligan, C. and Mulphy, J. M. The Philosopher and the Dilemma of Fact': Evidence for Continuing Development for Adolescence to Adulthood. In D. Kuhn (Ed.), New Directions for Child Development; Intellectual Development Beyond Childhood, no. 5. San Francisco: Jossey-Bass, 1979.

Ginzberg, E. The Mechanization of Work in Scientific American. vol 247 no 3, Sept. 1982.

Gordon, P. The study of Education. London: The Woburn Press, 1980.

Gordon, S. Lecture given on Higher Education, Michigan State University, Humber Program. June 6, 1992.

Gould, R. L. "The Phases of Adult Life: A Study in Developmental Psychology. American Journal of Psychiatry, 1972, 129, 521-531.

Gregor, R. L. Higher Education In Canada. Winnipeg: University of Manitoba, 1979.

Hampden-Turner, C. Fuller, B., Benedict, R. and Maslow, A.: The Synergistic Mind in Maps of the Mind. New York: Collier Books, 1981.

Havinghurst, R. J. Developmental Risks and Education. 3rd. ed. New York: McKay, 1972.

Harris, R. S. The History of Higher Education in Canada 1663-1960. Toronto: University of Toronto Press, 1976.

Heath, D. H. Growing Up In College: Liberal Education and Maturity. San Francesco: Jossey-Bass, 1968.

Hiley, D. R. Liberal learning and careers update. Forum for Liberal Education, 6 (3), 2-4, 1984.

Hutchins, R. J. (ed.) and Adler, M. J. (associate ed.). Great Books of the Western World. vol. 9. Chicago: W. Benton Encyclopaedia Britanica, 1952. 54 v.

Jackson, N. The Case Against "Competence": The Impoverishment of Working Knowledge in Our Schools/Our Selves. Vol 1 No 3 April 1989.

Jung, C. G. Man and His Symbols. New York: Dell Publishing Co. Inc., 1968.

Kirk, R. E. Statistics: An Introduction. 3rd. Ed. Chicago: Holt, Rinehart and Winston, Inc., 1990.

Knowles, M. S. The Modern Practice of Adult Education: From Pedagogy to Andragogy. (Rev. and updated ed.) Eglewood Cliffs, N.J: Cambridge, 1980.

Kohlberg, L. "Stage and Sequence: The Cognitive-Developmental Approach to Socialization." In D.A. Goslin (Ed.), Handbook of Socialization Theory and Research. Chicago: Rand McNally, 1969.

Krugman, P. R. and Lawrence, R. Z. "Trade, Jobs and Wages", Scientific American, Vol. 270 No. 4 (April, 1994), 44-49.

Loevinger, J. Ego Development: Conceptions and Theories. San Fransisco: Jossey-Bass, 1976.

Levinson, D. J. et al. The Seasons of a Man's Life. New York: Knopf, 1978.

Lukenbill, J. D. and McCabe, R. H. General Education in a Changing Society. Dubuque, IA: Kendall/Hunt, 1978.

Marcia(no), J. D. and Griffen W. L. (ed) Education for a Culture in Crisis. New York: MSS Information Corp. 1972.

Maslow, A. H. The Farther Reaches of Human Nature. New York: Viking, 1971.

McIntyre, J. "The Good, the Bad And the Ethical" in NACUBO, Business Officer. Washington, D.C. The National Association of College and University Business Officers, Vol. 25, No. 5., 1991.

McIntyre, K. College Governance. MSU Ph D lecture. June 6, 1992.

McLuhan, M. Article on Electronic Man in The Toronto Star, July, 1977.

Miller, A. The Untouched key: Tracing Childhood Trauma in Creativity and Destructiveness. New York: Doubleday, 1990.

Ministry of Colleges and Universities. Vision 2000: Quality and Opportunity, 1990.

Moffat, S. "To Be A Leader in Technology You Must Share It in Ideas for 1991" in Future, p.p. 31-59, 1991.

Morrison, J. L. "Environmental Scanning" in The Primer for Institutional Research, ed. Whiteley, U., Porter, S. and Fenske, R. Association for Institutional Research, Resources for Institutional Research, No. 7, 1992.

Morrison, T. R. The Illusion of Education: Learning and Bureaucratized Schools. in "Options: Reform and Alternatives for Canadian Education, ed. T. R. Morrison and A. Burton. Toronto: Holt Rinehart Winston, 1973.

Morse, H. T. Liberal and General Education: A Problem of Differentiation. Manuscript, University of Minnesota, 1972.

Munroe, J. S. Division of Basic Education Educational and Cultural Development program--Evaluation and Progress Report. Michigan: Macomb County Community College, 1966.

Munroe, B. Post-Secondary Education in Canada. p. 33 in Dennison, John, D. and Paul Gallagher. "Canada's Community Colleges: A Critical Analysis". Vancouver: University of British Columbia Press, 1986.

National Institute for Education. Involvement in Learning: Realizing the potential of American Higher Education. Washington, D. C.: U.S. Government Printing Office, 1984.

Naisbitt, J. Megatrends. New York: Warner Books, 1984.

Nolte, W. H. Guaranteed Student Success: General Education and Occupational Programs. pp 15-23. In Community College Review, Volume 19, No. 1.

Norusis, M. J. The SPSS Guide to Data Analysis for Release 4. Chicago: SPSS, 1990.

Obanion, T. Lecture on An Overview of the American College. Michigan State University, Humber Program. June, 1992.

Park, M. General Education in the Curriculum. Lecture at the General Education Conference. The Kempenfelt Centre, Barrie, 1992.

Park, M. et al. Renewing the Commitment Report. Manuscript, 1989.

Pascakem, R. T. Zen and the Art of Management: A Different Approach to Management for the "Cards-on-the-Table" Executive in Harvard Review, p.p. 153-162, 1972.

Peck, S. M. Further Along The Road Less Traveled. New York: Simon & Schuster, 1993.

Perry, W. G. Jr. Forms of Intellectual and Ethical Development in College Years: A Scheme. New York: Holt, Rinehart and Winston, 1970.

Peters, T. and Austin N. A Passion For Excellence. in Fortune, p.p. 20-31, May 32, 1985.

Peters, T. J. and Waterman, R. H. In Search of Excellence: Lessons from America's Best-Run Companies. New York: Warner Books Inc., 1982.

Purkey, W. W. Self Concept and School Achievement. New Jersey: Prentice-Hall, 1970.

Rogers, C. R. Client-Centred Therapy. Boston: Houghton Mifflin Company, 1951.

Rogers, C. R. Freedom to Learn. Columbus, Ohio: Charles E. Merrill Publishing Company, 1983.

Roueche, J, E. and Baker, G. A. Access & Excellence. Washington, D.C.: The Community College Press, 1987.

Sarbin, T. R., and Rosenber, B. G. Contributions to Role-Taking Theory: IV. Method for obtaining a Quantitative Estimate of Self. Journal of Social Psychology. 42: 71-81, 1955.

Sanford, N. Self and Society: Social Change and Individual Development. Chicago: Aldine, 1966.

Sawhill, J. C. The Liberal Arts Provide a Context of Values that Give Meaning and Resonance to More Narrow Academic Pursuits. From The Unlettered University. Harper's Magazine, February, 1979.

Smith, F. Insult to Intelligence. New York: Arbor House, 1986.

Smith, R. B. The President's Page: Why Business Needs The Liberal Arts. Opinion section of Business Week's Guide to Careers, 1990.

Smith, R. N. Standards of Achievement in Local Examinations. Report No. 4 in British Columbia Educational Research Council Studies and Reports, 1964.

Strong, D., and Feder, D. Measurement of the Self Concept: A Critique of the Literature. Journal of Counseling Psychology. 8: 170.

Toffler, A. "The 800th Lifetime" from Future Shock. Random House, 1970.

Turk, James. "The Educational Implications of Our Technological Society" in Self, Society and Meaning. D'Arcangelo L. et al. (eds.) Toronto: Canadian Scholar's Press, 1992.

Vaillant, G. E. Adaptation to Life. Boston: Little, Brown, 1977.

Vogler, D. E. and Armistead, L. P. The Importance of General Education Courses and Competencies as Viewed by Comunity College Occupational Students. Journal of Studies in Technical Careers, 9 (3), 191-200, 1987.

White, R. W. The Enterprise of Living: A View of Personal Growth. 2nd ed. New York: Holt, Rinehart and Winston, 1976.