

THE UNIVERSITY OF CALGARY

IDENTIFYING AND ADDRESSING THE INFORMATION  
NEEDS FOR CAREER COUNSELLORS

By

RANDY LEE JOHNSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
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THE DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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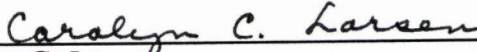



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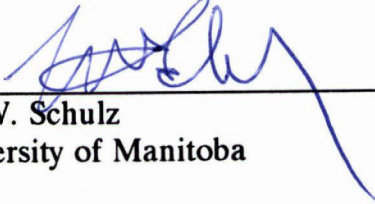
  
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## Abstract

To address the broad spectrum of information needs of career counsellors working in Alberta, a survey was sent to counselling practitioners working in high schools, postsecondary institutions, and Alberta Career Centres to gather concerns they might have about career counselling. A content analysis was conducted on the responses to two open-ended survey questions. A total of 274 different information concerns were identified by the 89 respondents. These concerns were placed into a taxonomy of information needs consisting of five (5) major topics (Career Information and Resources, Individual/Group Assessment, Career Counselling Methods and Issues, Counselling Methods, and Accountability) and each containing a hierarchically arranged set of subtopics. Differences in information needs were explored across various demographic factors (e.g., age, gender, level of training, experience, etc.). Chi-Square Tests of Proportionality revealed significant differences in information needs with respect to type of agency and location of agency that one was employed with and whether additional training was required and provided. Respondents also indicated that computers had been utilized for training purposes such as CHOICES or as a resource or reference. Subsequent to this a database called AskAbout Career Counselling was constructed and evaluated as an information resource. Three sources of information were used to collect data for evaluating the utility of AskAbout Career Counselling: a) a transcript of subject interactions with

AskAbout Career Counselling software; b) an AskAbout Career Counselling questionnaire; and c) an interview. Differences in computer use were found with respect to gender, job function, and level of training. Further, responses to the questionnaire and interview questions indicated that most participants found the content of the AskAbout Career Counselling computer program to be extensive and would use it if it were made available to them.

Suggestions were made for validating the information needs taxonomy and for expanding and increasing the effectiveness of the AskAbout Career Counselling program.

## Acknowledgements

I would like to take this opportunity to express my indebtedness to the individuals who have provided invaluable assistance, support, and encouragement in the writing of this dissertation. I am particularly appreciative of Dr. Bryan Hiebert for providing expert guidance throughout the dissertation process. Special thanks are also extended to Dr. Kris Magnusson, Dr. Anthony Marini, and Dr. Carolyn Larsen for their comments, advice, and encouragement.

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Above all, I am eternally grateful and appreciative of my wife, Cheryl, for being there when I needed her most. Thank you, Cheryl.



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## CHAPTER ONE

### INTRODUCTION

People's careers have a pervasive impact on their lives. People's jobs occupy almost one half of their adult life, often determining social status, level of income, and standard of living. Given recent technological advances and economic globalization, determining one's career goals and predicting employment trends is a more complex problem today than in years past. Further, the number of occupational changes that people will experience (4-10 per lifetime) (Hiebert, 1991) requires that individuals learn the skills involved in making transitions from one occupation to another. Therefore, career counselling is an extremely important endeavour.

Recent projections (Canadian Guidance and Counselling Foundation, 1993) suggest that there are upwards of 100,000 counsellors in Canada engaged in some form of career counselling, many of whom have little or no training in the specialization. This lack of training is understandable given that so few universities and colleges provide even one course aimed at career counselling (Hiebert, 1992). For those who live in rural or remote areas, access to training or consultation with career counselling experts is difficult. Therefore, career counselling training programs need to be more accessible to accommodate the large number of practising career counsellors.

There has been an increase in literature on counsellor training programs. Much of this literature addresses the development and utility of printed modules



or computer assisted career guidance programs (Herr & Cramer, 1988; Osipow & Walsh, 1990; Rayman, 1990). These programs, however, have focused predominantly on developing basic counselling interviewing skills (Russell, Crimmings, & Lent, 1984). Such interviewing skills programs are useful but do little to address a career counsellor's need for information. When computer programs pertaining to career counselling do exist they are focused on client career exploration issues (e.g., CHOICES assists clients in self-exploration and the identification of career options). Career counselling issues that counsellors face are not addressed (e.g., How to assist career indecisive clients; How to motivate lethargic clients; etc.). Thus, there is potential usefulness for a computer program that addresses the broad spectrum of information needs that career counsellors might have.

Recently, a computerized natural language information retrieval system (Conversational Hypertext Access by Telecommunications, or CHAT) (Patrick & Whalen, 1990) has been developed and marketed under the name AskAbout. The AskAbout computer program supports a variety of AskAbout knowledge bases (e.g., AskAbout Aids, AskAbout Micro Skills, AskAbout Vocational Rehabilitation in Counselling) which provide timely information to various human service workers. Interactive computer programs of this nature are already being viewed as an important mechanism for the education and training of career counsellors (Manley, 1986; Schulz, 1985). To date, no such system is available that addresses the information needs of career counsellors, nor has such a system

been validated as an information delivery system for career counsellors.

### Statement of the Problem

Computer technology has the potential to make a positive impact on the delivery of career counselling services. However, computer systems, like any other program delivery method, must be validated if the full potential is to be realized. To provide a computerized system that addresses the information needs of career counsellors, the current study developed and validated the AskAbout technology for use in addressing the career information needs of career counsellors. The results of this study will have an impact on the practice of career counsellors, providing an up-to-date and easily accessible source of information. Theoretically, this research can provide information about the relationship between levels of counsellor experience, degree of expertise with respect to the information needs, adequacy of information provided, and information needs for counsellors. Further, by assessing these questions across various demographic factors (e.g., level of training, gender, age, location of agency, professional development) improvement with respect to informational needs can be made which will address and enhance the skill development and knowledge base of career counsellors.

This research is concerned with meeting the needs of career counsellors, thus enriching and advancing career counsellor education and training through the use of computer technology.

## The Current Study

### Rationale

The purpose of this study is to develop and validate a computer program called AskAbout Career Counselling that addresses the broad spectrum of information needs that counsellors working in Alberta might have. To do so means (a) surveying counsellors performing career counselling related functions to determine what their information needs are, (b) constructing a database for AskAbout Career Counselling, and (c) field testing AskAbout Career Counselling to assess the adequacy and usability of this computer program.

### Overview

Chapter 1 of this dissertation stated the central problem and rationale for conducting the research. Chapter 2 reviews the relevant literature with respect to the career counsellor's need for information and use of computers as a mechanism to enrich and extend career counsellor education and training. Chapter 3 describes methodology, including the participants involved in the study, the methods utilized to obtain the data, and the statistical treatment to be applied to the data. Chapter 4 presents the descriptive and statistical findings of the study and a synthesis of the results. Finally, Chapter 5 provides a discussion of the findings, strengths and weaknesses of the study, along with suggestions for future research in this area.

## CHAPTER TWO

### LITERATURE REVIEW

#### Career Counselling: Origins and Historical Development

It is possible to trace both philosophies and practices of career counselling far back in the history of the vocational guidance movement beginning at the turn of the century. It was during this period that the United States was rapidly emerging as a major industrial nation. Vast and far reaching changes were occurring in the nature and structure of the social and economic systems as well as the industrial and occupational structures. This was evidenced by an influx of immigrants and a large migration of people from rural to urban centres. As a result, concerns were being raised about how to distribute workers across occupations and how to better prepare youth for the world of work. Further, social reformers, settlement house workers, and other groups concerned with human rights were making strong efforts to have workers viewed not as chattels of industry, but rather as dignified persons with a right to determine their own destinies (Herr & Cramer, 1988). These social and economic factors led to the emergence of the vocational guidance movement.

The original approach to vocational guidance is generally traced back to Frank Parsons (1909). Parsons was interested in assisting unemployed school leavers in making the transition from school to work (Phillips & Pazianzi, 1988). He established the Vocations Bureau, a counselling service in a Boston settlement housing complex. Parsons believed that if a person chose a vocation (a job with a

sense of personal relevance or sense of mission) rather than merely hunting for a job, the individual's satisfaction and success as a worker would increase. Further, a satisfied and productive worker would decrease the employer's costs due to worker inefficiency. At the Vocations Bureau, Parsons worked to provide a scientific base upon which to assist individuals in choosing work effectively. His most significant contribution was an outline of the process of vocational guidance. This outline included a three step process consisting of self-analysis, occupational analysis, and counselling.

In the first step, self-analysis, Parsons assumed that individuals can be described as possessing certain characteristics or traits (e.g., interests, skills, aptitudes). Parsons second step, occupational analysis, assumed that different occupations or educational alternatives can be described as requiring different amounts and/or arrangements of such traits. Step three, true reasoning, is necessary to relate personal and occupational information. Parsons assumed that by matching individual traits and characteristics with occupational requirements, a sound vocational choice would occur.

Much of the history of vocational guidance can be understood in terms of which of Parsons' three steps was most dominant in the theoretical positions and practices of a particular decade (Herr, 1977). For example, because the needs of the marketplace were the predominant concerns during the 1920s and 1930s, the main concern of vocational guidance was the study of occupations. Counsellors facilitated occupational choice of the client through the provision of occupational

information (Step 2 of Parsons' approach). It was believed that occupational information provided an adequate basis for occupational choice. From 1930 to 1950, development and use of improved psychometric techniques to identify aptitudes and occupational interests shifted the emphasis from Step 2 (occupational information) to Step 1 (identification of individual traits) of the Parsonian approach. Since the 1950s, considerable research and theoretical attention has been given the third step, true reasoning, under the rubric of decision-making.

For the first 40 years of this century, the vocational guidance model prevailed because the needs of the market place were the predominant concerns. That is, the primary concern of vocational guidance and education was the study of occupations (Step 2 of Parsons' model). Further, in the occupational model, facilitating choice was accomplished by matching the aptitude for performance from the results of test profiles to the requirements of available work options, maximizing compatibility between the two. For the most part the model was tested on white middle-class males making an occupational choice at a single point in time. Choice was thought to be relatively stable throughout a persons work life, provided it was a good match. This model became pervasive and the vestiges of it are still present today.

### Recent Developments

By 1950, various economic and social factors began to shift the emphasis from a model of strictly meeting occupational demands to a more comprehensive

view of occupational choice (Brown & Brooks, 1990). Occupational choice began to be seen as a developmental process occurring over the life span. This new model, the career model, ushered in a broader conceptualization of occupational choice by introducing several aspects into the concept of vocational guidance: development, self, career life, and career planning.

### Important Concepts

Development. The primary concept introduced in the career model is that career counselling is developmental. The main tenet of developmental approaches is that career choices are the results of many experiences and numerous decisions occurring in various roles across a person's lifespan.

The developmental perspective conceptualizes maturation to occur when specific developmental tasks appropriate for each successive life stage are completed. Development can be guided by career counsellors who facilitate the formation/exploration of individual abilities, interests and values through reality testing and self-concept building (Super, 1990).

Emphasis on the personal meanings of work and the importance of individual differences is another trademark of developmental approaches. The assumption is that individual career decision-makers actively create their own internal reality, selecting and organizing their perceptions of external reality. Career development grows out of a continuous differentiation and integration process (Tiedeman & O'Hara, 1963). That is, as people experience situations they differentiate or separate one experience from another as distinct and unique.

At some time, some new experiences are viewed as consistent with self and thus incorporated into the person's self view (i.e., integration).

Integration occurs when people learn more about themselves and the world of work and are able to structure their experiences into a more comprehensive whole, thus enlarging their concept of self to include the world of work.

Satisfaction with career decisions will be affected by the degree to which one is able to differentiate and integrate information about self and the world of work.

For example, a client who becomes aware that he/she is not satisfied with his/her present occupation is confronted with a choice. As the client begins to explore, differentiation occurs. New information and experiences about self (e.g., preferences, values, etc.) and various occupations (e.g., wages, working conditions, etc.) accumulate. Integration occurs as the client organizes and clarifies the new information about self and the world of work and begins to map out personal preferences about a new job in preparation for implementation.

Self. The self-concept has typically been viewed by many theorists as a useful construct for explaining the paths people take to fulfil their basic needs and goals (Jepsen, 1990). It is believed that the self-concept is the social organizer of one's experiences across the lifespan. For Super (1990), career development then becomes a means of self expression and implementation of one's self-concept, That is, perceived abilities, preferences, and ideas about the self interact with perceptions of the various occupations one has experience with or knowledge about.



Consideration of the self in career development can be both static and dynamic. The role of self, on the one hand, can be static in the sense that individuals attempt to match interests and personal attributes to suitable occupations. On the other hand, developmental views of self emphasize that preferences change with new experiences and new information about self and the world of work results in a series of successive approximations contributing to an ever changing view of self. Super (1990) believes that the degree of satisfaction people attain with their jobs is proportional to the degree to which they have been able to implement their self-concept in their work, and the extent to which the work has become part of their overall self view.

Career life. Another concept introduced in the new career model is that education, leisure, and occupation all interact to create a life style. According to Super (1990), people play several roles simultaneously. These roles may include being a family member, leisurite, employee, community citizen, and so on. "Success in one facilitates success in others and difficulties in one role are likely to lead to difficulties in another" (Super, 1990, p. 139). Role salience varies depending on the stage of life and the developmental tasks a person is involved with, as well as the environmental conditions one encounters with advancing age. With respect to a leisure role, for example, the type of work one engages in affects how much time is available for leisure pursuits. Further, the type of leisure one pursues is likely to be affected by the level of income and/or commitments made in other life roles. Thus, a reciprocal relationship exists

between job and leisure or job and other life roles. The clarity and characteristics of one's personal values are reflected in the number, types, and stability of these roles, thus constituting a life style. Career counselling cannot attend to occupational choice without examining the inter- and intrapersonal implications that holds in both the present life space and across the life span of the client (Blocher, 1987).

Career planning. Finally, the fourth prominent concept introduced in the career model is career planning. Part of the goal of career counselling is to assist clients in developing a career plan that is both meaningful and fulfilling. To do this, career counselling begins by focusing on the process of helping individuals understand their own internal frame of reference in order to develop and accept an integrated picture of self and their role in the world of work. It is anticipated that self-understanding and self-acceptance will give individuals the freedom to choose the opportunities that seem most suitable to meet their needs, desires, and goals. Career counselling provides individuals with the opportunity to be (a) equipped with accurate and relevant personal and occupation information; (b) able to formulate hypotheses about self, personal and occupational goals, and available options to achieve these goals; and (c) able to acquire feelings of personal competence or empowerment from understanding self and the ability to choose effectively (Brown & Brooks, 1990).

The external factors that define the environmental conditions or occupational options available to the individual should be related to the

individual's understanding of self and self-acceptance. That is, career development and choice should be more than the results of haphazard external events (e.g., economic conditions, peer/parental pressures, availability of employment, etc.). Thus, a limited understanding of self and the work world, and a limited recognition of one's power and ability to make choices will place individual career development at the discretion of fate. In order to bring career development out of a fatalistic focus, Biggers (1971), summarized related research and concluded that more attention must be given to helping students utilize various materials and information resources in their career choice process. "This need exists also in adults...involved in career change and readjustment..." (Isaacson, 1979, p. ix). The individual must learn a great deal about self -- abilities, interests, motivations, values - and about the surrounding world (Isaacson, 1979). According to Dawis and Loftquist (1984), understanding of self and one's role in the world of work increases job satisfaction and work adjustments.

With increased education, maturity, and experience, individuals can be expected to become increasingly self-directive in their career planning. The need for career counselling services will decrease because career counselling has provided more than a set of services at some specific decision point in time, or a set of services available only for individuals experiencing choice conflicts or work adjustment problems. Rather, the role of the career counselling is to systematically educate students and/or adults to the knowledge, attitudes, and

skills required for further choice points in planning educational programs or selecting and preparing for work (George & Christiani, 1990). Thus, comprehensive career counselling serves all elements of the population in various settings throughout the life span.

### Implications Arising from the Career Model

The life span approach to career counselling goes beyond the initial choice of work and occupational adjustment to questions of work and family roles, work and leisure, and work and mental health. Further, changes in occupational content, economic realities, legislative mandates, problems of youth and adult unemployment, concerns about the quality of work life and worker productivity, questions about school-to-work transitions, and shifting labour force demographics have all redefined the content, the time spectrum, the technologies, and the consumers of career counselling (Herr & Cramer, 1988). In the process of such change, it has become obvious to theorists, researchers, and practitioners that career counselling does not operate in a political, economic or social vacuum. Rather, it is within these contexts that anxieties about achievement, information deficits, indecisiveness, and role confusion originate and become the content of career counselling (Herr & Cramer, 1992). Thus, the information base needed to support effective career counselling needs to be expanded to include a broader range of content and a new emphasis on process. At the content level, traditional information such as interests and abilities are important. In addition, career 16 counsellors must maintain an awareness of the changing economic and political

conditions, projected employment possibilities, and other Labour Market Information. Further, career counsellors must have knowledge about the various factors that contribute to life and job satisfaction and how various life roles contribute to, facilitate, and/or impede development of personal attributes, life goals, job preferences, and the view one has of self.

At the process level, career counsellors need to know how to help clients develop an integrated view of self and the various life roles that need to be balanced. Therefore, career counsellors need knowledge of how to (a) make decisions, (b) develop client work salience, (c) teach clients to access and make use of Labour Market Information, and (d) increase client life and job satisfaction. Furthermore, local social and occupational structures are changing rapidly, thus, career counsellors cannot rely on personal experiences to facilitate the career development of their clients. Rather, career counsellors must have relevant knowledge and access to current information.

In summary, the current and expanded content domain of career counselling coupled with information on the processes germane to counselling, previously thought to lie outside of career counselling, are necessary to help clients feel empowered about their career planning process. As Phillips and Pazzianzi (1988) point out, career counselling must be freed from the static single-choice-at-a-point-in-time concept of decision-making, to a life span approach focusing on empowerment which draws attention to the potential contributions of sociology and economics, to the field and placing the study of

career behavior in the context of human development.

### Fostering Career Development

With the growing acceptance of the career model, the focus of career counselling is changing from: (a) job, to life patterns; (b) occupational decision-making/choice, to career development (interfacing vocational and personal choices and decision-making), (c) concerns for matching, to preparing for lifestyle choices; (d) compartmentalizing life roles (i.e., isolating the work role), to helping clients achieve role integration in a rapidly changing society; (e) an occupational focus, to making clients aware of their career socialization; and f) choosing a job for life, to mapping out a career path (Hansen, 1981). Thus, it is probably fair to say that the process of most career counselling in the past has been the "test'em and tell'em" approach in contrast to the growing new thrust which might be termed "individual-developmental-contextual" counselling (Vondracek, Lerner, & Schulenberg, 1986).

More recently, career counselling literature is placing increasing emphasis on the importance of values clarification and the recognition of total life roles and patterns in the counselling process. Greater consideration is given to the total life goals, commitments, and values of the individual. From this perspective, the goals of career counselling are to assist individuals in development and decision-making.

### Career Development and Counselling

The nature of career counselling is changing. This fact can be largely

attributed to the changes that have taken place in the occupational world and to the increased number of theoretical models of career development to explain career choice and adjustment. This, in turn, impacts counsellor educators/trainers who must be aware of these changes in order to continue to develop and prepare counsellors to function effectively in their respective field experiences. However, to understand the nature and domain of career counselling, it is important to first conceptualize what counselling is and the position career occupies as a counselling specialty.

Regardless of the work setting (e.g., career counselling, personal counselling, family counselling, etc.) or theoretical orientation, counsellors should be linked by the common belief that an individual has the ability and right to choose the directions and activities that are most personally satisfying. Thus, counsellors need to be dedicated to helping individuals sort through increasingly complex personal and social issues.

Hiebert (1991) emphasizes the importance of facilitating growth and development as the outcome of counselling. In fact, Hiebert suggests that client change is the only valid measure of counselling effectiveness. In the same vein, Magnusson (1991) states that there are five sub-goals of the primary outcome of personal growth and development. These sub-goals include: "(1) affirming client self-worth; (2) developing a sense of being heard; (3) fully exploring the issue at hand; (4) identifying barriers to growth and development; and (5) developing strategies for overcoming the barriers" (p. 5). Simply stated, counselling is

helping people with their personal, social, career, and educational development. Counselling recognizes that all persons need help from time to time as they routinely pass through childhood, adolescence, and adulthood.

The counselling activity itself is a process that evolves through several stages to fulfil the outcomes of counselling. There are many variations on this theme, but most approaches share the following process elements. These processes include (a) establishing rapport, i.e., developing a mutually trusting environment; (b) exploring a problem situation, i.e., understanding clients' view of self and the world, and the complex set of interactions that comprise the problem situations; (c) building client skill repertoires necessary to solve the problem(s); (d) problem-solving, i.e., development of strategies to overcome the client's problem(s); and (e) developing social support systems, i.e., teaching the client to effectively use whatever support mechanisms are available or even to develop support where little is currently available (Magnusson, 1991). Even though a variety of therapeutic approaches exist, these processes are generic enough to be incorporated into most, if not all, forms of intervention.

Implementation of the counselling processes and achievement of the counselling outcomes is dependent upon the effective utilization of some very basic counselling skills (i.e., communication skills, decision-making skills). However, communication skills are at the core of effective counselling, no matter what counselling specialty it is. Without going into any detailed description, the fundamental communication skills include: (1) reacting skills (those things



counsellors do in response to a client; (2) soliciting skills (used by the counsellor to obtain a response from the client); and (3) structuring skills (adds form to the interaction and provides the client with a meaningful context for learning) (Martin & Hiebert, 1985). Sometimes intervention strategies, like decision-making/problem-solving, assertiveness, or stress management are taught in order to empower the client to have a positive impact on his/her environment or destiny. This allows individuals the opportunity to learn skills necessary for dealing with "their special life circumstance, personal characteristics, or mitigating circumstance" (Hiebert, 1992, p. 12).

According to Nugent (1991) the demand for counselling services has increased because individuals have experienced increased choices and conflicts in contemporary life; sometimes complex and overwhelming concerns. These concerns may include, for example, marital and family problems, difficulties in establishing and maintaining relationships, low self-esteem, lack of self-confidence, indecisiveness, emotional problems, job related difficulties or unemployment, and many other issues across the life space and life span of the individual. Therefore, at some point in time, the services of personal counselling, career counselling, or placement may be required.

Most counsellor training programs focus on developing both a knowledge base and repertoire of skills applicable to many different counselling settings. Practicums provide counsellor trainees the opportunity to integrate newly acquired knowledge and practice counselling skills in an area or specialty.

Acquiring knowledge in the areas of personality, development, learning, and counselling provides a basis for understanding mental health and social issues. This knowledge base is the structure or framework that provides the counsellor with an understanding of human behaviour in general. Specialized knowledge and skills are usually required to work in specialized counselling settings, or with special client groups, or with special outcome focuses, e.g., personal, family, substance abuse, placement, or career counselling.

Personal counselling. The helping profession has typically treated mental health concerns as separate and unrelated to career development issues because, with few exceptions, career counselling has historically been portrayed as significantly more oriented to economic health. Personal counselling tends to foster the psychological development of the individual with the objective of maximizing personal and social effectiveness. Thus, the outcome of personal counselling is personal growth and development where individuals who have "normal" functioning capabilities stall developmentally, have problems of adjustment, or find themselves in a situational crisis and need help to rediscover self, learn skills, and eventually move along the developmental continuum (Nugent, 1991).

Training programs provide personal counsellors with the knowledge of a broad psychology background as well as specialized knowledge in the various psychopathologies (e.g., depression, eating disorders) and techniques of psychological intervention necessary for effective personal counselling. This

structure is enhanced by training in counselling processes (e.g., establishing rapport, problem solving); skills (e.g., communication skills); and techniques (e.g., stress management, assertiveness training) to facilitate outcomes. Testing devices, such as objective and projective personality inventories, may also be employed to enhance diagnosis.

Placement. While not considered synonymous with career counselling, placement is neither mutually exclusive nor discrete from career counselling. Although not always clearly stated, Parsons viewed placement as an integral part of the vocational guidance process. In this process, the individual moved progressively from self and occupational awareness, through exploration and formulating and choosing preferences, to implementing choices by locating jobs and preparing to obtain these jobs through resume writing and interviewing. However, attitudes towards placement as a function of guidance and counselling began to change. Placement, and related tasks, became increasingly viewed as a time consuming function that could be handled by support personnel. Thus, in general, career counsellors dedicated appreciably less time and effort to placement as time went on (Tolbert, 1974).

Today, placement is related to both individual development and job development because it is concerned with converting the outcomes of career decision making into action by gaining entry into educational or job opportunities. Therefore, what differentiates placement from career counselling now is that placement is concerned with implementing choices where career counselling is

primarily concerned with the choice process (i.e., selecting and deciding among the alternatives) (Herr & Cramer, 1992). Discontinuity in the career counselling process occurs, however, when there are no provisions made for further help after a decision is made and the client is ready to implement it.

Effective placement of individuals into the labour market is facilitated when the placement counsellor not only possesses knowledge of the counselling process, but also knowledge of career planning, required job search skills, networking, and labour market information (trends and changing realities).

The outcome(s) of placement is (are) to provide clients with work experience and/or assistance in securing appropriate employment (full or part-time). These outcomes are facilitated through the processes of career planning and job search and interviewing skills programs. However, effective placement can only occur as the end result of a client crystallizing a vocational preference, and acquiring employability skills and other attitudes, knowledge and skills pertinent to the career counselling process (Herr & Cramer, 1992).

Career counselling. Another specialization within the field of counselling is career counselling. The theoretical knowledge base and repertoire of skills commonly thought to be important only to personal counselling interventions are also central to career counsellor training and practitioners (e.g., personality, development, learning, and counselling theories, issues and interventions). In addition, specialized knowledge is required. That is, development of a knowledge base which includes career development theory and related issues (e.g., initial

choice, occupational adjustment, decision-making, etc.) and information regarding labour market trends and the changing labour market realities in today's global economy. Career counsellors, for example, need to be more aware of the impact of demography and labour market trends on career development issues. Herr and Cramer (1992) point out that research investigating initial career choice has diminished because of the declining birth rate and aging population. Research concerns now focus more on how to cope with existing choices, how to adjust to changing circumstances, and how to advance in the workplace.

Career counselling has the same outcomes as general counselling, i.e., growth and development. Career counselling also helps individuals develop a meaningful and fulfilling career path, including for example, paid and unpaid work, and/or leisure activities. In addition to the processes mentioned in generic, personal, and placement counselling, career counselling outcomes are facilitated by (1) focusing on life patterns and developing multiple career plans; (2) interfacing the vocational and personal aspects of the individual; and (3) achieving role integration.

Specialized tools may also be required from time to time to facilitate the outcomes of career counselling. Career counselling tools have received considerable attention in the literature. The tools most often utilized by career counsellors typically include informational data found in print (e.g., Canadian Classification and Dictionary of Occupations) and computer assisted career guidance systems (e.g., CHOICES, PC Directions), and an array of assessment

devices (e.g., Career Assessment Inventory, Strong Interest Inventory).

Career counsellors traditionally have relied heavily on information to do their jobs. Resources like the Canadian Classification and Dictionary of Occupations (CCDO) and the Dictionary of Occupational Titles (DOT) were available but sparsely utilized (Herr & Cramer, 1992). Technological advances and necessity have dictated that delivery methods change to accommodate the rapid change in information needed by career counsellors and clients (Rayman, 1990; Taylor, 1988). Computerized Information Systems (CIS) and Computer-Assisted Career Guidance (CACG) systems were developed to help meet the information needs of counsellors.

Interactive Computerized Information Systems (CIS) were designed to facilitate the coordination of occupational information. Computer-Assisted Career Guidance (CACG) systems, which grew out of the need to expand the "interactiveness" of Computerized Information Systems, combined the massive informational databases of CIS with the delivery of career planning and counselling content. Thus, following a structured format, data is entered about self and combined with occupational data to produce a "most like me" list of occupational alternatives.

Research (Chapman & Katz, 1983) on CACG system usage suggests that students choose computerized programs over books or audio/visual programs as sources of obtaining career information. Further, CACG systems have been found to increase client's concern and awareness of the need for career

decision-making, exploration activity, and number of alternatives considered.

The attractiveness and the outcomes achieved in utilizing both the CIS and CACG systems have favourable advantages for the career counsellor. One advantage is that these systems can free the career counsellor from some of the drudgery associated with the maintenance and updating of occupational and educational data files. Another advantage is that accurate, timely occupational and educational information is more readily available, allowing career counsellors more time to deal with vocational and/or personal problems that require human sensitivity.

In conjunction with CIS and CACG systems, career counsellors utilize a variety of standardized assessment devices including interest, aptitude, and personality tests. Although the various assessment devices have been useful, they have also been objects of controversy and scrutiny (Gottfredson, 1986). That is, despite the changes in test content, standardization samples, and interpretive materials to avoid racist or sexist language and stereotyping, race and sex differences remain. Thus, according to Gottfredson, concern now focuses less on how tests should be constructed and more on how they should be used, if at all.

With respect to proper test usage, concrete and specific suggestions have yet to be delineated. For example, interest inventory manuals (e.g., Self Directed Search) encourage counsellors not to rely solely on interest inventory results, but to interpret them in the context of a wide variety of other information about the test taker (e.g., life experiences, role models). Little or no explicit guidance is

provided to clarify what that other information might be, how it might be obtained, or how it can be usefully integrated with inventory results. These questions reflect the fact that "the testing controversy has brought career counselling to the edge of a new frontier - the science and art of beneficial test usage" (Gottfredson, 1986, p. 136).

Summary. The basic argument running through this section is that the knowledge base and repertoire of skills thought to be essential to counselling specialties like personal counselling and/or placement are also essential to career counselling. Further, each specialty has unique sets of issues just as the issues of occupational choice and adjustment, unemployment, or occupational stress make career counselling a specialization within counselling. As Tolbert (1974) points out, when no provisions are made for follow-up after a decision is made and the client is ready to implement it, many clients may feel as though the career counsellor has walked out on the most difficult part of the process - placement.

Therefore, career counsellors need to be educated to be responsive to the needs of clients by expanding their conceptualization of what constitutes career counselling. That is, career counsellors need to realize "that all facets of a clients life are within the legitimate jurisdiction of career counselling and that in all likelihood would need to be addressed if counselling is to succeed" (Hiebert, 1991, p. 85).

Career counsellors need to endeavour to stay abreast of the changes related to their domain. With the obvious rapid changes in the global



socio-economic-political conditions, the task of staying informed is becoming increasingly difficult. Printed material sometimes becomes out-dated before it is available for purchase. Electronic services such as the computer have an edge with respect to currency of information. If career counsellors had access to a system that was interactive, and that could be readily updated, career counsellors could conceivably be made aware of the changing nature of the work force. This information could be readily passed on to the client who is often less informed.

### Training Career Counsellors

Clearly, the knowledge base and repertoire of skills thought to be essential to counselling specialties like personal counselling are also essential to career counselling. In addition, specialized knowledge in career development theory and related issues (e.g., initial choice, occupational adjustment, decision-making, etc.) as well as information regarding labour market trends and the changing labour market realities are essential. Specialized tools (e.g., interest inventories, career decision-making assessment instruments, etc.), techniques (e.g., job club, job shadowing, etc.), and the need to access large information databases (e.g., labour market trends, training program requirements, etc.) further supports viewing career counselling as a specialization and distinguishes career counselling from other counselling specialties.

With respect to the knowledge base and skills of career counsellors, various position papers have been written to establish minimum standards for training and employment purposes (Herr & Cramer, 1992; Peavy, Robertson, &

Westwood, 1982). Surveys have also been conducted (Birk & Brooks, 1986; Manley, 1986; O'Byrne, 1988; Schneider, Watkins & Gelso, 1988; Schwaber & Genetta, 1987) to ascertain the needs of career counsellors. Manley (1986), for example, found that one of the primary needs of career counsellors was for up-to-date information about everything from programs to in-servicing information as well as listings of information resources and contacts. In a similar vein, O'Bryne (1988) found employment counsellors desired counselling information and skills training.

Although the need for specialized skills and knowledge are necessary for effective career counselling, they often are not in place. According to the Canadian Guidance and Counselling Foundation (1993), in Canada, there are upwards of 100,000 counsellors, across 30,000 agencies, engaged in some form of career counselling; many of these counsellors have little or no training in the area.

Herman (cited in Conger, 1982) stated that the methods used by most counsellors in schools and employment settings are very similar to those he used in the late 1940s. In a similar vein, of all the counselling done in schools and agencies, career counselling is done least effectively, presumably because of a lack of training in this area.

This lack of counsellor training is understandable given that few universities and colleges provide courses aimed at career counselling. Hiebert (1991) recently inspected Canadian university and college calendars and found that only 12 of 45 universities and 7 of 45 colleges provided even one course aimed at addressing

the career development needs of students. A similar problem exists in the United States where Schneider, Watkins, and Gelso (cited in Watkins, 1986) surveyed counsellor education programs and found career counselling training received less instructional and practicum support than personal counselling training.

Furthermore, counsellors with less postsecondary preparation needed remedial training to perform career counselling related functions. Finally, counselling psychology students surveyed by Birk and Brooks (1986) recommended career counselling be a foundational course to develop essential competencies for employment.

Thus, it seems apparent that counsellor educators have neglected career counselling. The resulting shortage of trained career counsellors seems to be more of a problem in non-school agencies (Van Hesteren, 1986). For those who live in rural or remote areas this is even more of a concern because access to training or consultation with career counselling experts is difficult.

As Conger (1982) states, many people working as counsellors have not had adequate formal training. Counsellors working in non-school settings often assume that training will be provided. In most situations, however, very little training is provided. This is unfortunate for the employee, employer, and most of all the client(s). To rectify this, training in career counselling needs to be more accessible to accommodate the large number of practising career counsellors.

Although the numbers of career development courses at the postsecondary level is paltry, there is an increasing interest in training for career counselling.

This has been reflected in the increase in literature of non-traditional career training programs (e.g., training modules). Several major trends have been influential in this regard. One very obvious trend is that technological advances and economic globalization have made determining one's career goals and predicting employment trends a more complex problem today than in years past. Another is the increase in the number of occupational changes (4-10 per lifetime) (Hiebert, 1991) individuals will experience over their lifespan which will require individuals to learn the skills involved in making transitions from one occupation to another.

Institutional needs. Sensing a certain level of responsibility for preparing individuals to enter the workforce, school boards are requiring more effectively trained career counsellors. For example, the Canadian School Trustees Association stated in a position paper that the public is dissatisfied with the schools with respect to career education. The trustees see a vital role for the guidance counsellor in the school's program of assisting students to find out who they are, where they are going, and who they want to be. Thus, the trustees believe that students and parents prefer an emphasis on career counselling rather than on personal counselling (Eberlein, 1982).

Employment agencies are also becoming more concerned about the lack of career counsellor training. Some agencies have developed modulated training packages or competency based counsellor training programs for in-service training. However, relatively few organizations have trained personnel or access

to trained personnel, or financial support to develop and deliver the program(s) (Conger, 1982). Furthermore, because of the changes in the occupational world as well as increased number of career development theories and issues, these programs must be updated in order to continue to develop and prepare counsellors to function in their respective fields.

Individual needs. Herr and Cramers' (1992) review of the literature leads them to suggest that students want "good" career counselling. More specifically, Hoyt (1990) reported several findings supporting the need for quality career counselling for individuals over 18 and employed. These findings include that: (a) approximately 1 in 10 report needing help now in selecting, changing, or obtaining a job; (b) less than 1 in 5 reported even having sought assistance; (c) about 1 in 3 had gone to no source for help in career planning, and (d) more than 6 in 10 reported that if they could start their career planning over, they would try to get more information about their potential career choices.

College students in Alberta have also indicated the importance of career counselling. In 1985, Johnson and Larsen found that, in a college wide needs survey conducted by their counselling department, adult students listed career counselling as the most important service that could be provided by the college counselling department. Similar results have been found by other Alberta community college counsellors. Unfortunately, an informal survey of community college counselling departments revealed that few counsellors have ever been trained as career counsellors (Alberta College Counsellors, Spring, 1988).

Counselling educator and practitioner needs. Several national surveys concerned, at least in part, with the need for an increased emphasis in career development in counsellor education have been conducted. For example, Maples (1985), surveyed university and college deans regarding counsellor education programs. The deans expressed a need for greater emphasis in counsellor education programs, however, career development was not one of the areas named. Tennyson, Miller, Skovholt, and Williams (1989) found career development and guidance to be performed least often but considered number three in importance. Further, Comas, Cecil, and Cecil's (1987) survey of American School Counsellors Association (ASCA) members regarding skills needed by school counsellors revealed that 78% chose career development planning as the third essential/required skills necessary to perform the duties of an effective school counsellor. Therefore, although clients, some employment agencies, and school jurisdictions all need to have the profile of trained career counsellors, colleges and universities do not seem prepared to meet this need.

#### Role of Computers In Career Counselling

Much of the literature on counsellor training programs addresses the development and utility of printed modules or computer assisted career guidance programs (Herr & Cramer, 1988; Walsh & Osipow, 1990; Rayman, 1990). These programs, however, have focused predominantly on developing basic counselling interviewing skills (Russell, Crimmings, & Lent, 1984). Such interviewing skills programs are useful but do little to address a career counsellor's need for

information or tailor skills to career concerns. Most computer programs pertaining to career counselling are limited to career exploration issues (e.g., CHOICES, PC Directions), occupational information (e.g., CIDS), and testing and assessment (e.g., Strong Interest Inventory) (Hackney, 1990). Computers have been used for computer-assisted instruction. One such computer-assisted learning program designed and field tested on employment counsellors was the Assessment Component of Employment Counselling (Schulz, 1985).

Although counsellors are familiar with computer use, computers in career counselling settings are often only utilized as an aid to client self-exploration, word processing, or accessing student data files (White, 1984). Knowledge of data base technology for developing or accessing knowledge base programs is not an important training consideration for counsellors, i.e., most have no training in the use of data bases, and often have little desire to learn complex query languages or to become familiar with extensive systems to assist in accessing or designing training programs or information databases.

CHAT. Recently, a computerized natural language information retrieval system called CHAT (a Conversational Hypertext Access Technology) has been developed by Patrick and Whalen (1991). Natural language methods of access allow the computer users to ask questions using their own natural language. Since people are well practised at forming questions in their own language, no new learning is required. Thus, it is assumed that the natural language approach would be a very powerful tool for providing casual users with access to

information. Already, interactive computer programs are being viewed as an important mechanism for the education and training of career counsellors (Manley, 1987; Schulz, 1983, 1985). CHAT is an improvement upon the interactive capabilities of computers as a resource or instructional tool.

AskAbout Career Counselling. A commercial implementation of CHAT is named AskAbout. The AskAbout computer program is the shell which supports a variety of AskAbout knowledge bases (e.g., AskAbout Aids, AskAbout Micro Skills, AskAbout Vocational Rehabilitation) which provide timely information to various human service workers.

To date, no such system is available that addresses the information needs of career counsellors, nor has such a system been validated as an information delivery system for career counsellors. Thus, the objective of this study is to expand the AskAbout family of information by developing and validating a computer program called AskAbout Career Counselling.

### Chapter Summary

The nature of career counselling is changing and the demand for trained career counsellors increasing. Some of the trends influential in creating these changes include (a) globalization of the socio-economic-political conditions, (b) impact of unemployment, (c) shifts in the labour force demographics, and (d) expansion of current theoretical models to explain changes in career choice and adjustment. Thus, career counsellor trainers/educators must stay abreast of these changes in order to assist consumers of career counselling services.



Although there is a shortage of career counselling training programs, alternative methods must be examined in order to meet the demand for trained career counsellors to provide accurate and up-to-date information. One alternative method is the computer. The interactive capabilities of CHAT, which allows the user to access the data base by simply asking a question is one approach to train career counsellors and to assist them in keeping current. In order to develop the information base for such a program it is important to ascertain what the information needs of the career counsellors are and to determine how useful this computer program is in providing career counsellors with accurate, up-to-date, and easily accessible information. Therefore, three questions were established to guide this investigation.

#### Research Questions

1. What are the information needs of counsellor performing career counselling related functions?;
2. Are there differences in the information needs of counsellors performing career counselling related functions with respect age, gender, type of agency of employment, geographical location of agency of employment, level of training, level of experience, and access to professional development or in-service training?; and
3. How well can a computerized database address the information needs of career counsellors?

## CHAPTER THREE

### METHOD

The method of addressing the information needs of career counsellors involved two aspects. The first aspect, reported in Study 1, consisted of surveying counselling practitioners to determine what their information needs were (See Appendix A). The second aspect, reported in Study 2, involved the input of information into a database called AskAbout Career Counselling and evaluating the utility of the AskAbout Career Counselling system as an information resource.

#### Study 1

##### Sample

An open-ended questionnaire was used to ascertain the information needs of practitioners engaged in career counselling. Over 550 questionnaires were sent to counsellors and consultants, career workshop coordinators and presenters, and placement personnel employed and performing career counselling related duties (i.e., assisting clients in planning and making decisions about occupations and education either individually or in groups). Approximately one third went to each of the following types of services: (a) Alberta high schools (public and separate in urban and rural settings); (b) Alberta Career Centres; and (c) postsecondary institutions including Alberta Vocational Centres, Community and Private Colleges, and Universities throughout the province of Alberta.

As it was not possible to get a list of all personnel performing counselling related functions in Alberta high schools, questionnaires were sent to principals

who were asked to distribute the questionnaires to the appropriate personnel. The maximum number of school personnel performing counselling related functions was estimated to ensure each school would receive enough questionnaires.

Feedback from agency/institutional managers suggested that many staff performing personal or the occasional career counselling related duties did not perceive themselves as performing career counselling duties, therefore, they did not answer the questionnaire. Also, at one large university the counselling centre was in the process of disbanding, and therefore outside concerns were likely of lower priority. Because of the oversupply of questionnaires sent to each site, it is problematic to calculate an accurate return rate. However, in the end, 89 (16.2%) questionnaires were returned. Although the return rate appears low, it is not discrepant with other surveys using an open-ended format. These surveys tend to result in lower return rates primarily because of the time it takes to complete them (Hiebert & Uhlemann, in press; Sinclair, Poisner, Gilmor-Barrett, & Randall, 1987; Spokane & Hawks, 1990). Thus the actual return rate from those actively involved in career counselling is likely much higher.

Of the questionnaires returned, 28%, 46%, and 21% were from high schools, postsecondary institutions, and career centres, respectively. There were 51 females and 38 males ranging in age from 22 to 55 years (Mean = 39.8). Almost half (40%) had a Bachelor's degree and 40% had some graduate level training (i.e., graduate courses, diploma, Master's degree, or Ph.D. Most respondents

(71%) had worked at their present position for a maximum of 5 years. The primary job functions were split between academic advising (14%), personal counselling (18%), and career counselling (48%) however, 43% of the respondents had not taken a single career related course (See Appendix B).

### Procedure

To identify what sorts of information career counsellors needed in order to do their jobs more effectively, a survey (See Appendix A) was conducted of counsellors working in a variety of agencies that offered some form of career counselling. The survey used an open-ended question format to see what sort of information counsellors found particularly useful when doing career counselling and what sort of information would help them be more effective career counsellors. Specifically, the first part of the survey contained two open questions asking respondents to (a) describe a situation in which they were working with a client on a career-related concern and felt they needed more information in order to be more effective, and (b) identify a situation which was particularly successful because they had particular information at their disposal. The survey also requested various demographic information (gender, level of training, agency of employment, location of agency, or job function) and current professional development activities in which counsellors participated.

Procedure for categorizing information needs. A content analysis was conducted on the responses to the open-ended questions. Similar responses were grouped into categories and where possible, arranged hierarchically to develop an

information taxonomy. The resulting taxonomy consisted of five (5) major topics: Career Information and Resources, Individual/Group Assessment, Career Counselling Methods and Issues, Counselling Methods and Issues, and Accountability. Each major topic contained a hierarchically arranged set of subtopics. A coding scheme was designed to reflect the major categories and subcategories and the hierarchy of information with each (See Appendix H). Figure 1 provides an example of this hierarchical arrangement for one aspect of the topic Career Information and Resources, the largest of the five major topics. (See Figure 1).

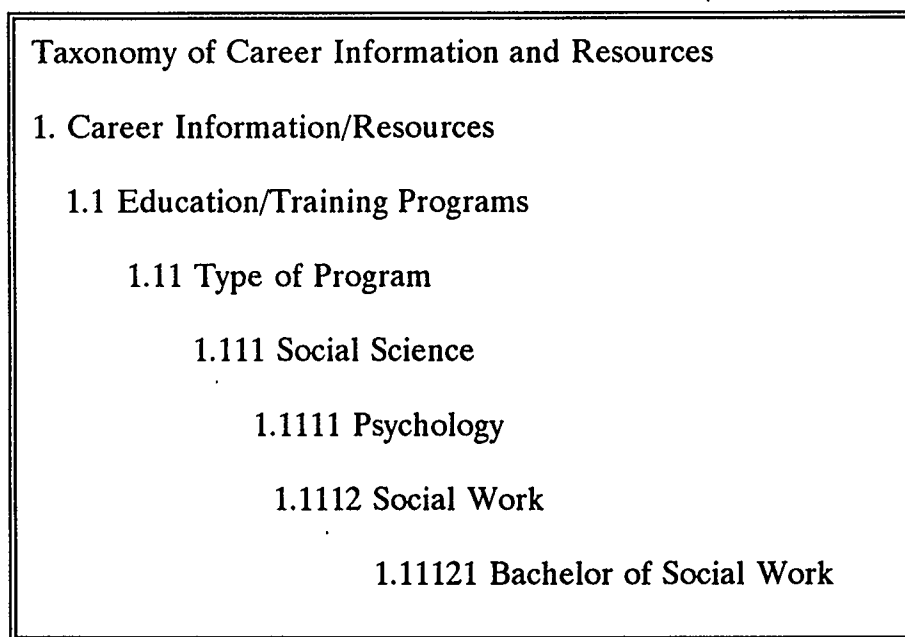


Figure 1. Taxonomy of Career Information and Resources

Before accepting the taxonomy as a structure for coding the information needs, an interrater reliability check was conducted. Two independent raters

were asked to verify and ensure consistency of interpretation of the responses and classification into the appropriate level of the taxonomy. This procedure involved giving each rater the same set of 10 responses. Instructions pertaining to decision rules for developing the categories in the taxonomy and rating procedures also were provided. For the rating procedure, raters were asked to read through each response and categorize the key concerns. This procedure was done on two separate occasions. In cases where there was disagreement between raters the researcher served as the arbiter. The results of the interrater reliability check indicate an 88.6% and 91.8% agreement on Question 1 and Question 2, respectively (See Appendix C).

## Study 2

### Sample

To ascertain the utility of AskAbout Career Counselling (AACC) individuals performing career related functions were asked to participate in the AACC field test. In all, 16 counsellors participated in the AskAbout Career Counselling field test. Of the participants, 3 (18.7%) were high school counsellors, 4 (25%) were Alberta Career Centre counsellors, and 8 (50%) were college counsellors. Further, 25%, 50%, and 25% were from semi-urban, urban, and rural areas respectively. There were 7 females and 9 males ranging in age from 35 to 51 years (Mean = 40.2). Half (50%) had at least some graduate level training (i.e., graduate courses, diploma, Master's degree, or Ph.D.), 31% had undergraduate training, while 19% had college level training or less (e.g., high school diploma,

journeyman's ticket, or college certificate or diploma).

Most respondents (62%) had worked at their present position for more than 3 years (Mean=5.8). Further, 75% had at least 3 years of additional counselling experience (Mean=8.6). Only half (50%) stated that their primary job function was career counselling related and 33% had not taken even one career counselling course at the postsecondary level. This is understandable when you consider that half (50%) have undergraduate training or less.

It was interesting to note that two-thirds had participated in at least one career counselling related in-service training activity. Of the in-servicing, the majority (75%) preferred a lecture/workshop approach. However, when computers had been used for career counselling in-service activity, it was primarily focused on programs such as CHOICES. (See Appendix E).

### Procedure

Construction of the AskAbout Career Counselling database. In order to construct the database for AACC software, each of the responses from the open-ended questions which were identified and categorized into the taxonomy were also turned into questions according to the guidelines outlined by Patrick and Whalen (1991). Occasionally questions were reworded to provide a succinct answer. For example, "What is the Alberta Transfer Guide and what do I need to know if I want to transfer from one school to another?" led to "What is the Alberta Transfer Guide?" and "What do I need to know if I want to transfer from one school to another?"

To provide answers to these questions, relevant resources such as experts and reference materials were consulted. Succinct answers were prepared and key terms and phrases highlighted as identifiers so that the AskAbout program could find each paragraph listed. Once constructed, the next step was to assess how useful this approach was in providing relevant information to career counsellors.

Assessing the utility of AskAbout Career Counselling. Assessing the utility of the AACC information base involved installing the AskAbout Career Counselling software package at several worksites. Contact was made with counsellors and department chairpersons explaining who the researcher was, the nature and purpose of the study, and a request to conduct research at their location. When a positive response was obtained, a date and time was set. A follow-up letter (See Appendix F) was sent confirming the arrangements and providing an outline of the research procedures. Phone calls were also made to ascertain the type of computer to be used so that appropriate disks would be brought.

Once on site, the AskAbout Career Counselling software was installed and instructions given about how to proceed. In order to evaluate the utility of AskAbout Career Counselling as an information resource, subjects at each location received an introduction to the AACC program. The introduction included background information about the development of AACC (i.e., purpose of the study, survey of counsellors to determine information needs, development of the database) and procedure for evaluating the utility of AACC as an information resource (i.e., introduction to the AACC program, amount of time



individuals will spend interacting with the AACC program, the presence of the researcher to record questions and responses/answers, as well as the distribution of a questionnaire and follow-up interview). Prior to interacting with the AACC program each subject received an AACC User's Guide (Appendix D). The User's Guide was also part of the introduction to AACC in the program itself. The researcher provided an overview of the User's Guide pointing out specific sections explaining what AACC is and how it works (i.e., how to start the program, getting help, printing the results of the interaction, and exiting).

To provide information about the contents of the AACC database, how to access it, and the types and meaning of the responses that may be obtained, subjects were instructed to start up the program and type in specific questions that would produce different types of responses. For example, some questions were typed with spelling mistakes or incomplete sentences. Other questions were short and specific or long with many topics. This practice allowed the participants to experience the different types of responses that could be displayed on the screen. Such responses could include an actual answer to their question or a statement saying "Sorry, I don't know about that. Try rephrasing your question or type menu to see what information I have." This statement occurs when the question lies outside of the knowledge base and sometimes when spelling errors occur or the way a question is phrased. If "Sorry I don't know ..." appears this may be a correct statement or the question may have to be re-phrased in order to be recognized by AACC. Upon completing the introduction and demonstration

individuals were instructed to proceed.

Data source. Three sources of information were used to collect data for evaluating the utility of AskAbout Career Counselling: (a) a transcript of the subjects' interaction with AACC; (b) an AskAbout Career Counselling questionnaire; and (c) an interview.

A transcript of each subject's interaction with AACC (approximately 45 minutes long) was obtained by recording every question asked, the response(s) received, and the accuracy of the response(s). Also recorded were the number of times the <Enter> key was pressed as this was another means of accessing the database.

To evaluate how useful the AACC program was to the user, a two part AskAbout Career Counselling Questionnaire was developed and administered to each participant upon completing the field trial (Appendix D). The first part of the survey requested various demographic information (gender, level of training, agency of employment, location of agency, job title, and job function) and various professional development activities in which counsellors participated. The second part, AACC Utility Questionnaire, asked respondents to circle the best response that described their reaction to each of the twelve questions. Using a Likert type scale, a questionnaire was designed to ascertain the helpfulness of the User's Guide and AACC Introduction, as well as usefulness of the information, satisfaction with the response time, and satisfaction and comfort with the computer as an informational medium. The forced-choice format of the AACC

Utility Questionnaire provided useful information about the structure of the AACC program. A follow-up interview was also conducted to allow subjects the opportunity to provide additional information not easily obtained by a closed-form questionnaire. Thus, a semi-structured interview consisting of 5 questions was developed and conducted (Appendix D) following the subject's completion of the AACC Utility Questionnaire. Since the questions potentially required only a short answer, responses were written down by the interviewer during the interview and repeated back to the client to insure accurate recording of their responses.

## CHAPTER FOUR

### RESULTS

#### Study 1

##### Descriptive Results

A total of 89 respondents generated 274 responses to the 2 open-ended questions. Figure 2 lists the first two levels of the taxonomy and gives the frequency that each item was identified. The largest area of need was for basic Career Information and Resources. This included information about employment trends, general information about resources such as the CCDO, or specific information about things like apprenticeship programs or the availability of scholarships. This category accounted for over half of the information needs identified. The other categories (See Figure 2) accounted for only 30% of the total responses.

##### Inferential Results

To explore differences in information needs across demographic factors a series of Chi-Square Tests of Proportionality were conducted. When a significant difference in information needs was obtained for any given demographic factor, that factor was crossed with all remaining demographic factors to see if other potential factors contributed to the significant results of the variable in question. The total number of concerns across analyses may differ because some respondents did not complete all of the demographic items on the form. The

<b><u>Information Area</u></b>	<b><u>Frequency</u></b>
<b>Career Information and Resources</b>	<b>192</b>
Education/Training Programs	56
Specific Occupations	19
Employment Trends	11
Referral Resources/Services Directory	89
Placement Services	2
Financial Support	15
<b>Individual/Group (Formal/Informal) Assessment</b>	<b>16</b>
Testing/Assessment	4
Testing/Assessment Devices	4
Administrative & Interpretation Skills	4
Personalizing test results	1
Ordering/purchasing testing materials/software	2
Need for Improved Diagnostic Tools	1
<b>Career Counselling Methods/Issues</b>	<b>47</b>
Career Planning (processes or techniques)	4
Career Decision Making Steps	2
Choices between 2 or more alternatives	5
Career Decision Making Problems	25
Person-Environment Fit	10
Academic Advising/Program Planning	1
<b>Counselling Methods/Issues</b>	<b>17</b>
General information/approach	4
Social Support	4
Financial (i.e., planning, budgeting)	1
Family	1
Individual	7
<b>Accountability (Referral follow-up)</b>	<b>2</b>
<b>TOTAL</b>	<b>274</b>

Figure 2. Frequency of Information Needs of Career Counsellors

significant results are reported below.

Type of agency. Significant differences were observed in the type of information needed by counsellors in different types of agencies ( $\chi^2(6)=28.83$   $p<.01$ ) (See Table 1). With respect to basic Career Information, high school counsellors expressed more need for this than did postsecondary or Alberta Career Centre counsellors. The need for information on Assessment, Career Counselling Issues, and Accountability was greater for postsecondary counsellors as compared to high school and Career Centre counsellors. Non-career counselling information needs were mentioned more frequently by Alberta Career Centre personnel than by postsecondary or high school counsellors.

Table 1

Frequency and Proportions of Information Needs of Counsellors by Agency and Location\*

Category	<u>Type of Agency</u>			Total n=86	<u>Location of Agency</u>			
	High School n=25	Post Sec. n=42	Career Centre n=19		Rural n=26	Semi Urban n=17	Urban n=44	Total n=87
Career Information	69 (2.76)	81 (1.93)	39 (2.05)	189	66 (2.54)	29 (1.71)	96 (2.18)	191
Assessment	4 (.16)	12 (.29)	0	16	4 (.15)	10 (.59)	2 (.05)	16
Career Issues	8 (.32)	26 (.62)	9 (.47)	43	13 (.5)	7 (.41)	23 (.52)	43
Counselling Issues	1 (.04)	5 (.12)	10 (.53)	16	9 (.35)	3 (.18)	4 (.09)	16
Accountability	0	2 (.05)	0	2	0	1 (.06)	1 (.02)	2
<b>Total</b>	<b>82</b>	<b>126</b>	<b>58</b>	<b>266</b>	<b>92</b>	<b>50</b>	<b>126</b>	<b>268</b>

\* Average number of responses per participant is given in parentheses

When type of agency was crosstabulated with other demographic factors, significant differences were found in other factors which might contribute to different information needs being reported by counsellors in different types of agencies. These included level of training ( $\chi^2(4)=15.86$   $p<.01$ ), job function ( $\chi^2(2)=16.54$   $p=.01$ ), and additional training required ( $\chi^2(2)=9.05$   $p=.01$ ) and provided by the employer ( $\chi^2(1)=6.57$   $p=.01$ ). Specifically, 73.8% of postsecondary counsellors had graduate level training, compared with 44% of high school counsellors and 26.3% of Alberta Career Centre counsellors. Individuals with graduate level training had taken more career counselling courses at the post secondary level ( $\chi^2(2)=16.74$   $p<.01$ ) and had more career counselling related experience both in their present ( $\chi^2(2)=10.75$   $p<.01$ ) and previous ( $\chi^2(2)=7.6$   $p=.02$ ) places of employment as well as total counselling experience ( $\chi^2(2)=8.71$   $p=.01$ ). Most Alberta Career Centre (73.7%) and high school (56%) counsellors indicated that their primary job function was career counselling related. Although high school and Alberta Career Centre counsellors indicated that additional in-service training was required ( $\chi^2(2)=9.05$   $p=.01$ ) and provided by the employer ( $\chi^2(1)=6.57$   $p=.01$ ) to perform their job, this training did not necessarily have to be career related.

Location of agency. Counsellors working in rural agencies expressed a need for more Career Information and Counselling Issues than did postsecondary or Alberta Career Centre counsellors ( $\chi^2(8)=28.97$   $p<.01$ ). Assessment and Accountability information needs were mentioned more frequently by semi-urban counsellors than by rural or urban counsellors. With respect to Career Issues,

urban counsellors expressed more need for this than rural or semi-urban counsellors. Further exploration found significant differences with respect to type of agency ( $\chi^2(4)=11.77$   $p=.02$ ) and number of career counselling ( $\chi^2(2)=8.79$   $p=.01$ ) courses taken by counsellors. For example, 52.0% and 44.0% of the high schools were located in rural, urban, and semi-urban centres respectively, whereas 57.1%, 26.2%, and 16.7% of the postsecondary institutions were located in the urban, semi-urban, and rural centres respectively. Counsellors working at Alberta Career Centres were more evenly distributed across rural (31.6%), semi-urban (26.3%), and urban (42.1%) Alberta. It was interesting to note that more urban centre counsellors (72.7%) had taken career counselling related courses than rural (38.5%) or semi-urban (47.1%) counsellors ( $\chi^2(2)=8.79$   $p=.01$ ). Individuals with more career counselling courses had graduate level of training and more counselling experience in their present place of employment ( $\chi^2(1)=10.63$   $p<.01$ ) and total counselling experience ( $\chi^2(1)=14.26$   $p<.01$ ).

Additional training required and provided by employer. Table 2 indicates that individuals who were required to have additional training (65.0% of the sample) as part of their job function generated proportionately more need for information about Career Information and Resources and non-career counselling related issues ( $\chi^2(4)=13.1$   $p<.01$ ). Individuals with employers who provided in-service training ( $\chi^2(4)=16.2$   $p<.01$ ) (See Table 2) needed more information about Career Counselling Issues in addition to the need for information about Career Information and Resources and non-career counselling issues. Thus, the results in Table 2 underscores a previous observation that the additional training



required and provided need not necessarily be career-related, an observation confirmed by the fact that 43% of the respondents have not taken a single career counselling course at the postsecondary level.

Table 2

Information Needs of Counsellors by Additional Training and Employer In-Service Provided\*

Category	<u>Additional Training</u>			<u>Employer In-Service</u>		
	Yes n=40	No n=20	Total n=60	Yes n=65	No n=24	Total n=89
Career Information	87 (2.18)	33 (1.65)	120	143 (2.2)	49 (2.04)	192
Assessment	1 (.03)	6 (.3)	7	10 (.15)	6 (.25)	16
Career Issues	19 (.48)	13 (.65)	32	39 (.6)	6 (.25)	45
Counselling Issues	10 (.25)	3 (.15)	13	16 (.25)	1 (.04)	17
Accountability	0	1 (.05)	1	0	2 (.08)	2
<b>Total</b>	<b>117</b>	<b>56</b>	<b>173</b>	<b>208</b>	<b>64</b>	<b>272</b>

\*Average number of responses per participant is given in parentheses

Professional development. The need for professional development in career counselling was also examined. The results indicated that 96% of the respondents participated in some form of professional development, 43% participated in some form of in-servicing (including 21% who had taken at least one Continuing Education course), 71% took out membership in at least one professional association, 55% subscribed to at least one professional journal (13.5% were

career counselling related journals), and 96% attended at least one conference. Of those who subscribed to a professional journal, 77% had graduate level training ( $\chi^2(2)=16.54$   $p<.01$ ) and 57% had taken at least one career counselling related course ( $\chi^2(1)=17.62$   $p<.01$ ). However, of the total conferences attended only 10% were career related ( $\chi^2(1)=10.71$   $p<.01$ ).

Significant differences were found in other factors which might contribute to the total conferences attended including agency ( $\chi^2(2)=16.54$   $p<.01$ ) and job function ( $\chi^2(1)=7.36$   $p<.01$ ). For example, 88%, 84%, and 42% of the counsellors in the postsecondary, high school, and Alberta Career Centres respectively attended at least one conference. However, only 33% of the postsecondary and 56% of the high school counsellors perform career counselling related functions as compared to 74% of the Alberta Career Centre counsellors. Further, only 41% of those performing career counselling related functions actually attended a conference. Thus, while there seems to be some commitment to professional development with the respondents, it does not seem to be primarily in the area of careers.

Of special interest in this survey was the way in-service was delivered, especially the extent to which computers were used in the delivery of in-service. It was found that 43% of the respondents had taken some form of in-service training within the past 12 months (of which 21% was career counselling related), perhaps because 65 of the employers required such training. Almost half (48%) of this training was provided through in-house expertise (e.g., peers, supervisors), primarily through lecture, seminar, and computer mediums. When computers

were used for professional development, they tended not to be used for career counselling activities. When computers were used for career counselling, it tended to be limited to computer assisted career guidance programs such CHOICES or PC Directions.

### Summary

In summarizing the results, a content analysis of the responses to the open-ended questions revealed that the largest number of concerns and thus need for information was for basic Career Information and Resources, followed by information about Career Counselling Methods and Issues, Counselling Methods and Issues, Assessment, and finally, Accountability. Chi-Square Tests of Proportionality revealed significant differences in information needs with respect to type and location of agency that one was employed with and whether additional training was required and provided. With respect to type of agency, high school counsellors expressed more concern per participant for information about Career Information and Resources than postsecondary or Alberta Career Centre counsellors. Postsecondary counsellors needed more information about Assessment, Career Issues, and Accountability than Alberta Career Centre or high school counsellors. Alberta Career Centre personnel asked more questions about non-career counselling issues than postsecondary or high school counsellors. These differences may have occurred because of differences in the level of training and experience of the counsellors employed. This is substantiated by the fact that a majority of the counsellors working at postsecondary institutions have graduate level training. Further, graduate level trained individuals had more

counselling experience and had taken at least one career counselling related course. Rural and semi-urban counsellors requested more basic information related to general Career Information Resources and Counselling Issues, possibly because they were not required to have additional training as required by counsellors employed in urban centres. As well, urban centre counsellors had taken more career counselling related courses than those in rural or semi-urban settings. Personnel with agencies employing less formally trained counsellors but requiring and providing additional in-service training expressed a need primarily for information about Career Information and Resources and Career and Counselling Issues, supporting the idea that this in-service training did not necessarily have to be career related.

Respondents indicated that computers have been utilized for training purposes in diverse areas including, for example, as a resource or reference, word processing, and computer assisted career guidance programs such as CHOICES. As a resource or reference, up-to-date career counselling related information can be provided through the computer medium to meet the information needs of counsellors as identified by this research.

The lack of career counselling training and experience places counsellors in rural and semi-urban areas at a disadvantage. Given that access to postsecondary education is difficult for people in these areas, the primary mode of staff training is through in-house expertise. This is sometimes a problem particularly when no local expert is available to provide career counselling in-service training. However, computer based professional development has great potential for

meeting these in-service needs.

## Study 2

### Results

Transcripts. To evaluate the utility of AACC, each question asked or <Enter> key pressed by a subject was recorded (See Appendix G) and coded (See Table 3) in to one of six categories: (1) DKC or Don't Know Correct; (2) DKN or Don't Know Not Correct; (3) APC or Answer Presented Correct; (4) APN or Answer Presented Not Correct; (5) ANPN or Answer Not Presented Not Correct; and 6) Tell Me More. (See Figure 3 for coding of categories 1 to 5).

	Answers Given Correct	Answers Given Incorrect
Don't Know	1) DKC	2) DKN
Answers Given: Correct Answer Is in Database	3) APC	4) APN
Answers Given: Correct Answer <u>Not</u> in Database		5) ANPN

Figure 3. Types of Responses from AskAbout Career Counselling Program

The "Don't Know" category represents AACC's programmed response "Sorry, I don't know about that. Try rephrasing your question or type menu to see what information I have" to unfamiliar text (questions). A "Don't Know" response can be coded as DKC when there is no related information in the database or as DKN when the information is in the database but the program failed to retrieve the answer. When an answer is given several codings are possible. The APC

category includes all the occasions in which an answer is correctly provided by the AACC database. When the answer given is coded APN the AACC database provided an incorrect answer to the subjects' question when a correct answer existed in the database. The ANPN category includes those responses where an answer is given when no such information exists in the database. Finally, the "Tell Me More" category includes all the occasions where the <Enter> key was pressed in order to view subsequent information.

Table 3 provides total frequencies of responses obtained by each individual across the six categories referred to previously. Of the total questions asked, 63% were given a correct response, i.e., either a DKC (38%) or APC (25%). Further, when the question was within the domain addressed by the database, subjects had a 45% chance of having their questions answered correctly. However, about 45% of the questions were outside the database, i.e., either a DKC (38%) or ANPN (7%). It was interesting to note that in 43% of the interactions subjects elected to simply press the <Enter> key to page through the information rather than ask a question.

After identifying the types of responses each individual received, attention was turned to exploring differences in the responses received by various subsets of the sample (Table 4). As Table 4 depicts, the questions females asked generated more responses across all categories except APC ( $\chi^2(5)=13.16$   $p=.02$ ). Graduate level trained individuals generated more DKN, APC, and APN responses ( $\chi^2(2)=12.08$   $p<.01$ ). When crosstabulated with location of agency of employment most counsellors with graduate level training (87.5%) worked in

urban centres ( $\chi^2(1)=9.0$   $p<.01$ ). Most counsellors working in rural and semi-urban centres (87.5%) had a Bachelor's degree or less. Finally, counsellors performing primarily career related job functions logged fewer interactions ( $\chi^2(4)=17.29$   $p=.01$ ) than individuals performing non-career related counselling or other duties (e.g., Program Coordinator, Instructor).

Table 3

Frequency of AskAbout Responses by Subject

Subject	DKC	DKN	APC	APN	ANPN	TMM	TOTAL
01	11	2	4	0	2	7	26
02	1	6	4	0	4	15	30
03	18	0	5	2	0	15	40
04	11	4	6	1	0	37	59
05	5	4	9	4	1	12	35
06	15	10	5	6	1	27	64
07	7	12	17	6	3	23	68
08	5	5	2	0	0	27	39
09	11	8	8	2	3	6	38
10	6	7	2	2	2	44	63
11	0	0	1	1	0	8	10
12	17	5	6	0	1	6	35
13	16	6	4	1	2	2	31
14	11	7	4	6	4	18	50
15	9	9	10	1	4	49	82
16	14	5	14	3	2	10	48
<b>Total</b>	<b>157</b>	<b>90</b>	<b>101</b>	<b>35</b>	<b>29</b>	<b>306</b>	<b>718</b>

Table 4

Accuracy of Total Responses from AACC by Gender, Level of Training, and Job Function\*

Category	DKC	DKN	APC	APN	ANPN	TMM	TOTAL
<b>Gender</b>							
Females n=7	69 (9.86)	51 (7.29)	44 (6.29)	16 (2.29)	14 (2)	179 (25.57)	<b>373</b>
Male n=9	88 (9.78)	39 (4.33)	57 (6.33)	19 (2.11)	15 (1.67)	127 (14.11)	<b>345</b>
<b>Level of Training</b>							
College or Less n=3	30 (10)	8 (2.67)	13 (4.33)	2 (.67)	6 (2)	37 (12.33)	<b>96</b>
Bachelors n=5	48 (9.6)	27 (5.4)	23 (4.6)	5 (1)	9 (1.8)	109 (21.8)	<b>221</b>
Graduate n=8	79 (9.88)	55 (6.88)	65 (8.13)	28 (3.5)	14 (1.75)	160 (20)	<b>401</b>
<b>Job Function</b>							
Career n=6	57 (9.5)	24 (4)	36 (6)	9 (1.5)	10 (1.67)	92 (15.33)	<b>228</b>
Counsel- ling n=7	83 (11.86)	52 (7.43)	58 (8.29)	17 (2.43)	13 (1.86)	144 (20.57)	<b>367</b>
Other n=3	17 (5.67)	14 (4.67)	7 (2.33)	9 (3)	6 (2)	70 (23.33)	<b>123</b>
<b>Category Responses</b>							
<b>TOTAL</b>	<b>157</b>	<b>90</b>	<b>101</b>	<b>35</b>	<b>29</b>	<b>306</b>	<b>718</b>

\*Average number of responses per participant is given in parentheses



AskAbout Career Counselling Questionnaire. The forced-choice format of the AACC Utility Questionnaire completed by each of the 16 participants provided useful information about the structure of the AACC program. A copy of this questionnaire along with response frequencies can be found in Appendix D. In summarizing the results, the User's Guide (See Appendix F) and Program Introduction were found to be somewhat helpful (56.3% and 75% respectively) by the participants. Most of the subjects (62.5%) asked questions, as opposed to pressing the <Enter> key (37.5%), as their primary method of obtaining information. Although 25% of the subjects were not very comfortable using the computer, 62.5% found AACC to be somewhat user-friendly. Further, most respondents were either somewhat satisfied (43.8%) or very satisfied (50%) with the answer response time. Participants' subjective impression indicated that it was not very easy (56.3%) or not at all easy (31.3%) to obtain answers to their questions; and that AACC did not address the information needs of most respondents very well (73.3%). However, the overall impression did not coincide with this for when asked to rate AACC as a resource compared to other resources used, 69.2% rated AACC as somewhat useful and 30.8% thought it was very useful. Finally, 33.3% of the respondents also indicated that they might use this resource at least once a week while another 33.3% would likely use it once a month.

AskAbout Career Counselling Utility Interview Questions provided subjects with the opportunity to provide additional information not easily obtained by a closed-form questionnaire. Five (5) open-ended questions were asked. The

interview questions, responses, and response frequencies are located in Appendix D. With respect to question one, "How could the User's Guide be improved?", the most frequent comment (42.9%) was "I didn't use it." Similarly in question 2, "What ways could the AskAbout Career Counselling Introduction be Improved?", 41.2% of the comments were that the AACC Introduction was clear and good. Some (17.6%), however, did not read the Introduction.

In Question 3, "What did you like about AskAbout Career Counselling?", the most frequent comment (37%) related to the content of the database. Some liked the screen format and the fact that it was user-friendly (14.8%) while others liked the idea of accessing the database through questions rather than menus (29.6%).

Question 4 asked "What kind of problems did you experience with AskAbout Career Counselling?" The majority of the responses (52.9%) were that it was frustrating spending a lot of time trying to phrase a question that would access the database. Another comment was that it was difficult to know if the information was actually in the database. In the final question individuals were asked "What kinds of improvements would you suggest for AskAbout Career Counselling?" Three main comments were made: a) there should be a menu or index of key words to facilitate access to the database (24%); b) the database should be enlarged (32%); and c) there needs to be more information about how to ask questions (16%).

### Summary

In summarizing the results obtained from the three sources of data (i.e.,

transcripts, questionnaires, and interviews), it appears that level of education plays an important part in the ability to ask questions related to the database. This is substantiated by the fact that a lot more questions were asked by graduate level trained individuals where even though a correct response was not always obtained, the answer was at least in the database. In order to explore response differences obtained with gender and job function crosstabulations with various demographic factors such as level of training, experience, agency, and location of agency were conducted. However, no significant differences were found as expected.

Responses to the questionnaire and interview questions indicated that most liked the concept and process of being able to access information from a computer. However, the program itself received a mixed review. Some believed that it was more appropriate for beginning counsellors. Most found that it was not very easy to get answers and as a result only one-third said they would use it at least once per week. This is tempered by the accuracy rate of the AACC program where there was a 45% accuracy rate if the questions asked were in the domain of the database and an overall rate of 25% correct responses. Thus, part of the frustration may have come from asking questions outside the domain of the AACC database. Finally, about a third found AACC to be a useful resource and would likely use it at least once a week.

## CHAPTER FIVE

### SUMMARY, DISCUSSION AND RECOMMENDATIONS

#### Summary

To develop a computer program that could provide career counsellors with up-to-date information that they need in order to perform their job more effectively surveys were sent to Alberta Career Centre, high school, and postsecondary counsellors to ascertain what their information needs were. Content analysis of the responses revealed that the greatest need was for basic information about Career Information and Resources. Accounting for over half of the concerns raised, this category included information about employment trends, general information resources like the CCDO, or specific information about things like apprenticeship programs or the availability of scholarships. Other needs included information about Career Counselling and Counselling Methods and Issues, Assessment, and finally, Accountability.

Differences in information needs were also explored using demographic information (e.g., age, gender, level of training and experience, agency and geographical location of employment, current professional development activities) obtained from the AskAbout Career Counselling survey. Significant differences in information needs were found with respect to type of agency and location of agency in which one was employed and whether additional training was required and in-service provided by the employer. Each factor (i.e., type of agency, location of agency, additional training required, in-service training provided) was

further crosstabulated with all remaining demographic factors to see if other factors contributed to the significant results of the variable in question.

With respect to type of agency, high school counsellors expressed more need for basic Career Information than did postsecondary or Alberta Career Centre counsellors. Non-career counselling information needs were mentioned more frequently by Alberta Career Centre personnel than by postsecondary or high school counsellors. The need for information on Assessment, Career Counselling Issues, and Accountability was greater for postsecondary counsellors as compared to high school and Career Centre counsellors. Additional analysis found that a majority of the counsellors working at postsecondary institutions had graduate level training. Counsellors with graduate level training also had more counselling experience and more had taken at least one career counselling related course.

With respect to location of agency, counsellors working in rural agencies expressed a need for more Career Information and Counselling Issues than did postsecondary or Alberta Career Centre counsellors, possibly because they were not required to have additional training for employment as required by counsellors employed in urban centres. In addition, urban centre counsellors had taken more career counselling related courses than those in rural or semi-urban settings. The lack of career counselling training places counsellors in remote areas at a particular disadvantage, especially when access to postsecondary education is difficult and/or if the primary mode of staff training is through in-house activities with no local expert to provide in-service training.

Personnel with agencies employing less formally trained counsellors requiring and providing additional in-service training expressed a need primarily for information about Career Information and Resources and Career and Counselling Issues, supporting the idea that this in-service training did not necessarily have to be career related.

The results obtained from the transcripts of those who participated in the field testing of the AskAbout Career Counselling computer program indicated that a lot more questions were asked by graduate level trained individuals. Respondents indicated that computers had been utilized for training purposes in diverse areas including, for example, as a resource or reference, word processing, and computer assisted career guidance programs such as CHOICES. With respect to the AACC program, responses to the questionnaire and interview questions indicated that although most liked the concept of being able to access information from a computer, they found difficulties experienced in obtaining information from the database. Most thought the content was good, but some believed that it was more appropriate for beginning counsellors. Not unlike other types of resources used, AACC was found to be somewhat useful and would likely be used at least once a month. Thus, as a resource or reference, AACC has the potential to be used by career counsellors needing access to up-to-date career counselling related information. However, AACC needs further development. Such development should include expanding the AACC database as 45% of the questions asked were actually outside the database, even though the subjects

believed they were related to career counselling. Further, the number of key words necessary for decoding questions and retrieving information also needs to be increased as 29% of the responses were incorrect because code words failed to access the correct information. On the encouraging side, there was only a 7% response error where AACC accessed information that was incorrect (i.e., producing a wrong answer to a question).

### Discussion

Information needs. Research question one addresses the information needs of career counsellors. The predominant need expressed was for basic Career Information followed by Career Counselling Issues. Various position papers have outlined a comprehensive set of counsellor competencies essential to the practice of career counselling (Hoyt, 1990). These position papers provide guidelines for educators developing career counselling programs and employers recruiting career counselling practitioners. Periodically, these papers have been updated to reflect the changing nature of the career counsellor's expanding need for generic counselling and specialized career counselling knowledge, skills, and tools. Specialized knowledge, for example, in career development theory and related issues, and information about labour market trends and the changing labour market realities is necessary. Career counsellors must also have knowledge and skills to be able to utilize computer-assisted career guidance programs such as CHOICES, administer and interpret assessment devices (e.g., interest inventories), and printed information like the CCDO or postsecondary calendars.

The need for information continues to play a dominant role in the functions of a career counsellor. One of the main tasks of a career counsellor is to provide individuals with occupational and educational information. It is important that career counsellors have knowledge of current Career Information and Resources available to them. Such knowledge enables the career counsellor to assist a client in identifying what information is needed, determine where such information can be obtained, and ensure that the information acquired is accurate and current.

Planning how such information can be used as a basis for action leads to issues of career planning and decision-making where accurate information is mandatory if good career decisions are to be made. Research (Hudson & Danish, 1990; Peterson, Sampson, & Rearden, 1991) findings point to the necessity of helping individuals learn to use information. Such occupational information has been found to influence how one perceives occupations. More importantly, the individualizing of information in career planning and decision-making appears to be a key requirement for its effective use.

It is not difficult to understand how a trained and/or experienced counsellor performing career related functions would need basic information, for example, about the CCDO, employment trends, or funding for postsecondary education. It is possible that some counsellors find it difficult to keep abreast of the current information because the information is not readily available, or updated, or there is limited access to career counselling related professional development activities. It is also possible that some counsellors do not have this kind of knowledge base



because they lack the training and/or experience. That is, they were not aware of the various types of information in the first place and therefore not sure where to begin to look for related information.

According to Hiebert (1982), there are some materials unique to the training of career counsellors that require a degree of fluency to be useful. Hiebert states that it is not simply a matter of "picking up these skills on one's own" (p. 123) because important career counselling aids may not get used or may be unknown to the counsellor. Further, career counselling materials and programs should be related back to a theoretical perspective and this practice should be part of any training program, pre-service or in-service, which claims to prepare career counsellors. Thus, there is concern about how effective such counsellors will be in assisting clients through the career counselling process without basic Career Information and Resources.

Differences in information needs. Research question two addresses differences in information needs. Differences in information needs across type and location of agency of employment may have occurred for a couple of reasons. First, the nature of the clientele being served by each agency differs and therefore they probably have different concerns. For example, high school counsellors had a comparatively greater number of concerns related to Career Information and Resources. This is not all that surprising considering that high school students typically have difficulty exploring or choosing educational or occupational goals if they do not know about them (Herr & Cramer, 1992). The Career Information

and Resources category included information about the nature of various educational programs and institutions, specific occupations and related duties, employment trends, general information resources like the CCDO, or specific information about things like apprenticeship programs or the availability of scholarships.

Alberta Career Centre counsellors wanted comparatively more information about non-career counselling issues. Personal communication with a manager revealed that recent increases in lay-offs meant an increase in the number of clients experiencing the effects of the loss of employment. According to Borgen and Amundson (1984) victims of company rightsizing first want someone who will listen to how they feel about the loss before they can proceed to explore other employment options. Although the Alberta Career Centre provides more in-service training than any other agency, the nature of this training is not specified. If in-service training is career counselling related, the Alberta Career Centre counsellors may not have developed the generic counselling skills to deal with basic counselling issues (e.g., reflective listening, etc.). As some researchers (e.g., Hiebert, 1982; Hoyt, 1990) have suggested, career counsellors not only need specialized knowledge and skills to perform career counselling related functions but also generic counselling skills as well. O'Byrne (1982) found that in order to meet the demand for better trained entrant practitioners, development of generic counselling skills was essential.

Finally, postsecondary counsellors had comparatively more concerns about

Assessment, Career Counselling, and Accountability issues than Alberta Career Centre or high school counsellors. Although few postsecondary counsellors indicated career counselling was a primary job function, most had graduate level training. Individuals with graduate level training had also taken more career counselling courses at the postsecondary level and had more counselling experience. According to Watkins (1988) counsellors with graduate level training have broad based training experiences that enable them to work well with a range of clients.

Another way to account for these differences is to explore the nature of the agency (i.e., type of agency and location of agency of employment). Although hiring practices were not explored extensively, some agencies required potential employees to have some form of additional training to perform the job functions. This additional training required was in the form of either postsecondary or on-the-job/in-service training. For some agencies it is difficult to entice qualified career counsellors. This idea is indirectly supported by the findings of this research where 74% of the postsecondary counsellors had graduate level training, as compared to 56% of the high school counsellors, and 19% of the Alberta Career Centre counsellors. Further, a majority of graduate level trained counsellors worked in urban centres and tended to access external professional development activities more than non-graduate level trained counsellors. As Conger (1982) states far too many people working as career counsellors have not had the benefit of adequate formal training. Those who receive graduate level

training usually end up in school settings leaving non-school settings to provide for themselves (O'Byrne, 1988; Van Hesteren, 1986). Thus, it is not surprising Alberta Career Centres provide the majority of in-service training.

Adequacy of AACC. Research question number three addresses the adequacy of the AACC program as a means of meeting the information needs of career counsellors. In its present form, the AACC received a mixed review. Most individuals in the field test liked the idea of being able to access the database by simply asking questions. Provided subjects stayed within the domain of the database, individuals received correct responses to their questions with about 45% accuracy. Only 7% of the questions resulted in inaccurate answers. Further, the high number of Don't Know Correct (DKC) responses received may have occurred because the subjects' idea of the domain of career counselling was broader than the contents of the AACC program. Or, it might be that particular information needs expressed by respondents to the information needs survey was different than the information needs of individuals in the field test. For either case, the AskAbout program has the capability of tracking the questions asked, enabling the database to be expanded to include additional answers and improve the success rate. Updating of the AACC can occur as trained personnel and financial support are provided. Thus, in its present form, it is best to describe the results with cautious optimism about the potential usefulness of AACC. Acceptance of the program undoubtedly will increase as further development takes place.

Professional development. The findings that graduate level trained counsellors tended to access external professional development activities more than non-graduate level trained counsellors, who participated primarily in in-servicing, may be an issue of professionalism, cost, or just accessibility. More graduate trained counsellors were employed in urban centres with increased access to experts, workshops, seminars, etc. Concerned about accessibility to resources and training, Manley (1987) set out to establish a statewide centre that could provide pre-service and in-service career counsellor training. Results of a needs survey sent out to career counsellors indicated that primarily, counsellors desired to have up-to-date information in the form of a monthly newsletter providing information about everything from programs to in-service training events, and listings of information resources and contacts.

Computers are seldom considered as a means of providing on-going professional development because most of the programs counsellors receive training in have been limited to computer applications programs such as word processing, education/occupational information systems (e.g., CIDS), or career counselling programs (e.g., CHOICES). Thus, as many respondents have indicated, there continues to be a preference for learning by means of lecture rather than training modules or computer applications programs. However, many did find the AskAbout Career Counselling program to be an intriguing and useful approach to obtaining up-to-date career counselling information to meet their information needs.

Limitations and strengths of the study. Great concern was taken to obtain a sample of counsellors performing career counselling related functions. To do so both census and systematic/stratified sampling procedures were used. The census procedure was used to survey postsecondary and Alberta Career Centre counsellors. Association membership lists, internal telephone directories, and direct phone calls were made to obtain a comprehensive mailing list. A systematic and stratified sample (i.e., every fourth high school by geographical location) of high school counsellors was developed using a list of provincial high school principals. Despite a low response (16.2%) which places limitations on the generalizability of the results, the study still reflects all the critical characteristics of the population including gender, agencies (i.e., Alberta Career Centre, high schools, and postsecondary institutions), location (i.e., rural, semi-urban, urban), level of training, experience, professional development activity, etc.

In field testing the utility of the AskAbout Career Counselling computer program, the researcher did not control for differences in individuals' experience with the computer (i.e., level of sophistication of computer skills). A design including two visits would provide ample time for participants to interact with the program, thus allowing participants to become familiar with both the process and content. This approach would incur other practical problems such as ensuring that the program was used and rescheduling a time for interviewing.

Attendance of the researcher in collecting data on the participants' interaction with the AACC program may have resulted in respondents giving

socially desirable responses to the questionnaires and interview questions. As each participant had been informed by a letter of introduction about the development of the AskAbout Career Counselling program, it is possible that positive comments about the content of AACC and negative comments about the program may have been different without the presence of the researcher. It is also possible that these comments are in fact true.

Some participants indicated that accessing the AskAbout Career Counselling database was frustrating because of the limited list of identifiers. To make it easier the list of identifiers should be expanded.

Lack of an established instrument in this field of study necessitated the development of new instruments for the present study. The strength of the instruments lies in the fact that the questionnaires were developed using both open-ended and closed question formats. The closed format also included fill-in and free-response items. In addition, field test questionnaires included Likert type responses and interview questions providing participants with the opportunity to make additional comments. All instruments were field tested and appropriate adjustments made. Interrater reliability of responses which emerged from the instruments used was carried out.

A major strength of this study was that instead of presupposing what the knowledge base of career counsellors was, this study had practitioners identify specific concerns with respect to information deficits. As a result of identifying the information needs a taxonomy was developed bringing a framework to the

vast body of unstructured knowledge. The information taxonomy advances understanding of the career counsellor's information needs in order to be more effective in facilitating the career planning and decision making of their clients.

Currently, much information is available based on the assumption of what information is important. This, in fact, may not be what counsellors want or see themselves as needing. This study provided a detailed list of information needs. Clearly, there is a need for information beyond basic job and training information including, for example, counselling processes, career processes, and accountability.

### Recommendations

Program development. Development of career counselling related courses or programs are often based on the research of the perceived needs of the population being served. Such research, for example, discusses the theory and issues of the career development of adolescents, adults, or women. Seldom are career counsellors asked to provide information about what they perceive to be the important concerns. When needs assessments of career counsellors are undertaken they tend to provide information about general areas of need (e.g., need more career planning information, need more career resources) rather than specific information as identified in this research (e.g., need for information about how to transfer from one postsecondary institution to another).

O'Byrne (1988) conducted a needs survey of employment counsellors and identified generic counselling skills as an area that counsellors wanted to develop. Manley's (1986) survey results indicated a need for general career counselling



in-service training, monthly newsletters for current information, and career guides and resources. This present research provides additional information that complements the sources presently being accessed for developing career counsellor training courses/programs. AACCC has potential for use here too and the survey can be used to expand the database.

Guidelines for employment. This research can also provide guidelines for employment. That is, employers need to be able to discern the qualification of a potential employee to determine if they can help meet the needs of the clientele or how long it would take for the potential employee to develop the essential skills. Various position papers have been published outlining generic career counselling skills. Employers should be aware of these skills in order to ensure that counsellors possess the basic knowledge and skills required for minimal competency when dealing with clients. The present research adds to this body of literature and identifies by agency and location of the agency the strengths and weaknesses with respect to type of information employees need in order to facilitate the career development of the client.

Technological advancement. The present research also facilitates the advancement of technology. First, despite the limited database and number of key word identifiers, many participants in the field test liked the concept of being able to access a data base by simply asking questions and having access to current information. The questions asked by the counsellor are logged by the AskAbout program and can subsequently be used to expand the database to address the

questions that are currently outside the database. Thus, as counsellors use AACC more, the database will become even more complete, which in turn will prompt more frequent use. Second, the program is portable and expandable.

Agencies/institutions can develop and expand their own library of current information to meet their needs and can incorporate such information into a specific program or set it up on-line to allow ongoing development. Portability will allow the employee to participate in professional development activities virtually anytime he/she wants and to access the information if forgotten.

Future research. From the comments reported in the field test interview, AskAbout Career Counselling was well received. It appears that this kind of information as well as the approach taken to deliver the information was useful and would be an asset to any counsellor. Further development of the AACC could only enhance the career counsellors ability to provide accurate and up-to-date information to their clients.

One aspect of future research and development could include increasing accessibility to the database. This could be accomplished by increasing the list of identifiers, providing a thesaurus of key terms that the user can access, utilizing a combined menu and question approach, and/or providing more information about how to ask questions. In the design of AACC, key words are used to access specific information in the database. These key words are not accessible to the user. However, increasing the list of identifiers would likely increase accessibility. To determine if this is true, a study could be conducted where participants from

various agencies would be sent a list of concerns, like the ones identified in this present study, and asked to formulate the questions in their own words, identifying key words they might use from time to time, to ask the same question.

A similar study could be conducted incorporating a thesaurus into the program. This would allow the user access to key words that could be used in constructing a question that most closely matches key words and phrases in the information base.

A combined menu and question approach could also be incorporated. With this approach the menu would be used to access a category of information. Once the user is in the desired category, specific questions could be asked to get specific information within that category only. This approach would enable the developer of the database to use the same or similar key terms for different categories that could otherwise bring up the wrong information.

Finally, providing detailed information about how to ask questions to access the database may be useful. Detailed examples could assist the user in understanding how broad, inclusive type questions may result in obtaining wrong information and how narrow type questions may result in not getting any information.

Another aspect would be to expand the database to include a library of programs that might be generic or agency specific. With the process and guidelines in place for both collecting the information and constructing a database, agencies can very quickly develop a database that could meet their

needs and be expanded when necessary.

Putting the information on CD ROM would increase the speed of access and quality of storage. If the database was on-line, questions could potentially be answered more quickly.

With respect to an information needs taxonomy, more rigorous field testing needs to be done. Possibly, experts could provide valuable information on the content corresponding to their area of expertise.

### Conclusions

The nature of career counselling and the information needs of career counsellors is rapidly changing due to a variety of factors (e.g., globalization of the economy). The large number of counsellors wanting basic Career Information suggest there may be a traditional view of career counselling based on the need for basic client personal information and job and/or training characteristics. As the Career model becomes more prominent with practitioners, there will be a greater need for information about effective career planning and decision making. Career counsellors must possess knowledge of the career counselling process as well as be aware of the developments in career theories, changing labour market trends and labour market realities, the impact of demography, and other information necessary to facilitate the career development of various individuals. Such information enables the career counsellor to assist a client in identifying what information the client needs, determining where the information can be obtained, and ensuring that the information acquired is accurate and current.

Unfortunately, there are many counsellors performing career counselling related functions without adequate training. Without a knowledge base of career information it is difficult to properly assist the clients. This study can assist in the development of career counsellors by identifying the information needs of career counselling practitioners throughout Alberta and by developing a taxonomy of information needs. This taxonomy, along with the differences in information needs identified in this research, can be utilized as a tool for developing professional development activities to meet the information needs of counsellors working in the various agencies throughout Alberta.

As a means of providing current information to career counsellors the utility of the AACC computer program was assessed. Participants found the content valuable and indicated that the AACC has the potential to be an effective method of obtaining information. Many of the participants indicated that they would appreciate access to this program on an ongoing basis. However, continued development and expansion of the information base will be necessary if this method of providing ongoing professional development will prove to be an effective resource in meeting the information needs of career counsellors.

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**APPENDIX A**  
**SURVEY**

date

Dear Research Participant:

I am a Ph.D. student in Counselling Psychology at the University of Calgary, Department of Educational Psychology. I am developing a knowledge base for career and employment counsellors. To do that, I need to know what sorts of knowledge counsellors find particularly useful when dealing with career related issues, and what sorts of career related situations create problems for counsellors because they lack enough information to address the situation properly. To find out about these types of information, I am asking counsellors in many different settings to fill out a short questionnaire. The responses received will form the information bank that will provide up-to-date and easily accessible career counselling information. When complete, the information will be used to develop a computer program that may be utilized as an in-service training program and/or as a quick reference resource.

I would appreciate approximately 10-20 minutes of your time to complete the attached questionnaire. To ensure confidentiality, the questionnaire is to be completed anonymously. Therefore, please do not sign your name.

If you would like a copy of the final report, you can request it by completing the attached form. A copy will be mailed to you as soon as the results are completed, probably around the end of June. If you have any questions or concerns with respect to this project, please contact me at 220-5700 or 289-2524, or in writing at the following address:

c/o Dept. of Educational Psychology  
Room 302, Education Tower  
University of Calgary  
2500 University Drive N.W.  
Calgary, AB T2N 1N4

Alternatively, you may contact my supervisor, Dr. Bryan Hiebert, at 220-7770 or at the above address.

Your participation in this project is greatly appreciated and will be of benefit to career and employment counsellors throughout Alberta. Thank you for your time and participation.

Sincerely,

Randy Johnson



Please send me a copy of the final results of the project entitled  
"AskAbout Career Counselling Questionnaire."

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Return this form to:**

Randy Johnson  
c/o Dept. of Educational Psychology  
Room 302, Education Tower  
University of Calgary  
2500 University Drive N.W.  
Calgary, AB T2N 1N4



2. Think of a recent client whose presenting problem was career related and where the interview went particularly well, partly because you had certain information. Please describe that information here.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## BACKGROUND INFORMATION

## PART I - GENERAL INFORMATION

1. Age: \_\_\_\_\_
2. Gender: \_\_\_\_\_
3. Ethnic Background: \_\_\_\_\_
4. Name of Institution or Agency of present employment:  
\_\_\_\_\_
5. Location of Institution or Agency of present employment (name of city or town):  
\_\_\_\_\_
6. Job Title: \_\_\_\_\_
7. Which of the following best describes your primary job function? (If your job involves many of these items, please choose the one that is most frequent.)  

_____ Academic/Program Advisor	_____ Career Counsellor
_____ Placement Officer	_____ Personal Counsellor
_____ Teacher/Instructor (Specify) _____	
_____ Administrator (Specify) _____	
_____ Program Coordinator (Specify) _____	
_____ Other (Specify) _____	
8. Minimum qualification of job title:  

_____ no formal training	_____ work related experience (how many years?)
_____ on-the-job/formal	_____ in-service training post-secondary education
9. Number of years performing present (counselling) job functions at present location: \_\_\_\_\_

10. Number of additional years performing present or similar (counselling) job functions at another employment location: \_\_\_\_\_
11. Highest degree obtained [Please specify major or area of specialization (e.g., B.A. in Psychology or Ph.D. in Counselling, specializing in career development)]:
- |                                      |                        |
|--------------------------------------|------------------------|
| _____ High School                    | _____ Graduate Diploma |
| _____ University/College Certificate | _____ Masters          |
| _____ University/College Diploma     | _____ Doctorate        |
| _____ Bachelors                      | _____ Other (Specify)  |
- 

## PART II - PROFESSIONAL DEVELOPMENT

12. Number of Career Counselling courses taken at a Post Secondary Institution: \_\_\_\_\_
13. Is some additional specialized training required to perform your job related duties?  
                                 \_\_\_\_\_ Yes      \_\_\_\_\_ No
14. If yes, what additional training is necessary?  
                                 \_\_\_\_\_ post-secondary education      \_\_\_\_\_ on-the-job formal in-service training
15. Who provides the training:
- |   |
|---|
| _____ employer in-services  |
| _____ employer provides financial support for external professional development (e.g., tuition fees, time off with pay)                       |
| _____ employer encourages professional development but provides no financial support (e.g., provides emotional support, time off without pay) |
| _____ self (e.g., own time and money; no employer encouragement/support)  |
| _____ Other (please specify) _____  |

16. What recent professional development activities have you participated in over the past 12 months? (check all that apply).

\_\_\_\_\_ attended a conference (please list) \_\_\_\_\_

\_\_\_\_\_ list the professional association(s) to which you belong:

\_\_\_\_\_ subscribed to professional journal(s). (List all the journals you subscribe to).

\_\_\_\_\_ attended in-service training (List course titles): \_\_\_\_\_

\_\_\_\_\_ published a journal article

\_\_\_\_\_ continuing education courses/certificates

\_\_\_\_\_ sabbaticals      Other: \_\_\_\_\_

17. Does your present employer provide in-service training?

\_\_\_\_\_ No      \_\_\_\_\_ Yes

18. If yes, what type of in-services training is provided?

\_\_\_\_\_ orientation to department(s)      \_\_\_\_\_ lectures

\_\_\_\_\_ computer programs      \_\_\_\_\_ supervision

\_\_\_\_\_ competency based training manuals/modules

\_\_\_\_\_ Other \_\_\_\_\_

19. What is your preferential mode of in-service training?

\_\_\_\_\_ computerized training programs

\_\_\_\_\_ written training manuals

\_\_\_\_\_ lecture      \_\_\_\_\_ Other \_\_\_\_\_

20. If computers have been used for in-service training, what was the content (e.g., counselling skills development)?

---

---

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21. Do you use a computer on your job? \_\_\_\_\_ Yes \_\_\_\_\_ No

22. Do you use a computer in your home? \_\_\_\_\_ Yes \_\_\_\_\_ No

23. If you use a computer, either at home or at work, what is the purpose of its use?

\_\_\_\_\_ resource or reference

\_\_\_\_\_ in-service training

\_\_\_\_\_ CHOICES, PC Directions, Other (List) \_\_\_\_\_

\_\_\_\_\_ Other \_\_\_\_\_

**Please mail your responses to:**

Randy Johnson  
c/o Dept. of Educational Psychology  
Room 302, Education Tower  
University of Calgary  
2500 University Drive N.W.  
Calgary, AB T2N 1N4

**APPENDIX B**  
**SURVEY RESULTS**



## BACKGROUND INFORMATION

## PART 1 - GENERAL INFORMATION

## 1. Age: M=39.8

22=1    30=1    35=4    40=5    45=5    50=1    55=1  
 23=2    31=2    36=3    41=3    46=2    51=1    Missing=3  
 24=2    32=1    37=6    42=6    47=1    52=1  
 26=1    33=3    38=3    43=4    48=3    53=1  
 29=1    34=5    39=7    44=3    49=5    54=2  
 Recode: 22-33=14    34-45=54    46-55=18    Missing=3

## 2. Gender: F=51 M=38

## 3. Ethnic Background:

Non Minorities=71 Visible Minorities=7 Missing=11  
 Canadian=24    Native=2    E.Indian=1  
 WASP=30    V.Minority=4    S.European=1  
 N.European=4    Mixed=8    Missing=11  
 British=4  
 Recode: Non Minorities=71 Visible Minorities=7 Missing=11

## 4. Name of Institution or Agency of present employment:

High School=25    University=11    AB Voc Center=5  
 College=19    AB Career Center=19    Missing=3  
 Technical School=6    Private College=1  
 Recode: Secondary=25 Post Secondary=42 AB Career Centers=19

## 5. Location of Institution or Agency of present employment (name of city or town):

Rural=26    Edmonton=21    Medicine Hat=3    Grande Prairie=3  
 Calgary=23    Lethbridge=7    Red Deer=2    Fort McMurray=2  
 Missing=2  
 Recode: Rural=26 Urban=44 Semi-Urban=17 Missing=3

## 6. Job Title:

Recode: Career Related=51 Other=36 Missing=2  
 Counsellor=32    Career/Life Plan=1    Native Student Serv=1  
 Acad Advisor=2    Instructor-Counsellor=7    CD Officer=3  
 Instructor=0    Counsellor-CD Co-ord=2    Student Serv Fac=4  
 Placement=0    Chair of Counselling=7    Employment Couns=1  
 Consultant=3    Registrar-Counsellor=1    LD Couns=1  
 Educ Couns=5    Training Advisor=2    Principal=1  
 Career Couns=7    Residence Hall Dean=1    Missing=2

7. Which of the following best describes your primary job function? (If your job involves many of these items, please choose the one that is most frequent).

Recode:

Academic/Course Advising=14

Placement/Employment Counselling

Career Counselling=13

Personal Counselling=16

Teaching/Instructing (Please specify)=6

Administrating (Please specify)=3

Program Coordinating (Please specify)=1

Other (Please specify)

Program Coordinating=1    Consultant for Career Plan=1

Checks #2 or #3 plus=28    Educator-Career Couns=1

Checks more than one=6

8. Minimum qualification of job title:

No formal training=1

Work related experience=0

On-the-job/formal in-service training=1

Post-secondary education=4

Other

Checks #3 or #4 plus whatever=18

Masters=16

Checks more than one=3

Degree plus experience=1

Degree required=1

Missing=2

9. Number of years performing present (counselling) job functions at present location: M=5.24

1=21    4=5    7=2    10=3    13=2    18=1

2=9    5=8    8=4    11=2    14=2    21=1

3=11    6=12    9=2    12=3    17=1

Recode: 0-2=30    3 and more=59    M=5.24

10. Number of additional years performing present or similar (counselling) job functions at another employment location:

0=36    3=8    6=5    10=6    15=4    25=1

1=4    4=3    7=1    12=1    17=1    30=1

2=11    5=1    8=3    14=2    20=1

Recode:0-2=51    3 and more=38    M=4.27

Recode:Experience=Yrs Present + Yrs Previous

11. Highest degree obtained [Please specify major or area of specialization (e.g., B.A. in Psychology or Ph.D. in Counselling, specializing in career development)].

1 High School

5 Graduate Diploma=6

2 University/College Certificate=1  
 3 University/College Diploma=4  
 4 Bachelors=36  
 6 Masters=35  
 7 Doctorate=4  
 8 Checks #8 (Other) plus whatever  
 9 Post Grad Dip=1  
 10 PhD Candidate=1  
 11 Post Masters Courses=1  
 Recode: Collge=5 Undergraduate=36 Graduate=48 M=5.12

## Part II - PROFESSIONAL DEVELOPMENT

12. Number of Career Counselling courses taken at a Post-secondary Institution:  
 0=38    2=18    4=7    8=1  
 1=16    3=5    6=2    10=2  
 Recode 0=38 1-2=34 3 or more=17 M=1.52

13. Is some additional specialized training required to perform your job related duties? Yes=57 No=30 Missing=2

14. If yes, what additional training is necessary?  
 Post-secondary education=8  
 In-service or On-the-job training=29  
 No formal training=0  
 Checks #2 plus whatever=10  
 Checks more than one and not #4=3  
 Work experience and PD=1  
 Informal On-the-job peer training=2  
 Self=1  
 On-the-job apprenticeship orientation=1  
 Practicum and Couns. Techniques=1  
 Continuing Education=1  
 Know Resources and Networks=1  
 Computer Technology=1  
 Testing and assessment=1  
 Recode: In-Service=40    Non In-Service=20  
           Not Applicable=28    Missing=1

15. Who provides the training?  
 Employer in-services=5  
 Employer provides financial support for external professional development (e.g., tuition fees, time off with pay)=16  
 Employer encourages professional development but provides no financial support (e.g., provides emotional support, time off without pay)=0  
 Self (e.g., own time and money; no employer encouragement/support)=6  
 Other (Please specify):

Checks #1 plus whatever=35  
 Checks more than one=7  
 Academic Advisors=1

My Time My Money=1  
 Mentoring or Peers=1  
 Workshops=1  
 Not Applicable=28

16. What recent professional development activities have you participated in over the past 12 months? (check all that apply).

\_\_\_\_\_ attended a conference (please list): \_\_\_\_\_

Career	Related=9	N/A=78	Missing=2
Frequency	one=7	two=1	three=1
Counsell	Related=50	N/A=37	Missing=2
Frequency	one=32	two=13	three=5
Computer	Related=3	N/A=83	Missing=3
Frequency	one=2	two=1	
Other	Related=22	N/A=65	Missing=2
Frequency	one=17	two=5	

\_\_\_\_\_ list the professional association(s) to which you belong:

**CHOICES: FIRST**

AECCA=4	APA=1	Non-Couns Related=2
PAA=14	AHSSPPE=1	ATA Guid Council=8
CPA=1	NASP=1	CAUCUSS=1
CGCA=5	Canadian Assoc=1	NACADA=1
ASHROD=2	EAPAC=1	SPACE=1
ACEA=1	Prov. Teachers=8	Admin Specialist=1
AACD/ACCA=1	American Assoc=1	Non Applicable=26
CPC=1	Informal Couns=3	

**CHOICES: SECOND**

AECCA=5	AACD/ACCA=1	Prov Special Need=3
PAA=2	APA=1	Informal Couns=3
CPA=1	AAFMFT=1	Non-Couns Related=1
CGCA=3	Faculty Assoc=2	ATA Guid Council=3
CUCCA=5	NAAA=1	CAUCUSS=1
ASHROD=3	International=1	SPACE=2
HRIA=1	N.American Adler=1	Non Applicable=50
ACCIS=1	Canadian Assoc=1	

**CHOICES: THIRD**

AECCA=4	AACD/ACCA=1
PAA=2	NASPA=1
CPA=1	Informal Couns=2
CGCA=1	CAUCUSS=1
CUCCA=1	Non Applicable=74
ASCD=1	

\_\_\_\_ Subscribed to professional journal(s). (list all the journals you subscribe to)

Career Related=12 Non Applicable=75 Missing=2  
 Frequency one=9 two=1 three=1 four=1 Missing=2  
 Couns Related=23 Non Applicable=64 Missing=2  
 Frequency one=12 two=10 Missing=1  
 Other Related=11 Non Applicable=77 Missing=1  
 Frequency one=8 two=1 three=1 four=1 Missing=2

\_\_\_\_ attended in-service training (list course titles): \_\_\_\_

**CHOICES: FIRST**

Adult Attention Deficit=1  
 Intro to the McIntosh=1  
 Business Planning=1  
 Student Advisor Training=1  
 Hypnosis=1  
 Native Culture=1  
 Group Counselling=1  
 Cognitive Behavioral=1  
 Career Planning=2  
 Peer Support=1  
 Suicide Prevention=3  
 Student Finance Board=2  
 Time Management=1  
 Managing in Public Services=1  
 Non-Traditional Education=1  
 Job Search=1  
 First Aid or CPR=1  
 Word for Windows=1  
 CHOICES=2  
 Consulting Skills=2  
 Tests (CPI)=2  
 Student Info. System=1  
 C.A.S.E.=1  
 Life Style=1  
 Barb S. Seminar=1  
 Financial Management=1  
 PD Day Seminar=2  
 Seven Habits of Success=1  
 Skills Alberta=1  
 Principals and Emergencies=1  
 Non Applicable=48

Did Not Attend=3

CHOICES: SECOND

Assessment Model=2      Teamworks=1  
 Business Planning=1      Technology and Jobs=1  
 Assessment Strategies=1      Case studies on Ethics=1  
 Women in Divorce=1      AB Career Development=1  
 Situational Leadership=1      Sex Harassment=1  
 Death and Dying=1      Eating Disorders=1  
 Peer Support=1      Non Applicable=66  
 Suicide Prevention=2      Did Not Attend=5  
 Crisis Intervention=1

\_\_\_ published a journal article      YES=4      N/A=85

\_\_\_ continuing education courses/certificates YES=19 N/A=70

\_\_\_ sabbaticals      YES=4      N/A=85

\_\_\_ other=10      N/A=79

University credit course=5  
 Develop program policies=2  
 Workshop Presentations=2  
 Attended Non University courses=1

17. Does your present employer provide in-service training?

YES=65      NO=24

18. If yes, what type of in-services training is provided?

Orientation to department(s)=5  
 Lectures=2  
 Computer programs=6  
 Supervision=1  
 Competency based training manuals=1  
 Other=54  
 Checks #3 plus whatever=26  
 Checks more than one=23  
 Agencies come in=1  
 Job specific training=1  
 Workshops=1  
 #11=1  
 #12=1  
 Recode: Computer Rel=32      Non Computer Rel=37

N/A=17      Missing=3

19. What is your preferential mode of in-service training?

Computerized training programs=4

Written training manuals=7

Lecture=18

Other=

Checks #1 plus whatever=7

Checks more than one=20

Workshops=14

Mentoring=1

Lecture Groups with=2

Combination/multimedia=2

Networking=1

Manuals and Literature=1

Practical Training=2

Discussion=1

Professional Development=1

#15=1

Non Applicable=4      Missing=3

Recode: Computer Rel=11 Non Computer Rel=69 Multimedia=2

N/A=4 Missing=3

20. If computers have been used for in-service training, what was the content (e.g., counselling skills development)?

Career Related=1

Testing=5

Word Processing=6

Checks #1 plus whatever=4

Checks more than one=4

Computer Literacy=2

Non Applicable=67

Recode: Career Rel=5 Non Career Rel=17 N/A=67

21. Do you use a computer on your job? YES=76 NO=13

22. Do you use a computer in your home? YES=55 NO=32 MISSING=2

23. If you use a computer, either at home or at work, what is the purpose of its use?

Resource or reference=10

In-service training=0

CHOICES, PC Directions, other=5

Other:

Checks #1 and #3=15

Checks #2 plus whatever=1

Checks #3 and #4=13

Checks #1 plus whatever=25

Word Processing=4

Client or Student Files=2

Personal=1

Special Education Ac=1

Checks more than one but not=3

Non Applicable=5

Missing=4

Recode: Career Rel=43 Non Career Rel=37 N/A=5 Missing=4



**APPENDIX C**  
**RELIABILITY CHECK**

Subject No.	Question 1		Question 2	
	Time 1	Time 2	Time 1	Time 2
048	1.443	1.443	2.222	2.222
	1.4431	1.4431	2.224	2.224
			1.32	1.32
			1.41222	1.41222
			1.41228	1.41228
			1.41229	1.41229
049	3.342	3.342	2.233	2.233
	3.351	3.351	2.4	2.4
			3.42	3.42
050	1.4142	1.4142	1.12151	1.12151
	1.42732	1.43732	1.126	1.126
	3.341	3.341	1.1331	1.1331
	3.3941	3.3941	1.133	1.133
			1.41393	1.31
051	2.21	2.21	1.412	1.412
	2.312	2.22	1.41251	1.41251
	2.321	3.40	1.436	1.436
	3.0	3.0	2.22	2.22
052	1.43722	1.43722	1.112	1.112
	3.31	3.31	1.121	1.121
	3.37	3.37	1.122	1.122
	4.12	4.12	1.4131	1.4131
			1.4134	1.4134
			1.4135	1.4135

Subject No.	Question 1		Question 2	
	Time 1	Time 2	Time 1	Time 2
053	3.381	3.381	1.1371	1.1371
	3.389	3.389	1.63	1.63
	4.21	4.21	1.631521	1.631521
	4.53	4.53	1.43721	1.43721
	4.56	4.56		
	4.593	4.593		
055	1.6312	1.6312	1.1331	1.1331
	3.39	3.39	1.4111	1.4111
	3.424	3.424	1.4114	1.4114
	3.342	3.342	2.131	2.131
	4.593		2.232	2.232
058	1.332	1.332	1.116	1.116
	3.1	3.1	1.11932	1.11932
	3.322	3.322	1.11934	1.11934
	3.371	3.371	1.134	1.1165
	3.3941	3.6		
077	3.40	3.40	1.132	1.132
			1.431	1.431
			1.436	1.436
			1.41251	1.41251
				1.40

Subject No.	Question 1		Question 2	
	Time 1	Time 2	Time 1	Time 2
079	1.135	1.135	1.111	1.111
	1.31	1.31	1.11821	1.11821
			1.2133	1.2133
			1.2133	1.2133
			1.228	1.228
			1.13	1.13
				1.1197

Total Agree = 31  
 Disagree = 4  
 % Agree = 88.6%

Total Agree = 45  
 Disagree = 4  
 % Agree = 91.85

**APPENDIX D**  
**AACC FIELD TEST INFORMATION**  
**AND QUESTIONNAIRE**

**ASKABOUT CAREER COUNSELLING**  
**Information and Education Software**  
**User's Guide**

Prepared by:

Randy Johnson  
University of Calgary

## **ASKABOUT CAREER COUNSELLING USER'S GUIDE**

### **I. Introduction**

#### **A. What is AskAbout Career Counselling?**

AskAbout Career Counselling is an innovative computer program that allows counsellors to access information about career counselling quickly and easily. Topics covered include:

- Career Information and Resources
- Individual and Group Assessment
- Career Counselling Methods and Issues
- Counselling Methods and Issues
- Accountability

#### **B. How does AskAbout Career Counselling Work?**

AskAbout Career Counselling lets users ask questions using their own words. Alternatively, by pressing the <Enter> key, users can page through topics just the way they would if they were reading a book. It is possible to combine both procedures, typing a question or pressing the <Enter> key in order to access information on a specific topic such as how to apply to a postsecondary institution or for a student loan.

#### **C. What is the Scope of the Program?**

AskAbout Career Counselling can answer questions about:

- Obtaining funding for education
- Employment assistance for special populations
- Local and provincial referral resources
- Career counselling assessment information
- Career decision making
- Occupational adjustment and stress

### **II. Using the Program**

#### **A. Starting the AskAbout Career Counselling Program**

The opening screen appears with the Main Menu. You have four choices from the Main Menu:

1. **Start Program** begins the AskAbout Career Counselling program.
2. **Instructions** give you information on how to use the program. Press **<Esc>** to return to the Main Menu when you have finished reading this information.
3. **AskAbout Career Counselling** gives you general information about the program. Press **<Esc>** to return to the Main Menu when you have finished reading this information.
4. **Exit the Program** returns you to the DOS prompt.

To select an option:

- Use the **<cursor arrows>** (up or down arrow keys) to highlight one of these options and press **<Enter>** or
- Type in the first letter of the option selected.

If you select the **"Start the Program"** option at the main Menu, the Career Counselling Knowledge Base will be loaded and the prompt **"Type a question or for more information press <Enter>"** will appear on your screen when the knowledge base has finished loading.

You can then begin asking your questions about career counselling.

### **B. Asking Questions**

The following pointers will help you ensure that you get the answers you really want:

1. **Focus your questions:** For example, don't ask, "How can I find information about airlines such as Air Canada?" but rather, "How can I find information about large companies?"
2. **Break your questions into parts:** For example, don't ask, "What is the Alberta Transfer Guide and what do I need to know if I want to transfer from one school to another?" but rather, "What is the Alberta Transfer



Guide?," and, once the response has been given, then ask "What do I need to know if I want to transfer from one school to another?"

3. When you have finished asking a question, press the <Enter> key, AskAbout Career Counselling will search for and display an answer.
4. You can use the <Backspace> or <Delete> keys to make changes or corrections to your question before pressing <Enter>.
5. If AskAbout Career Counselling cannot find the answer to your question it responds by saying "Sorry, I don't know about that. Try rephrasing your question or type MENU to see what information I have." This occurs when the question you asked lies outside of the knowledge base. Sometimes spelling errors or the way a question is phrased will also respond with "Sorry, I don't know about that. Try rephrasing your question or type MENU to see what information I have."
6. AskAbout Career Counselling recognizes most slang terms and many common misspellings. It also ignores all errors in punctuation and capitalization. As with any dialogue, however, the accuracy of the answers you get is determined by how well you phrase your questions.
7. Some examples of specific questions AskAbout Career Counselling can answer:
  - What are Computer Assisted Career Guidance Systems?
  - What is academic upgrading?
  - What is the Alberta Student Finance Board or SFB?
  - How can a career counsellor help a client who is not ready to make a career decision?
  - What are the guidelines for membership in the Alberta Society for Respiratory Therapists?
  - Where can I get academic upgrading?
  - What kind of information do I need to know when applying to a specific program at a specific institution?
  - Can international students work in Canada?

### C. The <Enter> Key

There may be times as you use AskAbout Career Counselling when you can't think of a question to ask.

At these times, you can press the <Enter> key to page through the Knowledge Base. Pressing the <Enter> key gives you the next screen of information in the knowledge base.

When you press <Enter>, the words "TELL ME MORE" will appear on the screen. Then a paragraph on a Career Counselling related topic will appear.

You can also use the <Enter> key to learn more about a particular Career Counselling related topic, e.g., if you are reading about student financial awards, you can press the <Enter> key instead of typing a question in order to display more in-depth information about awards.

### D. Type <F1> Key

Function Key <F1> is the **Help** key.

You can press <F1> at any time in the program. When you press F1>, the **Help Menu** will appear on your screen. You will be given several options:

**How to Quit** tells you how to get out of the AskAbout Career Planning program.

**How to Print Session** tells you how to print out a transcript of your questions and answers.

**How to Phrase Questions** tells you how to make sure that you get the answers you really want.

**Types of Questions to Ask** tells you what kind of information is available in the AskAbout Career Counselling system.

**General Help** gives you general information on using the program.

**Exit Help** returns you to the prompt.

To select an option:

- Use the <cursor arrows> to highlight an option and press <Enter> or
- Type the first letter of the desired option.

When you have finished reading the help information you need, press any key to return to the **Help Menu**. Choose **Exit**, **Help**, or press the <Esc> key to continue asking questions about Career Counselling.

#### **E. Ending the Conversation**

(This information is also available when you press the <F1> key and select the **"How to Quit"** option.)

When you have finished your conversation on Career Counselling and want to leave the program, type **"goodbye"**, **"exit"**, or **"quit"** instead of typing a question.

A menu will appear on your screen, giving you three options:

**Print Conversation**

**Restart Session**

**Exit**

To select an option:

- Use the <cursor arrows> to select an option and press <Enter> or
- Type the first letter of the desired option.

The **"Exit"** option will take you completely out of the program. Use this option when you have finished your conversation and wish to use your computer for another purpose.

The **"Restart"** option will clear the current conversation and return to the AskAbout Career Counselling Main Menu. Use this option when you have finished your conversation and want to set the program up for a new user.

#### **F. Printing the Conversation**

(This information is also available when you press the <F1> key and select the **"How to Print Session"** option.)

You can only print a transcript when you have finished your conversation with AskAbout Career Counselling.

To end the conversation, type **"goodbye"**, **"quit"**, or **"exit"** instead of typing a question. A menu will appear. Make sure that your printer is ready. The printer should be on (the on-line light should be on) and there should be paper in the

printer. Then use the <cursor arrows> to select the "**Print Conversation**" option and press <Enter>.

AskAbout Career Counselling will print all your questions and the responses the program gave. Once the transcript has been printed, the **Print/Exit/Restart Menu** will reappear on the screen. You can select the "**Print Conversation**" option again if you want another copy of the transcript, or you can select the "**Exit**" or "**Restart Session**" options.

We hope you enjoy using AskAbout Career Counselling and that you find the information helpful. In order for us to continue to improve this program we would appreciate it if you would take 5 minutes and fill in the attached user information forms.

AskAbout Career Counselling QuestionnaireBackground Information

1. Age: \_\_\_\_\_
2. Sex: \_\_\_\_\_
3. Name of Institution or Agency of present employment:  
\_\_\_\_\_
4. Location of Institution or Agency of present employment (name of city or town):  
\_\_\_\_\_
5. Job Title:  
\_\_\_\_\_
6. Which of the following best describes your primary job function? (If your job involves many of these items, please choose the one that is most frequent.)  

____ Academic/Program Advisor	____ Career Counsellor
____ Placement Officer	____ Personal Counsellor
____ Teacher/Instructor (Specify) _____	
____ Administrator (Specify) _____	
____ Program Coordinator (Specify) _____	
____ Other (Specify) _____	
7. Number of years performing counselling functions at present job location: \_\_\_\_\_
8. Number of additional years in counselling: \_\_\_\_\_

9. Highest degree obtained:

- ☐ High School
 ☐ Graduate Diploma  
☐ University/College Certificate
 ☐ Masters  
☐ University/College Diploma
 ☐ Doctorate  
☐ Bachelors
 ☐ Other

(Specify) \_\_\_\_\_

\_\_\_\_\_

10. Number of Career Counselling courses taken at a Post Secondary Institution:

\_\_\_\_\_

11. Number of Career Counselling related in-service training activities:

\_\_\_\_\_ Number of Courses      \_\_\_\_\_ Total number of hours

12. What is your preferred mode of in-service training?

- ☐ Computerized training programs
 ☐ Lecture/Workshop  
☐ Written training manuals
 ☐ Other

(Specify) \_\_\_\_\_

13. If computers have been used for in-service training, what was the content (e.g., counselling skills development, career planning)?

(Please specify) \_\_\_\_\_

14. Do you use a computer on your job? Yes \_\_\_\_\_ No \_\_\_\_\_

15. If yes, what is the purpose of its use?

\_\_\_\_ Resource or reference

\_\_\_\_ In-service training

\_\_\_\_ CHOICES, PC Directions, Other (Specify) \_\_\_\_\_

\_\_\_\_\_

AskAbout Career Counselling Questionnaire

(Please Circle the response that best describes your reaction to each of the following questions).

1. How helpful was the User's Guide?
  - a) very helpful
  - b) somewhat helpful
  - c) not very helpful
  - d) not at all helpful
  - e) did not use it
2. How helpful was the AskAbout Career Counselling Introduction to your understanding of how to use AskAbout Career Counselling?
  - a) very helpful
  - b) somewhat helpful
  - c) not very helpful
  - d) not at all helpful
3. What was your primary method of obtaining information?
  - a) Asking Questions
  - b) Hitting the <Enter> key for "Tell Me More"
4. How easy was it to obtain answers to your questions?
  - a) very easy
  - b) somewhat easy
  - c) not very easy
  - d) not at all easy
  - e) did not ask questions
5. How satisfied were you with the response time between asking a question and getting an answer?
  - a) very satisfied
  - b) somewhat satisfied
  - c) not very satisfied
  - d) not at all satisfied



6. How well does AskAbout Career Counselling address your information needs?
  - a) very well
  - b) somewhat well
  - c) not very well
  - d) not at all
7. How useful were the answers to your questions?
  - a) very useful
  - b) somewhat useful
  - c) not very useful
  - d) not at all useful
8. How comfortable do you feel using a computer?
  - a) very comfortable
  - b) somewhat comfortable
  - c) not very comfortable
  - d) not at all comfortable
9. How user-friendly was AskAbout Career Counselling?
  - a) very user-friendly
  - b) somewhat user-friendly
  - c) not very user-friendly
  - d) not at all user-friendly
10. Generally, how would you rate AskAbout Career Counselling as a reference/resource:
  - a) very useful
  - b) somewhat useful
  - c) not very useful
  - d) not at all useful

11. Generally, how would rate other types of resources that you have accessed:

- a) very useful
- b) somewhat uesful
- c) not very useful
- d) not at all useful

12. If AskAbout Career Counselling was available to you on a regular basis, how often would you be likely to use it:

- a) once a week
- b) once a month
- c) 3 or 4 times a year
- d) once a year
- e) not at all

AskAbout Career Counselling Interview Questions

1. How could the User's Guide be improved? \_\_\_\_\_

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2. What ways could the AskAbout Career Counselling Introduction be improved? \_\_\_\_\_

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3. What did you like about AskAbout Career Counselling? \_\_\_\_\_

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4. What kind of problems did you experience with AskAbout Career  
Counselling? \_\_\_\_\_

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5. What kinds of improvements would you suggests for AskAbout Career  
Counselling? \_\_\_\_\_

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**APPENDIX E**  
**AACC QUESTIONNAIRE RESULTS**

AskAbout Career Counselling Questionnaire

Background Information

1. Age: Range=35 - 51 M=40.2 years
2. Gender: M=9 F=7
3. Name of Institution or Agency of present employment:
  - 5 (31.3%) Alberta Vocational College
  - 4 (25%) Olds Community College
  - 4 (25%) Alberta Career Center
  - 3 (18.7%) Shaughnessy High School
4. Location of Institution or Agency of present employment (name of city or town):
  - 4 (25%) Red Deer
  - 8 (50%) Calgary
  - 4 (25%) Olds

5. Job Title:

- |                                  |                     |
|----------------------------------|---------------------|
| 1 Instructional Assistant        | 1 Counsellor I      |
| 1 Coun/Career & Self-Man.Instr.  | 1 Instr./Job Coach  |
| 1 Program Coordinator            | 3 Educ Counsellor   |
| 1 Learning Assistance Counsellor | 1 Career Counsellor |
| 3 Career Consultant              | 2 Counsellor        |
| 1 Guidance Dept. Head            |                     |

Recode: Career Related=6

Other Related=10

6. Which of the following best describes your primary job function? (If your job involves many of these items, please choose the one that is most frequent.)
  - 2 Academic/Program Advisor
  - 6 Career Counsellor
  - 0 Placement Officer
  - 0 Personal Counsellor
  - 1 Teacher/Instructor (Occupational Choices)
  - 0 Administrator
  - 2 Program Coordinator (Job Readiness; Guidance Program)
  - 5 Other (Type of Coounsellor: Educational; Guidance; School; Personal/Career; Learning Assistance & Student Employment)

Recode: Career Related=8 or Career Counselling Related=6  
 Other Related=9 Counselling Related=7  
 Other Related=3

7. Number of years performing present (counselling) job functions at present location:

Total=92 Years M=5.8 Years

Recode: 1-2 Years=6 3 or More Years=10  
 Males(9)=49 Years Females(7)=43 Years

8. Number of additional years in counselling:

Total=105 Years M=8.6 Years Missing=2

Recode: 1-2 Years=2 3 or More Years=12  
 Males(8)=62 Years Females(6)=43 Years

9. Highest degree obtained:

1 High School	1 Graduate Diploma
0 University/College Certificate	6 Masters
1 University/College Diploma	1 Doctorate
5 Bachelors	1 Other(Journ.Cert.)

Recode: College or less=3 (18.8%)  
 Undergraduate=5 (31.3%)  
 Graduate=8 (50%)

10. Number of Career Counselling courses taken at a Postsecondary Institution:

Total=19 Years M=1.3 Years Missing=1

Recode: None=5 1 or More Courses=10

11. Number of Career Counselling related in-service training activities:

46 Number of Courses (4,3,10,5,6,1,10,2,0,4,1)  
 M=4.2 Courses Missing=5

312 Total number of hours (72,40,50,48,15,30,30,25,0,2)  
 M=31.2 Hours Missing=6

12. What is your preferred mode of in-service training?

- 2 Computerized training programs
- 12 Lecture/Workshop
- 1 Written training manuals
- 1 Other (Varies by content)

13. If computers have been used for in-service training, what was the content (e.g., counselling skills development, career planning)?

- 1 Career Planning & Exploration
- 3 CHOICES
- 1 Programming/Database
- 11 Missing

14. Do you use a computer on your job?

Yes=16 No=0

15. If yes, what is the purpose of its use?

- 3 Resource or reference
- 0 In-service training
- 14 CHOICES, PC Directions, Other (CHOICES=4; Word Processing=4; Database/Records/Statistics=6)
- 3 Combination (#1 & #3)



AACC Utility Questionnaire

(Please Circle the response that best describes your reaction to each of the following questions.)

## 1. How helpful was the User's Guide?

- a) very helpful = 3
- b) somewhat helpfu = 9
- c) not very helpful = 1
- d) not at all helpful = 0
- e) did not use the Guide = 2

Total = 15

## 2. How helpful was the AskAbout Career Counselling Introduction to your understanding of how to use AskAbout Career Counselling?

- a) very helpful = 2
- b) somewhat helpful = 12
- c) not very helpful = 1
- d) not at all helpful = 0

Total = 15

## 3. What was your primary method of obtaining information?

- a) Asking Questions = 10
- b) Hitting the <Enter> key for "Tell Me More" = 6

Total = 16

## 4. How easy was it to obtain answers to your questions?

- a) very easy = 1
- b) somewhat easy = 1
- c) not very easy = 9
- d) not at all easy = 5
- e) did not ask questions = 0

Total = 16

## 5. How satisfied were you with the response time between asking a question and getting an answer?

- a) very satisfied = 7
- b) somewhat satisfied = 8
- c) not very satisfied = 1
- d) not at all satisfied = 0

Total = 16

6. How well AskAbout Career Counselling address your information needs?

- |                  |            |
|------------------|------------|
| a) very well     | = 1        |
| b) somewhat well | = 2        |
| c) not very well | =11        |
| d) not at all    | = 1        |
| <b>Total</b>     | <b>=15</b> |

7. How useful were the answers to your questions?

- |                      |            |
|----------------------|------------|
| a) very useful       | = 3        |
| b) somewhat useful   | = 6        |
| c) not very useful   | = 5        |
| d) not at all useful | = 2        |
| <b>Total</b>         | <b>=16</b> |

8. How comfortable do you feel using a computer?

- |                         |            |
|-------------------------|------------|
| a) very comfortable     | = 8        |
| b) somewhat comfortable | = 4        |
| c) not very comfortable | = 4        |
| d) not at all           | = 0        |
| <b>Total</b>            | <b>=16</b> |

9. How user-friendly was AskAbout Career Counselling?

- |               |            |
|---------------|------------|
| a) very       | = 4        |
| b) somewhat   | =10        |
| c) not very   | = 1        |
| d) not at all | = 1        |
| <b>Total</b>  | <b>=16</b> |

10. Generally, how would you rate AskAbout Career Counselling as a reference/resource:

- |                      |            |
|----------------------|------------|
| a) very useful       | = 1        |
| b) somewhat useful   | = 8        |
| c) not very useful   | = 5        |
| d) not at all useful | = 2        |
| <b>Total</b>         | <b>=16</b> |

11. Generally, how would you rate other types of resources that you have accessed:

- |                      |     |
|----------------------|-----|
| a) very useful       | = 4 |
| b) somewhat useful   | = 9 |
| c) not very useful   | = 0 |
| d) not at all useful | = 0 |
| Total                | =13 |

12. If AskAbout Career Counselling was available to you on a regular basis, how often would you be likely to use it?

- |                        |     |
|------------------------|-----|
| a) once a week         | = 5 |
| b) once a month        | = 5 |
| c) 3 or 4 times a year | = 0 |
| d) once a year         | = 2 |
| e) not at all          | = 3 |
| Total                  | =15 |

### AACC Utility Interview Questions

#### 1. How could the User's Guide be improved?

Didn't use it or didn't look at it too much	= 9
Provided good explanation of the program/looks okay	= 5
Needs more info regarding how to phrase questions	= 4
Needs to be specific about what to do when you can't get anywhere	= 2
Needs more examples of from the domains to help users flesh out questions	= 1
<b>Total</b>	<b>=21</b>

#### 2. What ways could the AskAbout Career Counselling Introduction be improved?

Didn't read it or refer back to it	= 3
Make sure one can get answers to example questions	= 1
It was okay, good, useful, clear, not bad	= 7
Needs more info/description about what a topic is about	= 2
Needs to provide a list of commands or menu separate from the introductory text after each response	= 2
Needs more info about how to ask questions	= 1
Needs a clearer way of indicating page down/up so as not to get confused with the arrow keys	= 1
<b>Total</b>	<b>=17</b>

#### 3. What did you like about AskAbout Career Counselling?

Good, broad, basic, accurate, impressive, thorough information and topics	=10
User-friendly, screen format was good and easy to use	= 4
Liked the idea of being able to access info this way	= 3
Good for those who have had no training	= 1
Written in easy to understand language but not simple or demeaning or talking down to the user	= 1
Good resource idea	= 3
Liked the accessibility of this format over menu or liked the fact that it is a computer and that I can access information this way	= 3
	= 2
<b>Total</b>	<b>=27</b>

4. What kind of problems did you experience with AskAbout Career Counselling?

Frustration, spent a lot of time trying to access the database, problems phrasing an acceptable question	=18
Not knowing if the information is in the database	= 3
Didn't have the database (extent or depth) to answer my questions	= 1
Written at a basic level	= 1
Didn't give much info on Accountability, Trades training or Counselling Methods and Issues	= 3
Dissimilarity of info in database (e.g., Drama in LA)	= 1
Need to read through the information to learn what kinds of questions to ask	= 2
Using the Enter was the best way to get information	= 2
Response time is acceptable if you know that the information is there	= 1
Can't go to previous screen	= 1
No indication if the information is finished	= 1
<b>Total</b>	<b>=34</b>

5. What kinds of improvements would you suggest for AskAbout Career Counselling?

Should have a menu, index of key words, or combination	= 6
Topics should be more specific	= 1
Should increase types of terms or use sub-categories to access data	= 1
Responses are too general; need more in-depth, detailed, specific answers (e.g., salary ranges, interviewing, Trades and Apprenticeship training), enlarge database	= 8
Need to improve guidelines about what to expect in the content	= 1
Need to improve guidelines about what to expect in the content	= 3
Need more information about how to ask questions	
Improve, customize, increase key words that can be used to access database	= 4
Need breaks after each category or some indication when a section is completed	= 1
<b>Total</b>	<b>=25</b>

**APPENDIX F**  
**LETTER OF CONFIRMATION**

date

Dear Research Participant:

This letter confirms the arrangements we discussed on the telephone in December. I will meet with you and your colleagues in January.

As background information, I am a Ph.D. student in Counselling Psychology at the University of Calgary, Department of Educational Psychology. I am developing a knowledge base for career and employment counsellors. Last Spring, I sent out a questionnaire to High School, Postsecondary, and Alberta Career Centre counsellors throughout Alberta. The responses received formed an information bank that was used to develop a computer program that may be utilized as an in-service training program and/or as a quick reference resource. To determine adequacy of the software and obtain user reaction, I would appreciate an opportunity to try out the program. Specifically, I would like to meet for about 10 minutes with your staff to introduce the program, then have them each spend 30-45 minutes trying out the program, after which I would interview them briefly to get their reaction on the whole.

Your participation in this project is greatly appreciated and will be of benefit to career and employment counsellors throughout Alberta.

Thank you for your time and participation.

Sincerely,

Randy Johnson

**APPENDIX G**  
**QUESTIONS ASKED BY AACCC FIELD**  
**TEST SUBJECTS**



AskAbout Career Counselling Questions  
asked by participants in the field study

**I.D. 01**

How do you conduct a job search for individuals?  
 How do you help clients with physical disabilities do career planning?  
 Tell me about career planning for special populations.  
 What assistance is there for Physically Disabled.  
 What kind of assist for Physically Disabled?  
 Who provides assistance for Physically Disabled?  
 Where assist does Alberta Career Center provide?  
 What assistance does Alberta Career Center provide  
 What programs does the Albeta Career Centr provide?  
 What programs does Alberta Career Center sponsor?  
 What programs does Alberta Career Development & Employment sponsor?  
 Where can I find information on career counselling assessment?  
 How can a career counsellor help client having decision making difficulty?  
 Why do some clients have difficulty making decisions?  
 How can a counsellor help undecide individuals?  
 How can a counsellor help multipotential individuals?  
 How can a counsellor help multipotentialed clients?  
 How can a counsellor help intra-personal clients?

**I.D. 02**

Where can I get funding for schooling?  
 Where can I get financial assistance?  
 Where can I get financial assistance for schooling?  
 Where can funding be obtained?  
 Where can funding for education be obtained?  
 Where is funding available for different programs?  
 What interest assessment tests are available?  
 What programs does CEIC have?  
 What type of programs will CEIC sponsor?  
 What career services does CEIC provide?  
 What programs does CEIC provide?  
 What programs are available to clients with physical handicaps?  
 What information is available to clients with employment barriers?  
 What services does ACD & E provide to physically disabled?  
 What financial assistnce is available to train physically disabled?

**I.D. 03**

How can I find out what occupation I would best be suited for?  
 What testing would I have to do to find out what occupation I would best be suited for?

What process would help me to find out what job I should go into?  
 What is career planning?  
 What help is there to go to school?  
 Where can I find out about assistance about going to school?  
 Where can I find funding for education?  
 What funding is there for education?  
 Where can I find information about scholarships?  
 Where can I find funding?  
 How can I find funding to train in trades?  
 Where can I find information for construction training?  
 Where can I find information about the Apprenticeship Board?  
 What is the Apprenticeship Board?  
 Where can I find information about the Apprenticeship Board?  
 What is the Alberta Apprenticeship Board?  
 Where can a person get information about trades training?  
 What is aptitude testing?  
 What is salience?  
 Menu?  
 What testing for is available for the learning disabled?  
 What is Learning Disability?  
 How can a counsellor help multipotential clients?  
 Where can I find information about training programs?

#### I.D. 04

What is aptitude testing?  
 what aptitude tests are there?  
 What is the DAT?  
 Where can I get more information on MVS?  
 Where can I find information about tests?  
 What is the Jackson Vocational Interest test?  
 Who is John Holland?  
 Who is Donald Super?  
 What is career maturity?  
 What are the career development stages of Super?  
 What is meant by establishing a person's career?  
 What is CD Theory?  
 What do you do if someone doesn't follow through with their occupational research?  
 How can I help a client overcome resistance?  
 What social support systems are available?  
 What social support systems are available for people with disabilities?  
 What is social support?  
 Where can I get academic upgrading?  
 What is the importance of social support?  
 What is the NOC?

Where do I train for Social Work?  
 What is paraphrasing?

#### I.D. 05

Where can I take a course in data entry?  
 Where can I find career information on computers?  
 What training programs are in the computer?  
 Tell me about the CAI?  
 Accountability?  
 Is a release of information needed in a referral?  
 Menu?  
 Tell me about group assessment?  
 What group assessment devices are there?  
 What accountability does a counsellor have in using personality tests?  
 What personality tests are there?  
 What personality tests are there?  
 What career counselling issues are there?  
 What financial planning help is available in Calgary?  
 What is ARE?  
 What are the hottest issues in career counselling?  
 What are the trends in career counselling?  
 Menu?  
 What is career information and resources  
 What are the employment trends?  
 Menu?  
 What are CACGs?  
 Where can I get academic upgrading?

#### I.D. 06

How can I get information about career counselling methods?  
 How can I receive information about counselling immigrant students?  
 Is there information available for counselling immigrants?  
 Menu?  
 Is there information about counselling agencies for immigrants?  
 Is there information about accountability?  
 Do you have information about medical careers?  
 I want information about medical careers?  
 What are some careers in the medical field?  
 I want information about careers in the health field?  
 Do you have information about a career in nursing?  
 What are the entry requirements for nursing?  
 Do you have a list of nursing schools?  
 Do have information about career resources?  
 I want information about specific occupations?

I Want information about nursing?  
 What are the employment trends in nursing?  
 How can I get information about entrance in to ARN?  
 How get information about entrance to ARRN?  
 How get information about entrance to AARN?  
 What are the employment trends for a career in medicine?  
 Can you give me information about employment trends?  
 What are the local employment trends?  
 What are the local employment trends in education?  
 Can you give me information about individual assessment?  
 What tests are available for individual assessment?  
 Do you have information on group assessment?  
 Do have informatin on career resources?  
 What training programs are there for careers in mechanics?  
 What training programs are available in Calgary?  
 List training program available in Calgary?  
 Where can I get financial information?  
 Do you have a list of placement services?  
 Tell me about women returning to learning?  
 Tell me about employment trends?  
 Tell me about retraining?

#### I.D. 07

What are career information and resources?  
 What is career counselling methods and issues?  
 What is askabout career counselling?  
 Menu?  
 Menu?  
 What is individual assessment?  
 What is individual assessment?  
 Menu?  
 What is follow-up?  
 What is follow-up?  
 Menu?  
 What are my responsibilities as a counsellor?  
 How can a career counsellor help a client who is not ready to make a career decision?  
 What financial services are available?  
 What is social assistance?  
 What student funding is available?  
 What is the student finance board?  
 What is SFB?  
 What is AVT?  
 What is VRDP?

What is Alberta Vocational Training allowance?  
 What programs are available at the Alberta Career Center?  
 List programs at the ACC?  
 What kinds of group assessment are there?  
 How do you do individual assessment?  
 How do I conduct career assessment interviews?  
 How do I find out about academic programs?  
 What are some career assessment inventories?  
 What career assessment devices are available?  
 How do I get an accurate assessment?  
 What is accountability?  
 How can I evaluate the success of my interview?  
 What career counselling methods are there?  
 What do career counsellors do?  
 What is the CCDO?  
 Where can I find the CCDO?  
 What is UIC?  
 What is unemployment insurance?  
 What is unemployment insurance?  
 What is CEIC?  
 Can you tell me about CEIC programs?  
 What is ACC?  
 What is SFB?  
 What is career resource center?  
 Where is CCDO?

#### I.D. 08

Is upgrading offered at Lethbridge?  
 Upgrading?  
 Is upgrading offered in the city of Lethbridge?  
 Is upgrading offered at Lethbridge Community College?  
 Are Quebec grade 11 courses equivalent to Alberta Grade 12 courses?  
 Is Alberta English 30 equivalent to Ontario Grade 13 English?  
 Menu?  
 Menu?  
 What is assessment?  
 What is individual assessment?  
 What is individual assessment?  
 Tell me about assessment?

#### I.D. 09

How ca I know what my interests are?  
 Menu?  
 What is individual assessment?

What kind of assessments can I have?  
 What interest inventories are available?  
 What is the CAI?  
 What is Career Assessment Inventory?  
 How can I assist someone with many career options?  
 How can a client choose among many attractive careers?  
 What does one do with a multi-potentialled client?  
 What does one do with a multi-potentialled client?  
 How can I help a multi-potentialled client?  
 How can I help a multipotentialled client make career related decisions?  
 What is successful career counselling?  
 What is accountability?  
 What about long-term follow-up?  
 How can I evaluate the outcomes of my career counselling?  
 Tell me about Accountability?  
 Who decides if the goals and outcomes are being met?  
 What is a goal and an outcome?  
 What is a goal?  
 Menu?  
 How can I find out about job demands for various careers?  
 How many jobs are presently available in social work?  
 Tell me about employment trends?  
 What is an employment trend?  
 Which careers have most entry-level positions at present?  
 Are there a lot of positions available for newly trained social workers at present?  
 What can you tell me about employment trends?  
 How can I help someone understand their values  
 What is a value?  
 How do I explore values?

#### I.D. 10

What are student grants?  
 Where can students go to get employment advice?  
 Where can students go to get help finding a job?  
 What is a hotel manager?  
 How can I become a cook?  
 Where can I take carpentry?  
 What services are available for emotionally disturbed?  
 What services are available for emotionally disabled?  
 What assistance is available for the emotional disabled?  
 What is CEIC?  
 What are CEICs located?  
 What are the various sources of information available?  
 What is the Minister of Advanced Education?

What career options are there for women?  
 What is the entrance requirement for the University of Lethbridge?  
 What financial assistance is available for students?  
 What is CDC?  
 What is CDEC?  
 What is an Interest Inventory?  
 What programs are available for disabled persons?  
 Menu?  
 What are reading tests?  
 What is a developmentally delayed person?  
 What programs are available for Learning Disabled?  
 What is minimum wage?  
 Where can I get more information about business administration?  
 How can I apply for a student loan?  
 How much can I borrow?  
 What is the maximum I can borrow?

#### I.D. 11

Overseas employment?  
 How can I find overseas employment opportunities?  
 How can counselling help a client make a career decision?  
 Counsellor responsibility?  
 What financial resources are available for learning disabled?  
 Is there funding for LDs?  
 What Learning Disabled financial assistance is there?  
 What employment is there for disadvantaged students?  
 What employment assistance is there for special populations?  
 What is career Planning for the disadvantaged?  
 How does the SCII compare with the Harrington-O'Shea?  
 What is the Strong-Campbell?  
 Can a client use the Harrington-O'Shea without a counsellor?  
 Can a client use the Harrington-O'Shea without a counsellor?  
 When do you have to repay a student loan?  
 How can I help a Learning Disabled person considering education?  
 What resources are there for postsecondary training to help students with a learning disability?  
 What resources are available to assess Learning Disabled students?

#### I.D. 12

How can I find referral resources?

#### I.D. 13

What is testing salience?

What is salience testing?

Menu?

What is individual/group assessment?

What are temperament inventories?

What is personality/temperament assessment?

What supervised practice is needed?

What supervised practice is needed for personality assessment?

What is abasement?

Where do I find the Holland Code?

Where can I get personality tests?

How can I access personality tests?

Where can I access personality inventories?

What personality tests are available?

Where can I be tested on the Meyers-Briggs Type Indicator?

Would Alberta Career Centers have the Meyers Briggs?

Menu?

Where can I get information on personality inventories?

Where can I get a CCDO number?

Where find this dictionary in Alberta?

Where find the CCDO dictionary in Alberta?

Where can I send a client to look at a CCDO dictionary in Alberta?

What is Alberta Career Center?

Where do I go for Career Counselling?

Where can I send lower functioning clients for career help?

Who has career resources?

Where can I get financial support information?

What agencies would provide financial support?

Where would I send a client for financial support?

Where can I get financial support?

Who handles financial support?

What do you know about financial support?

I.D. 14

Let's see local employment trends?

Where would I find local employment trends?

Where would I find information about provincial employment trends?

Where find information about local employment trends?

Where find information about local employment trends?

What interest inventories are available for vocational students?

What ability tests are available for vocational students?

List menu?

Explore accountability?

What is home education?

What information is available on home education?



Do you have information about home education?  
 What is Adult Basic Education?  
 What is ABE?  
 What is AVC?  
 What are the apprenticeship program requirements?  
 Where do I get information on apprenticeship programs?  
 Apprenticeship?  
 What is apprenticeship?  
 How do I access information on military programs?  
 What are entrance requirements into the military?  
 What are entrance requirements into armed services?  
 What are the entrance requirements for Canadian armed forces?  
 Where can I find employment opportunities for the disabled and unskilled?  
 List menu?  
 Where can I find employment opportunities for the disabled and unskilled?  
 What is Alberta education?  
 List menu?  
 What are counselling methods?  
 What are counselling methods?  
 What financial assistance is available to secondary students?  
 Where can I find information about financial assistance?  
 What high school funding is available?

#### I.D. 15

What is information about conducting a job interview?  
 What information is available on interview strategies?  
 What information is there on interview techniques?  
 What information is there about how to fill out applications?  
 How do you conduct a job search?  
 Where can I find information about overseas employment opportunities?  
 Where can I get academic upgrading?  
 Can international students work in Canada?  
 Where can I find information horticultural training?  
 What horticultural programs are there?  
 What jobs are available in horticulture field?  
 What information is available about writing resumes?  
 Where can I get information about writing resumes?  
 How do I start my job search?  
 What is job seekers handbook?  
 What subjects do I need to take for horticulture?  
 What are the trends in agriculture?  
 What information do you have about employment trends?  
 List colleges in Alberta that I can get a college diploma?  
 What about interest inventories?

What about learning disabilities?  
 What about funding for the learning disabled?  
 What funding sources are there for the physically disabled?  
 What are the colleges with accessibility to wheelchairs?  
 How can I help students make decisions about careers?  
 What is RET?  
 What are some stress management techniques?  
 What information is available on stress management?  
 What information do you have on preparatory courses?  
 What courses on post-secondary preparatory courses?

#### I.D. 16

Where do I get information on electrical apprenticeships?  
 Where do I get information on apprenticeships?  
 What government agencies do I contact for apprenticeship information?  
 Menu?  
 Where do I go for vocational training?  
 What are the employment trends in general?  
 Where can I find information on regional employment trends?  
 Where do I obtain Alberta government publications?  
 Menu?  
 What is accountability?  
 What is career counselling?  
 What is career planning?  
 What tests are used for abilities testing?  
 Where do I find information on the Holland inventory?  
 What is the Holland inventory?  
 Where can I find information on the Holland Clusters?  
 What types of vocational tests are available?  
 What are aptitude tests?  
 Where do I find information on employment aptitudes?  
 Where can I find employment tests?  
 What is the CCDO?  
 Where to find CCDO?  
 How do I start a career search?  
 What is a referral source?  
 What is a referral source?  
 What is a referral source?  
 What is a scholarship?  
 Where do I go for scholarship information?  
 Where can I get information on internships?  
 What provincial agency gives information on bursaries?  
 What is a bursary?  
 List menu?

Where does a 40 year old person go for career counselling?

How can I help an older person?

What is group assessment?

What tests are used in career assessments?

**APPENDIX H**  
**INFORMATION NEEDS TAXONOMY**

## 1. Career Information/Resources

### 1.1 Education/Training Programs

(Info. about programs and program locations)

#### 1.11 Type of Program

##### 1.111 Social Science

1.1111 Psychology

1.1112 Social Work

1.11121 Bach. of Social Work

1.11122 Social Service Worker

1.11123 Child Care Worker

1.1113 Speech Pathology

1.1114 Behavioural Science

##### 1.112 Science

1.1121 Engineering

1.1122 Biomechanics

1.1123 Environmental

1.1124 Pre-Medicine

##### 1.113 Languages

1.1131 English as a Second Language

##### 1.114 Apprenticeship/Trades

1.1141 Auto Mechanic

1.1142 Carpentry

1.1143 Plumbing

1.1144 Beauty Culture

##### 1.115 Fine Arts

1.1151 Photography

1.11511 Aerial Photography

1.1152 Music

1.11521 Vocal

1.1153 Sound Production

1.1154 Drama

1.1155 Interior Design

1.1156 Painting

##### 1.116 Business Administration

1.1161 Accounting

1.11611 Chartered Accountant

1.11612 Certified General Account

1.11613 Certified Gen. Account.

1.1162 Purchasing Management (PMAC)

1.1163 Business Education

1.1164 Entrepreneurship

1.1165 Management

##### 1.117 Medical Support

1.1171 Atheletic Therapist

1.1172 Physical Therapist

1.1173 Prosthetics

1.1174 Nursing

1.1175 Respiratory Technician

##### 1.118 Education

1.1181 Physical Education

1.1182 Educational Psychology

1.11821 Counselling Psychology

- 1.119 Specialty Programs
  - 1.1191 Aircraft Related
    - 1.11910 Pilot
    - 1.11911 Commercial Pilot
    - 1.11912 Helicopter Pilot
    - 1.11913 Air Traffic Controller
  - 1.1192 Writing
    - 1.11921 Write on Target
  - 1.1193 Academic Upgrading
    - 1.11931 Adult Basic Education
    - 1.11932 College Preparation
    - 1.11933 Transferability of High School Equivalency
    - 1.11934 Location of academic upgrading
  - 1.1194 Re-entry into the Work Force (e.g., Women)
  - 1.1195 Law Related
    - 1.11951 Lawyer
    - 1.11952 Legal Assistant
    - 1.11953 Forensics
  - 1.1196 Journalism
  - 1.1197 Career Counselling
- 1.12 Institutions/Training Environments (Sources of training)
  - 1.121 Universities
    - 1.1211 Alberta
      - 1.12111 Univ. of Calgary
      - 1.12112 Univ. of Alberta
    - 1.1212 British Columbia
      - 1.12121 Univ. of British Columbia
      - 1.12122 Univ. of Victoria
    - 1.1213 Ontario
      - 1.12131 Univ. of Toronto
      - 1.12132 Univ. of McGill
    - 1.1214 Foreign
      - 1.12121 Univ. in Australia
      - 1.12122 Univ. in L.A. California
    - 1.1215 Distance Education
      - 1.12151 Athabasca Univ.
  - 1.122 Colleges/Technical Institutes
    - 1.1221 Alberta
      - 1.12211 N.A.I.T.
      - 1.12212 S.A.I.T.
      - 1.12213 Mount Royal College
      - 1.12214 Medicine Hat College
      - 1.12215 Lakeland College
      - 1.12216 Red Deer College
      - 1.12217 Grant MacEwan College (Hinton Campus)
    - 1.1222 Other

- 1.12221 B.C. Colleges & Tech. Institute
    - 1.12222 U.S. Colleges
    - 1.12223 Colleges & Univers./L.A.
  - 1.123 Trades Schools/High Schools
    - 1.1231 Combining Acad. Upgrad. & Trades Education
  - 1.124 Distance Education (Non-University)
    - 1.1241 Granton Institute of Technology
    - 1.1242 Lakeland College
      - 1.12421 Cold Lake Learning Center
      - 1.124211 Write On Target
  - 1.125 Apprenticeship Board Non-Institutional Programs
    - 1.1251 On-the-job Training
  - 1.126 Non-institutional Programs (Correspondance/On-line Computer Training/Tutorials)
    - 1.1261 Certified General Account.
    - 1.1262 Center for Career Devel. Inst.
      - 1.12621 CCDI Programs
      - 1.12622 Application Process
- 1.13 Program Information (Secondary & Post Secondary)
  - 1.131 Admissions/Entrance requirements
  - 1.132 Program requirements (e.g., Quotas, Required courses, etc.)
  - 1.133 Crediting
    - 1.1331 Transferability of courses (e.g., AB. or B.C. Univ. Transfer Systems)
      - 1.13311 Alberta Transfer Guide
    - 1.1332 Credentialing Programs taken abroad & granting equivalency status
    - 1.1333 Advance standing for credentials earned abroad (for admissions purposes)
  - 1.134 Certification achieved
  - 1.135 Placement (e.g., ratio, types, location)
  - 1.136 Type of employment trained for
  - 1.137 Assistance provided for the disabled (e.g., Special equip., readers, counselling)
    - 1.1371 Physically
    - 1.1372 Learning
    - 1.1373 Emotionally
  - 1.138 Immigrant/foreign students
    - 1.1381 Entrance requirements
    - 1.1382 Assistance
      - 1.13821 Financial
      - 1.13822 Inter Univ. Educ. Liaison

- 1.13823 Working in Canada
- 1.13824 Notification of Changes
- 1.139 Tuition/Student fees
- 1.2 Specific Occupations
  - 1.21 Nature of Occupation
    - 1.211 Business
      - 1.2111 Marketing
        - 1.21111 Director of Marketing
      - 1.2112 Accounting
      - 1.2113 Management
        - 1.21131 Hotel/Restaurant
        - 1.21132 Modelling Agency
    - 1.212 Science
      - 1.2121 Computer Technician
      - 1.2122 Environmental Science
    - 1.213 Social Science
      - 1.2131 Social Work
      - 1.2132 Speech Pathologist/Therapist
      - 1.2133 Psychologist
      - 1.2134 Child Care Worker
      - 1.2135 Social Service Worker
    - 1.214 Security Services
      - 1.2141 Armed Forces
        - 1.21411 Canadian
        - 1.21412 United States
      - 1.2142 Police
        - 1.21421 RCMP
        - 1.21422 Local (i.e., City, Town)
    - 1.215 Fine Arts
      - 1.2151 Photographer
        - 1.21511 Aerial Photographer
      - 1.2152 Music
        - 1.21521 Vocal
      - 1.2153 Sound Production
      - 1.2154 Drama
      - 1.2155 Design
        - 1.21551 Interior
        - 1.21552 Architect
      - 1.2156 Painting
    - 1.216 Medical Support
      - 1.2161 Athletic Therapist
      - 1.2162 Nursing
      - 1.2163 Physical Therapist
      - 1.2164 Prosthetics
      - 1.2165 Respiratory Technician
    - 1.217 Education
      - 1.2171 Physical Education
      - 1.2172 Educational Psychology
        - 1.21721 Career Counselling
      - 1.2173 Teacher
        - 1.21731 English as a Second Language



- 1.218 Trades
  - 1.2181 Carpentry
  - 1.2182 Auto Mechanic
  - 1.2183 Plumbing
  - 1.2184 Beauty Culture
- 1.219 Specialized Programs
  - 1.2191 Aircraft Related
    - 1.21911 Pilot
    - 1.21912 Commercial Pilot
    - 1.21913 Helicopter Pilot
    - 1.21914 Air Traffic Controller
  - 1.2192 Law Related
    - 1.21921 Lawyer
    - 1.21922 Legal Assistant
    - 1.21923 Forensics
  - 1.2193 Journalism
  - 1.2194 Modeling
- 1.22 Employment Qualifications
  - 1.221 Required education/training
  - 1.222 Required experience(s)
  - 1.223 Salary (range)
  - 1.224 Assistance for disabled employees
  - 1.225 Duties
  - 1.226 Related Jobs
    - (e.g., Different types of jobs Social Workers qualify for; or what jobs suit which academic programs?)
  - 1.227 Specific Employers
    - 1.2271 Local
    - 1.2272 Regional
    - 1.2273 National
    - 1.228 Licensing/Certification
- 1.3 Employment Trends
  - 1.31 Trends in Education and Training
    - (i.e., what type of educ/training backgrounds do employers want? and what are the job prospects for the various academic educ/training programs?)
    - 1.311 Checking out employer acceptance of non-traditional degrees
  - 1.32 Trends in Occupations
    - (i.e., what occupation(s) should one prepare for in order to be employable?)
  - 1.33 Trends by Region (i.e., Education & Occupations) (Need comprehensive database by economic regions)
    - 1.331 Local
    - 1.332 Regional
    - 1.333 National
    - 1.334 International
- 1.4 Referral Resources/Services Directory/  
Agencies/Associations

- 1.40 Making referrals (to personnel, printed resources, facilities) or co-counselling (working jointly with other agencies in assisting the client)
- 1.41 Information Sources Specific for Career Planning
  - 1.411 Computer Assisted Career Guidance Systems (i.e., strengths & limitations, uses, etc.)
    - 1.4111 CHOICES (Educ. & Occup. files)
    - 1.4112 P C Directions
    - 1.4113 Career Factory
    - 1.4114 Computerized Placement Test
  - 1.412 Career information resources (Occupational Titles/Career Information)
    - 1.4121 International
      - 1.41211 DOT
      - 1.41212 Overseas Employment
    - 1.4122 National
      - 1.41220 Information Relating Jobs to Educational Programs
      - 1.41221 CEC Labour Market Update
        - 1.412211 CEC Wage Report
        - 1.412212 CEC LM Bulletin
        - 1.412213 CEC Area Outlook
      - 1.41222 Job Futures (Vol. I & II)
      - 1.41223 So You've Left School, Now What!
      - 1.41224 Self-Dir. Career Planning Guide/Modules
      - 1.41225 Career Considerations
      - 1.41226 Armed Forces Recruitment
        - 1.412261 Application Process
      - 1.41227 Guidance Center Monographs
      - 1.41228 CCDO
      - 1.41229 Career Trends (Future Trends or Occupations projected in the 90's)
    - 1.4123 Provincial
      - 1.41231 Alberta Job Futures
      - 1.41232 1.41233 Alberta Occupations Profiles
        - AB. Profiles for Careers/
        - AB. Career Dev. Profiles
      - 1.41234
      - 1.41235 Career Outlines
      - 1.41236 Occupational/Career Profiles
      - 1.41237
      - 1.41238 Subject Sunburst

- 1.4124 Other (Books, Magazines, Reports)
  - 1.41240 Future Vision
    - 1.412401 Research Alert
  - 1.41241 Megatrends 2000 (Naisbit)
  - 1.41242 Questers (Kanchier)
  - 1.41243 Canada's Best Careers Guide (Feather)
  - 1.41244 Great Careers (Smith, Ed.)
  - 1.41245 Telephone Book
  - 1.41246 Popcorn Report (Popcorn)
  - 1.41247 The Futurist (Magazine)
  - 1.41248 Stats Can. Re: Employment of Liberal Arts Graduates
  - 1.41249 What Can You Do With a B.A. or B.Sc. Degree? Application of a Liberal Arts Degree.
- 1.4125 Other (Events, Instit. Personnel)
  - 1.41251 Informal Interviews (i.e. this may include a formal or informal list of contacts at educational or industrial institutions)
  - 1.41252 Police Resource Officer
  - 1.41253 S.A.I.T. Faculty
  - 1.41254 Career Day/Open House (NAIT, LCC)
    - 1.412541 Problems with Career Fairs
  - 1.41255 Employer files (Specific job duties & required skills for local jobs)
  - 1.41256 Information about Career Planning Workshops
  - 1.41257 List of Calgary companies requiring services of artists
  - 1.41258 List of Calgary companies with art departments
- 1.413 Educational information resources
  - 1.4131 Post-Secondary Education Programs Guide/ Directory of Programs (Public & Private Institutions)
  - 1.4132 Spectrum Series
  - 1.4133 Informal Interviews (i.e., indivs. at educ. institutions)
  - 1.4134 University & College Calendars

- (Name, Address, Phone No., Program listings or informational pamphlets)
- 1.41341 Acquiring a Calendar
- 1.4135 It's About Time
- 1.4136 Alberta Transfer Guide
- 1.4137 College Board Index of Majors/ Index of Colleges/Universities
- 1.4138 National Guide for Colleges/ Universities in Canada
- 1.4139 Other
  - 1.41391 Info. re: training that will help individuals secure employment overseas
  - 1.41392
  - 1.41393 Dist.Educ. Directories
  - 1.41394 Accessing transcripts
- 1.414 Employment Information Resources
  - 1.4141 Local Employment Opportunities
  - 1.4142 Employment Opportunities for the Disabled & Unskilled
  - 1.4143 Employer Names & Addresses
  - 1.4144 Overseas Employment Opportunities
    - 1.41441 Obtaining a work permit in the U.S.
    - 1.41442 Info. re: How to get employment in the U.S. (temporary or full-time)
  - 1.4145 Newspaper
- 1.415 Job shadowing, Co-op prog., Work experience
  - 1.4151 Job Shadowing
  - 1.4152 Co-op or Work-Experience Programs
    - 1.41521 Program Contacts
    - 1.41522 Advantages/Disadvantages
- 1.416 Business Enterprising
  - 1.4161 Alberta Econonmic Development & Trade
    - 1.41611 Program Information
  - 1.4162 Langs./Multicultural Settings
  - 1.4163 Training Personnel to Help Individuals Starting a Business
- 1.42 Associations/Unions/Societies operated referral sources (Info. re: membership, program guidelines, addresses, phone numbers)
  - 1.420 Type of Info. Obtained
  - 1.421 Accounting Types/Designations
    - 1.4211 Certified Management Accountant
  - 1.422 Medical Types
    - 1.4221 Respiratory Tech. Assoc.
    - 1.4222 AB. Assoc. of Reg. Nurses
    - 1.4223 Northern AB. Prosthetic &

- Orthotic Association
  - 1.42231 Certification
  - 1.4224 Other
    - 1.42241 A.A.G.E.P.
- 1.43 Agencies
  - 1.431 Alberta Government
    - 1.4311 Alberta Career Center
    - 1.4312 Career Hotline
    - 1.4313 Alberta Apprenticeship Board
    - 1.4314 Alberta Economic Development
    - 1.4315 Alberta Student Finance Board
  - 1.432 U.S. Consulate (Re: working in the U.S.)
  - 1.433 Canadian Government
    - 1.4331 Indian and Northern Affairs
    - 1.4332 Canada Employment & Immigration
      - 1.43320 Can. Immigr. Centre
      - 1.43321 Programs
    - 1.4333 Student Employment Center
  - 1.434 Employment Services for Physically Disabled
  - 1.435 Institutions (in general)
    - 1.4351 Educational (e.g., Universities)
    - 1.4352 Industrial (e.g., ESSO)
  - 1.436 Career Resource Centers/Libraries
    - 1.4361 Mount Royal College
    - 1.4362 Calgary City Library
    - 1.4363 UCS Career Library
  - 1.437 Career Planning Services for Specific Client Groups (Career Planning, Support & Educ/Occup. Opportunities)
    - 1.4371 Rural Albertans
      - 1.43711 Disabled
    - 1.4372 Disabled persons
      - 1.43721 Physical
      - 1.43722 Emotional
      - 1.43723 Learning
    - 1.4373 Other
      - 1.43731 Women re-entering the workforce
      - 1.43732 Mid-life transitions
- 1.44 Other Referral Information
  - 1.441 Community Services Directories
  - 1.442 List of Government jobs & hiring practices
    - 1.4421 Federal
    - 1.4422 Provincial
  - 1.443 Services/Information Governing Apprentices and their Employers (i.e., Labour Standards)
    - 1.4431 AB Apprenticeship Board
    - 1.4432 AB Labour Relations

- 1.444 List of job shadowing/work experience opportunities available for rural Albertans
- 1.445 List of info. interviewing resources for rural Albertans
- 1.446 List of agencies which have CACG systems accessible to the public
- 1.5 Placement Services
  - 1.51 Types of services
    - 1.511 CEIC
    - 1.512 Newspaper
      - 1.5121 Specialty Magazines
      - 1.513 Employment Services for Physically Disabled
  - 1.52 Population
    - 1.521 Older, unskilled & unemployed
    - 1.522 Disabled
  - 1.53 Employment Options
    - 1.531 Temporary
- 1.6 Financial Support (for education & training)
  - 1.60 Locating Funding Sources -a guide (Provincial, National, International)
    - 1.601 Applying for Financial Assistance
    - 1.602 Eligibility
  - 1.61 Student Loans (i.e., Provincial, Canada)
    - 1.611 Eligibility
  - 1.62 Awards (i.e., Scholarships/Grants/Bursaries)
    - 1.621 Institutional
    - 1.622 Provincial, National
    - 1.623 International
    - 1.624 Directories
  - 1.63 Sponsoring Agencies (financial assistance for special populations e.g., unemployed, disabled) (i.e., Applications, eligibility criteria & appeal procedures)
    - 1.631 Government
      - 1.6311 CEIC Program(s)
        - 1.63111 Qualifying for Funding
      - 1.6312 WCB Program(s)
        - 1.63121 Qualifying
      - 1.6313 Social Services
        - 1.63131 AiSH
      - 1.6314 Unemployment Insurance
      - 1.6315 AB. Career Development & Employment
        - 1.63151 Qualifying for AVT
        - 1.63152 VRDP
          - 1.631521 Qualifying
    - 1.632 Private Organizations
      - 1.6321 Immigration Aid
        - 1.63211 Settlement Services

- 2. Individual/Group (Formal/Informal) Assessment
  - 2.0 Formal Assessment
    - 2.01 Purpose
  - 2.1 Testing/Assessment
    - 2.11 Population
      - 2.111 High School/Adolescent
      - 2.112 Adult
      - 2.113 Disabled (Physical, Emotional, Learning)
      - 2.114 Employee declared redundant in job setting
    - 2.12 Assessment Services
      - 2.121 High School
      - 2.122 Post Secondary Institutions (Coun. Centers)
      - 2.123 Gov't (AB. Career Centers, WCB)
      - 2.124 Private (Psychologists)
    - 2.13 Purpose
      - 2.131 Reassurance/confirmaton (of occupational interests, goals, etc.)
  - 2.2 Testing/Assessment Devices (Admin. & Interpretation)
    - 2.21 Aptitude
      - 2.210 Different Types
      - 2.211 DAT
    - 2.22 Interests
      - 2.221 Career Assesment Inventory
      - 2.222 C.A.P.
      - 2.223 SCII/SII
      - 2.224 DACUM Chart
      - 2.225 My Vocational Situation
      - 2.226 Career Interest Profile
      - 2.227 CAI
    - 2.23 Personality/Temperament
      - 2.231 MBTI
      - 2.232 CPI
      - 2.233 EPPS
    - 2.24 Career decision making
      - 2.241 CDMS
    - 2.25 Achievement
    - 2.26 I.Q.
    - 2.27 Role Salience
    - 2.28 Goals
  - 2.3 Administrative and Interpretation Skills
    - 2.31 Development of Skills
      - (i.e. need for info./training)
      - 2.311 Interest testing (SCII/SII)
      - 2.312 Temperament aassessment (MBTI)
      - 2.313 Aptitude testing
    - 2.32 Applications (process/interpretation)
      - 2.321 Interest testing skills
  - 2.4 Personalizing test results

- 2.5 Ordering/purchasing testing materials/software
  - 2.51 Psychometrics Inc. (U.of Alberta)
- 2.6 Need for Improved Diagnostic Tools for Determining Client Interests & Goals
- 3. Career Counselling Methods/Issues
  - 3.0 Career Planning (i.e., a set of processes or techniques)
  - 3.1 Career Decision Making Steps
    - 3.11 CDM approaches
  - 3.2 Choices (i.e., between 2 or more alternatives)
    - 3.21 Choosing between Educational Institutions
    - 3.22 Choosing an Educational Program
      - (e.g., degree vs diploma, Psych. vs Sociology, CA vs CGA vs CMA)
  - 3.3 Career Decision Making Problems
    - (Barriers to Career Planning)
    - 3.30 Undecided/Indecisive
    - 3.31 Developmental immaturity
      - (lacks info/experience/knowledge of the world of work & self)
    - 3.32 Decision-making anxiety re:
      - 3.321 whether the individual will like it or be suitable for it
      - 3.322 whether there will be job openings upon completion
      - 3.323 whether choice "A" is the best option out of all the ones the individual is qualified for or would like to do
    - 3.33 Multipotentiality
    - 3.34 Contextual issues/factors
      - 3.341 Social/Personal (family, peers, culture, language)
      - 3.342 Socio-Political-Economic (uncertainty)
    - 3.35 Intrapersonal
      - 3.351 Security vs Insecurity
      - 3.352 Self-esteem
      - 3.353 Unmotivated/apathetic
      - 3.354 Unrealistic career goals
    - 3.36 Decision Making Conditions:
      - (Risk vs No-Risk)
    - 3.37 Financial impact:
      - 3.371 Investment vs Return
        - (with respect to train or not to train)
      - 3.372 Planning/budgeting (financial restrictions)
    - 3.38 Career change/transitions (e.g., mid-life, retraining)
    - 3.39 Personal situations which act as barriers
      - 3.391 Older
      - 3.392 Skilled/unskilled
      - 3.393 Unemployed
      - 3.394 Disabled



- 3.3941 Physical
- 3.3942 Learning
- 3.3943 Emotional
- 3.3944 Mentally Handicapped
- 3.395 Social Assistance Recipient (SARs)
- 3.396 Disabled, Unskilled, Unemployed, Immigrant
- 3.397 Immigrants (e.g., language; little or no recognition of previous education or employment experience)
- 3.398 Young Offenders
- 3.399 Women re-entering the workforce after long absence (i.e., what do you do when skills and knowledge are rusty)
- 3.4 Person-Environment Fit
  - 3.40 Approaches to linking/matching individuals to jobs (e.g., Interests)
  - 3.41 Exploring the world of work (Environment) (i.e., info. & experiences)
  - 3.42 Exploring/understanding self (Person) (Informal Assessment)
    - 3.421 Skills
    - 3.422 Interests
    - 3.423 Values
    - 3.424 Personality
    - 3.425 Aptitude
    - 3.426 Goals
    - 3.427 Work experiences & performance ratings
    - 3.428 Academic background
    - 3.429 Third party references/information (e.g., Medical restriction, friends)
  - 3.43 Relating knowledge of various occupations with knowledge of self resulting in choosing an occupation/educational or training program (Fit)
- 3.5 Occupational Adjustment
- 3.6 Occupational Stress
- 3.7 Support groups for special populations
  - 3.71 Physically disabled
  - 3.72 Learning disabled/mentally handicapped
  - 3.73 Emotionally disabled
- 3.8 Job Search
- 3.9 Academic Advising/Program Planning
- 4. Counselling Methods/Issues
  - 4.0 General information/approach (includes use of microskills & description of counselling process)
  - 4.1 Social Support
    - 4.11 Immigrants
    - 4.12 Disabled
    - 4.13 Individual/Family

- 4.2 Financial (i.e., planning, budgeting)
  - 4.21 Individual/Family
  - 4.22 Immigrants
- 4.3 Marital
- 4.4 Family
  - 4.41 Relocating
- 4.5 Individual
  - 4.51 Depression
  - 4.52 Mid-life assessment
  - 4.53 Loss and grieving
  - 4.54 Lack of motivation
  - 4.55 Relocating
  - 4.56 Identity (self-in-relation)
  - 4.57 Time Management
  - 4.58 Retraining/Returning to Learning
  - 4.59 Other
    - 4.591 Cultural Adjustment
    - 4.592 Single Parent
    - 4.593 Values/Beliefs
    - 4.594 Lack of Social Skills
- 5.Accountability (Referral follow-up)