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Assessment in Career Guidance

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PRE-READING QUESTIONS

1. Have you ever taken a standardized test?
2. What did you like or dislike about the experience?
3. Do you think you would use assessment instruments as a career practitioner? Why? Why not?

Introduction and Learning Objectives

The use of assessment instruments has been connected with career counselling since its beginning (Peterson & Gonzalez, 2005; Peterson & Nisenholz, 1999; Whiston, 2009). Instruments such as rating scales, tests, and inventories assess a number of career-related constructs, including skills, **abilities**, **aptitudes**, **values**, **interests**, **personality**, achievement, and cultural variables (Zunker, 2006). When these constructs are measured by such instruments, clients gain a greater self-understanding that helps them make realistic and satisfying educational and vocational choices (Herr, Cramer, & Niles, 2004). The results of such instruments can provide an individual with a number of alternatives and options to consider, and the motivation to further explore the decision-making process (Swanson & Fouad, 2010).

Assessment is much more than giving an individual a test (Neukrug & Fawcett, 2010; Peterson & Gonzalez, 2005; Stewart, 2010). Instead, assessment procedures

involve, "exploring client information and concerns using a range of devices, such as norm-referenced tests, interviews, observations, and informal procedures" (Sattler, 2008, p. 5). These procedures might include a combination of formal or informal tests, interview data, or external reports like grades or work performance appraisals. Tests or instruments refer to the means used to obtain client information such as the Strong Interest Inventory, or the Myers-Briggs Type Indicator, both of which will be described later in the chapter. These assessment procedures help avoid the inherent pitfalls of the "test-and-tell" approach (Andersen & Vandehey, 2006).

After reading this chapter you will:

1. Comprehend the ethical principles involved in assessment practices.
2. Have knowledge of the range of career assessment instruments available to meet the needs of career practitioners and their clients.
3. Understand how to choose assessment instruments.
4. Understand the difference between formal and informal assessment tools.

We anticipate that readers will obtain an understanding of standardized tests as they engage in professional practice. It is beyond the scope of this chapter to provide all the information needed to use these instruments appropriately. This requires further training and education. Instead, we take a conceptual approach; that is, we hope that readers will develop an appropriate understanding of central concepts around standardized tests in order to use these instruments in an ethical and professional manner.

The chapter is divided into two major sections: the first part is about assessment issues and factors that can influence the choice of instruments practitioners use with particular clients, and the second part focuses on the instruments themselves.

Ethical Principles and Assessment Practice

Career practitioners are guided by principles laid out in codes of ethics, such as those articulated in the *Canadian Standards and Guidelines for Career Development Practitioners* (National Steering Committee, 2004). One of the overarching principles is that career practitioners practise within the limits of their competence. Typically, competence is achieved in preservice or in-service education programs. When selecting instruments, career practitioners choose the ones they have been educated to administer, score, and interpret, and those that show appropriate levels of validity and reliability. Before administering any instrument, career practitioners familiarize their clients with the purposes and benefits of assessment. When working with clients belonging to a minority group, career practitioners select standardized instruments based on the degree of similarity between their client and the characteristics of the group used to standardize

the instrument (Arthur & Collins, 2010). Additionally, they interpret test results with caution, and consider issues like age, ethnicity, language, disability, gender, sexual orientation, religious affiliation, history, and socioeconomic status. Lastly, regardless of client characteristics, career practitioners consider the rights of their clients when explaining informed consent for testing. They are careful to use language that clients understand when discussing the results of assessment procedures, they ensure the confidentiality of results, and obtain client consent for their release.

Overall, these ethical principles establish the standards within which career practitioners choose assessment instruments and deliver professional services. These standards require practitioners to (a) be aware of the benefits and pitfalls of testing; (b) understand how tests are constructed, administered, scored, and interpreted; (c) determine the validity and reliability of instruments; (d) understand how diversity characteristics may influence test results; and, (e) be conscious of a client's right to informed consent and confidentiality. By informed, we mean the practitioner must help clients increase their readiness for writing assessment tests by familiarizing them with the test format and the questions that will be asked, the length of time involved, the cost of testing, and the skills needed to complete the testing process. The career practitioner is also responsible for administering, scoring, interpreting, and explaining the test results to clients in a respectful manner. All of the practitioner's decisions require caution and must be based on the best interests of his or her client. When the content and **norms** are not applicable to a client due to issues like ethnicity, language, sexual orientation, or gender, career practitioners may choose to not use formal assessment procedures.

Selecting and Administering a Good Test

Assessment is always conducted for a specific purpose, for example, to provide career guidance to clients and to help individuals choose occupations in which they are likely to be successful and satisfied.

There are several factors to consider when choosing tests and assessments. The ideal assessment instrument is reliable, fair, valid, and cost-effective. It is important that the instrument be of appropriate length and suitable for the individual's needs. As well, the test administrator must have the qualification to administer the test, find it easy to administer, and produce results that the administrator finds easy to understand. Test publishers often provide information on these factors on their websites (e.g., CPP's Strong Interest Inventory <https://www.cpp.com/products/strong/index.aspx>) or in technical manuals (e.g., ACR Interest Inventory Technical Manual <http://www.act.org/research/researchers/pdf/ACTInterestInventoryTechnicalManual.pdf>). In selecting an appropriate

assessment, do the following:

1. Assist clients to clarify their goals.
2. Select those instruments that best help clients achieve their goals.
3. Locate and evaluate technical information about possible instruments.
4. Check the **validity**, **reliability**, **cross-cultural fairness**, and practicality of the possible instruments.
5. Consider all information and choose instruments judiciously.

Are You Qualified?

Appropriate, ethical use of testing tools requires general knowledge of tests and their applications and limitations. All practitioners, when using a test for the first time in their practice, need to be thoroughly familiar with the manual and to use the test they've chosen in a supervised field setting. Many assessments are sold only to professionals who are appropriately trained to administer, score, and interpret such tests and inventories. Assessments are designated as either A, B, or C level, and require different qualifications for purchase as outlined in the table.

ASSESSMENT LEVELS	DESCRIPTION
A-level assessments	Include self-assessments and do not require specific education or training to purchase or use (e.g., card sorts, some interest inventories, etc.).
B-level assessments	Require special certification or courses in assessment and training or supervision in the administration and interpretation of the instruments used (e.g., Myers-Briggs Type Indicator®).
C-level assessments	Include assessments typically used by psychologists such as I.Q. tests or neuro-psychological tests (e.g., MMPI, WAIS, etc.).

Table 1: Assessment Levels.

Selecting Assessment Instruments

Career practitioners consider a number of factors before they make decisions regarding the instrument(s) they might use (Neukrug & Fawcett, 2010; Swanson & Fouad, 2010). They think about the purpose of the assessment, the psychometric properties of the instrument(s), and a number of social variables that may influence the assessment results.

Purpose of Assessment

An important place to begin the discussion on selecting assessment instruments is with clients and their reasons for seeking help. Career practitioners use a variety of assessment approaches that are either formal (structured) or informal (unstructured; Neukrug & Fawcett, 2010). Formal approaches involve using a preexisting set of questions to collect information, while informal ones involve asking questions that arise from clients' responses. All tests, for example, are considered a structured approach because they have preexisting questions to which clients respond. Depending on the client, a career practitioner might choose to use an informal approach, such as a career fantasy activity or a card sort, in order to accommodate issues around education, ethnicity, and/or language proficiency.

Assessment results can be helpful to clients in a variety of ways (Andersen & Vandehey, 2006; Herr et al., 2004; Peterson & Gonzalez, 2005; Swanson & Fouad, 2010). The results suggest occupations and motivate clients to explore vocational options. They may help clarify **vocational interests**, confirm possible existing options, and/or predict satisfaction with possible future vocational choices. For example, the results of the Strong Interest Inventory provide a number of vocational options that are based on the similarity between a client's expressed interests and those of workers in particular occupations. Finally, assessment results may help clients understand issues that surround the decision-making process such as barriers to vocational choice or a lack of vocational identity. The results of My Vocational Situation may help to clarify both these issues for clients. These assessment instruments are described later in this chapter.

Psychometric Properties

Once the decision has been made to use an assessment instrument, career practitioners choose the instrument that will provide the most accurate information in response to the clients' concerns and goals. Career practitioners choose instruments that produce consistent scores and accurately measure constructs (Andersen & Vandehey, 2006; Sattler, 2008; Swanson & Fouad, 2010). In terms of choosing the best standardized instruments, two central concerns are validity and reliability (Anastasi & Urbina, 1997; Whiston, 2009).

Validity is concerned with what an instrument intends to measure and how well it accomplishes this intention; and **reliability** concerns the constancy of results from the instrument when repeated measures are taken. Reliability is an important prerequisite to determining an instrument's validity (Whiston, 2009). Both assess the sampling techniques used to "norm the instrument" (Anastasi & Urbina, 1997; Sattler, 2008; Whiston, 2009).

Sampling techniques help career practitioners determine the suitability of the instrument for their particular clients. Career practitioners obtain this psychometric

information from a variety of sources, including technical and administration manuals produced by the test developers and the *Buros Mental Measurement Yearbook*, which provides a more objective report on the properties of instruments in print. Career practitioners take into account factors like validity, reliability, and sampling techniques when making decisions about which instruments to use in their practice.

Social Contexts

Culture and social diversity are two other variables career practitioners consider when deciding which instruments they will choose (Evans, 2008). Due to standardization procedures, assessment instruments may not always measure a particular client's characteristics objectively. Cultural factors like gender, sexual orientation, socioeconomic status, and geographic location (e.g., rural versus urban) may bias the results. All standardized assessment instruments assume that the test-taker has had an equal chance to experience all the activities that are queried in the instrument (Whiston, 2009). For example, if an interest inventory reflects mostly male experiences, the results may be biased for females. These circumstances do not mean that a career practitioner should not use such instruments. It simply means that practitioners do not interpret test scores in isolation but collect multiple data and use this comprehensive method to make decisions.

While test developers attempt to develop instruments that are fair and representative of regional demographics, it is reasonable to say that all tests are biased to some degree and that career practitioners should make the effort to minimize these biases as much as possible (Brown, 2007). Therefore, it behooves career practitioners to acquire knowledge of specific client variables and current research results when using career assessment instruments (Whiston, 2009).

An underresearched area now coming to the fore is a client's sexual orientation. For example, lesbian, gay, bisexual, transgendered, and questioning/queer (LGBTQ) clients may not have crystallized their sexual orientation. LGBTQ youth can be distracted from typical career development tasks because they are busy dealing with identity issues connected to their sexual orientation (Schmidt & Nilsson, 2006).

Language and cultural barriers may make it difficult to administer the test and share the results with the client. Since most career assessment instruments are printed in English, ethnic minority group members need to demonstrate high levels of English language proficiency in order to accurately interpret assessment instruments. Sometimes it may be appropriate to have an interpreter work with the career counsellor to help clients understand what is being asked of them, and to present the outcomes of the assessment (Sattler, 2008). Other clients, such as those who contend with illiteracy, may also benefit from alternative arrangements. For example, a client with a reading disability may need to hear the questions and be given more time.

Career practitioners seek to know and understand the uniqueness of their clients

and the implications of that uniqueness. When interpreting the results of career assessment instruments, they also consider their clients' living environments. The results of a **career maturity** inventory, for example, may be influenced by a client's lack of knowledge and exposure to occupations and their inability to plan how to achieve their occupational aspirations due to their rural background or environment (Shepard, 2004).

Traditional approaches to career assessment expect the individual to make the decisions, and do not involve family or community in the process. First Nations people, for example, value connectedness and community (McCormick & Amundson, 1997). Consequently, most career assessment instruments may not be applicable. Neumann, McCormick, Amundson, and McLean (2000) found that "the input of family and community members in the career-planning process further strengthens the connectedness with greater sources of influence which play important roles in the guidance and well-being of Aboriginal First Nations people" (p. 182).

Assessment Instruments

Assessment instruments provide decision makers with information about components of their **self-system** and may point out barriers that influence their ability to choose an occupation.

In the first instance, assessment ideally addresses all aspects of the individual, such as interests, personality variables, values, abilities, aptitudes, and achievements. In doing so, assessment instruments prove particularly useful in the development of self-awareness as part of the career decision-making process. The information they provide may help identify problems or barriers, or close the knowledge gap between a client's self and potential occupations.

In the second instance, assessment may be used to identify barriers and/or problems influencing the readiness to make vocational decisions (Brown, 2012). Potential barriers might include career maturity or readiness. For example, first-year university students often experience career indecision as a result of a lack of **career readiness** (Morgan & Ness, 2003). By understanding the reasons behind their indecision, clients can begin to further their career development.

Types of Formal Assessment Instruments

In the review of assessment instruments below, we begin with instruments that measure individual traits such as interests, personality, values, and abilities, followed by a discussion of instruments that are diagnostic in nature and measure career maturity, career readiness, and career decision-making difficulties (personality trait assessment). The section ends with a discussion of computer-based assessments for charting career development growth, occupational selection, and informal assessments.

Assessing Interests

In career assessment, vocational interests are the most frequently assessed construct used to match an individual with occupations (Brown & Lent, 2005). John Holland and E. K. Strong Jr. have made substantial contributions to the definition and assessment of interests, particularly in relation to choice of and satisfaction with an occupation (Brown & Lent, 2005). Interests can promote self-awareness and stimulate exploration of additional occupational possibilities.

Table 2 describes the leading tools for personal interest inventories.

Inventory	**STRONG INTEREST INVENTORY (SII)** ***E. K. Strong, Jr., Jo-Ida C. Nansen, and David P. Campbell*** **<https://www.cpp.com/products/strong/index.aspx>**
Measures	Measures how personality is related to interests and level of interest on each of the six Holland Codes.
Population	Designed for individuals aged 14 and above.
Reliability & Validity	High reliability. Normed recently on 2,250 individuals (50% men, 50% women), selected from more than 20,000 respondents (Jenkins, 2009). Sample is generally representative of the racial and ethnic makeup of the U.S. workforce.
Inventory	**JACKSON VOCATIONAL INTEREST SURVEY (JVIS)** ***Douglas N. Jackson*** **<http://www.jvis.com/>**
Measures	Measures respondents' similarity to 17 university subject majors and 32 occupational group clusters rather than specific majors and occupations.
Population	High school and adult populations (14 and older) with educational and career planning, either individually or in group settings.
Reliability & Validity	Adequate validity and reliability for measuring occupational interests (Sanford-Moore, 2009). Norm sample consisted of 1,750 males and 1,750 females in Canada and the United States (1999) of which 2,380 were secondary school students and 1,120 were adults.
Inventory	**SELF-DIRECTED SEARCH (SDS)** ***John Holland*** **<http://www.self-directed-search.com/>**
Measures	Based upon Holland's theory that people are most satisfied in work environments that reinforce their personalities, the SDS categorizes people as one of six personality types. Results provide a three- or two-letter personal code that is used with the Occupations Finder or Majors Finder to locate a career or educational pathway of interest.

Inventory	**SELF-DIRECTED SEARCH (SDS) (Cont'd)** ***John Holland*** **<http://www.self-directed-search.com/>**
Population	Self-administered, self-scored, and self-interpreted. Two forms are available: Form R for high school students, college students, and adults and Form E for adults and older adolescents with lower educational levels (fourth grade reading level).
Reliability & Validity	The assessment itself is not standardized but norms exist for the codes. It is the most widely used career interest inventory in the world and has been adapted in over 25 countries (Ciechalski, 2009).

Table 2: Instruments for Personal Interest Inventories.

Assessing Personality Traits

In career counselling, personality assessment plays a key role in providing information that enables individuals to choose the occupations most likely to bring them fulfillment. For example, individuals described as extroverted tend to select occupations that provide regular opportunities for interaction with people. At the same time, **personality traits** can impact the process of career exploration itself. For example, the trait of being open to new experiences would suggest a proclivity for exploring new occupational experiences. While the following personality inventories may be based on differing theoretical foundations, they provide information on the individual's self-system that is helpful in the career exploration process. Additionally, the following instruments in Table 3 were designed to measure normal personality traits as opposed to problematic ones.

Inventory	**MYERS-BRIGGS TYPE INVENTORY (MBTI)** ***Katharine Briggs and Isabel Briggs Myers*** **<http://www.myersbriggs.org/my-mbti-personality-type/>**
Measures	Based on Jung's theory, the MBTI measures four aspects of personality: extroversion/introversion, sensation/intuition, thinking/feeling, and judging/perceiving. Involves responding to 93 forced-choice items to produce a Personality Type that is denoted by four letters (e.g., ENTP: extroverted, intuitive, thinking, perceiving).
Population	Suitable for individuals aged 14 and up.
Reliability & Validity	Norms are based on results from a broad, nationally representative sample of 3,009 people in the U.S. High levels of internal consistency and test-retest reliability are deceiving. Mastrangelo (2009) cautions practitioners to avoid an overly simplistic acceptance of occupations that are based on one pole of each dichotomy as opposed to a holistic view of the type.

Inventory	**REVISED NEO PERSONALITY INVENTORY (NEO PI-R)** ***Paul Costa Jr. and Robert McCrae*** **<http://www.sigmaassessmentsystems.com/assessments/neopir.asp>**
Measures	Assessment of personality based on the Five-Factor model — Neuroticism, Extroversion, Openness to experience, Agreeableness, Conscientiousness. Measures interpersonal, motivational, emotional, and attitudinal styles.
Population	Adolescents and adults, aged 17 and beyond.
Reliability & Validity	Scores are compared to a population sample of 1,301 (797 males and 353 females) ranging in age from 18 to 68. High levels of reliability and validity; however, there are concerns around problematic wording, which is particularly difficult for individuals for whom English is not the first language (Stebleton, 2009).
Inventory	**WORK PERSONALITY INDEX (WPI)** ***Donald Macnab and Shawn Bakker*** **<http://www.psychometrics.com/docs/wpi-m.pdf>**
Measures	WPI is an extensive model of 17 traits that describe how individuals work with others, approach their tasks, solve problems, manage change, and deal with stress. Scores measure the following constructs: personal drive, interpersonal style, thinking style, work style, dealing with pressure and stress.
Population	Individuals 18 years of age and up.
Reliability & Validity	Good construct validity but no studies reporting test-retest reliability or predictive validity (Carlson, 2010). Standardized on a relatively large sample of over 8,000 people, from which a matched sample of 3,000 males and 3,000 females were selected to create North American norms.

Table 3: Instruments for Assessing Personality Traits.

Assessing Values

Work values are central to our understanding of the reasons why people work (Brown & Lent, 2005). Most theorists assume that values are implicit in an individual's career choice and work behaviour. Additionally, work values address the manner in which individuals are socialized for work, and the ways in which work categories are designated. For example, occupations in the helping category reflect humanitarian values. In addition, most instruments measuring values assess a common pool of work values, such as income, achievement, independence, creativity, lifestyle, and prestige (Super, 1995). Instruments for assessing values are described in Table 4.

Inventory	**CAREER VALUES SCALE (CVS)** ***Macnab, Bakker, and Fitzsimmons*** **Sample <http://www.psychometrics.com/docs/cvs_report.pdf> and <http://www.psychometrics.com/docs/cvs_m.pdf>**
Measures	Provides a measure of intrinsic values inherent in the activity, for example, the degree to which abilities are utilized; and extrinsic values – the outcomes of the activity, for example, economic rewards.
Population	High school, university, and adult populations. Appropriate for individual and group administration. Written at an eighth grade level.
Reliability & Validity	The CVS is built on earlier work on values, specifically, on the research of Donald Super. The CVS was standardized on a large sample of over 28,000 people. From this group a matched sample of 7,000 males and 7,000 females were selected to create North American norms.
Inventory	**VALUES CARD SORT (VCS)** ***Richard Knowdell*** **<http://www.careernetwork.org/career_assessment_instr.html>**
Measures	Semi-formal assessment instrument used to identify and clarify career values. The cards sample 54 career-related value preferences. Examples of the values measured on the cards include job tranquility, creative expression, and status.
Population	Adolescents and adults.
Reliability & Validity	Client is very aware of the results as the client engages in the process of sorting the cards. The results are never a surprise and clients agree that they offer accurate descriptions.

Table 4: Instruments for Assessing Values.

Aptitudes and Abilities

Abilities and aptitudes refer to an individual's capacity to perform a task. They may be measured effectively with objective tests and by self-estimates. Both constructs predict success in the work environment (Brown & Lent, 2005). Table 5 lists instruments for assessing abilities and aptitudes.

Inventory	**MULTI-DIMENSIONAL APTITUDE BATTERY-II (MAB-II)** ***Douglas N. Jackson*** **<http://www.sigmaassessmentsystems.com/resources/presentations/mab.pdf>**
Measures	Assesses both aptitudes and general intelligence. The 10 sub-tests are assessed. Results include scores on the sub-tests and total scores for verbal, performance, and full-scale intelligence.
Population	Administered individually or in groups to persons aged 16 and up.
Reliability & Validity	Strong total score reliability and validity data. A group-based, general screening tool. Norms are available for nine different age groups, derived from a sample population of 1,600 (800 male and 800 female) from the U.S. and Canada.
Inventory	**DIFFERENTIAL APTITUDE TEST, CANADIAN EDITION (DAT)** ***G. K. Bennett, H. G. Seashore, and A. G. Wesman*** **<http://www.creativeorgdesign.com/tests_page.htm?id=84>**
Measures	Measures eight areas of abilities related to occupational performance. Provides an index of scholastic ability. Results assist students in selecting appropriate school courses and exploring career paths.
Population	Respondents in Grades 7–12 (Form A) and adults (Form B) answer multiple-choice questions in eight areas with a time limit for each area.
Reliability & Validity	Demonstrates high levels of content validity, face validity, and readability (Nelley, 2009). Suitable for group administration. Test items are representative of Canadian students in community colleges and universities, geographic regions, and types of school (e.g., private or public). Originally normed on 170,000 students.
Inventory	**GENERAL APTITUDE TEST BATTERY (GATB)** ***Human Resources Development Canada*** **<http://www.assess.nelson.com/group/gp-gatb.html>** **<http://www.applicanttesting.com/pdf/confirmGATB.pdf>**
Measures	Measures nine distinct aptitudes relevant to occupations: • general learning ability, • verbal aptitude, • numerical aptitude, • spatial aptitude, • form perception, • clerical perception, • motor co-ordination, • finger dexterity, and manual dexterity.
Population	Suitable for Grade 9 to adult.

Inventory	**GENERAL APTITUDE TEST BATTERY (GATB) (Cont'd)** ***Human Resources Development Canada*** **<http://www.assess.nelson.com/group/gp-gatb.html>** **<http://www.applicanttesting.com/pdf/confirmGATB.pdf>**
Reliability & Validity	Test results can be matched to aptitude levels appearing in the National Occupational Classification (NOC). The GATB (1986) can also be used in conjunction with interest levels found in the Canadian Work Preference Inventory (CWPI). The GATB includes Canadian norms from a population of 1,000 workers in 460 occupations (Spreen & Strauss, 1998).

Table 5: Assessing Abilities and Aptitudes Instruments.

Assessing Career Choice Problems

Diagnostic instruments are often employed to assess career development problems such as career maturity/readiness, career decision-making difficulties and barriers, and occupational information deficits. The increased recognition of the impact of these barriers at all stages of career development has led to the development and use of these instruments in both applied practice and research (Isaacson & Brown, 1997). Table 6 describes several instruments for career choice.

Inventory	**CAREER DECISION SCALE (CDS)** ***Samuel Osipow*** **<http://www.creativeorgdesign.com/tests_page.htm?id=333&title=Career_Decision_Scale_%28CDS%29>**
Measures	Identifies specific sources or antecedents of career indecision. Consists of 18 items to which individuals respond on a 4-point Likert scale ("Exactly like me" to "Not at all like me"). A 19th open-ended item allows respondents to clarify or provide additional information about their career decision making.
Population	Developed for students 14 to 23 years of age.
Reliability & Validity	Demonstrates strong test-retest reliability and validity (Harmon, 2010). The CDS manual provides normative data for high school and college students. Limited norms for adult college women and continuing education students.

Inventory	**CAREER DECISION-MAKING DIFFICULTIES QUESTIONNAIRE (CDDQ)** ***Itamar Gati, Mina Krausz, & Samuel Osipow*** **<http://kivunim.huji.ac.il/eng-quest/cddq/cddq_main.html>**
Measures	Based on a theoretical taxonomy of difficulties encountered in the career decision-making process. Difficulties are divided into two groups: those that exist prior to the process (e.g., low readiness due to a lack of motivation), and those that occur during the process (e.g., lack of information about self and occupations).
Population	There are no age limits.
Reliability & Validity	A relatively new instrument that may be useful in attempting to understand the multi-dimensionality of career indecisiveness. Empirical structure was found to be similar or identical to that proposed by the theoretical model. A clear distinction was found between difficulties that arise before the process and difficulties that arise during it, and between difficulties involving a lack of information and those connected with using the information, among the 10 proposed difficulty categories. (Gati, Saka, & Mayer, 2000)
Inventory	**MY VOCATIONAL SITUATION (MVS)** ***John Holland, Denise Daiger, and Paul Power*** **Adapted version: <http://cms.bsu.edu/CampusLife/CounselingCenter/careerassess/TaketheSurvey.aspx>**
Measures	Identifies difficulties people have in vocational decision making resulting from issues related to vocational identity, occupational information, and career barriers. The test consists of 26 items requiring a true/false or yes/no response.
Population	Ages 16 through adulthood.
Reliability & Validity	A relatively simple vocational assessment tool (self-administered and hand-scored). Sensitive to many aspects of psychological well-being. Norms derived from a sample of 16- to 69-year-old Americans in high school, college, and business.

Table 6: Career Choice Instruments.

Computer-Based Assessments

Computer-based comprehensive assessments, though expensive, have played an increasingly significant role in the delivery of career information to a diverse range of clients. One of their advantages is the ability to provide access to assessment

instruments that measure traits in a number of areas addressed above. Because most paper-and-pencil tests can be adapted to a computer-based format, these systems are increasingly being used in educational institutions where the number of clients is large and time is a factor. However, one of the most significant disadvantages typically cited is the lack of opportunity to discuss results with a practitioner to prevent misunderstandings related to the information gathered.

Inventory	**CHOICES (COMPUTER HEURISTIC OCCUPATIONAL INFORMATION AND CAREER EXPLORATION SYSTEM) <http://www.bridges.com/us/prodnserv/choicesexplorer_hs/index.html>**
Measures	Aimed towards accessing information. Recent versions have numerous aspects of career exploration, including assessments of interests, aptitudes, and work values, as well as basic, workplace, and transferable skills. Close to 1,000 NOC career profiles and over 200 career videos are available in the database with information about the following: Description of Typical Tasks, Field of Work, Education Requirements, Job Requirements, Occupational Outlook, Earnings, and Website Connections to related organizations. Factors include interests, aptitudes, education, skills, and earnings that can assist in narrowing an extensive list of occupations. University and college database allows easy exploration of more than 1,000 educational institutions. A Planning Tools component assists with the process of creating an electronic portfolio.
Population	Software programs are available for elementary, middle, and high schools, universities and colleges, and career agencies in the U.S. and Canada.

Inventory	CAREER CRUISING (U.S. AND CANADIAN VERSIONS) <http://www.careercruising.com/>
Measures	Interests, skills, and learning style assessments help narrow the list of educational and occupational options. Includes job description, working conditions, earnings, education and training requirements, links to related college and university programs, sample career paths, related jobs, and multimedia interviews of people working in the individual occupation. The Career Cruising portfolio system allows individuals to store information and make use of numerical and descriptive data gathered in the career exploration process. Options are available for job search and résumé development, as well as direct connections to job-hunt sites.
Population	Products are available for students and people of all ages.

Table 7: Computer-Based Assessment.

Informal Assessment Methods

There are countless informal assessment tools (including card sorts, values and skills checklists, and interviews) that can be used for making decisions and expanding self-awareness. Informal measures may involve: (a) having clients tell their career life story and reflect on their successes and failures; (b) asking clients to draw a life line dotted with important career decisions and concentric life roles; or (c) projective-type activities, such as open-stem descriptive statements like: *I am most happy when …*, or *At work I tend to be…*

Clients may be drawn to informal tools because they appear less technical and more accessible, and are helpful in exploring rather than focusing on occupational options. Some clients have had unpleasant experiences with standardized tests, especially those with "right" or "wrong" answers. The practitioner can be creative in developing activities that fit with clients' needs and goals. However, informal assessment techniques have some disadvantages, such as the lack of standardization, poor technical rigour in reliability and validity although they may have **face validity**, and lack of a norm group against which to compare the clients' responses.

Genograms

Genograms were originally developed for use in family therapy. Adapted to career counselling, genograms can provide a graphic representation of the careers of family

members, which may aid in understanding the context of an individual's career patterns and goals. For more details about creating genograms, please see:

- Example of a career genogram <http://www.virtualhabitats.com/Students/CareerCounselorWebquest/Genogram.pdf>.
- What is a Career Counselling Genogram? <http://work.chron.com/career-counseling-genogram-18191.html>.

Mind Mapping

Mind mapping is a creative, non-linear means of using words and images to assess the past and plan for the future. The creation of an occupation mind map can contribute to career goal development. For more information, please see:

- Mind Mapping software <http://www.novamind.com/planning/career-planning.php>.
- Mind Mapping for Career Success <http://conferences.alia.org.au/newlibrarian2004/zobjects/presymppapers/HarrisWebsitepaperFinal.pdf>.

Pattern Identification Exercises

Pattern Identification Exercises (PIE) have been used effectively in both individual and group career counselling (Amundson & Cochran, 1984). PIE starts with past experiences and seeks to identify, through in-depth questioning, personal patterns that are of relevance in establishing career aspirations. Examples of using PIE include in-depth exploration of success stories (including the Circle of Strength). Another type of qualitative assessment measure is the *Individual Style Survey*, which involves choosing self-descriptors from a list of characteristics and incorporating others' opinions along with your own self-assessment of personality style. Niles, Amundson, and Neault (2011) work through the steps of this type of survey in their book *Career Flow*.

Behavioural Observation Checklists

Behavioural observation checklists allow for a structured observation and assessment of behaviour skills important to the career process or a particular occupation. These assessments help to identify deficits (or strengths) in an individual's career-related behaviour. *Skill checklists* frequently make use of lists of skills and competencies and ask individuals to assess themselves against the criteria, considering whether they would like to use the skill on a job and how good they are at it.

SPOTLIGHT: *WHAT ASSESSMENT PROCESSES, MODELS, AND TOOLS ARE BEING USED?*

by Jeffrey Landine and John Stewart

A plethora of assessments, models, and tools are available for use in the field. However, the issue of not using a "one-size-fits-all" approach is a salient one as some practitioners report using the same assessment tool for a wide range of purposes. Although such use could be considered innovative, without empirical evidence to validate such use, it is risky. Similarly, reports of specific assessments being used with diverse populations (e.g., Aboriginal, immigrants, youth, etc.) have been made for which no research is available to confirm validity, reliability, or Canadian norms.

According to the Forum of Labour Market Ministers' report on *Use of Assessment Processes, Models, and Tools in Career Development Services*, the most commonly reported assessments used are:

- Intelligence/aptitude/skills: General Aptitude Test Battery (GATB); Test of Workplace Essential Skills (TOWES).
- Interest: Career Decision-Making System (CDMS); Self-Directed Search (SDS); Strong Interest Inventory (SII); Career Occupational Preference System Interest Inventory (COPS).
- Personality: Myers-Briggs Type Indicator (MBTI); Personality Dimensions; True Colors; TypeFocus.
- Values: Career Values Scale; Knowdell Values Cards.
- Employment readiness: Barriers to Employment Success Inventory (BESI); Job Search Attitude Inventory (JSAI); Employment Readiness Scale (ERS).
- Informal tools: Guiding Circles (specifically for Aboriginal clients).
- Computer-based tools: Career Cruising; CHOICES.

Roberta Neault found a bias among career practitioners favouring interest assessments in career decision making over other factors like employment barriers. Surprisingly, the practitioner's level of education was not found to be related to the type of assessment chosen, despite the extra training required to implement standardized tests. Across Canada, career planning and exploration assessments are used three times more often than measurements of program effectiveness, client change, or screenings for program readiness. The assessment process still needs to be fully embraced as a major contributor to establishing career services as an evidence-based practice.

- Neault, R. (2009). *Use of assessment processes, models, and tools in career development services* (Final Report). Coquitlam, BC: Life Strategies. Available from <http://www.flmm-fmmt.ca>.

Projective Techniques

Projective techniques are often unstructured tasks or ambiguous stimuli that are presented with the expectation that individuals will express needs, experiences, inner states, and thought processes. *Metaphors and symbols* can be used as a framework to help individuals think about their career in a unique manner (Amundson, 2010; Gysbers & Moore, 1987).

Audiovisual Feedback

Finally, *audiovisual feedback* provides the client with specific examples (either live or on audiotape or videotape) of themselves (or a model) performing selected skills that need to be learned. This is often followed by encouragement to rehearse or practise behaviours that have been modeled and role-played.

Conclusion

Assessment is a key component in the practice of career development and is used to provide and/or narrow a number of possible occupations as well as to identify interfering variables that confound the career development process. Practitioners who use career assessment instruments have a responsibility to understand the technical aspects of all instruments used whether formal or informal. Regardless of their type, these instruments emerge within a theoretical context and/or model that will guide their use.

Given the complex and changing nature of current demographics, test results need to be interpreted within the life-space of the individual. Since instruments were developed to measure constructs for the majority of the population, there are limitations when these instruments are used with individuals from minority groups. With such a variety of instruments available to augment their services, career practitioners need to keep abreast of instruments as they are developed, and consider their suitability for use with their clients. Above all, practitioners need to use instruments that have current norms and research to support their claims so that they provide clients with reliable information. Proper and thorough assessment gives clients the best possible chance of career success.

References

Amundson, N. E. (2010). *Metaphor making: Your career, your life, your way*. Richmond, BC: Ergon Communications.

Amundson, N. E., & Cochran, L. (1984). Analyzing experiences using an adaptation of an heuristic model. *Canadian Practitioner, 18*, 183–186.

Anastasi, A., & Urbiune, S. (1997). *Psychological testing* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Andersen, P., & Vandehey, M. (2006). *Career counseling and development in a global economy*. Boston, MA: Houghton Mifflin Company.

Arthur, N., & Collins, S. (Eds.). (2010). *Culture-infused counselling* (2nd ed.). Calgary, AB: Counselling Concepts.

Brown, D. (2012). *Career information, career counseling, and career development* (10th ed.).Toronto, ON: Prentice Hall.

Brown, S. D., & Lent, R. W. (2005). *Career development and counselling: Putting theory and research to work*. Hoboken, NJ: John Wiley & Sons.

Campbell, D. (1974). *If you don't know where you're going, you'll probably end up somewhere else*. Allen, TX: Tabor Publishing.

Carlson, J. F. (2010). Work Personality Index. In R. A. Spies & B. S. Plake (Eds.), *The sixteenth mental measurements yearbook*. Lincoln, NE: University of Nebraska Press.

Ciechalski, J. C. (2009). Self-Directed Search Career Explorer: (SDS-CE). In E. A. Whitfield, R. W. Feller, & C. Wood (Eds.), *A counselor's guide to career assessment instruments* (5th ed., pp. 302–308). Broken Arrow, OK: National Career Development Association.

Evans, K. (2008). *Gaining cultural competence in career counseling*. Boston, MA: Houghton Mifflin Company.

Gati, I., Saka, N., & Mayer, Y. (2000). Career counseling using the internet: Future directions. *Hayiutz Hachinuchi, 9*, 88–110 (In Hebrew).

Gysbers, N. C., & Moore, E. J. (1987). Career counseling: Skills and techniques for practitioners. New Jersey: Prentice-Hall.

Harmon, L. W. (2010). Career Decision Scale. In J. V. Mitchell Jr. (Ed.), *The ninth mental measurements yearbook*. Lincoln, NE: University of Nebraska Press.

Herr, E. L., Cramer, S. H., & Niles, S. G. (2004). *Career guidance and counselling through the lifespan: Systematic approaches*. (6th ed.) Toronto, ON: Pearson Education.

Isaacson, L. E., & Brown, D. (2007). *Career information, career counseling, and career development* (6th ed.). Toronto, ON: Allyn & Bacon.

Jenkins, J. (2009). Strong Interest Inventory assessment tool. In E. A. Whitfield, R. W. Feller, & C. Wood (Eds.), *A counselor's guide to career assessment instruments* (5th ed., pp. 309–319). Broken Arrow, OK: National Career Development Association.

Mastrangelo, P. M. (2009). Myers-Briggs Type Indicator (MBTI). In E. A. Whitfield, R. W. Feller, & C. Wood (Eds.), *A counselor's guide to career assessment instruments* (5th ed., pp. 400–406). Broken Arrow, OK: National Career Development Association.

McCormick, R. M., & Amundson, N. E. (1997). A career-life planning model for First Nations people. *Journal of Employment Counseling, 34*, 171–179.

Morgan, T., & Ness, D. (2003), Career decision making difficulties of first year students.

The Canadian Journal of Career Development, 2, 33–37.
National Steering Committee. (2004). *Canadian standards and guidelines for career development practitioners: Code of ethics*. Retrieved from <http://career-dev-guidelines.org/career_dev/>.
Neault, R. (2009). *Use of assessment processes, models, and tools in career development services* (Final Report). Coquitlam, BC: Life Strategies. Retrieved from <http://www.flmm-fmmt.ca/CMFiles/FLMM%20Archive%20-%20Document%20Archive/Use%20of%20Assesment%20Process%20Models%20and%20Tools/Assessment%20Project%20Final%20Report.pdf>.
Nelley, K. N. (2009). Differential Aptitude Tests (DAT) & Career Interest Inventory (CII). In E. A. Whitfield, R. W. Feller, & C. Wood (Eds.), *A counselor's guide to career assessment instruments* (5th ed., pp. 127–136). Broken Arrow, OK: National Career Development Association.
Neukrug, E. S., & Fawcett, R. C. (2010). *Essentials of testing & assessment: A practical guide for counselors, social workers, and psychologists* (2nd ed.). Belmont, CA: Brooks/Cole, Cengage Learning.
Neumann, H., McCormick, R. M., Amundson, N. E., & McLean, H. B. (2000). Career counselling for First Nations youth: Applying the First Nations career-life planning model. *Canadian Journal of Counselling, 34*(3), 172–185.
Niles, S. G., Amundson, N. E., & Neault, R. A. (2011). *Career flow: A hope-centered approach to career development*. Boston, MA: Pearson Education.
Peterson, N., & Gonzalez, R. C. (2005). The role of work in people's lives: Applied career counseling and vocational psychology (2nd ed.) Toronto, ON: Nelson.
Peterson, J. V., & Nisenholz, B. (1999). *Orientation to counselling* (4th ed.). Toronto, ON: Allyn and Bacon.
Sanford-Moore, E. E. (2009). Jackson Vocational Interest Survey (JVIS) (2nd ed.). In E. A. Whitfield, R. W. Feller, & C. Wood (Eds.), *A counselor's guide to career assessment instruments* (5th ed., pp. 268–273). Broken Arrow, OK: National Career Development Association.
Sattler, J. M. (2008). *Assessment of children: Cognitive foundations* (5th ed.) La Mesa, CA: Author.
Schmidt, C. K., & Nilsson, J. E. (2006). The effects of simultaneous developmental processes: Factors relating to the career development of lesbian, gay, and bisexual youth. *The Career Development Quarterly, 55*, 22–37.
Shepard, B. (2004). In search of self: A qualitative study of the life-career development of rural young women. *Canadian Journal of Counselling, 38*, 75–91.
Spreen, O., & Strauss, E. (1998). *A compendium of neuropsychological tests: Administration, norms and commentary* (2nd ed.). New York, NY: Oxford University Press.
Stebleton, M. (2009). NEO Personality Inventory-Revised (NEO PI-R). In E. A. Whitfield, R. W. Feller, & C. Wood (Eds.), *A counselor's guide to career assessment instruments* (5th ed., pp. 407–412). Broken Arrow, OK: National Career Development Association.
Stewart, J. (2010). Assessment from a contextual perspective. In N. Arthur & S.

Collins (Eds.), *Culture-infused counselling* (2nd ed., pp. 189–208). Calgary, AB: Counselling Concepts.
Super, D. E. (1995). Values: Their nature, assessment, and practical use. In D. E. Super & B. Sverko (Eds.), *Life roles, values, and careers*. San Francisco, CA: Jossey-Bass.
Swanson, J. L., & Fouad, N. A. (2010). *Career theory and practice: Learning through case studies* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
Whiston, S. C. (2009). *Principles and applications of assessment in counseling* (3rd ed.). Belmont, CA: Brooks/Cole, Cengage Learning.
Zunker, V. G. (2006). *Career counseling: A holistic approach* (7th ed.). Toronto, ON: Thomson Nelson.

Glossary

Abilities refer to the power to perform a specified act or task, either physical or mental. Such powers can be learned or innate.

Aptitude is an ability, tendency, or capacity that is inherited or is the result of environment and life experiences. Aptitudes can be used to predict how likely a person is to succeed in certain environments.

Career maturity is the attitudinal and cognitive readiness to cope with the developmental tasks of finding, preparing for, getting established in, pursuing, and retiring from an occupation.

Career readiness refers to how developmentally ready (in terms of level of exploration, awareness of implications, and maturity) students are for making these initial career decisions.

Content validity (also known as logical validity) refers to the extent to which a measurement represents all facets of a given social concept. For example, depression scales may lack content validity if they only look at the affective dimension of depression but fail to assess the behavioural dimension.

Cross-cultural fairness requires verifying that the test is appropriate for use with a particular population and includes investigation of validity, reliability, and appropriate norm groups to which the population is to be compared. Validity and reliability take on additional dimensions in cross-cultural testing as does the question of the appropriate norm group. The instrument must be validly adapted, the test items must have conceptual and linguistic equivalence, and the test items must be bias free.

Diagnostic instrument is an assessment instrument that identifies areas of concern with an individual's career development.

Face validity is related to **content validity**, but instead of assessing what the test measures, face validity pertains to whether the test "looks valid" to all participants.

Interests are preferences for activities that are expressed as likes or dislikes.

Norms are standard scores for a group as measured by a test. Norms may be local, regional, or national group scores. Test-takers' scores are compared to the average (norm) scores of a defined group.

Personality is the combination of an individual's personal, social and emotional traits, and behaviours.

Personality traits are relatively enduring patterns of thoughts, feelings, and behaviours that distinguish individuals from one another.

Reliability refers to how stable the results are over time and how free the test is from error. Reliability is the "consistency" or "repeatability" of your measures.

Sampling techniques are used to form a subset of the population that can be used as representative of the entire population.

- **Random sampling** (probability sampling) is a sample that is chosen randomly from the population so that each item in the population has the same probability of being chosen.
- **Non-probability sampling** does not involve random selection and can be a quick way to collect and analyze data but can not be used to determine probability.

Self-system is a psychology term that refers to the set of attitudes and behaviours that affect how people perceive and respond to situations to reduce anxiety. The concept was first developed by Harry Stack Sullivan.

Validity is how well a test measures what it is intended to measure.

Values are qualities that are important to the individual. They are fundamental beliefs that drive the decision-making process. Work values, such as helping society, influencing people, and working alone are essential to consider in career planning. When expressed in the work setting, work takes on purpose and meaning.

Vocational interests are personal likes, preferences, and aspects of work that people enjoy.

Work values are learned or may grow out of needs and are assumed to be a basic source of human motivation.

Discussion and Activities

Discussion

Discussion Questions

1. Given the changing demographics in Canada, how do you see standardized tests evolving over the next 20 years? What cultural issues do you think need to be considered in the development of standardized instruments?

2. Which instrument would you choose to measure the following constructs: personality, interests, values, vocational identity? Why?

3. The Case of the Senior High School Student
   A high school student entering her senior year sees the guidance counsellor to discuss plans after high school. She entered senior high school with passing grades. She had low passing grades in mathematics and science but achieved average grades in English and her other subjects. The student indicated that she spent considerable time doing homework and studying in the previous grade. She is interested in the health professions and wants to know what occupations would be suitable for her to pursue.

   (a) What information would you like to know about this student before you respond to her concern?
   (b) What tests might you administer and why?

Personal Reflections

1. Are you drawn to formal or informal assessments? Why?
2. Find report cards from elementary, middle/junior high school, and senior high school and consider how assessment has affected you. Note patterns based on comments (informal assessment) as well as patterns in formal assessments (grades). What interpretations can you make based on the "data" collected? Would you be in agreement? Does this information constrain your perception of self or does it open up new possibilities?

Career Practitioner Role

1. Building Strengths in Clients
   Campbell (1974) believed that nine assets (talents, intelligence, motivation, friends, education, family, experience, appearance, and health) can act as seeds that career practitioners can nurture with their clients. These "seeds" can have a great impact on future choices.

Questions to reflect on:

- How would you access these "seeds" while conducting and debriefing an assessment?
- What seeds can I nurture right now?
- What seeds currently exist that need a little watering?
- What seeds do you still need to purchase?

2. You are working with two clients and you have been given their Myers-Briggs assessment results. Both clients have the same type – INFP. How do similar results translate into action? What additional information would you seek from each client?

Activities

1. The task of understanding assessments and the process of providing results is best learned by experiencing the process firsthand. Make an appointment at your college or university career centre and consider taking the Strong Interest Inventory and the Myers-Briggs Type Indicator. Write a short reflection paper on your experience. What did you learn as a "client" about yourself and career development? What did you find surprising? What did you learn about assessment and how that may impact your work with others?

2. Case of Sonia
   Sonia is a 55-year-old South Asian woman who sought help at a women's centre in her rural community located outside a large urban centre. Naveen, her husband, recently filed for divorce after 25 years of marriage, and Sonia is devastated and not sure what to do next. Sonia and Naveen have two boys, one aged 24 who attends university and one aged 16. Sonia married Naveen while they were in college and gave birth to their first son shortly after. Sonia completed two years of nursing training. Naveen's career as a top

A Place for Quality of Life Career/LifeSkills Resources

Career/Life Skills provides assessment and resources for career and work counselling. Its mission is to promote life skills and career development by providing the highest quality resources, services, and training to meet the needs of career counsellors, human resources professionals, psychologists, educators, and their clients. Career/Life Skills provides:

1. Innovative, practical solutions and assessment tools such as Personality Dimensions®, the Majors PTI™ (Majors Personality Type Inventory), Jackson Vocational Interest Inventory®, the COPSystem, SkillScan, and the Career Exploration Inventory.
2. A variety of career and lifestyle books
3. Certification and professional development training programs.

For more information, visit <http://career-lifeskills.com/>.

researcher at the university was demanding, and while Sonia contemplated finding work outside the home, she felt it was more important to focus her attention on her children and household responsibilities. Sonia is put in touch with you.

1. What are central issues that need to be addressed?
2. What initial types of information would you need to begin working with Sonia?
3. What types of assessments would you start with?
4. Interview a professional in your community who conducts career assessments. Sample questions might include: What assessments do you use? How do you determine which type of assessment to use with a particular client? What types of challenges have you encountered and how have you managed? How do you keep the working relationship intact while providing assessment results?

3. Career Genogram is a "family career tree." For ideas on how to use and create a career genogram go to <http://work.chron.com/career-counseling-genogram-18191.html>. Include three generations (grandparents, parents/aunts/uncles and you/siblings). Identify family members whom you know or know about.

- Identify each family member's education and work.
- What is your perception of that person's success/failure as a spouse, parent, employee, friend, and relative?
- Did that person experience increased/decreased mobility as result of career choices?
- Was the person balanced in his/her life roles? Were the roles integrated or in conflict?
- Whom did the family admire? (Who were the "successful" people in your family's point of view?) Why?
- Whom did you admire or think was successful? Why?
- What advice did or would this person give you about work, career, and family?

Resources and Readings

Resources

Websites for Career Assessments

Career Decision Making Difficulties Questionnaire (CDDQ) <http://kivunim.huji.ac.il/cddq/>.

The U.S. Occupational Information Network (O*NET) offers SkillsSearch as a tool for matching skills to occupation. <http://www.onetonline.org/skills/>.

Career Key — portal with quizzes and resources. In Canada <http://www.careerkey-ca

.org/> and the U.S. <http://www.careerkey.org/>.
Self-Directed Search — career interest test based on John Holland's theory <http://www.self-directed-search.com/>.
Campbell Interest and Skill Survey <http://profiler.com/>.
Kuder Career Assessment <http://www.kuder.com/>.
Vocopher (contains many inventories for career professionals) <http://vocopher.com/>.
Career Resource Page: Self-Assessments, University of South Florida. <http://careerresource.coedu.usf.edu/selfassessment/selfassessment.htm>.
Career Assessments Do's and Don'ts, Quintessential Careers <http://www.quintcareers.com/career_assessment-dos-donts.html>.

Videos

YouTube video: Where will you be? <http://www.youtube.com/watch?v=vrpC0pZHUe4>.
Self-Assessments for Choosing a Career Path Video <http://education-portal.com/videos/Self-Assessments_for_Choosing_a_Career_Path_Video.html>.

Other Resources

Buros Mental Measurement Yearbook. Retrieved from <http://buros.org/mental-measurements-yearbook>.
Knowdell, R. Card Sort Assessment Tools <http://career-lifeskills.com/career-assessments-79/knowdell-card-sorts-153/>. <http://www.youtube.com/watch?v=R3zJ4vs6gNs>.
Turning Information into Personal Assessment Sample card sorts can be seen at <http://careerresource.coedu.usf.edu/linkteachingtools/examplesoflessonplans.htm>.
Self-assessment resources <http://www.rileyguide.com/assess.html>

Supplementary Readings

Amundson, N. (2002). *Food for thought. Career development: Employability dimensions*. Ottawa, ON: Canadian Career Development Foundation <http://www.iaevg.org/crc/files/Communication_Strategy_No. 1_Amundson691_2.pdf>.
Amundson, N. (2009). *Active engagement* (3rd ed.). Richmond, BC: Ergon Communications.
Career/LifeSkills Resources. (2010). *Career exploration and job search: A comprehensive collection of assessments to guide job seekers through each step of the job search process*. Concord ON: Author. <http://clsr.ca/pdf/2010careerassessments.pdf>.
Chope, R. C. (2005). Qualitatively assessing family influence in career decision making. *Journal of Career Assessment*, 13, 395–314. doi: 10.1177/1069072705277913
Chope, R. C. (2006). *Family matters: The influence of the family in career decision*

making. Austin, TX: Pro-Ed.

Gibson, D. M. (2005). The use of genograms in career counseling with elementary, middle, and high school students. *Career Development Quarterly, 53*, 353–362. <http://sccn645middle.wikispaces.com/file/view /The+Use+of+Genograms+in+Career+Counseling.pdf>.

Inkson, K., & Amundson, N. E. (2002).Career metaphors and their application in theory and counseling practice. *Journal of Employment Counseling, 39*, 98–108. <http://www.virtualhabitats.com/Students/CareerCounselorWebquest /Career%20Metaphors.pdf>.

Malot, K. M., & Magnuson, S. (2004). Using genograms to facilitate undergraduate students' career development: A group model. *Career Development Quarterly, 53*(2), 178–186.<http://www.thefreelibrary.com/ Using+genograms+to+facilitate+undergraduate+students'+career...-a0127052323>.

Neault, R. (2009). *Use of assessment processes, models, and tools in career development services* (Final Report). Coquitlam, BC: Life Strategies. Retrieved from <http://www.flmm-fmmt.ca/CMFiles/FLMM%20Archive%20-%20Document% 20Archive/Use%20of%20Assesment%20Process%20Models%20and%20Tools /Assessment%20Project%20Final%20Report.pdf>.

Pryor, R., & Bright, J. (2009). Game as a career metaphor: A chaos theory career counselling application *British Journal of Guidance & Counselling, 37*(1), 39–50.