



Online Career, Major, & Education Planning System

Technical Reports

The FOCUS 2 Career Development Model, History, Assessments & Services, Validity & Reliability & Effectiveness Research Results

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FOCUS 2 OVERVIEW OF SERVICES FOR USERS AND ADMINISTRATORS

The FOCUS 2 Systems are Internet based career and education planning systems designed to provide college/university students and workers in career transition with personalized career and education exploration and planning services. The FOCUS 2 Systems are easy to use, provide complete self-assessment tools, and contains the most comprehensive occupational and educational information database available. FOCUS 2 Systems meet the highest level of standards established by the Association for Computer-Based Career Information Systems (ACSCI). FOCUS 2 Systems also adhere to the standards recommended by the National Career Development Association and the U.S Department of Labor.

HOW USERS USE FOCUS 2: TIME REQUIRED TO COMPLETE

Users can login and use FOCUS 2 via your website on any PC or MAC anywhere, anytime. Users can reuse FOCUS 2 as often as they like. Users' results are always saved so they can pick up at a later date at the point where they last signed off.

FOCUS 2 CAREER and FOCUS 2 EXPLORE: Users do not generally go through all the FOCUS 2 modules in one session. They typically spend 1 hour or so going through the self-assessments and then explore several occupations. They later return to complete several additional modules. Most users spend a grand total of about 3 to 4 hours to complete their usage of FOCUS 2 distributed over 3 or 4 sessions that may be spaced over a period of days or weeks. Many users return to use FOCUS 2 as an ongoing career resource tool.

FOCUS 2 APPLY: Users complete a 15 minute assessment and then spend time exploring majors offered at a college they are considering.












FOCUS 2 Systems enable users to:

1. **Broaden their Career Horizons** based on valid and reliable built-in self-assessment instruments consisting of Career Planning Readiness, Career Relevant Interests (Holland Code), Skills, Personality Type, Values, and Leisure Time Recreation Activities. Users can combine any 2 or more of their self-assessment results for personalized career exploration and to identify their top occupation choices and supporting education pathways.
2. **Analyze Occupations** that match their personal attributes as measured by the FOCUS 2 self-assessments. There are over 1000 occupations. There are over 7000 major areas of study in the FOCUS 2 database.
3. **Make Decisions About Major Areas of Study Offered In A Specific College or Explore Majors at All Colleges:** FOCUS 2 CAREER and FOCUS 2 APPLY are customized for individual colleges such that each college's Major Areas of Study are inserted into FOCUS 2 and linked to appropriate occupations. The college's Major Areas of Study are differentiated from the generic list of over 7000 Major Areas of Study. FOCUS 2 EXPLORE provides users with a powerful college search tool.
4. **Search for Occupations in a variety of ways:**
 - a. Users can key in the name of an occupation, or search for it alphabetically
 - b. Users can identify occupations by Type of Industry.
 - c. Users can identify and compare any 2 occupations using a "*Side-by Side*" format.
 - d. Users of FOCUS 2 CAREER and FOCUS 2 APPLY can ask "What Can I Do with a Major in _____? FOCUS 2 CAREER and FOCUS 2 APPLY have a customized list of the major areas of study offered by a specific college.

5. **Narrow Down Their Options** by comparing the pros and cons of the occupations that appeal to them as well as the type of education and major areas of study needed to qualify for the occupation. To help narrow down their choices, users can compare occupations with a side-by-side display. Users can also narrow their occupations lists by combining the results of any of the assessments they have completed. The FOCUS 2 Systems take the results from completed assessments and displays only the occupations that are in common on the occupation lists. Users can then explore any occupation in the resulting list.
6. **Take Action Planner** helps users plan career relevant experiences such as internships, study abroad, volunteering, identify career and education objectives, and building a network of contacts.
7. **An Automated Career Portfolio Builder** summarizes assessment results and users' choices, ratings and comments for occupations that appeal to them as potential goals and the major areas of study/training needed to prepare them for these occupations.
8. **Recommended Tools/Websites** can be used to insert links to important websites and announce events related to career fields (i.e. Graduate Schools, Jobs, Internships, Financial Aid, Scholarships, Licensing/Certification, Job Fairs, etc.) Users can explore job opportunities by linking to web sites listed on the FOCUS 2 Job Board organized by region, industry and specialty. Websites are inserted and managed by the administrators of the leasing organization.

Documents such as course catalogues, the FOCUS 2 Workbook can also be stored as PDF format files in the "Recommended Tools/Websites".

FOCUS™ 2 CAREER

Student Dashboard	Description
<p style="text-align: center;">Career Planning Foundations</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>My Career Planning Involvement</p> <p>START</p> </div> <div style="text-align: center;">  <p>My Academic Strengths</p> <p>START</p> </div> <div style="text-align: center;">  <p>Am I Career Ready?</p> <p>START</p> </div> </div>	<p style="text-align: center;">A Great Starting Point</p> <p style="text-align: center;">Orientation to the Career Planning Process & how to Be Career Ready</p>
<p style="text-align: center;">Self Assessment</p> <p style="text-align: center;"><small>Discover majors and occupations that match your personal attributes</small></p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 10px;"> <div style="text-align: center;">  <p>Work Interest Assessment</p> <p>100%</p> <p>RESULTS Review Start Over</p> </div> <div style="text-align: center;">  <p>Values Assessment</p> <p>0%</p> <p>START</p> </div> <div style="text-align: center;">  <p>Personality Assessment</p> <p>0%</p> <p>START</p> </div> <div style="text-align: center;">  <p>Skills Assessment</p> <p>100%</p> <p>RESULTS Review Start Over</p> </div> <div style="text-align: center;">  <p>Leisure Assessment</p> <p>0%</p> <p>START</p> </div> <div style="text-align: center;"> <p>Combine Assessments</p> <p>2/5 Completed</p> <p>START</p> </div> </div>	<p style="text-align: center;">Valid & Reliable Self Assessments</p> <p style="text-align: center;">Assessment Results Identify Occupations and Majors at this College Matching Your Personal Attributes</p>
<p style="text-align: center;">Explore the Possibilities</p> <p style="text-align: center;"><small>Use these tools for ongoing career and education exploration</small></p> <div style="text-align: center; margin-top: 20px;"> <p>What can I do with a major in ... at University of Vermont? ◊</p> <p>Explore Any Area of Study ◊</p> <p>Explore any Occupation ◊</p> <p>Explore Occupations by Job Family ◊</p> <p>Compare 2 Occupations Side by Side ◊</p> </div>	<p style="text-align: center;">Major & Career Exploration</p> <p style="text-align: center;">Explore Suggested Majors that Match Your Personal Attributes and Navigate Career Options to Make Informed Decisions</p>
<p style="text-align: center;">Take Action</p> <p style="text-align: center;"><small>Create a road map of your academic and career development activities</small></p> <div style="text-align: center; margin-top: 10px;"> <p>My Education ◊</p> <p>My Professional Development ◊</p> </div>	<p style="text-align: center;">Academic & Career Plan</p> <p style="text-align: center;">Develop a Road Map of Your Goals and Experiences to Plan For Your Future</p>
<p style="text-align: center;">Diane McCrudden's Career and Education Planning Results</p> <p style="text-align: center;"><small>A summary of your assessment results and saved preferences</small></p> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>My Saved Occupations</p> </div> <div style="text-align: center;">  <p>My Saved Majors</p> </div> <div style="text-align: center;">  <p>Review and Print My Portfolio</p> </div> </div>	<p style="text-align: center;">FOCUS 2 Career Portfolio</p> <p style="text-align: center;">Summary of Your Results with Your Comments & Top Choices</p>
<p style="text-align: center;">Recommended Tools & Websites</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center; border: 1px solid #ccc; padding: 5px;"> <p>Upcoming Events at University of Vermont</p> </div> <div style="text-align: center; border: 1px solid #ccc; padding: 5px;"> <p>Job Boards and Internship Opportunities</p> </div> <div style="text-align: center; border: 1px solid #ccc; padding: 5px;"> <p>Links to Resources</p> </div> </div> <p style="text-align: center; font-size: 8px; margin-top: 10px;">Focus™ 2 Copyright 2016 Career Dimensions®, Inc. All Rights Reserved</p>	<p style="text-align: center;">Resources & Links</p> <p style="text-align: center;">Link to Resources Suggested by your Career Counselor</p>

SERVICES FOR COUNSELORS

- 1) **Reports for Counselors** are provided via a confidential and secure FOCUS 2 website containing your students' records. Reports can be run based on distinct groups of students defined by the counselor for example a grouping based on whether or not students have selected their majors. Counselors can generate and view reports individual reports and targeted aggregate reports of
 - Usage
 - Modules completed by individuals and groups
 - Number of logins for each individual, and dates of usage by group, by month and by year.
 - Holland Code Types of Users
 - Career Planning Readiness
 - How frequently Majors at your college are saved
 - How frequently Occupations are saved
 - Top Choice majors
- 2) **Co-Branding:** Colleges can insert their logo, college name, email links and phone contact information on all FOCUS 2 Screens.
- 3) **Student Self-Registration:** Students Self Register to use FOCUS 2 via your Career Service's webpage, thereby eliminating all clerical and administrative tasks without losing control of who can register. A self-registration confirmation is emailed to the system administrator each time a new student registers to use the system.
- 4) **Student Grouping:** You can create groups for students to categorize themselves into when they self-register to use FOCUS 2. The headings and subgroups included are customized by you. For example, you can categorize students by Year of Graduation, Declared Major vs. Undeclared, Primary Reason for using FOCUS 2, Level of Assistance Needed, Academic Advisor, Course Instructors.
- 5) **Customizing:**
 - You can customize the text on the "*Welcome to FOCUS 2*" screen to include any special instructions for your students.
 - You can insert your own choice of website links to databases for students to search for graduate schools, jobs, financial aid, etc. You can also insert links to documents such as your college's Course Catalogue in PDF file format.
 - You can customize the Main Menu of FOCUS 2 to display your preferred FOCUS 2 features.
 - You can select the education level of the occupations displayed in your FOCUS 2 account.
 - You can select to display median salary information and categorize occupations as defined by the ONET as Green Jobs and Bright Outlook.
 - You can update and customize the display of your college's majors in FOCUS 2.

FOCUS 2 CAREER

The Administrative Website

YOUR USERS	Individual Reports, Adding and Deleting Users
Add a New User Look Up A User Delete Users	Add a new user to the system when not using self registration form. View an individual user's results in live time. Delete user accounts from database.
AGGREGATE REPORTS	Detailed Reports of Multiple Groups of Users - View & Download
Completed Modules Career Planning Involvement Am I Career Ready? Holland Code Values Report Skills Report Saved Majors Saved Occupations Top Choice Major New Users Users Login User Demographic Email User	Completed modules and overall usage count. Scores of users Involvement. Sort high to low. Scores of users Readiness Competencies development. Sort high to low. Users grouped by first letter of Holland Code/ Download all 3 codes. Top three Values selected by user Top three Skills selected by user Selected "Top Major" your users have identified. Count of occupations being saved and who saved them. A count of majors being saved who has saved them. Month to month usage pattern of new users logging in. A count of how many times each user has logged in to. Download users registration form demographics. Download email addresses.
MANAGE USER GROUPS	Create Customized Groups of Users for Dynamic Reporting
Add / Modify Groups Transfer Groups	Manage your 3 group titles and categories. Move groups of users from one group to another.
ADMINISTRATORS	Add & Delete Administrators and Sub Administrators - No limit
Add Administrator Your Administrators	Activate new administrators.. View who has administrative assess and manage access.
CUSTOMIZING OPTIONS	Customize your FOCUS 2 Account - Seen on Student Site*
Website Branding Your Contact Information Main Menu Options Action Plan Links Scope of Occupations Occupation List Display Student Portal Customized Messages Case Note Subjects Site Footer	Logo specifications.* Add/delete contact information of your counselors/advisors* Select modules to be activated on user dashboard* Add links to your department pages for the action plan categories* Select occupations being displayed by degree level required* Select icons, salary data, etc. seen in users assessment results* Customize your user self registration form* Add your own messages to users* Activate your case notes for administrators and create subjects Add footnote/link seen by users on the bottom of each webpage*
UPDATE MAJORS/DEGREES	Delete/Add /Your Customized Majors & Degrees Displayed
Your Current Majors Need Changes? Start Here	View the current list of your majors being displayed Make changes. Start with Step 1 and submit each page
CUSTOMIZING MAJORS	Add Customized Descriptions, Links & Subtitles to Majors
Add Description Add Links Add Sub-Titles Add Minors	Enhance the major descriptions w/ your own college's descriptions. Enter links to your department pages on your website. Enter sub-titles to your majors to be more descriptive. Identify minors offered at your college.
ADDITIONAL TOOLS	Adding Websites and Resource to the User Dashboard
Resource Links Calendar Job Board Links	Add website links of your choice. Manage a calendar of upcoming events at your college. Displays job board to over 100 websites
SUPPORT MATERIALS	Download support materials for counselors, students, training
Dropbox link	Workbook, Powerpoint shows, FYE course materials, advertising, etc.

FOCUS 2 EFFECTIVENESS BASED ON SURVEY RESEARCH

Studies that evaluated the effectiveness of the FOCUS 2 system and earlier IBM systems from which FOCUS 2 was derived show that students who used the system enjoyed the following benefits:

During College Years:

- They set more specific occupational and post college continuing education goals
- Became significantly more engaged in behaviors supporting their career development such as enrolling in volunteer activities and internships and selected elective courses that support their goals.
- Students were more confident in their decisions regarding their future.
- Were more satisfied with their choice of a major area of study

THE FOCUS 2 REPUTATION

FOCUS 2 is one of the most widely used career planning systems in the US according to a national survey of college counselors conducted by the National Association of Colleges and Employers (NACE) and is currently being used in over 1000 colleges, universities and career services agencies. Additional surveys of college counselors and publications by the University of Michigan and The American Psychological Association conclude that FOCUS 2 is the career planning system that is “most preferred”, “most liked by users”, “easiest to use” and “the most affordable”. Brief summaries of the survey results are as follows:

Survey by the University of Michigan, Ann Arbor, MI (NACE Website: JobPlace@news.jobweb.org)

The major conclusion drawn was: When asked to compare FOCUS 2 with its major competitors, (SIGI and DISCOVER) the survey's major conclusion was "Most everyone recommended FOCUS 2". The major reasons included: simple and easy to use, more of a "focus" on the user, the price, comprehensive information about careers, support and help from the Career Dimensions staff, great workbook, faster to use, etc. (Bryan Kempton University of Michigan Career planning & Placement Center)

Survey by the National Association of Colleges and Employers:

FOCUS 2 is one of the three most widely used career-planning systems in the USA according to the National Association of Colleges & Employers, (NACE, Summer 2000 - 2019 Journal of Career Planning & Employment)

American Psychological Association:

G. Iaccarino of the University of Wisconsin: In a recent book published by the American Psychological Association, G. Iaccarino writes "FOCUS 2 is one of the most affordable programs, is well liked by users, and is similar in quality to some of the more expensive systems". (Iaccarino, G., (2000). Computer Assisted Career Guidance Systems, In D.A. Luzzo (Ed.) Career Counseling of College Students, Washington, D.C., American Psychological Association.

FOCUS 2 STANDARDS

FOCUS 2 Design Standards

FOCUS 2 has been fully certified for meeting the standards and criteria established by the Association for Computer Based Career Information Systems. FOCUS 2 also conforms to the standards and guidelines of the National Career Development Association and the USA Department of Labor. The FOCUS 2 system logic includes the US Department of Labor's O*Net's SOC occupational codes, the DOT codes and the O*Net's skills structure in its occupational descriptions and search algorithms.

The FOCUS 2 Occupational & Educational Information

FOCUS 2 contains the most comprehensive career information databases available for college and university students. It consists of more than 1000 occupations and major areas of study and training programs leading to those occupations. More than 300 videos ("work samples" or a "day-on-the-job") accompany the occupations.

CONFIDENTIALITY OF STUDENTS' RECORDS

Students' results and records are stored in a "confidential, secure" database. FOCUS 2 also is certified at the highest level of standards including "confidentiality" by the Association of Computer Systems for Career Information (ACSCI).

HOW COLLEGES & UNIVERSITIES GET STARTED WITH FOCUS 2

Student Registration We provide College Career Services Centers with a FOCUS 2 Administrative Services website enabling you to register students as follows:

1. Self-Registration by Students. Students Self-Register on your college's web page. The student enters his/her own Personal User Name, Password, and selects the appropriate group (e.g. Graduating 2014). We provide you, free of charge, with the HTML templates needed for Self-Registration.
2. Manual Registration or Walk-In Students: Single manual registration is done on the FOCUS 2 Administrative Services website we provide to the college.

Students Can Login into Their Account Via Your College Website (We provide free HTML template)

Your college Career Services Web Page will contain a FOCUS 2 Student Login section for the student to enter his/her User Name and Password. We provide your Career services Center with the HTML templates to insert on your college's web page.

Where & How Often Can Students Use FOCUS 2

- Any PC or MAC, tablets and all Smart Phones. anywhere, anytime.
- Students can reuse FOCUS 2 as needed during years enrolled in your college.
- Students' results are saved for future use and report printing during the years they are enrolled in your college and as alumni.

Automated Reports

- **For Students:** An Automated Portfolio Builder records and summarizes the results of the students' Career Planning Readiness assessment, Self-Assessments, and Action Plans.
- **For Counselors:** Reports include summaries of each student's usage results, the groups used to categorize students, who used the system, modules used and the date of usage and more.

HISTORY OF FOCUS 2

FOCUS 2 is a byproduct of the IBM Corporation's "Career & Educational Planning System" (ECES) a system that was developed by a team of nationally prominent career development educators and theorists. The *chief architect was Dr. Donald E. Super, of Columbia University Teachers College*, then President of the American Psychological Association's Division of Counseling Psychology and internationally famous theorist best known for his theories and research in "Career Life Span & Life Space". Other key development team members were **Professor Roger A. Myers of the Columbia University Teachers College**, past president of the American Psychological Association's Division of Counseling Psychology and co-developer of the "Career Development Inventory" in cooperation with **Professor Donald E. Super, Professor David Tiedeman, then of Harvard University**, best known for his theories in career decision making and the development of a pilot career planning system named the "Information System for Vocational Decisions (ISVD) sponsored by the U.S. Department of Education, and **Professor David Campbell, then of the University of Minnesota and co-developer of the Strong-Campbell Interest Inventory and developer of the Campbell Interest & Skill Inventory**, **Dr. Frank J. Minor, Senior Psychologist for the IBM Corporation** was the overall IBM project director throughout the development and evaluation of the IBM sponsored systems. Together this team developed the IBM Education & Career Exploration System (ECES), a program product designed for use by students, and the IBM Employee Development Planning System (EDPS) for use by adults in career transition.

The IBM ECES system development effort started in 1968 at the IBM Advanced Systems Development Division in Yorktown Heights, New York. The first version was based on a central computer processor linked to remote optical image terminals equipped with a light pen that students used to answer questions by touching the screen as well as a keyboard for alphanumeric data entry. Occupational and educational information complemented with graphic art images were stored on 16mm film cassettes which were automatically retrieved and displayed based on the student's self-assessments and interactive responses to the system's questions. Students' self-assessments focused on interests, values and educational preferences. The first ECES system was pilot tested in colleges and high schools in New Jersey in 1970 where a formal evaluation was conducted by a Columbia University Teachers College team directed by Professor Donald E. Super. An enhanced version of ECES was evaluated for use in colleges and high schools in the state of Michigan starting in 1975 with funding provided by the Charles Stuart Mott Foundation of Flint, Michigan. Here again the Columbia University Teachers College team conducted research studies to evaluate the effectiveness the ECES system.

The IBM EDPS system was developed to support career development planning for adults in career transition. The EDPS system was installed and used by the IBM Corporation's National Service Division during the period 1986-1995 as a Human Resources Management program.

FOCUS 2 for college & university career services centers embodies the positive design features and functions of these earlier IBM systems and draws upon the results of current career development research. FOCUS 2 has been in use since 1990 in Colleges, Universities, Technical institutes, Community and State Workforce & Youth Development agencies, and private career and life counseling firms.

NEW ADVANTAGES & ENHANCEMENTS TO FOCUS 2

- **Your College's Major Areas of Study** is linked to FOCUS 2 occupations.
- **Students Self-Register** to use FOCUS 2 and login directly from your Career Services webpage.
- **New Career Planning Readiness Inventory** assesses student involvement in activities that support their career and education decision-making.
- **Student Self Assessment:** The FOCUS 2 Assessment Inventories include Work Interests, Values, Personality Type, Skills & Abilities, and Leisure Time Interests. Assessment results lead to occupations and your college's majors matching the student's unique profiles.
- **Exploration of majors and occupations:** Students explore occupations and refine their options

1. "What Can I Do With A Major In"... utilizes your college's majors and suggest majors that match the students' interests.
 2. Compare Two Occupations compares any two occupations
 3. Search for occupations by title
 4. Search for occupations by Industry Type
- **Career Portfolio Builder** and **Take Action** consolidates your students' assessment results and the occupations and major study areas they flag as potential goals along with their personal comments and record their plans for engaging in activities such as internships, volunteering, and building a network of contacts.
 - **1000+ occupations and 300 occupation videos** include education, job duties, skills, values, outlook, earnings, advancement, graphic Holland code comparisons and links to professional associations.
 - **Counselor reports** describe your students' results in a secure and confidential administrative website database. Organize your students into groups you select such as graduation year, specific classes, alumni, etc.
 - **Customize your college's FOCUS 2 Main Menu** to display your preferred FOCUS 2 features and inserts your college's logo and contact information.
 - **Immediate technical and customer support**, Webinar training, PowerPoint shows for student orientation, posters, etc.

ABOUT US: OUR COMPANY, CAREER DIMENSIONS, INC.

Career Dimensions was founded by Frank J. Minor, Ph.D. Industrial/Organizational Psychology in 1987 and he is the Chief Executive Officer of Career Dimensions. He was a Senior Psychologist at the IBM Corporation HQ in Armonk, NY. Dr. Frank Minor was a tenured Associate Professor (Human Resource Management, Organization Behavior, and Statistics) Saint Anselm College in New Hampshire. He also held Adjunct Professor Positions at Columbia University Teachers College, and Pace University. Career Dimensions has offices and professional staff located in Mahwah, New Jersey, Newton Center, Massachusetts, New Fairfield, Connecticut, New London, New Hampshire, and Moultonborough, New Hampshire.

Our executive staff consists of Counseling and Industrial/Organizational Psychologists, Human Resource Management specialists, and College and High School Educators, with PhD, MS, and MA degrees and with membership in the National Association of Colleges & Employers, the National Career Development Association, Association for Computer-Based Systems for Career Information, the American Psychological Association, the American School Counselors Association, and the National Association of Certified College Planners.

THE ASSESSMENT MEASUREMENTS USED IN FOCUS 2

The FOCUS 2 system contains a wide range of standardized “Self-Assessments” with which users describe their psychological qualities and attributes. Each of the FOCUS 2 “Self-Assessments” is based upon internationally accepted and established theories and supporting research as described below.

The team that designed the FOCUS 2 instruments consisted of:

- **Professor Donald E. Super**, of Columbia University Teachers College, then President of the American Psychological Association’s Division of Counseling Psychology and internationally famous theorist known for his theories and research in “Career Life Span & Life Space”.
- **Professor Roger A. Myers** of the Columbia University Teachers College, past president of the American Psychological Association’s Division of Counseling Psychology and co-developer of the “Career Development Inventory” in conjunction with Professor Donald E. Super.
- **Professor David Tiedeman**, then of Harvard University, best known for his theories in career decision making and the development of a pilot career planning system named the “Information System for Vocational Decisions (ISVD) sponsored by the US Department of Education.
- **Professor David Campbell**, then of the University of Minnesota and co-developer of the Strong-Campbell Interest Inventory and developer of the Campbell Interest & Skill Inventory.
- **Dr. Frank J. Minor**, Senior Psychologist for the IBM Corporation proposed the development of the original Education & Career Exploration System (ECES) and was the overall IBM project director throughout the development and evaluation of the systems.

YOUR CAREER PLANNING INVOLVEMENT

The Model

The assessments of the user’s Career Planning Involvement are based upon theories defining a person’s “Career Planning Maturity” and “Readiness to Plan”. These concepts can be measured as a function of the “level of involvement and specificity” of a person’s activities associated with his/her career exploration process. The theories were developed by Professors Donald E. Super, Albert S. Thompson, Richard H. Lindeman, Jean P. Jordaan, and Roger A. Myers, all of Columbia University Teachers College and documented in their publications associated with their “Career Development Inventory”. The usefulness of assessing career planning readiness as a way to improve career services is well documented. (Sampson, Peterson, Reardon, and Lenz, Career Development Quarterly, December 2000. p 140-174)

The Scales

Self-Assessment

Self-Assessment is important because it enables students to identify which occupations and major study areas are most compatible with their personal attributes. A *medium* self-assessment score indicates that a user is moderately involved in examining her/his interests, values, personality, and skills. It is important that students stay actively involved in self-assessment because it is the first and most important step in career planning.

Career Exploration

Career Exploration is important because it enables students to compare and evaluate occupations and major areas of study that appeal to users. A *medium* score indicates that a user is moderately involved in career exploration. It is important that students continue or increase their involvement in career exploration because it will help them narrow down your options and map out their career goals.

Career Planning Satisfaction

Planning Satisfaction measures the extent to which students are satisfied with the results of their career planning activities and their ability to resolve problems that can interfere with their decision-making. A

low score (lower than 2) suggests a user is experiencing problems with his/her career planning. It would be wise for that user to seek help from a career advisor to help resolve his/her problems.

INTERESTS ASSESSMENT

The Model

Historically, the assessment of interests has been the focal point of the career planning process. The interest inventory component of FOCUS 2 measures self-reported career interests using a nationally recognized standardized instrument using the RIASEC scales developed by John Holland. Similar to the traditional inventories, the FOCUS 2 interest scales reflect an individual's attraction to specific occupational areas.

The Interests Assessment in FOCUS 2 goes well beyond traditional inventories by introducing another element, a device for filtering the results using level of education. The integration of this element yields a more comprehensive picture, more than simple interests scores alone.

The result is a list of careers, drawn from an occupational database containing more than 1000 career fields. The individual is given the opportunity to explore any occupation in depth, engage in an interactive career analysis, and has the opportunity to create a "basket of occupations" that she/he has tagged as attractive potential goals with his/her comments and rankings.

Each list of occupations produced by any one of the FOCUS 2 assessments can be integrated with the occupation lists produced by other FOCUS 2 assessments, so that the user can see which occupations match a composite of her/his assessments.

The Interest Scales

FOCUS 2 uses the Holland code for matching Interest Profiles with occupations. When interpreting a person's 3-character Holland code the 1st letter is his/her highest field of interest, the 2nd letter is his/her next to the highest field of interest and the 3rd letter is next one down from the 2nd. Only the first 3 letters are used in the Holland coding scheme. A scale of 0 to 100 is used to display the user's Holland Code results.

HOLLAND INTEREST FIELD **R FOR REALISTIC**

DEFINITIONS

Involves working with and manipulating or using, physical objects, tools, equipment or machinery. Includes occupations in any field where there is some type of "hands-on" activity whether it is in a factory, laboratory, hotel, farm, restaurant construction site, transportation facility, department store, etc. Also applies to athletic occupations and any kind of outdoor work.

I FOR INVESTIGATIVE

Defined as performing research, investigations, diagnoses, studies and troubleshooting to identify problem causes and their solutions whether in business, health, technology, life, social, physical, or behavioral sciences. A problem-solving orientation.

A FOR ARTISTIC

Defined as creative designing, authoring, crafting, and presentation of ideas, concepts, products, or services. Includes all forms of fine and applied arts, performing arts, writing and authoring, and human expression: a creative orientation.

S FOR SOCIAL

Defined as counseling, teaching or helping others in matters of business, general education, skills training or career development. Assisting others to improve their physical, health, or psychological well-being. A human relations orientation.

E FOR ENTERPRISING

Defined as organizing, directing, motivating, and guiding others to accomplish objectives, marketing and selling products or services, persuading or influencing others to accept proposals, plans, or ideas. A leadership and entrepreneurial orientation aimed at achieving organization goals or financial gain.

C FOR CONVENTIONAL

Defined as developing, implementing or using information handling methods, or financial or accounting methods or information management techniques to collect, organize, summarize, and evaluate data and information needed for decision-making. An information administration orientation.

VALUES ASSESSMENT***The Model***

The FOCUS 2 Values are based upon the US Department of Labor's O*Net Work Importance (Values) scales originally developed by Professor Donald E. Super. Professor Super was the chief architect in the design of the FOCUS 2 system model originally implemented in the IBM Education & Career Exploration system (ECES).

Professor Super and Professor Dorothy D. Neville published the first version of Super's Value Scales in 1986 following several years of published research. As described by the US Department of Labor, an assessment of values enables people to focus on what is important to them in their work and their life. It then helps people identify occupations that they may find satisfying, based on the similarity between their work values (such as achievement, autonomy, and conditions of work) and the characteristics of the occupations.

The Values Items

Altruism/Helping Society: Doing something to contribute to the betterment of the world. Doing something for the greater good.

Artistic Creativity: Being able to express creative ideas through the arts.

Creativity Create: new ideas, programs, things, or anything else not previously developed by another person.

Helping Others: Being involved in helping other people in a direct way either individually or in a small group.

Income: Having a level of income that will afford you luxuries and which will allow you to become financially independent.

Independence: Being able to decide on how to get something done without significant direction from someone else.

Influence: Persuading and influencing others to change their attitudes, behavior, and/or opinions.

Physical Things: Having the ability to work with equipment or material things.

Prestige: Gaining the respect of others by the nature and/or level of responsibility of your work.

Risk Taking: Having duties that involve frequent physical, financial, or social risk taking.

Stability: Having a routine job where the duties are very predictable and not likely to change over a long period of time.

Tangible Results: Doing something where you can physically see the results of your work.

Working Outdoors: Having a job where you can spend a significant amount of time outside.

PERSONALITY ASSESSMENT

Personality: 40 alternative items organized into 20 question sets

The Model

There is ample evidence that personality type is related to occupational choice. Research results indicate that individuals choose occupations and career paths that provide opportunities and activities compatible with their personality preferences. FOCUS 2 utilizes the personality theory of Carl Jung as the model for assessing personality type and relating the different types to categories of occupations.

Jung's theory begins with the distinction between introversion and extroversion. Introverts are people who prefer their internal world of thoughts and feelings while extroverts prefer the external world of things and people and activities. Whether we are introverts or extroverts, each of us has our preferred ways of dealing with the world. Jung suggests there are four basic ways:

The first is sensing. Sensing means what it says: getting information by means of looking and listening. The second is thinking. Thinking means evaluating information or ideas rationally, and logically. The third is intuiting. Intuiting is a kind of perception that works outside of the usual conscious processes. It is perceptual, like sensing, but comes from the complex integration of large amounts of information, rather than simple seeing or hearing. The fourth is feeling. Feeling, like thinking, is a matter of evaluating information by weighing one's overall emotional response.

Katharine Briggs and her daughter Isabel Briggs Myers found Jung's types and functions so revealing of people's personalities that they developed the Myers-Briggs Type Indicator. The Myers-Briggs test casts Jung's theory into four scales. The first three scales are directly from Jung's theory as follows: Extroversion-Introversion, Sensing-Intuition, Thinking-Feeling, and a fourth scale added by Isabel Briggs Myers named Judgment-Perception. The fourth scale refers to the way you acquire information. Those who prefer Judging tend to be organized and structure. Those who prefer Perception tend to be flexible and spontaneous.

The FOCUS 2 personality inventory utilizes the Jung theory of personality and the research insights surrounding the use of the Myers-Briggs Type Indicator.

The FOCUS 2 Personality Scales

Your Focus of Attention and Reactions: This scale describes where and how you prefer to focus your attention. Some people are very action oriented and prefer to learn about things by direct experience. Other people prefer to understand a situation and think about it before acting.

How You Handle Information, The Way You Look at the World: This scale describes how you go about acquiring information. Some people prefer to "find out" about things by observing what is actually happening. They look at things in a realistic and practical way. Other people look at the big picture rather than detailed facts. They tend to be imaginative and look for the hidden meaning behind the facts.

Your Decision Making: This scale describes how you go about making decisions and judgments about things. Some people prefer to be objective and make decisions by analyzing and weighing the evidence. Other people prefer to make decisions based on personal values, tactfulness and consideration about other persons.

How You Organize the World Around You: This scale describes the kind of lifestyle and approach you take to deal with the things, people and situations in the world around you. Some people prefer to be structured and organized and get things settled. Others prefer to live in a flexible way, keep their options open, seek alternatives, and improvise.

SKILLS ASSESSMENT

The Model

The skills and abilities required for occupations vary significantly from one occupation to the next because of differences in their job duties. The most widely used definition of skills is based on Sidney Fine's research work performed to support the development of the US Department of Labor's "Dictionary of Occupational Titles". According to Fine, a skill is defined as the ability to perform an activity proficiently. The skill can be acquired through education, through work experience and job training, or it can be the result of an ability that you have had for years. Simply stated, skills can be learned, or they can be the result of natural abilities and talents, or having a special "know-how" or "knack" for doing certain tasks.

With Fine's definition of skills in mind, the U.S. Department of Labor's O*NET National Development Center developed a set of skills that is used to differentiate the skills requirements of occupations in the US. The skills are divided into categories. FOCUS 2 uses the same skills model as used by the US Department of Labor's O*NET Online system.

The FOCUS 2 system enables users to identify and create a profile of their skills and then search for, and analyze occupations that match the users' skills profile. The FOCUS 2 system user can further refine the list of matching occupations based on his/her desired level of education.

The Skills Scale Items

Problem Solving Skills

Decision Making: Weighing out the options in a situation or a problem and logically choosing the best course of action.

Problem Solving: Ability to identify a problem, review related information, develop and evaluate options, and implement a solution.

Reasoning: Using logic to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Troubleshooting: Analyzing the symptoms of a problem and deciding what actions should be taken to resolve the problem.

Management Skills

Managing Money: Determining how much money is required to get a job done, allocating those monies, and then accounting for all expenditures.

Managing People: Assigning duties to others, motivating them, and evaluating their performance.

Managing Physical Resources: The ability to make appropriate use of equipment and materials to get a job done.

Managing Time: Allocating and budgeting your time for different tasks so that things get done when needed.

Creative and Artistic Skills

Fine Arts: Painting, drawing, crafting, sculpting and creative designing.

Performing Arts: Dance, drama, music, i.e., things that are performed in front of an audience.

Scientific Skills

Computer Programming: Writing computer programs to perform specific information handling operations.

Mathematics: Using mathematics and/or statistics to solve problems.

Science: Using scientific methods to investigate and conduct experiments.

Technical Skills

Designing: Analyzing requirements for a new product or service and creating a design to satisfy those needs.

Equipment Selection: Identifying the most appropriate equipment and tools needed to get a job done.

Installation: Installing equipment, machines, wiring, etc. according to a set of specifications.

Maintenance and Repair: Performing routine maintenance and/or repairs on equipment using the appropriate tools.

Manual Dexterity: Using your hands to operate fine instruments and precision tools.

ing Equipment: Watching gauges and any other types of indicators to make sure equipment is running properly.

Operating Machines: Operating equipment and machinery.

Quality Control: Inspecting and testing products or services to assure they meet the desired specifications.

LEISURE ACTIVITIES ASSESSMENT

The Model

The model and definition of “leisure activities” adopted by the FOCUS 2 system is based on Dr. Donald E. Super’s research, theories and works in “Life Career Roles”. According to Super, leisure can be defined as self-determined activities, free from time commitments in your other roles such as a student, a worker, homemaker, or citizen. Leisure pursuits may require the expenditure of effort, such as in sports or gardening, or it may be idling your time reading in a hammock. On a personal level, leisure activities are engaged in to meet your personal needs, and satisfy your interests, abilities and values.

In the 1980s, Super developed the “theory of self-expression” or “self-fulfillment” which states that people engage in leisure activities and work activities that provide self-expression for one’s interests, abilities and values. Research has shown that the persons that are most satisfied with both their occupation and their leisure activities prefer hobbies and recreation activities that are very similar in nature to their occupational duties.

Clearly, the kinds of leisure activities you engage in can be predictive of the kinds of occupations you would find most interesting and enjoyable. FOCUS 2 used Super’s theory to develop an inventory of recreational activities that are linked to occupations. The FOCUS 2 system user indicates the degree of satisfaction he/she receives or would receive by performing each activity using a Likert rating scale. The user is then presented with a bar chart showing the user’s satisfaction score on each of 6 dimensions based upon the John Holland RIASEC model. The user narrows down the list of occupations by selecting the level of education she/he aspires to achieve.

The result is a list of occupations, drawn from an occupational database containing more than 1000 occupations. The individual will be given the opportunity to explore any occupation in depth, engage in an interactive career analysis, and will have the opportunity to create a "basket of occupations" that will integrate with the other five core assessments modules in FOCUS 2.

The Scales

- **Sharing:** "The Helpers". (Social) Helping and advising people. Concerned about other people’s welfare and enjoy teaching and assisting them.
- **Reality:** "The Doers". (Realistic) Performing useful hands-on activities. Enjoys working with tools or machinery and like to see tangible results.

- Inquiring: "The Thinkers". (Investigative) Doing things that enhance your knowledge. Enjoys learning about the natural world and using a scientific approach to solve problems.
- Eager: "The Persuaders" (Enterprising) Leading: Directing and coordinating the activities of others. Enjoys persuading others to see your point of view.
- Correct: "The Organizers" (Conventional) Organizing information and things for efficiency. Pays attention to details, and you like to do things in an orderly and precise way.
- Aesthetic: "The Creators": (Artistic) Being creative and artistic. Enjoys activities that enable you to express yourself and be imaginative such as painting, writing, sculpturing, or drawing,

A scale of 0 to 100 is used to display the user's results.

FOCUS 2 RELIABILITY & VALIDITY RESEARCH RESULTS

<i>Samples Used</i>	<i>Sample size</i>
2-Year & 4-Year College and University students	2,788
Working adults	2,469

Statistical Methods Used

Item-scale correlations and item-factor analyses were calculated for all samples.

Reliability Measures: Two measures of reliability were computed, one for internal reliability (Alpha coefficient), and one for stability (test-retest).

Validity Measures: Content Validity and Construct Validity were assessed for all sets of items.

Content validity was established by (1) examining the "face validity" of items (2) reviewing the theoretical models and methods used to develop the items, and (3) item-scale correlations

Construct validity was established by comparing the results of the factor analysis across the 3 different samples. The essential question was, did the factor structure remain the same across the three different population samples i.e., (1) College and University Students and (2) Working Adults.

Results of Statistical Analysis

Interest Inventory Items on the FOCUS 2 Main Menu: The original pool of items consisted of 75 questions. Item-scale correlations and item-factor analyses were calculated for each of the population samples. The results yielded 6 factor scales with 6 items per scale. A content validity analysis showed the factors to be equivalent to the Holland RIASEC type factors. All items had factor analysis loadings above .67 on their respective factors. Two measures of reliability were computed, one for internal reliability (Alpha coefficient), and one for stability (test-retest). The reliability coefficients for all items reached or exceeded .85. Close inspection of the factor structure across the 3 samples gives support to the construct validity.

Personality Type Items on the FOCUS 2 Main Menu

The original pool of items consisted of 82 items. Item-scale correlations and item-factor analyses were calculated for each of the 3 population samples. The results yielded 4 factor scales with 10 items per scale. A content validity analysis showed the factors to approximate the key scales described in the Myers-Briggs Type Indicator inventory and in Jungian theories of Psychological Types. All items had factor analysis loadings above .68 on their respective factors. Two measures of reliability were computed, one for internal reliability (Alpha coefficient), and one for stability (test-retest). The reliability coefficients for all items reached or exceeded .86. Close inspection of the factor structure across the 3 samples gives support to the construct validity.

Leisure Activities Items on the FOCUS 2 Main Menu

The original pool of items consisted of 78 questions. Item-scale correlations and item-factor analyses were calculated for each of the 3 population samples. The results yielded 6 factor scales with 6 items per scale. A content validity analysis showed the factors to be equivalent to Holland's six RIASEC type factors and to 6 of the 7 scales used in Campbell's Interest and Skill Survey. All items had factor analysis loadings above .66 on their respective factors. Two measures of reliability were computed, one for internal reliability (Alpha coefficient), and one for stability (test-retest). The reliability coefficients for all items reached or exceeded .85. Close inspection of the factor structure across the 3 samples gives support to the construct validity.

Skills Inventory and Values Inventory Items on the FOCUS 2 Menu

The Skills and Values items were drawn from the US Department of Labor's Skills lists and Values lists found on their website O*NET Online (<http://www.onetonline.org/link/summary/13-2021.01>). Current validity and reliability studies were conducted by and available through the US Department of Labor.

RESEARCH PUBLICATIONS IN JOURNALS AND BOOKS DESCRIBING FOCUS 2 EFFECTIVENESS

There are extensive publications in professional journals and books describing the research and development of the FOCUS 2 family of systems. The earlier versions of FOCUS 2 systems were named "The IBM Educational & Career Exploration System" (ECES) and the "IBM Employee Development Planning System" (EDPS). Since FOCUS 2 utilizes the design principles and self-assessment instruments embedded in these IBM systems, we have included below the research publications that evaluate and describe the ECES and EDPS systems, as well as the FOCUS 2 System.

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