

ACAP~~

Austin Competency Analysis Profile

Globalization

**Conducted January 5th and 6th, 2000
Austin Community College
Austin, Texas**

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A Word About The Globalization ACAP

We the facilitators, feel that it is necessary to make some introductory comments about this unique ACAP. The Globalization ACAP involved 10 Subject Matter Experts (SMEs) representing six companies. Although Globalization is a new process to much of the software industry, we were lucky to have among us some of the most expert people in the field.

One can find among job searches an emergence of the job title “Globalization Guru”, nevertheless, globalization covers a broad range of specialty areas. The SME’s identified three principle areas that are most involved in globalization, with the understanding that the emergence of this growing field could expand to cover even more areas. The three principle areas are: Software Development, Project Management, and Technical Communication. This made the task of completing the ACAP a challenge. With the expertise and teamwork of our SME’s we were able to produce a quality competency list, which should serve as an excellent starting point for developing a quality program.

Lastly, it is important to mention that our SME’s are completely supportive of our efforts to launch a globalization program at ACC. Many have expressed interest in serving on advisory committees, in sharing in-house curriculum as a resource, and in teaching courses. As we strive toward developing the nation’s first quality globalization program we can be grateful for having a cooperative industry that is fully supporting our endeavors.

Principle Globalization Areas:

Software Engineering (Development and Testing)

Project Management/Management

Publication/Technical Communication

ACAP Process Overview

What are Austin Competency Analysis Profiles (ACAPs)?

Austin Competency Analysis Profiles (ACAPs) are competency lists that are verified by expert workers called Subject Matter Experts or SMEs. The ACAP process is a well-established job analysis process involving business, industry, labor, and community agency representatives from throughout the Austin area.

How is an Austin Competency Analysis Profile used?

Each ACAP identifies the occupational, academic, and employability skills (or competencies) needed to enter a given occupation or occupational area. The ACAP not only lists the competencies but also clusters those competencies into broader units and details the knowledge, skills, and attitudes (competency builders) needed to perform each competency.

Within the competency list are two levels of items: core and advancing. Core items, which are essential for entry-level employment, are required to be taught. Advancing items are those needed to advance in a given occupation, and are designated by a superscripted "a". If core competencies or competency builders are present in "advancing" unit, then they are designated with a superscripted "c".

Educational institutions may add as many units, competencies, and/or competency builders as desired to reflect local employment needs, trends, and specialties. Local advisory committees are actively involved in the identification and verification of additional items. Faculty members formulate their courses of study using the varied contents of the ACAP. Faculty also monitor gains using many forms of assessment.

ACAP Working Outline

January 5 and 6, 2000

Wednesday January 5, 2000

Welcome and Introductions

Brainstorm: *What do people need to know and be able to do as an entry-ready employee in this occupation?*

Process Overview:

Purpose~Why are we here?

Review definitions

Identify outcomes

Identify Target Job Titles

Verify Units

~Lunch Break~

Verify Competencies

Verify Competency Builders

Thursday January 6, 2000

Continue Verifying Competency Builders

Determine Core and Advancing Units, Competencies, and Competency Builders

~Lunch Break~

Develop Work Keys Occupational Profile

Review and Wrap Up

ACAP: Globalization

Target Job Titles

Project Manager	Publication Engineer
Technical Publication Manger	Localization Manager
Internationalization Team Leader	Localization Team Leader
Localization Coordinator	Localization Engineer
Globalization Engineer	Globalization Manager
Software Development Engineer	Test Engineer
Quality Assurance Engineer	Technical Writer

ACAP: Globalization (G11N)~~

Occupational Competencies

Unit 1: Orientation to Globalization

Unit 2: Software Development

Unit 3: Software Testing and Quality Assurance

Unit 4: Project Management

Unit 5: Publication/Technical Communication

Unit 6: Globalization Tools

Competency 1.5 **Explore career opportunities in globalization**

Competency Builders

- 1.5.1 Identify key occupations in globalization
- 1.5.2 Identify key companies both locally and globally

Competency: 1.6 **Relate globalization to product development process**

Competency Builders

- 1.6.1 Identify objectives for globalization of product
- 1.6.2 Identify steps in product development cycle including other processes such as marketing, localization, testing, defect tracking, manufacturing
- 1.6.3 Identify roles and responsibilities related to globalization of a product including manufacturing, marketing, support, product development, quality assurance, legal, finance, service etc.
- 1.6.4 Identify globalization deliverables by phase

Unit 2 **Software Development**

Prerequisite skills: C or C++ or Java programming languages
Recommended skills: XML

Competency 2.1 **Incorporate I18N into software design**

Competency Builders

- 2.1.1 Evaluate customer/compatibility requirements
- 2.1.2 Set design objectives
- 2.1.3 Comply with I18N and GUI standards
- 2.1.4 Define product components that will be internationalized such as time, date, currency
- 2.1.5 Document product specifications to reflect internationalization and associated risks of the development process
- 2.1.6 Review/approve the software design

Competency 2.2 **Isolate locale specific information from the product code**

Competency Builders:

- 2.2.1 Define the responsibility of developer for integrating locale-based information into product code
- 2.2.2 Define what a locale is and what it is composed of on various platforms
- 2.2.3 Set the locale on various platforms
- 2.2.4 Externalize strings from product code

Competency 2.3 **Accommodate code pages/code sets**

Competency Builders:

- 2.3.1 Differentiate single-byte code sets (SBCS) among platforms and scripts
- 2.3.2 Differentiate multi-byte code sets (MBCS) among platforms and scripts
- 2.3.3 Recognize Unicode, ISO 10646, and encodings such as UTF-8, UTF-7, UTF-16, UCS-2, UCS-4
- 2.3.4 Use API to access Input Method Editors (IME) including layered keyboards
- 2.3.5 Use appropriate model for handling strings and characters

Competency 2.4 **Perform data conversion and maintain data integrity**

Competency Builders:

- 2.4.1 Ensure interoperability (I14y)
- 2.4.2 Ensure platform compatibility
- 2.4.3 Resolve conversion problems

Competency 2.5 **Establish cultural formatting**

Competency Builders:

- 2.5.1 Use locale sensitive API for sort and search
- 2.5.2 Use locale sensitive API for time and date
- 2.5.3 Handle calendars appropriately
- 2.5.4 Use locale sensitive API for currency and numbers
- 2.5.5 Handle addresses and telephone numbers appropriately
- 2.5.6 Handle names and personal titles appropriately
- 2.5.7 Establish margins to meet local paper sizes
- 2.5.8 Test API for sample locales (Japanese(multi-byte), Arabic(bidi), Spanish(diacritics), Korean(different multi-byte))

Competency 2.6 Manage user interfaces and visible text

Competency Builders:

- 2.6.1 Externalize localizable resources from product code such as strings, translatable text, audio, bitmaps
- 2.6.2 Size/resize controls such as dialog boxes, menu items
- 2.6.3 Ensure that hot keys are unique
- 2.6.4 Account for expansion space for translations
- 2.6.5 Handle text in entire units (avoid concatenation and insertion) to facilitate translation
- 2.6.6 Ensure culturally correct colors, icons and graphics
- 2.6.7 Follow guidelines for international English
- 2.6.8 Follow GUI guidelines

Competency 2.7 Interact with configuration management system

** Note: should be incorporated into core programming curriculum.*

Competency Builders:

- 2.7.1 Develop source tree structure for various languages
- 2.7.2 Follow ISO standards for naming country and language in tree structure
- 2.7.3 Check in and out of version control
- 2.7.4 Build localized software on clean machine

Competency 2.8 Manage legacy code problems throughout the software design and development process

Competency Builders:

- 2.8.1 Identify code components that need to be internationalized such as hard coded strings
- 2.8.2 Test legacy product with international data
- 2.8.3 Identify outdated internationalized code
- 2.8.4 Determine retrofit effort required

- 3.3.7 Identify the required hardware and software
- 3.3.8 Define the defect control process
- 3.3.9 Define the languages to be tested
- 3.3.10 Define test objectives

Competency 3.4: Perform translation verification test

Competency Builders:

- 3.4.1 Create product specific test cases/test scripts
- 3.4.2 Validate and calibrate test cases/test scripts
- 3.4.3 Set up test environment
- 3.4.4 Coordinate test execution (resolve test issues, manage defects, obtain fixes, set up rebuilds, test again)
- 3.4.5 Provide status updates to project manager
- 3.4.6 Sign off after exit criteria objectives have been achieved
- 3.4.7 Provide information to post project review

Competency 3.5 Perform post translation test

Competency Builders:

- 3.5.1 Perform cursory or regression testing on translated software
- 3.5.2 Analyze results of post translation test
- 3.5.3 Test compatibility between localized versions

Unit 4 Globalization Project Management/ Management

Prerequisite skills: Project Management course work and/or experience

Competency 4.1 Manage, monitor and track globalization process (assume responsibility across all affected/contributing areas for globalization process)

Competency Builders:

- 4.1.1 Identify globalization process to be used (ensuring manufacturing, marketing, support, product development, quality assurance, legal, finance, and service etc. are involved)
- 4.1.2 Create the globalization product plan (including project review documents)
- 4.1.3 Establish and monitor key project milestone including resource/feature/function freeze
- 4.1.3 Review design document to make sure the objectives are met
- 4.1.4 Review quality assurance test plan

- 4.1.5 Participate in product defect meetings for I18N and L10N issues
- 4.1.6 Review and ensure release notes/licenses are global and legal
- 4.1.7 Sign off on release to marketing in English I18N and correctness and localized products
- 4.1.8 Provide globalization status reports

Competency 4.2: Manage, monitor and track (or delegate) localization processes/tasks

Competency Builders:

- 4.2.1 Identify L10N objectives
- 4.2.2 Create the localization plan- time, cost, quality
- 4.2.3 Evaluate and determine third party providers
- 4.2.4 Determine whether to outsource translations/test or to translate/test internally
- 4.2.5 Agree to specifications within contract for outsourcing
- 4.2.6 Initiate and coordinate file handling process
- 4.2.7 Send L10N kit to localization providers (instructions and files to be translated, tools to be used, glossaries, collateral, etc.)
- 4.2.8 Resolve quality issues and problems reported by localization provider
- 4.2.9 Receive localized files back from translators
- 4.2.10 Ensure placement of files into development repository
- 4.2.11 Arrange for the build of translated products
- 4.2.12 Ensure verification of good localized build
- 4.2.13 Ensure verification of translations
- 4.2.14 Repeat the cycle (4.2.6-4.2.13)
- 4.2.15 Ensure localization objectives and quality goals are all met
- 4.2.16 Document quality objectives through a sign off
- 4.2.17 Archive project files including translation memories
- 4.2.18 Conduct post project review

Unit 5

Publications/Technical Communication

Prerequisite skills: background in technical communication/desktop publishing
Recommended skills : foreign language skills

Competency 5.1 **Work with multiple cross functional teams to achieve documentation objectives**

Competency Builders:

- 5.1.1 Coordinate documentation updates
- 5.1.2 Create/Evaluate document set for standardization (according to international English guidelines)
- 5.1.3 Check for cultural differences, (gestures, etiquette, etc.)
- 5.1.4 Use formal/informal language appropriately for foreign languages and standardized English
- 5.1.3 Check icons, graphics, etc. for cultural suitability and replaceability

Competency 5.2 **Determine formatting**

Competency Builders:

- 5.2.1 Work with production team for printing (agency, printer, etc.)
- 5.2.2 Determine/test fonts for target languages
- 5.2.3 Determine locale specific margins / paper sizing etc.
- 5.2.4 Ensure publishing tools support targeted language such as Framemaker, Word, etc.
- 5.2.5 Create/amend style guide per target language

Competency 5.3 **Develop product specific glossary for localization (L10N) kit**

Competency Builders:

- 5.3.1 Identify applicable industry standard glossaries
- 5.3.2 Include product specific terminology in glossary
- 5.3.3 Design glossary with the translation (XL8N) in mind
- 5.3.4 Append standardized platform specific terminology
- 5.3.5 Deliver translation kit

Competency 5.4 **Review/Test Translated documents**

Competency Builders:

- 5.4.1 Review/test material to be printed (test run) such as manuals, release notes etc.

- 5.4.2 Review/test on-line documents including hot links, helps, error messages etc.
- 5.4.3 Perform sign-off

Competency 5.5 Close localization (L10N) process

Competency Builders:

- 5.5.1 Ensure reuse of documents, graphics etc.
- 5.5.2 Archive localization (L10N) documents
- 5.5.3 Provide input into post project review

Unit 6 Globalization Tools

Prerequisite skills: FTP, Winzip or zip, standard editor skills

Recommended skills: Spreadsheet, integrated development environment (IDE) for software development tools

Competency 6.1 Use appropriate software development tools

Competency Builders:

- 6.1.1 Use code development tools such as C, C++, Java
- 6.1.2 Verify code is enabled using tools such as OneRealm I18N Expeditor
- 6.1.3 Verify spelling and grammar is correct using spell and grammar checkers
- 6.1.4 Create mock translation using tools such as Trados
- 6.1.5 Use automated test tools where applicable e.g. Dreamweaver to check HTML links
- 6.1.6 Use configuration management/version control tools such as Team Connection, PVCS, Visual Source Safe, Perforce
- 6.1.7 Use defect tracking tools such as Team Connection, GNAT, Vantive, Scopus

Competency 6.2 Use project management tools

Competency Builders:

- 6.2.1 Ensure the format of translatable and translated files are correct using tools to verify strings within files (items checked include missing quotes, tags, etc.)
- 6.2.2 Ensure word count has been performed by tools such as MS Word, Translation Manager, etc.
- 6.2.3 Use project management/translation planning tools such as Microsoft Project, Excel

Competency 6.3 Use publication tools

Competency Builders:

- 6.3.1 Verify spelling and grammar is correct using spell and grammar checkers
- 6.3.2 Use automated test tools where applicable e.g. Dreamweaver to check HTML links
- 6.3.3 Use configuration management/version control tools such as Team Connection, PVCS, Visual Source Safe, Perforce
- 6.3.4 Use desktop publishing tools that support translation such as Framemaker, Webworks Publisher, Adobe Acrobat, Robohelp
- 6.3.5 Use defect tracking tools such as Team Connection, GNAT, Vantive, Scopus
- 6.3.6 Use graphic imaging tools such as Adobe Illustrator, Photoshop, Corel Draw, etc.

Competency 6.4 Use tools to perform functional test of localized software

Competency Builders:

- 6.4.1 Create mock translation using tools such as Trados
- 6.4.2 Create a translation memory using tools such as Translation Manager, Trados, Foreigndesk
- 6.4.3 Develop an awareness of translation memory usage using tools such as Translation Manager, Trados, Foreigndesk
- 6.4.4 Use automated test tools where applicable such as Autotester, Silk, etc
- 6.4.5 Use configuration management/version control tools such as Team Connection, PVCS, Visual Source Safe, Perforce, etc.
- 6.4.6 Use defect tracking tools such as Team Connection, GNAT

Competency 6.5 Use or become familiar with tools for Translation Verification Test

Competency Builders:

- 6.5.1 Create a translation memory using tools such as Translation Manager, Trados, Foreigndesk, etc.
- 6.5.2 Leverage translation memory from prior projects if applicable
- 6.5.3 Use automated test tools where applicable such as Autotester, Silk, etc
- 6.5.4 Use configuration management/version control tools such as Team Connection, PVCS, Visual Source Safe, Perforce
- 6.5.5 Use defect tracking tools such as Team Connection, GNAT, Vantive, Scopus, etc.

ACAP: Globalization~~

Employability Competencies

Employability Competencies

- Unit 1: Career Development**
- Unit 2: Decision Making and Problem Solving**
- Unit 3: Work Ethic**
- Unit 4: Job-Seeking Skills**
- Unit 5: Job Retention and Career Advancement Skills**
- Unit 6: Technology in the Workplace**
- Unit 7: Lifelong Learning**
- Unit 8: Economic Education**
- Unit 9: Balancing Work and Family**
- Unit 10: Citizenship in the Workplace**
- Unit 11: Leadership**
- Unit 12: Entrepreneurship**

Unit 1: Career Development

Competency 1.1: Investigate career options

Competency Builders:

- 1.1.1 Determine interests and aptitudes
- 1.1.2 Identify career options
- 1.1.3 Research interests, knowledge, abilities, and skills needed in an occupation
- 1.1.4 Select careers that best match interests and aptitudes
- 1.1.5 Identify advantages and disadvantages of career options, including self-employment and nontraditional careers

Competency 1.2: Utilize career information

Competency Builders:

- 1.2.1 Identify a range of career information resources
- 1.2.2 Use a range of resources to obtain career information (e.g., handbooks, career materials, labor market information, and computerized career-information delivery systems)
- 1.2.3 Demonstrate knowledge of various classification systems that categorize occupations and industries (e.g., *Dictionary of Occupational Titles*)
- 1.2.4 Describe the educational requirements of various occupations
- 1.2.5 Identify individuals in selected occupations as possible information resources, role models, or mentors
- 1.2.6 Describe the impact of factors such as population, climate, employment trends, and geographic location on occupational opportunities
- 1.2.7 Assess differences in the wages, benefits, annual incomes, cost of living, and job opportunities associated with selected career options
- 1.2.8 Determine labor market projections for selected career options

Competency 1.3: Participate in a career exploration activity

Competency Builders:

- 1.3.1 Identify career exploration activities (e.g., job shadowing, mentoring, volunteer experiences, part-time employment, and cooperative education)
- 1.3.2 Compare traits, skills, and characteristics required for specific career choices with individual's traits, skills, and characteristics
- 1.3.3 Recognize potential conflicts between personal characteristics and career choice areas
- 1.3.4 Describe the impact of exploration activities on current choices

Competency 1.4: Assess the relationship between educational achievement and career planning

Competency Builders:

- 1.4.1 Describe how skills developed in academic and vocational programs relate to career goals
- 1.4.2 Describe how education relates to the selection of a college major, further training, and/or entry into the job market
- 1.4.3 Identify skills that can apply to a variety of occupational requirements
- 1.4.4 Explain the importance of possessing learning skills in the workplace

Competency 1.5: Develop an individual career plan

Competency Builders:

- 1.5.1 Identify career goal(s)
- 1.5.2 Identify worker conditions, education, training, and employment opportunities related to selected career goal(s)
- 1.5.3 Describe school and community resources available to help achieve career goal(s)
- 1.5.4 Identify career ladders possible within selected career goal(s)*
- 1.5.5 Identify additional experiences needed to move up identified career ladders*
- 1.5.6 Recognize that changes may require retraining and upgrading of employees' skills

Competency 1.6: Annually review/revise the individual career plan

Competency Builders:

- 1.6.1 Identify experiences that have reinforced selection of the specific career goal(s) listed on the individual career plan
- 1.6.2 Identify experiences that have changed the specific career goals(s) listed on the individual career plan
- 1.6.3 Modify the career goal(s) and educational plans on the individual career plan
- 1.6.4 Ensure that parents or guardians provide input into the individual career plan process
- 1.6.5 Identify the correlation between the individual career plan and the actual courses to be taken in high school
- 1.6.6 Identify the correlation between the individual career plan and postsecondary training, adult education, or employment

Unit 2: Decision Making and Problem Solving

Competency 2.1: Apply decision-making techniques in the workplace

Competency Builders:

- 2.1.1 Identify the decision to be made
- 2.1.2 Compare alternatives
- 2.1.3 Determine the consequences of each alternative
- 2.1.4 Make decisions based on values and goals
- 2.1.5 Evaluate the decision made

Competency 2.2: Apply problem-solving techniques in the workplace

Competency Builders:

- 2.2.1 Diagnose the problem, its urgency, and its causes
- 2.2.2 Identify alternatives and their consequences in relation to the problem
- 2.2.3 Recognize multicultural and nonsexist dimensions of problem solving
- 2.2.4 Explore possible solutions to the problem using a variety of resources
- 2.2.5 Compare/contrast the advantages and disadvantages of each solution
- 2.2.6 Determine appropriate action
- 2.2.7 Implement action
- 2.2.8 Evaluate results of action implemented

Unit 3: Work Ethic

Competency 3.1: Evaluate the relationship of self-esteem to work ethic

Competency Builders:

- 3.1.1 Identify special characteristics and abilities in self and others
- 3.1.2 Identify internal and external factors that affect self-esteem
- 3.1.3 Identify how individual characteristics relate to achieving personal, social, educational, and career goals
- 3.1.4 Identify the relationship between personal behavior and self-concept

Competency 3.2: Analyze the relationship of personal values and goals to work ethic both in and out of the workplace

Competency Builders:

- 3.2.1 Distinguish between values and goals
- 3.2.2 Determine the importance of values and goals
- 3.2.3 Evaluate how one's values affect one's goals
- 3.2.4 Identify own short- and long-term goals
- 3.2.5 Prioritize own short- and long-term goals
- 3.2.6 Identify how one's values are reflected in one's work ethic
- 3.2.7 Identify how interactions in the workplace affect one's work ethic
- 3.2.8 Identify how life changes affect one's work ethic

Competency 3.3: Demonstrate work ethic

Competency Builders:

- 3.3.1 Examine factors that influence work ethic
- 3.3.2 Display initiative
- 3.3.3 Demonstrate dependable attendance and punctuality
- 3.3.4 Demonstrate organizational skills
- 3.3.5 Adhere to schedules and deadlines
- 3.3.6 Demonstrate a willingness to learn
- 3.3.7 Demonstrate a willingness to accept feedback and evaluation
- 3.3.8 Demonstrate interpersonal skills required for working with and for others
- 3.3.9 Describe appropriate employer-employee interactions for various situations
- 3.3.10 Express feelings and ideas in an appropriate manner for the workplace

Competency 3.4: Demonstrate safety skills

Competency Builders:

- 3.4.1 Practice safe work habits
- 3.4.2 Identify safety hazards
- 3.4.3 Employ preventative safety measures
- 3.4.4 Demonstrate appropriate care and use of equipment and facilities to ensure safety
- 3.4.5 Comply with safety and emergency procedures

Unit 4: Job-Seeking Skills

Competency 4.1: Prepare for employment

Competency Builders:

- 4.1.1 Identify traditional and nontraditional employment sources
- 4.1.2 Utilize employment sources
- 4.1.3 Research job opportunities, including nontraditional careers
- 4.1.4 Interpret equal employment opportunity laws
- 4.1.5 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
- 4.1.6 Prepare for generic employment tests and those specific to an occupation/organization

Competency 4.2: Develop a resume

Competency Builders:

- 4.2.1 Identify personal strengths and weaknesses
- 4.2.2 List skills and/or abilities, career objective(s), accomplishments, educational background, work experience, volunteer/community contributions, and organizational memberships
- 4.2.3 Select an acceptable resume format
- 4.2.4 Use correct grammar and spelling and concise wording
- 4.2.5 Secure references
- 4.2.6 Complete the resume

Competency 4.3: Complete the job application process

Competency Builders;

- 4.3.1 Explain the importance of an application form
- 4.3.2 Obtain job application forms
- 4.3.3 Demonstrate behaviors (e.g., personal appearance, hygiene, and demeanor) for obtaining job application forms in person
- 4.3.4 Describe methods for handling illegal questions on job application forms
- 4.3.5 Demonstrate legible written communication skills using correct grammar and spelling and concise wording
- 4.3.6 Return application to appropriate person
- 4.3.7 Request interview
- 4.3.8 Follow up on application status

Competency 4.4: Demonstrate interviewing skills

Competency Builders:

- 4.4.1 Investigate interview procedures
- 4.4.2 Demonstrate appropriate behaviors (e.g., appearance, hygiene, and demeanor) for the interview
- 4.4.3 Demonstrate question-and-answer techniques
- 4.4.4 Demonstrate methods for handling difficult and/or illegal interview questions
- 4.4.5 Use correct grammar and concise wording

Competency 4.5: Secure employment

Competency Builders:

- 4.5.1 Identify present and future employment opportunities within an occupation/organization
- 4.5.2 Research the organization/company
- 4.5.3 Use follow-up techniques to enhance employment potential
- 4.5.4 Evaluate job offer(s)
- 4.5.5 Respond to job offer(s)

Unit 5: Job Retention and Career Advancement Skills

Competency 5.1: Analyze the organizational structure of the workplace

Competency Builders:

- 5.1.1 Identify employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- 5.1.2 Comply with company policies and procedures
- 5.1.3 Examine the role/relationship between employee and employer
- 5.1.4 Recognize opportunities for advancement and reasons for termination
- 5.1.5 Recognize the organization's ethics

Competency 5.2: Maintain positive relations with others

Competency Builders:

- 5.2.1 Exhibit appropriate work habits and attitudes
- 5.2.2 Identify behaviors for establishing successful working relationships
- 5.2.3 Cooperate through teamwork and group participation
- 5.2.4 Demonstrate a willingness to compromise
- 5.2.5 Identify methods for dealing with harassment, bias, and discrimination based on race, color, national origin, gender, religion, disability, or age
- 5.2.6 Cooperate with authority
- 5.2.7 Accept supervision

Competency 5.3: Demonstrate accepted social and work behaviors

Competency Builders:

- 5.3.1 Demonstrate a positive attitude
- 5.3.2 Demonstrate accepted conversation skills
- 5.3.3 Use good manners
- 5.3.4 Accept responsibility for assigned tasks
- 5.3.5 Demonstrate personal hygiene
- 5.3.6 Demonstrate knowledge of a position
- 5.3.7 Perform quality work

Competency 5.4: Analyze opportunities for personal and career growth*

Competency Builders:

- 5.4.1 Demonstrate opportunities within chosen occupation/organization*
- 5.4.2 Determine other career opportunities outside chosen occupation/organization*
- 5.4.3 Evaluate the factors involved in considering a new position within or outside an occupation/organization*
- 5.4.4 Exhibit characteristics needed for advancement*

Unit 6: Technology in the Workplace

Competency 6.1: Demonstrate knowledge of technology issues

Competency Builders:

- 6.1.1 Demonstrate knowledge of the characteristics of technology
- 6.1.2 Demonstrate knowledge of how technology systems are applied
- 6.1.3 Assess the impact of technology on the individual, society, and environment
- 6.1.4 Demonstrate knowledge of the evolution of technology
- 6.1.5 Identify how people, information, tools and machine, energy, capital, physical space, and time influence the selection and use of technology
- 6.1.6 Identify legal and ethical issues related to technology (e.g., confidentiality, information sharing, copyright protection)

Competency 6.2: Demonstrate skills related to technology issues

Competency Builders:

- 6.2.1 Exhibit willingness to adapt to technological change
- 6.2.2 Utilize technological systems
- 6.2.3 Utilize a variety of resources and processes to solve technological problems
- 6.2.4 Employ higher-order thinking skills for solving technological problems
- 6.2.5 Work as a team member in solving technological problems
- 6.2.6 Use technology in a safe and responsible manner
- 6.2.7 Apply science, mathematics, communication, and social studies concepts to solve technological problems
- 6.2.8 Demonstrate ingenuity and creativity in the use of technology*
- 6.2.9 Utilize a formal method (systems approach) in solving technological problems*

Unit 7: Lifelong Learning

Competency 7.1: Apply lifelong learning practices to individual situations

Competency Builders:

- 7.1.1 Define lifelong learning
- 7.1.2 Identify factors that cause the need for lifelong learning
- 7.1.3 Identify changes that may require the retraining and upgrading of employee's skills
- 7.1.4 Identify avenues for lifelong learning
- 7.1.5 Participate in lifelong learning activities

Competency 7.2: Adapt to change

Competency Builders:

- 7.2.1 Analyze the causes and effect of change
- 7.2.2 Identify the effect of change on goals
- 7.2.3 Identify the importance of flexibility when reevaluating goals
- 7.2.4 Evaluate the need for lifelong learning experiences in adapting to change

Unit 8: Economic Education

Competency 8.1: Analyze how an economy functions as a whole

Competency Builders:

- 8.1.1 Describe how individuals and societies make choices to satisfy needs and wants with limited resources
- 8.1.2 Identify how production factors (land, labor, capital, and entrepreneurship) are used to produce goods and services
- 8.1.3 Illustrate how individuals and households exchange their resources for the income they use to buy goods and services
- 8.1.4 Explain how individuals and business firms use resources to produce goods and services to generate income
- 8.1.5 Identify characteristics of command, market, and traditional economics*
- 8.1.6 Describe how all levels of government assess taxes in order to provide services

Competency 8.2: Analyze how an economic system is a framework within which decisions are made by individuals and groups

Competency Builders:

- 8.2.1 List several individuals and groups that make economic decisions at the local, state, and national levels
- 8.2.2 Identify the important roles that local, state, and national governments play in a market economy
- 8.2.3 List examples of how government decisions affect individuals
- 8.2.4 Identify how geographic locations affect the political and economic systems of the world
- 8.2.5 Evaluate how markets allocate goods and services
- 8.2.6 Explain how resources, goods, and services are exchanged in markets
- 8.2.7 Explain competition and its effect on the market

Competency 8.3: Analyze the importance of making informed personal financial decisions

Competency Builders:

- 8.3.1 Describe the need for personal management records
- 8.3.2 Create a personal budget
- 8.3.3 Create a budget for a family of four for one month
- 8.3.4 Explain how credit affects personal/family finances
- 8.3.5 Identify steps to avoid credit problems
- 8.3.6 Make informed consumer choices in response to personal needs and wants
- 8.3.7 Identify factors that influence consumer decisions (e.g., advertisements, peer groups, price, and location)
- 8.3.8 Explain the cost and benefits for individuals of various types of taxation at the local, state, and federal levels

Competency 10.2 **Prepare to work in a multicultural society**

Competency Builders:

- 10.2.1 Identify ways to live in a multicultural society with mutual respect and appreciation for others
- 10.2.2 Examine how culture and experience create differences in people
- 10.2.3 Demonstrate respect for the contributions made by all people
- 10.2.4 Investigate personal cultural background as a means of developing self-respect
- 10.2.5 Make personal choices that reduce discrimination, isolation, and prejudice
- 10.2.6 Work effectively with people irrespective of their race, gender, religion, ethnicity, disability, age, or cultural background

Unit 11: **Leadership**

Competency 11.1: **Evaluate leadership styles appropriate for the workplace**

Competency Builders:

- 11.1.1 Identify characteristics of effective leaders
- 11.1.2 Compare leadership styles
- 11.1.3 Demonstrate effective delegation skills
- 11.1.4 Investigate empowerment concepts
- 11.1.5 Identify opportunities to lead in the workplace

Competency 11.2 **Demonstrate effective teamwork skills**

Competency Builders:

- 11.2.1 Identify the characteristics of a valuable team member
- 11.2.2 Identify methods of involving each team member
- 11.2.3 Contribute to team efficiency and success
- 11.2.4 Determine ways to motivate team members

Competency 11.3: Utilize effective communication skills

Competency Builders:

- 11.3.1 Identify the importance of listening
- 11.3.2 Demonstrate effective listening skills
- 11.3.3 Demonstrate assertive communication techniques
- 11.3.4 Recognize the importance of verbal and nonverbal cues and messages
- 11.3.5 Prepare written material
- 11.3.6 Analyze written material
- 11.3.7 Give-receive feedback
- 11.3.8 Communicate thoughts
- 11.3.9 Use appropriate language
- 11.3.10 Follow oral and written instructions
- 11.3.11 Demonstrate effective telephone techniques
- 11.3.12 Identify technology in communications

Unit 12: Entrepreneurship

Competency 12.1: Evaluate the role of small business

Competency Builders:

- 12.1.1 Identify the impact of small business on local economy
- 12.1.2 Examine the relationship of small business to a national (USA) and global economy
- 12.1.3 Identify factors that contribute to the success of small business
- 12.1.4 Identify factors that contribute to the failure of small business
- 12.1.5 Identify the components of a business plan

Competency 12.2: Examine entrepreneurship as a personal career option

Competency Builders:

- 12.2.1 Evaluate personal interests and skills
- 12.2.2 Compare personal interests and skills with those necessary for entrepreneurship
- 12.2.3 Determine motives for becoming an entrepreneur
- 12.2.4 Identify the advantages and disadvantages of owning a small business
- 12.2.5 Compare business ownership to working for others

ACT Work Keys Skill Levels

<u>Skill Area</u>	<u>Entry Level</u>	<u>Performance Level</u>
1 Applied Mathematics	5	6
2 Locating Information	5	5
3 Reading for Information	5.5	6

Entry Level refers to the skill level required of an entry level employee for this occupation.

Performance Level refers to the skill level required of an employee after six to nine months on the job.

* NB: Due to the diverse nature of the different jobs involving globalization, the Work Keys Skills Levels assessed were based on the globalization tasks of a software developer. A technical writing and a project development ACAP would provide more accurate assessments of the skills level require for those particular globalization tasks.

Levels of Work Keys Defined

The skills and skill levels for each of the profiled Work Keys skills are as defined as follows:

Applied Mathematics

Applied Mathematics measures skill in applying mathematical reasoning to work-related problems. There are five levels of complexity, 3 through 7, with Level 3 being the least complex and Level 7 the most complex. The levels build on each other, each incorporating the skills at the preceding levels.

Level 3

- *Perform basic mathematical operations (addition, subtraction, multiplication, and division) and conversions from one form to another, using whole numbers, fractions, decimals, or percentages.
- *Translate simple verbal problems into mathematical equations.
- *Directly apply logical information provided to solve problems, including those with measurements and dollars and cents.

Level 4

- *Perform one or two mathematical operations (such as addition, subtraction, or multiplication) on several positive or negative numbers. (Division of negative numbers is not covered until Level 5.)
- *Add commonly known fractions, decimals, or percentages (e.g., $\frac{1}{2}$, .75, 25%) or add three fractions that share a common denominator.
- *Calculate averages, simple ratios, proportions, and rates, using whole numbers and decimals.
- *Reorder verbal information before performing calculations.
- *Read simple charts or graphs to obtain information needed to solve a problem.

Level 5

- *Look up and calculate single-step conversions within English or non-English measurement systems (e.g., converting ounces to pounds or centimeters to meters) or between measurement systems (e.g., converting centimeters to inches).
- *Make calculations using mixed unit (e.g., hours and minutes).
- *Determine what information, calculations, and unit conversions are needed to find a solution.

Level 6

- *Set up problems and do several steps of calculations or conversions.
- *Calculate using negative numbers, fractions, ratios, percentages, or mixed numbers (e.g., $12 \frac{1}{8}$).
- *Transpose a formula before calculating (e.g., $8X = 20 \Rightarrow X = 20/8$).
- *Look up and use two formulas to change from one unit to another unit within the same system of measurement (e.g., 1 cup = 8 fl oz, 1 quart = 4 cups).
- *Find mistakes in calculations, such as those required in lower levels.
- *Determine the best deal and perform a further calculation with the result.

Level 7

- *Solve problems requiring multiple steps of logic and calculation.
- *Solve problems involving more than one unknown, nonlinear functions (e.g., rate of change), and applications of basic statistical concepts (e.g., error of measurement).
- *Locate errors in multiple-step calculations.
- *Solve problems with unusual content or format, or with incomplete or implicit information

Locating Information

Locating Information measures skill in using information taken from workplace graphics such as diagrams, blueprints, floor plans, tables, forms, graphs, charts, and instrument gauges. There are four levels of complexity, 3 through 6, with Level 3 being the least complex and Level 6 the most complex. The levels build on each other, each incorporating the skills at the preceding levels.

Level 3

- *Find one or two pieces of information in elementary workplace graphics, such as simple order forms, bar graphs, tables, flowcharts, and floor plans.
- *Fill in one or two pieces of information that are missing from elementary workplace graphics.

Level 4

- *Find several pieces of information in these type of graphics.
- *Summarize and/or compare information and trends in a single graphic.
- *Summarize and/or compare information and trends among more than one workplace graphic, such as a bar chart and a table showing related information.

Level 5

- *Summarize and/or compare information and trends in single graphic.
- *Summarize and/or compare information and trends among more than one graphic, such as a bar chart and a table showing related information.

Level 6

- *Make decisions, draw conclusions, and/or apply information to new situations using several related and complex workplace graphics that contain a great amount of information or have challenging presentations (e.g., very detailed graphs, charts, tables, forms, maps, blueprints, diagrams).

Reading for Information

Reading for Information measures skill in reading and understanding work-related reading materials. There are five levels of complexity, 3 through 7, with Level 3 being the least complex and Level 7 the most complex. Although Level 3 is the least complex, it still represents a level of reading skill well above “no skill at all.” The levels build on each other, each incorporating the skills at the preceding levels.

Level 3

- *Identify uncomplicated key concepts and simple details.
- *Recognize the proper placement of a step in a sequence of events, or the proper time to perform a task.
- *Identify the meaning of words that are defined within a passage.
- *Identify the meaning of simple words that are not defined within a passage.
- *Recognize the application of instructions, from a passage to situations that are described in the passage.

Level 4

- *Identify details that are more subtle than those in Level 3.
- *Recognize the application of more complex instructions, some of which involve several steps, to described situations.
- *Recognize cause-effect relationships.

Level 5

- *Understand the paraphrased definition of specialized words or phrases (jargon or technical terms) defined in these reading materials
- *Use jargon or technical terms appropriately in describing situations stated in these reading materials

*Understand the meaning of acronyms defined in these reading materials (an acronym is a work or collection of letters which stands for a longer phrase, such as HMO to mean Health Maintenance Organization).

*Figure out which definition of a word with multiple meanings is appropriate in the context of these reading materials.

*Apply information given in these reading materials to situations that are not directly described, but similar.

*Apply instructions or procedures with a number of steps to described situations. These instructions may include conditional (if X happens, then you should do Y).

Level 6

*Recognize the application of jargon or technical terms to new situations.

*Recognize the application of complex instructions to new situations.

*Recognize the less-common meaning of a word with multiple meanings from context.

*Generalize from a passage to situations not described in the passage.

*Identify implied details.

*Explain the rationale behind a procedure, policy, or communication.

*Generalize from a passage to a somewhat similar situation.

Level 7

*Recognize the definitions of difficult, uncommon jargon or technical terms from context.

*Generalize from a passage to situations neither described in nor completely similar to those in a passage.

Work Keys Process Overview

Developed by American College Testing (ACT), the purpose of the Job Profiling process is to identify the level of applied academic skills that, according to business and industry, students must master to qualify for and be successful in their occupation of choice. The results of Job Profile “leveling” can help teachers to better target instruction toward their students’ needs.

The WorkKeys assessment component, developed by ACT, measures students’ applied academic skill in the targeted skill areas. For each skill area, the profiling process identifies the level required for successful entry into an occupational area.

