

Assessment of Basic Skills Competencies in Iowa's Employment and Workforce Programs

PURPOSE OF THE STUDY

The purpose of this study is to provide direction for assessment policy and practice in employability and workforce education and training programs serving youth and adult learners in Iowa. This, the second of three reports, provides a research base for the consideration of common assessment instruments for youth and adult learners in these programs. Assessment for programs with a life skills focus will be addressed at a later date.

The primary objective is to identify existing assessment instruments that can be used during the initial intake/screening process to efficiently measure the basic skills competencies rated as most essential on the IABSS. Appropriate assessment instruments are required to begin benchmarking the progress of Iowa's adult learners who are entering or who are already in the workforce. This study examines responses to the Iowa Adult Basic Skills Survey (IABSS) by two respondent groups: Business & Industry and Employment Service Providers.

To assess the high priority basic skills competencies in the IABSS requires a variety of assessment strategies, including paper and pencil measures, performance based assessment, and observation checklists. This study identifies four CASAS initial assessment instruments that address the IABSS high priority competencies and can be used together as the basis for a comprehensive assessment of these priority basic skills. Based on appraisal test results, appropriate referral and placement into jobs, training, and instructional programs can be made. CASAS diagnostic and progress tests that target these priority competencies can be used within the instructional program to verify progress in achieving mastery of the priority competencies.

OTHER REPORTS IN THIS SERIES

The Iowa Adult Basic Skills Survey (IABSS) is the first in this series of three related research studies. The IABSS is a comprehensive needs assessment study that provides the foundation for a statewide adult basic education accountability system. Data from this survey, conducted in 1993-94 by the Iowa Department of Education, provide clear guidance for development of a research-based, customized curriculum and assessment system that will improve program effectiveness and accountability for adult basic education programs in Iowa.

The IABSS is the most extensive adult basic skills survey conducted in Iowa to date. The main purpose of the survey was to determine the priority competency areas for basic life skills and employability skills needed by adults in the state of Iowa. In order to build statewide consensus regarding adult basic education needs and goals, survey responses were solicited from the complete spectrum of agencies and stakeholders involved with or directly affected by adult basic education services in Iowa. The Executive Summary as well as the complete Final Report are available from the Iowa Department of Education.

RELATIONSHIP TO NATIONAL LITERACY STUDIES

During the past decade the issue of adult literacy has become a growing national concern. By all indications, there is an increasing gap between the level of literacy of American adults and the level of literacy required in the workforce and in everyday life situations. Goal number six of America 2000's *National Education Goals* states:

By the year 2000, every adult will be literate and have the skills necessary to compete in the global economy and participate in American democracy.

The U.S. Department of Labor, also concerned about the state of worker illiteracy, funded the SCANS (Secretary's Commission on Achieving Necessary Skills) Survey. This survey collected information from employers to identify specific skill areas and competencies that need to be targeted if this country is expected to compete in a global economy.

In 1993, the U.S. Department of Education funded the National Adult Literacy Survey (NALS), a household survey that measured the literacy skills of a nationally representative sample of adults. The results of the National Adult Literacy Survey raise a number of concerns. While the majority of adults nationwide who performed at the lowest levels of literacy said that they were able to meet most of the literacy demands they encountered, it is generally believed that these adults are condemned to low earnings and limited choices (Carnevale et al. 1990).

Iowa's concern for its own population and its adult basic education programs led to special funding for the Iowa State Adult Literacy Survey (IASALS), a replication of the NALS at the state level. This study of 1,264 adults indicated that adults in Iowa have higher levels of literacy, on average, than adults nationwide, but 22 to 26 percent of Iowa's adult population lack basic workforce skills. For more information about adult literacy rates in Iowa, see the report entitled *Adult Literacy in Iowa: Results of the State Adult Literacy Survey* (Jenkins & Kirsch 1994).

STATE QUALITY INDICATORS AND PERFORMANCE STANDARDS

The National Literacy Act of 1991 requires states to establish program quality indicators to determine whether adult education programs are effectively recruiting, retaining, and improving the literacy skills of the individuals enrolled. To guide the development of Iowa's performance indicators, the Iowa standards committee reviewed the U.S. Department of Education's model framework and made modifications to reflect the reality of program practices in Iowa's adult basic education programs. Iowa's performance standards have been developed with a goal of program improvement and accountability (Iowa Department of Education 1993).

CASAS COMPETENCIES AND THEIR RELATIONSHIP TO SCANS

The *CASAS Competency List* was selected as the basis for the IABSS because it is the most comprehensive list of competencies that has been validated for adults. The list contains more than 300 discrete competency statements in nine content areas: *Basic Communication, Consumer Economics, Community Resources, Health, Employment, Government & Law, Computation, Learning to Learn, and Independent Living*. The CASAS list is revalidated annually by the CASAS National Consortium which includes state level representatives from 18 states.

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Another important factor in the selection of the *CASAS Competency List* is the link to the CASAS assessment system. The system can measure learners' current skill levels and progress in achieving the basic skills competencies identified by Iowa as priorities.

The *CASAS Competency List* is highly correlated to the Department of Labor's SCANS competencies. Findings from the SCANS study validated CASAS' basic premise that basic skills should be assessed and taught in context, not in isolation, and that problem-solving skills should be incorporated at all levels of curriculum and assessment. Another important factor in the selection of the *CASAS Competency List* is its link by competency to over 400 commercially available curriculum resource materials appropriate for youth and adults in the *CASAS Curriculum Materials Guide*. The *CASAS Competency List* also includes other nationally validated critical life skill competencies.

CASAS has a 15-year history of successfully assessing more than two million youth and adults. An important feature of CASAS assessment is that basic skills are assessed within a functional context. The CASAS system is used extensively throughout the United States in employment training, workplace literacy, adult basic education, and welfare reform programs. The CASAS system is the only adult literacy assessment system that has been validated and approved for national dissemination by the U.S. Department of Education's National Diffusion Network. CASAS has also contributed its expertise to major state and national research projects as both a standardized assessment system and an educational data collection and research organization.

IABSS BUSINESS & INDUSTRY FINDINGS

One of the most unique and enlightening features of the survey is that significant numbers of responses from Business & Industry were included: 24 percent of the 3,483 respondents were from Business & Industry. Another 16 percent were from Employment Service Providers. *Basic Communication, Employment, and Learning to Learn* were the top three ranked priority competencies for Business and Industry in Iowa. In general, Business & Industry respondents rated competencies that have specific application to the workplace as their highest priorities.

Competencies that received Business & Industry's lowest ratings were generally in the areas of *Community Resources* and *Government & Law*. These results demonstrate that Business & Industry's principle focus is on competencies which have a direct impact on improving employees' workplace skills.

The results from Business & Industry and Employment Service Provider respondents set a clear direction for assessment, curriculum development and instructional priorities in Iowa's workplace literacy programs as well as employment and training programs.

ASSESSMENT OF KEY COMPETENCIES

There is a limited number of assessment instruments that are valid, reliable and appropriate for adults and that specifically focus on the key competencies identified by IABSS. A combination of standardized paper and pencil and performance assessment is required in order to adequately measure these critical employability skills.

The CASAS Employability Competency System (ECS) and Workforce Learning Systems (WLS) were developed for use with employment training and workforce programs.

The ECS system helps agencies identify youth and adults who have the necessary basic employability skills to enter and succeed in the workplace. For those who need basic skills enhancement in order to succeed in the workplace, the results of the assessment from ECS provide individual learning plans for the learners and class profiles for the instructors. Test results also place learners into appropriate education and training programs

The WLS system helps local businesses identify current and future employee basic skills needs and basic skill levels by using a comprehensive job analysis process. Current employee basic skill levels are also evaluated with basic skill appraisals. The combined results identify concrete training needs for the business and curriculum content and specific competencies that need to be mastered and demonstrated for the education providers.

The ECS and WLS systems consist of a battery of standardized assessment instruments which, when used together, provide a thorough, comprehensive assessment of learners' basic skills competencies. Each assessment instrument focuses on different basic and communication skills. The *ECS Appraisal* and ECS pre/post survey of achievement tests are standardized functional context multiple choice tests for reading and math. There are also standardized performance based assessments, including the *ECS Critical Thinking Measure*, the *Oral Communication Applied Performance Appraisal (OCAPA)*, and the *ECS Pre-Employment Work Maturity Checklists*.

Assessing Reading and Math Skills

The *ECS Appraisal* (Form 130) is a standardized multiple-choice test with an employability focus that was designed to assess the basic reading and math skills of adult learners. This appraisal addresses priority competencies for employment and training programs. It also incorporates the SCANS competencies to a great extent. The *ECS Appraisal*, like other instruments in the ECS system, assesses basic skills competencies that are linked to curriculum and instruction.

Assessing Critical Thinking Skills

The *ECS Critical Thinking Measure* assesses a learner's critical thinking and written expression skills. It provides hypothetical situations encountered within the workplace. Learners are asked to write short passages based on a prompt and an open-ended question. This component of the ECS system provides valuable information about a person's critical thinking skills that cannot be evaluated through other kinds of assessment.

Assessing Oral Communication Skills

The *Oral Communication Applied Performance Appraisal (OCAPA)* is a performance-based test, administered one-on-one, that assesses listening, speaking, reading and writing skills in functional, work-related contexts. This innovative assessment instrument is another component of the ECS system that is uniquely suitable to measure many of the top and high priority competencies for Business and Industry. These competencies involve interpersonal communication skills that cannot be measured on a paper and pencil test. For this reason, it is necessary to include performance-based assessment in the battery of test instruments in order to measure these important skills.

Assessing Pre-Employment and Work Maturity Skills

The *ECS Pre-Employment and Work Maturity Checklists* include seven performance assessment instruments that measure secondary or adult learners' job-seeking skills and on-the-job behavior. These checklists are available in JTPA or non-JTPA versions, and may be used to determine competence (or deficiency), to diagnose, and to certify competence. In a performance-based test, like these checklists, students are assessed based on their ability to demonstrate a desired task or competency rather than on their abilities to answer multiple-choice questions. The checklists and the accompanying Department of Labor (DOL) priority areas are described in Table 1 on the following page.

Table 1–ECS Pre-Employment and Work Maturity Checklists

ECS Checklists	DOL Priority Competency Areas	When to Use
A - Career Awareness & Using Labor Market Info	Making Career Decisions	During Intake Interview with client
	Using Labor Market Info	
B - Preparing a Resume	Preparing Resumes	After Intake Interview
C - Cover Letter		After Intake Interview
D - Filling out an Application	Filling out applications	After Intake Interview
E - Interviewing	Interviewing	
F - Work Maturity	Being consistently punctual	Worksite/On the Job Training (OJT)
	Maintaining regular attendance	
	Demonstrate positive attitudes	
	Presenting appropriate	
	Exhibiting good interpersonal relations	
	Completing Tasks Effectively	
G - Job Experience/ Training		During Interview

Table 2 summarizes how five basic skills are assessed using the ECS intake assessment battery.

Table 2–Basic skills Assessed Using ECS Intake Assessments

Instrument	Math	Reading	Writing	Listening	Speaking
ECS Appraisal	v	v			
ECS Critical Thinking Measure		v	v		
Oral Communication Applied Performance Appraisal (OCAPA)		v	v	v	v
ECS Checklists					
A - Career Awareness & Using Labor Market Info		v		v	v
B - Preparing a Resume			v		
C - Cover Letter			v		
D - Filling out an Application			v		
E - Interviewing				v	v
F - Work Maturity	v	v	v	v	v
G - Job Experience/ Training				v	v

RELATIONSHIP OF ECS ASSESSMENT TO PRIORITY COMPETENCIES

In the IABSS study, competencies from the *CASAS Competency List* were rated on a four-point scale from *not important* (1) to *very important* (4). Table 3 lists the most essential skills identified by Business & Industry respondents in the IABSS study in order of priority. The 12 competencies rated at the Top Priority Level were considered *very important* or *important* by 85 percent or more of these respondents. Competencies ranked from 13 to 27 fall in the High Priority Level for Business & Industry because they were rated as *very important* or *important* by 70 to 84 percent of these respondents.

Table 3 also illustrates which competencies are assessed by each of the four instruments in the ECS battery, using the v symbol. A different symbol (o) indicates that a competency is inherently measured in an item. For example, the competency, *Use problem solving skills* is required in several reading and math items on the *ECS Appraisal*, although those items also assess other competencies.

Table 3-Assessment of Priority Competencies Identified by 850 IABSS Business & Industry Respondents Using Four CASAS ECS Assessment Instruments

COMPETENCY STATEMENT		Rating	ECS Appraisal	ECS Critical Thinking	OCAPA	ECS Checklists
Top Priority Level						
1.	0.1 - Communicate in general interpersonal interactions	3.68			v	v
2.	4.8 - Demonstrate effectiveness in working with people	3.64			v	v
3.	4.6 - Communicate effectively in the workplace	3.63			v	v
4.	6.1 - Compute using whole numbers	3.56	o			
5.	7.3 - Use problem solving skills	3.53	o	v	o	
6.	7.2 - Demonstrate ability to use thinking skills	3.53		v		
7.	4.4 - Understand job performance concepts & materials	3.50	v	v	v	v
8.	1.1 - Use weights, measurement scales, and money	3.48	v			
9.	0.1 - Use language of clarification	3.46			v	v
10.	4.3 - Understand (workplace) safety procedures	3.43				v
11.	7.1 - Practice organizational & time management skills	3.41				v
12.	0.2 - Communicate regarding personal information	3.35			v	v
High Priority Level						
13.	6.2 - Compute using decimals	3.31	v			
14.	4.5 - Utilize common workplace technology	3.24				
15.	4.7 - Effectively manage workplace resources	3.23			v	
16.	3.4 - Understand basic health and safety procedures	3.21				v
17.	2.1 - Use the telephone and telephone book	3.20			v	
18.	6.4 - Compute with percents, rate, ratio, and proportion	3.19	v			
19.	4.1 - Understand basic principles of getting a job	3.17	v			v
20.	4.2 - Understand wages, benefits, and employment concepts	3.17	v	v		
21.	7.5 - Understand aspects of personal management	3.13				v
22.	6.3 - Compute using fractions	3.09	v			
23.	6.9 - Use estimation and mental arithmetic	3.05	o			
24.	6.6 - Measure area, volume, & linear dimensions	2.98	v			
25.	1.5 - Apply principles of budgeting	2.98	v			
26.	3.5 - Understand principles of health maintenance	2.98				v
27.	4.9 - Understand social, organizational, & technological systems	2.92			v	

Note: The symbol o indicates that a competency is inherent in several items.

All four ECS assessment instruments are needed to provide comprehensive assessment of Business & Industry's priority basic skills competencies. Competencies that require reading and math skills can be measured through a multiple choice format using the *ECS Appraisal*. However, because so many of the priority competencies require listening and speaking skills, it is important to assess these skills in a standardized reliable manner. The *OCAPA* and *ECS Checklists* were designed to measure these skills utilizing interview and observation techniques. Critical thinking and writing skills, which are given high priority by Business & Industry respondents, need to be assessed using generated writing samples and standard tasks that require multiple step responses.

Some competencies are measured on more than one instrument, and in most of these cases, different types of basic skills are assessed. For example, the *ECS Appraisal* assesses reading skills required for the competency, *Understand job performance concepts and materials*, while the *OCAPA* and the *ECS Checklists* measure listening and speaking skills required for performance of the same competency.

Some of the priority basic skills competencies are only measured in one of the four instruments. For example, the *ECS Appraisal* is the only instrument that measures many of the priority computation skills, such as *Compute using decimals* and *Compute with percents, rate, ratio, and proportion*. Similarly, the *OCAPA* is the only instrument that measures telephone skills.

Using the battery of four CASAS ECS intake assessment instruments described above, almost all of the IABSS top and high priority level competencies for Business & Industry can be assessed.

In reviewing Iowa's key competencies, the *ECS Appraisal* best measures those competencies that can most appropriately be assessed using a paper and pencil test. As shown in Table 3, 12 of the 27 top and high priority level competencies for Business & Industry are measured on the CASAS *ECS Appraisal* reading and math tests. The *ECS Critical Thinking Measure* assesses four IABSS top and high priority competencies related to critical thinking.

The *Oral Communication Applied Performance Appraisal (OCAPA)* measures ten of the top and high priority competencies from the IABSS. Three of these ten competencies are only measured on the *OCAPA*.

The *ECS Pre-Employment/Work Maturity Checklists* measure 12 of the priority competencies, including five competencies that are only measured by these standardized observation instruments. These checklists also measure seven competencies that are also measured on one or more of the other assessments in this battery.

Table 4 summarizes the relationship between ECS assessment instruments and IABSS Business & Industry priority competencies:

Table 4–Relationship Between ECS Assessment Instruments and IABSS Business & Industry Priority Competencies

ECS Assessment Instruments	Number of IABSS Business & Industry Competencies Assessed
ECS Appraisal (Form 130)	12
ECS Critical Thinking Measure	4
Oral Communication Applied Performance Appraisal (OCAPA)	10
ECS Checklists	12

ASSESSMENT OF EMPLOYMENT SERVICE PROVIDERS' PRIORITY COMPETENCIES

The most highly rated competencies for Employment Service Providers were mainly in three competency areas: *Employment*, *Basic Communication*, and *Learning to Learn*. (See Table 5.) The competency, *Understand basic principles of getting a job*, was rated highest, indicating the strong commitment on the part of Employment Service Providers to assist learners in mastering job search skills. This competency was not rated as highly by Business & Industry, perhaps because it is a skill that is crucial for those seeking employment but not for employers.

On-the-job and personal communication skills were ranked second through fourth by Employment Service Providers. They also awarded very high ratings to two workplace competencies: *Demonstrate effectiveness working with people* and *Understand job performance concepts and materials*, ranking them fifth and sixth, respectively. Two critical thinking competencies ranked next in importance (seventh and eighth).

As shown in Table 5, Employment Service Providers rated 30 competencies in the top and high priority categories, three more than did Business & Industry respondents. In general, Employment Service Providers gave high ratings to more competencies related to general survival skills in the areas of health, community services and consumer economics. Six of their top and high priority competencies are not assessed on ECS assessment instruments, as compared to only one competency given high priority by Business & Industry that is not assessed.

Eight of the 30 top and high priority level competencies for Employment Service Providers are measured on the CASAS *ECS Appraisal* reading and math tests. The *ECS Critical Thinking Measure* assesses three IABSS top and high priority competencies related to critical thinking.

The *Oral Communication Applied Performance Appraisal (OCAPA)* measures 12 of the top and high priority competencies from the IABSS. Five of these 12 competencies are only measured on the OCAPA.

The *ECS Pre-Employment/Work Maturity Checklists* measure 13 of the priority competencies, including six competencies that are only measured by these standardized observation instruments. These checklists also measure seven competencies that are also measured on one or more of the other assessments in this battery.

Table 5–Assessment of Priority Competencies Identified by 553 IABSS Employment Service Provider Respondents Using Four CASAS ECS Assessment Instruments

COMPETENCY STATEMENT		Rating	ECS Appraisal	ECS Critical Thinking	OCAPA	ECS Checklists
Top Priority Level						
1.	4.1 - Understand basic principles of getting a job	3.81	v			v
2.	4.6 - Communicate effectively in the workplace	3.71			v	v
3.	0.1 - Communicate in general interpersonal interactions	3.71			v	v
4.	0.2 - Communicate regarding personal information	3.66			v	v
5.	4.8 - Demonstrate effectiveness in working with people	3.60			v	v
6.	4.4 - Understand job performance concepts & materials	3.52	v	v	v	v
7.	7.2 - Demonstrate ability to use thinking skills	3.50	v	v		
8.	7.3 - Use problem solving skills	3.45	o	v	o	
9.	0.1 - Use language of clarification	3.41			v	v
10.	2.1 - Use the telephone and telephone book	3.41			v	
11.	4.2 - Understand wages, benefits, and empl. concepts	3.39	v			
12.	7.1 - Practice organizational & time management skills	3.38				v
13.	4.3 - Understand (workplace) safety procedures	3.38				v
14.	6.1 - Compute using whole numbers	3.35	o			
15.	2.5 - Use community agencies and services	3.23			v	
High Priority Level						
16.	4.5 - Utilize common workplace technology	3.22			v	
17.	3.4 - Understand basic health and safety procedures	3.13				v
18.	4.7 - Effectively manage workplace resources	3.13			v	
19.	7.5 - Understand aspects of personal management	3.11				v
20.	1.5 - Apply principles of budgeting	3.08	v			
21.	7.4 - Demonstrate study skills	3.07				
22.	1.1 - Use weights, measurement scales, and money	3.02	v			
23.	4.9 - Understand social, org., & technological systems	3.01			v	
24.	5.3 - Understand an indiv.'s legal rights & responsibilities	3.00				
25.	3.1 - Understand ailments and seek medical assistance	2.99				
26.	3.3 - Understand how to select and use medications	2.96				
27.	3.5 - Understand principles of health maintenance	2.96				v
28.	2.2 - Locate and use transportation and travel info	2.95				
29.	2.3 - Understand concepts of time and weather	2.93				v
30.	1.4 - Understand how to obtain housing & services	2.91				

Note: The symbol 0 indicates that a competency is inherent in several items.

Table 6 shows the relationship between ECS assessment instruments and IABSS priority competencies for Business & Industry and Employment Service Providers:

Table 6–Relationship Between ECS Assessment Instruments and IABSS Priority Competencies for Business & Industry and Employment Service Providers

ECS Assessment Instrument	Number of IABSS Competencies Assessed	
	Business & Industry	Employment Service Providers
ECS Appraisal (Form 130)	12	8
ECS Critical Thinking Measure	4	3
OCAPA	10	12
ECS Checklists	12	13

The ECS Appraisal measures more of the high priority competencies for Business & Industry (12) than for Employment Service Providers (8). The number of high priority competencies measured by the other assessment instruments in this battery is similar for both groups.

ACCOUNTABILITY TO LEARNERS AND OTHER STAKEHOLDERS

A well designed comprehensive assessment system that measures clearly articulated and priority competencies will provide the solid foundation for direct accountability to the learners, to employers and other stakeholders. Learners can see the direct link between what is assessed and the skills to be learned. Progress can be charted or specific competencies and benchmarks can be certified. Employers can see the direct links of learning outcomes related to the priority basic skills needed in the workplace.

Instructors can use the results of the assessment to establish an individual learning plan and select appropriate instructional materials. Reporting outcomes based on identified competencies and benchmarks provides a common language that learners, employers, labor, policy makers, and educators can share.

USEFULNESS IN ONE-STOP ASSESSMENT CENTERS

Regional workforce training centers or one-stop assessment centers are being established to help communities better meet their economic development needs by preparing citizens who are:

- entering the workforce for the first time;
- re-entering the workforce;
- in the workforce but need of additional training and retraining; or
- in the workforce but who need assistance finding a different job.

These centers need a comprehensive assessment component that assesses the current basic skills of learners in relation to workplace and job requirements. The CASAS ECS system and WLS system provide an essential component of a career assessment system.

With almost 25% of Iowa's current workforce lacking essential basic skills needed current jobs, it is critical that a solid basic skills component be integrated into the overall career assessment process. Information from this initial evaluation will provide for more appropriate referrals to targeted education and training that address the specific basic skills needed by the individual. It is also critical that an assessment system be implemented that is directly based on the articulated needs of employers and employment and training programs.

A comprehensive assessment process should provide the most valid information to assist clients in making the best decisions for referrals to education, training and jobs. The CASAS assessments cited in this report are designed to be easily administered, scored and interpreted at the local program level by program staff. This facilitates the intake and referral process by providing immediate results in an efficient low cost manner.

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