

TIA

Technology
and
Internet
Assessment

By Michael Ealy

User's Manual

Technology and Internet Assessment (TIA)

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Part 1: OVERVIEW OF THE TIA

What is the TIA?

The Technology and Internet Assessment (TIA) is designed to determine strengths and weaknesses related to a basic understanding of computer, Internet, and information technology skills. The TIA focuses on eight areas that present barriers for individuals seeking employment and for those striving to succeed in our educational system. The TIA was developed in response to the growing need to assess technology skills that are critical for workplace and academic success.

The following criteria were used to develop the eight scales of the TIA:

- One should have a sense of where and when computers are potentially useful in today's world.
- One should know how and when to take advantage of computer technology to perform a job better.
- One should be able to operate one or more productivity software packages – for example, a word processing, database, or spreadsheet package.
- One should have an understanding of computer fundamentals, which include disk management, copying files and directories, etc.
- One should be able to use the Internet to locate and gather relevant information.
- One should be able to discern ethical behavior as it relates to the use of technology.

Uses for the TIA

The TIA is designed to:

- provide individuals taking the measure with valuable feedback about each scale, what it measures, their individual scores, and suggestions for ways they can improve each area;
- identify areas in which adult learners need assistance in learning and working with technology;
- serve as an evaluation tool to assess the degree of success of programs or courses;
- help educators identify computer literacy strengths and weaknesses of individuals and groups;
- provide workers and students with an understanding of the basic technology skills required for workplace and academic success;
- provide baseline information for academic instructors and counselors, workplace trainers, and social service professionals;
- provide pre-post achievement measure for individuals participating in programs or courses focusing on improvement of basic computer, Internet, and information skills.

Who can administer the TIA?

There are no special certification or training requirements for administering the TIA. Everything is done on the Internet. All scoring is done electronically eliminating common scoring errors.

The Eight TIA Scales

There are eight scales on the TIA:

- Use of Technology (UOT)
- Specific Computer Skills (SCS)
- Acquisition of Technical Knowledge (ATK)
- Basic Internet Knowledge (BIK)
- Internet Information Skills (IIS)
- Adapting to Technological Change (ATC)
- Impact of Technology (IOT)
- Ethics in Technology (EIT)

Use of Technology, contains items that examine an individual's knowledge of how to use technology as a labor-enhancing and problem-solving tool.

Specific Computer Skills, contains items that examine a person's understanding of basic computer terminology, application programs, file management, and disk management.

Acquisition of Technical Knowledge, examines a person's understanding of how, why, and where to acquire information about new technologies.

Basic Internet Knowledge, examines a person's understanding of the basics of the Internet, including how to search for information, retrieve and download files, send e-mail, browse web sites, and participate in online mailing lists and newsgroups.

Internet Information Skills, contains items that examine a person's ability to make critical judgments about the value, reliability, and validity of the information found on the Internet.

Adapting to Technological Change, examines a person's level of comfort with frequent or major changes in technology.

Impact of Technology, examines an individual's understanding of how technology will impact the workplace, environment, and society now and in the future.

Ethics in Technology, examines an individual's ability to discern ethical behavior.

Part 2: DESCRIPTION OF THE TIA SCALES

The following paragraphs provide a description of each scale, the items included in each scale, a more thorough explanation of each category, and suggestions for improving skills. Items which are negatively valenced and, thus, reversed scored are indicated with an (R).

Use of Technology

In order to be successful at school and work, a person must be able to use technology to communicate information effectively. This includes mastery of basic skills such as composing a letter in a word-processing program, organizing data into a spreadsheet, and sending an e-mail message. One must also know how to use technology at more advanced levels. The need to be able to compile data from a variety of sources into a report that draws upon a variety of technologies will become an increasingly valuable skill. Only when basic skills are mastered can technology be used to develop critical thinkers, analyzers, and selectors of information and technologies appropriate to a task.

Scores on this scale measure an individual's knowledge of how to use technology as a labor-enhancing and problem-solving tool. Individuals who score low on this scale need help mastering the basics of word-processing, spreadsheet, database, and graphics programs. With a basic understanding of these programs, individuals will begin to acquire and use technology to solve more advanced problems. Identifying where assistance is needed will help form a systematic approach to improving competence. Higher scores demonstrate the ability to use technology to communicate information effectively.

Items for the Use of Technology scale are:

- I can use a word-processing program to organize data into a printed report.
- I am able to use a graphic software program to report trends in data.
- I am able to use the skills I have already mastered to help me learn a new program.
- I would rather use a typewriter to compose a document than a computer. (R)
- I am able to evaluate a situation and decide if and which technology will help me solve a problem.
- I would have difficulty using a spreadsheet program to organize data into a printed report. (R)
- I can use a database program to organize data into a printed report.

Specific Computer Skills

In order to compete in the 21st century workplace, individuals must have an understanding of basic computer skills. Students and workers should be familiar with at least one word-processing, graphics, spreadsheet, database, and browser program. Individuals should be able to select appropriate hardware and software to complete work and school assignments. A basic understanding of computer terminology, file management, and operating systems is also important.

This scale measures a person's understanding of computer terminology, application programs, file management, and disk management. Individuals who score low on this scale need training and experience to master these basic skills. With an understanding of the basics, computer skills will be transferable from

one program to another and from one operating system to another. Students and employees who have mastered these basics will be able to adjust to and learn new technologies more quickly.

Items for the Specific Computer Skills scale are:

- I am able to move computer files from one folder/directory to another.
- I am familiar with using a mouse.
- I would have difficulty formatting a disk. (R)
- I feel comfortable using a CD-ROM.
- I am able to create a new directory/folder on my computer.
- I would have trouble copying a file to a disk. (R)
- I know how to select a printer to print a document.
- I know the difference between Quitting/Exiting a program and Minimizing a window.
- When I misplace or forget where a file is on my computer, I know how to find it.
- I can organize my computer files into meaningful folders/directories.
- I know the difference between “Save” and “Save As.”
- I would have difficulty putting paper into a printer. (R)

Acquisition of Technical Knowledge

Rapid technological progress and increased competition have spurred productivity and have caused jobs to materialize and disappear quickly. Low-skill jobs that can be done by workers anywhere in the world will continue to disappear in the U.S. or be available only at depressed wages. In order to keep pace, individuals must take responsibility for acquiring knowledge about advancing technology. They must be highly motivated learners who recognize that education is a lifelong process and they must adapt quickly to change.

This scale measures an individual's understanding of how, why, and where to acquire information about new technology. Students and workers alike must take responsibility to become thoughtful learners. Those who score low on this scale should seek out new ways of acquiring technical knowledge. Sources include instructors, books, manuals, magazines, online services, classmates, co-workers, classes, etc.

Items for the Acquisition of Technical Knowledge scale are:

- I spend time experimenting with programs I don't know very well in order to increase my knowledge.
- I take advantage of any situation where I can learn more about computers, the Internet, and other information technology.
- I skip over newspaper or magazine articles that deal with computers and other technologies. (R)
- If I have a problem using the computer, printer, fax, etc., I know where to seek help.
- My supervisor or instructor will keep me up-to-date on the latest technologies. (R)
- I use the “help” feature included with programs to help me learn how they work.

Basic Internet Knowledge

Access to information is vital for success in school and in the workplace. Increased use of the Internet over the past several years has made access to information easier than ever. A basic working knowledge of the Internet means that users can search databases, share research, transfer files, or search for a job.

This scale measures a person's understanding of the basics of the Internet, including how to search for information, retrieve and download files, send e-mail, browse Web sites, and participate in online mailing lists and newsgroups. Low scores indicate deficiencies in one or all of these areas. Exercises designed to encourage searching, browsing, and communicating via e-mail will help individuals master the basics.

The items for the Basic Internet Knowledge scale are:

- I can compose and send an e-mail message.
- I can use search engines to locate information on a given topic.
- I would have difficulty transferring files electronically. (R)
- I know how to subscribe and participate in online mailing lists.
- I know how to use Web browser programs such as Netscape and Internet Explorer.
- I understand how to use electronic bulletin boards.
- I would have difficulty attaching a file to an e-mail message. (R)
- I use the Internet to gather information in my job, school, or personal life.

Internet Information Skills

Increased use of the Internet at school and work means information from a variety of sources is available at the click of a button. Locating information requires only a basic understanding of the Internet. However, to use this resource effectively, students must be able to analyze the information they find. The ability to discriminate between consumer information, scholarly or academic research, and propaganda is an important skill that will serve as a foundation for further learning.

This scale provides feedback on a person's ability to make critical judgments about the value, reliability, and validity of the information they find on the Internet. Those with low scores should be taught how and why to scrutinize information. Developing these skills will help individuals become critical thinkers and analyzers of information from a variety of sources.

Items for the Internet Information Skills scale are:

- I understand the need to validate all information I locate on the Internet.
- When using the Internet to conduct research, I can discriminate between consumer information, scholarly or academic research, and propaganda.
- I would have difficulty evaluating websites in terms of the validity of the information they provide. (R)
- I can identify an author's bias in a work, whether it is in print or from an electronic source such as the Internet.
- I am able to discriminate between information that is meant to inform and educate for the public good and information to persuade me to take a certain point of view or perspective.
- Whether a work is published in print or from an electronic resource such as the Internet, sometimes I am unable to identify an author's expertise in a work. (R)

Adapting to Technological Change

Changes in technology will require constant attention to skill levels. Employees who can be flexible and adapt to technological change are more likely to be retained by an organization and succeed in it. The ability to adapt to changing technology will be a requirement for students and workers entering the 21st century workforce.

This scale measures an individual's level of comfort with frequent or major changes in technology. People with low scores are less likely to be able to adapt to changes in technology. An individual who is unable to adapt will likely cling to old technologies and may have difficulty passing a course, advancing in the workplace, or even maintaining employment. Asking questions and participating in conversations about technological change will help to overcome fears.

Items for the Adapting to Technological Change scale are:

- I have a fear of losing my job or failing a course because I am not good at learning new technologies. (R)
- Because of my knowledge of technology, I am able to anticipate and respond to rapid changes in school or work environments.
- I would look for another job if my current employer told me to use a computer. (R)
- I am able to adapt to new technologies without much trouble.
- I would have difficulty making the transition from a desktop computer to a laptop. (R)
- I would feel uncomfortable if my boss or instructor told me that I must learn a new word-processing program. (R)

Impact of Technology

The changing nature of education and business is requiring individuals to be more flexible and better trained in the use of technology. Reports from the U.S. Bureau of Labor and Statistics indicate that the number of low-skill jobs is rapidly diminishing. Other national studies show that more than half of all new jobs will require some form of technology literacy. Technology better prepares individuals for the challenges they will face in the 21st century workplace by giving them the skills and experiences they will need to hold the high-paying jobs of the future.

This scale measures an individual's understanding of how technology will impact the workplace, environment, and society now and in the future. Those who score low should be encouraged to become involved in classroom or workplace discussions about how technology will affect our lives. Knowledge of how technology will impact the future will help students and workers get ahead in the future.

Items for the Impact of Technology scale are:

- I believe that almost all businesses will be computerized by the beginning of the 21st century.
- I am comfortable with the idea of using a computer to work at home.
- I feel that there will always be a job for me using the computer even if I do not work to update my computer skills. (R)
- I have a good understanding of the effects of technology on the environment, society, and individuals.
- I think most well-paying technology jobs will require workers who are highly-skilled.
- I think that most jobs in the future that require the use of a computer will require strong thinking skills.

Ethics in Technology

Those who use technology are faced with ethical dilemmas every day. Employees and students alike need to be able to recognize the value of upholding ethical standards. Individuals behave ethically when they contribute to the improvement of society, avoid harming others, respect the truth and privacy of others, behave fairly, and honor confidentiality. Other ethical issues include pornography and unauthorized access to computer systems.

This scale provides insight into a person's ability to discern ethical behavior. Individuals who receive low scores need to be taught the value of practicing ethical behavior. Students and employees should be able to recognize the difference between ethical and unethical conduct and understand why ethical behavior is beneficial. Discussions that focus on what constitutes a breach of confidentiality are important. There are a variety of resources, both printed and online, that provide guidelines for ethical use of technology.

Items for Ethics in Technology scale are:

- When using a computer other than my own, I leave it ready for the next user.
- I respect copyright issues when using information from electronic sources.
- I understand and follow rules concerning passwords.
- I am able to teach others about the responsible use of computer equipment.
- I don't feel it is important to follow rules concerning appropriate language when using technology. (R)
- I understand why it is important not to copy copyrighted files or programs.
- I have a good understanding of the rules of plagiarism when using information from electronic sources.
- I have difficulty understanding some of the ethical issues concerning the Internet. (R)
- I am aware of the ethical issues when using a network with "secure" areas.

Part 3: DEVELOPMENT OF THE TIA

Preparation and Selection of Objectives?

A number of key sources were used in the development of the Technology and Internet Assessment.

- Hudson Institute's *Workforce 2000*
- International Conference on Technology and Education (ICTE)
- National Reporting System for Adult Education
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Society for Applied Learning Technology (SALT)
- Welfare Reform Legislation
- Workforce Investment Act (WIA)

These and other sources (See Appendix A) were reviewed and accepted for the initial list of computer literacy competencies. To ensure a more comprehensive and valid list of competencies for the TIA domain specifications, a survey was sent to several computer educational and IT specialists. Each specialist was asked to read the purpose of the TIA and then reply as to whether the scales and items adequately fit the expectations for such a measure. The list of competencies obtained from these specialists was combined with the list of competencies identified from a review of the literature. These competencies then served as the foundation for further development. Using the results of this survey and analysis, eight scales were developed with more than 150 items.

The original item pool of 150 was further refined to eliminate items that were confusing, unclear, or did not lend themselves to Likert type responses. The development of the items took into consideration the requirement to be generic or general about each subject area. Affirmation bias was controlled by wording several items in a negative manner. Based on these criteria the number of items was reduced to 60 plus several demographic items. Data collected from 782 students from high schools, community colleges, and four-year institutions were used to determine performance standards, demonstrate the test's validity and reliability, and to determine normative data.

Normative Data

The mean and standard deviations for each scale are reported in Table 1. The percentile scores and raw score equivalents are presented in Table 2. Percentile scores can be used to compare students' scores on subsequent testings with similar or differing norm groups.

Table 1
Scale Statistics

Scale	Mean (N=782)	Standard Deviation
UOT	24.9	6.0
SCS	48.0	10.5
ATK	21.5	4.1
BIK	29.1	8.1
IIS	22.2	4.6
ATC	24.3	4.2
IOT	24.7	3.2
EIT	37.4	5.8

Table 2
Raw Score Equivalents of Percentiles on each of the 8 TIA Scales

Percentile	UOT	SCS	ATK	BIK	IIS	ATC	IOT	EIT	Percentile
99	35	--	29	--	30	--	--	--	99
95	34	--	28	40	29	30	30	45	95
90	33	60	--	39	28	--	29	44	90
85	--	59	26	38	27	29	--	--	85
80	31	58	25	37	26	--	28	43	80
75	30	57	--	36	--	28	--	42	75
70	29	56	24	35	25	27	27	--	70
65	28	54	--	34	--	--	--	41	65
60	27	53	23	33	24	--	26	40	60
55	26	52	--	32	23	26	--	39	55
50	25	50	22	31	--	25	--	--	50
45	--	49	--	29	22	--	25	38	45
40	24	47	21	28	--	24	--	37	40
35	23	45	20	27	21	23	24	36	35
30	22	44	--	26	20	--	--	35	30
25	21	41	19	24	19	22	23	34	25
20	20	39	18	22	18	21	22	33	20
15	18	37	17	20	17	20	--	32	15
10	17	33	16	16	16	19	21	30	10
5	14	28	14	13	14	17	19	26	5
1	10	18	11	10	11	13	16	20	1

Test-Retest Reliability

Test-retest coefficient of reliability over a three week period was high and statistically significant for each scale (Table 3). The data in this table show that the items contribute meaningfully to their scales. The correlation coefficient for each scale is high enough to say that each construct on TIA is measured reliably.

Table 3
Test-Retest Reliability

Scale	Correlation Coefficients (N=64)
UOT	0.82
SCS	0.90
ATK	0.73
BIK	0.88
IIS	0.66
ATC	0.72
IOT	0.67
EIT	0.63

Validation

Content validity for the test items was established during the development of the instrument. Using computer education and IT specialists to identify relevant competencies and writing test items that conformed to these competencies contribute to the content validity of the assessment. In all eight scales of the TIA each item appears to contribute to the relative strength of relationships among the other items. Additionally, each scale is generic within the confines of computer use and has been developed using a relatively diverse sample. On this basis each scale offers a level of external validity. Educators, counselors, and advisors who have used the TIA have reported its usefulness thus contributing to a high degree of user validity.

A review of the literature at the time of development did not produce a comparable valid and reliable computer literacy assessment to conduct a construct validity analysis.

Adult Basic Education Literacy Levels

ABE Literacy Levels are based on the National Reporting System method of measurement for Adult Basic Education. TIA Literacy Levels are to be used as a guide in assisting students to attain higher levels of computer literacy. The ABE Literacy Levels and percentile/raw score equivalents are presented in Table 4.

Table 4
ABE Literacy Levels and Percentile/Raw Score Equivalents

ABE Literacy Level	Percentile Equivalents	Raw Score Equivalents
ABE Level 1	01	60 - 167
ABE Level 2	05 - 20	168 - 202
ABE Level 3	25 - 40	203 - 231
ABE Level 4	45 - 60	232 - 255
ABE Level 5	65 - 80	256 - 280
ABE Level 6	85 - 99	281 - 300

Part 3: ADMINISTRATION OF THE TIA

How is the TIA Administered?

The TIA is administered via the World Wide Web. The following are required to successfully take an administration of the TIA: a computer connected to the Internet, an institution number, a user name, and a password. Each institution will be sent a Student Instruction Sheet, which contains an assigned institution number, user name, and password. The Student Instruction Sheet can be mailed, faxed, or e-mailed to the instructor overseeing the administration of the TIA.

Administration of the TIA

The first step in taking an administration is to locate the introductory page on the Web. This page is found by entering the URL provided on your Student Instruction Sheet into a browser program, such as Netscape or Internet Explorer.

For example: <http://www.hhpublishing.com/TIA/sample.htm>
(Refer to your Administrator Instruction Sheet to obtain the URL for your institution.)

Figure 1 shows an example of the correctly loaded introductory page.

TIA *Technology and Internet Assessment*

Directions
The TIA is an assessment tool designed to determine strengths and weaknesses in areas related to a basic understanding of computer, Internet, and information technology skills. Upon submission and approval of your institution number, 60 statements will be presented that relate to your knowledge of these areas. You are to read each statement and then select a response according to the following key:

*** Make A Selection *** <--- Click on the pull-down menu to the left to select your response. To help you decide which responses to select, we would like to explain what is meant by each term.

- By **Not at all typical of me**, we do not necessarily mean that the statement would never describe you, but that it would be true of you only in rare instances.
- By **Not very typical of me**, we mean that the statement generally would not be true of you.
- By **Somewhat typical of me**, we mean that the statement would be true of you about half the time.
- By **Fairly typical of me**, we mean that the statement would generally be true of you.
- By **Very much typical of me**, we do not necessarily mean that the statement would always describe you, but that it would be true of you almost all the time.

Before you begin it is important to know whether you have taken the TIA previously. Choose the correct box below.

First Administration

If this is your first time taking the TIA, enter your institution number into the space below and click the "Submit Institution Number" button to continue.

Enter your Institution Number:

Second Administration

If you are taking this assessment for the second time (Post-Test), enter your institution number and your student key into the spaces below and click the "Take Post-Test" button.

Enter your Institution Number:

Enter Your Student Key:

*Note: Your student key was issued the first time you took the TIA. If you misplaced your student key, your advisor/instructor can look it up for you.

Figure 1

Figure 1 shows the web page the student would locate to begin the assessment. It provides an explanation of the possible responses, and a place to register to take the TIA. At the bottom of the page, the student will enter his institution number. If the student elects to take a post test, he must have a valid student key. A student key is issued upon successful completion of a previously administered test. The key will be printed on the results of the first administration. Depending on whether the student chooses "First Administration" or "Second Administration" to begin, a user name and password dialog box will appear. Enter this information and the TIA assessment page will begin to load as shown in Figure 2. Again, the institution number, user name, and password can be obtained from the Student Instruction Sheet. You may make copies of this sheet, or you can e-mail the information to your students for guidance.

A portion of the TIA assessment page is shown below.

TIA

Technology and Internet Assessment

Enter your first name, last name, and ID number into the spaces below.

Institution Number: **2322**

Enter your First Name:

Enter your Last Name:

Enter your ID Number:

Try to answer according to how well the statement describes you, not how you think you should respond or how others respond. There are no right or wrong answers to these statements. Please work as quickly as you can without being careless and please answer all the items.

1. I am able to move computer files from one folder/directory to another.
2. I spend time experimenting with programs I don't know very well in order to increase my knowledge.
3. I would have difficulty attaching a file to an e-mail message.
4. I am able to evaluate a situation and decide if and which technology will help me solve a problem.

Continued...

Figure 2

Students must enter their first and last name into the spaces provided on Figure 2 for their results to be submitted correctly. The ID Number field is optional. If the student has chosen to take a post-test, this information is automatically updated. Students will now scroll down the page reading and responding to each statement by choosing from a pop-up choice of responses.

To help students decide how to respond to each statement, an explanation of each response is summarized below.

NOT AT ALL LIKE ME. We do not necessarily mean that the statement would never describe you, but that it would be true of you only very rarely.

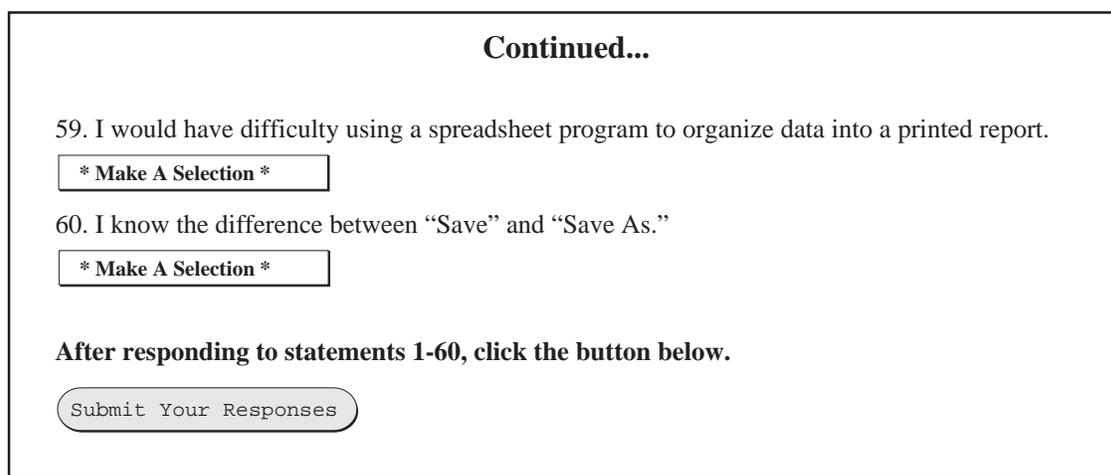
NOT VERY MUCH LIKE ME. We mean that the statement generally would not be true of you.

SOMEWHAT LIKE ME. We mean that the statement would be true of you about half of the time.

FAIRLY MUCH LIKE ME. We mean that the statement generally would be true of you.

VERY MUCH LIKE ME. We do not necessarily mean that the statement would always describe you, but that it would be true of you almost all of the time.

Students should try to answer according to how well the statement describes them, not how they think they should respond or how others respond. There are no right or wrong answers to the statements. After completing all statements, the student will click the “Submit Your Responses” button (Figure 3). If the student does not respond to all items, he will be instructed to return to the page and complete the assessment.



Continued...

59. I would have difficulty using a spreadsheet program to organize data into a printed report.

* Make A Selection *

60. I know the difference between “Save” and “Save As.”

* Make A Selection *

After responding to statements 1-60, click the button below.

Submit Your Responses

Figure 3

Results

After completing all the items and successfully submitting the results, a two-page report will be displayed listing the percentile scores for each scale, together with the name, institution, date of administration, student key, and an explanation of results.

A sample of the results page is shown below. This report may be printed.

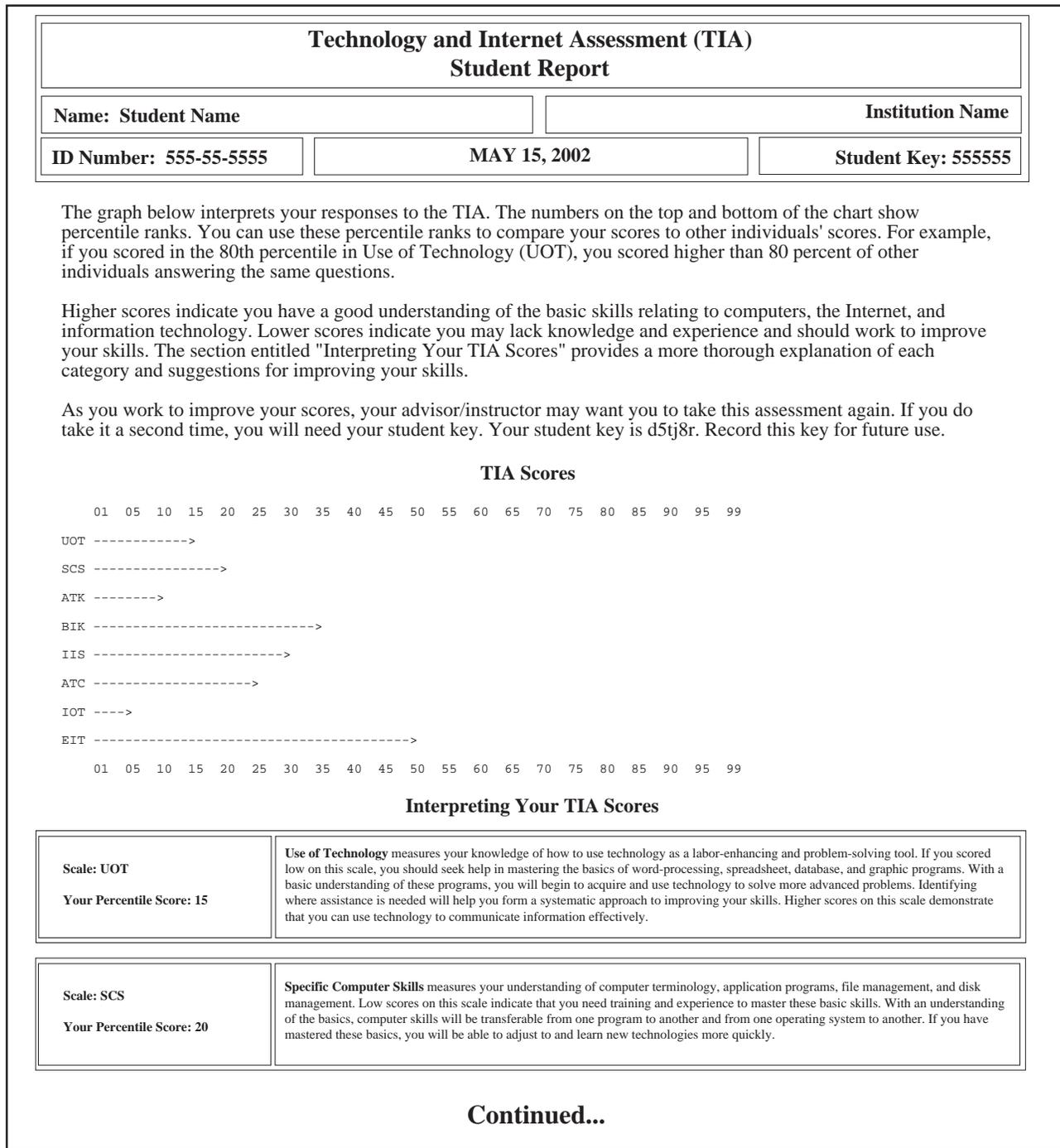


Figure 4

Administrator Instructions

Administrators of the TIA can view previously administered pre/post test results as well as the status of their institution's account by locating the URL provided on the Administrator Instruction Sheet. The Administrator Instruction Sheet is mailed, faxed, or e-mailed to the instructor overseeing the administration of the TIA. The following information is available to administrators:

- Student Name, ID Number, Student Key, Administration Date
- Pre/Post percentile rankings along with an explanation of the eight TIA scales
- Percentage increase/decrease in percentile scores
- Pre/Post Composite Raw Scores
- Percentage increase/decrease in composite raw scores
- Pre/Post Literacy Level
- Demographic data

Do not copy the Administrator Instruction Sheet and pass it out to your students. Some of the information on the sheet is meant only for the administrator.

For example: <http://www.hhpublishing.com/TIA/sample.htm>

(Refer to your Administrator Instruction Sheet to obtain the URL for your institution.)

The page that is displayed upon entering the URL is shown below. At the bottom of this page, there are three buttons: *Browse Results*, *Search Records*, and *Status of TIA Account*. These options are explained in the next three sections.

TIA Technology and Internet Assessment

The Technology and Internet Assessment (TIA) is designed to determine strengths and weaknesses in areas related to a basic understanding of computer, Internet, and information technology skills. The TIA focuses on eight areas that present barriers for individuals seeking employment and for those striving to succeed in our educational system. The results can be used to provide prescriptive information for students/instructors and employees/employers. The TIA was developed in response to the growing need to assess technology skills that are critical for workplace and academic success.

The three buttons below allow you to access the results of administering the TIA at your institution.

- * The Browse Results displays a report of the following results:
 - Student Name, ID Number, Student Key, Administration Date
 - Pre/Post percentile rankings along with an explanation of the eight TIA scales
 - Percentage increase/decrease in percentile scores
 - Pre/Post Composite Raw Scores
 - Percentage increase/decrease in composite raw scores
 - Pre/Post Literacy Level
 - Demographic data
- * The Search Records allows you to search for individual students and displays a report of the following results:
 - Student Name, ID Number, Student Key, Administration Date
 - Pre/Post percentile rankings along with an explanation of the eight TIA scales
 - Percentage increase/decrease in percentile scores
 - Pre/Post Composite Raw Scores
 - Percentage increase/decrease in composite raw scores
 - Pre/Post Literacy Level
 - Demographic data
- * The Status of TIA Account option will show you how many administrations your institution purchased, when they were purchased, and the number remaining to be used.

Click one of the options below.

Browse Results **Search Records** **Status of TIA Account**

Figure 5

Browse TIA Results

After clicking on the “Browse Results” button the page below will be displayed (Figure 6). To view results you must enter your administrator key, institution number (see Administrator Instruction Sheet), and the number of records to be returned, 10, 20, or 50. After clicking on the “Browse Results” button, you will be prompted to enter your user name and password. A sample of results is shown below in Figure 7. This page may be printed to track results or collect group data.

Figure 6

Your Institution Name - TIA Records

The records shown below display the results of students who have taken the TIA at your institution. Each record shows a student's name and student key along with the following information:

- Pre/Post percentile rankings along with an explanation of the eight TIA scales
- Percentage increase/decrease in percentile scores
- Pre/Post Composite Raw Scores
- Percentage increase/decrease in composite raw scores
- Pre/Post Literacy Level
- Demographic data
- The following reports are available for each student by clicking on each link:
 - *Pre-Test Results* displays a copy of the student's report the first time they took the TIA
 - *Post-Test Results* displays a copy of the student's report the second time they took the TIA
 - *Advisor/Counselor Report* displays a detailed report for the administrator

Displaying records 20 thru 22 of 100 records found. (2 records displayed)

Previous page of records

Jane Doe	UOT	SCS	ATK	BIK	IIS	ATC	IOT	EIT	*Literacy Level	Composite Raw Score	Test Date
<i>Pre-Test Results:</i>	15	20	10	35	30	25	05	50	ABE Level 2	197	05/15/2000
<i>**Post-Test Results:</i>	60	70	30	65	55	60	55	70	ABE Level 4	251	07/15/2000
	<i>Advisor/Counselor Report</i>								Percentage Increase/Decrease		27%

Next Student

	UOT	SCS	ATK	BIK	IIS	ATC	IOT	EIT	*Literacy Level	Composite Raw Score	Test Date
<i>Pre-Test Results:</i>	15	20	10	35	30	25	05	50	ABE Level 2	197	05/15/2000
<i>**Post-Test Results:</i>											
	<i>Advisor/Counselor Report</i>								Percentage Increase/Decrease		

Next page of records

*Note: Literacy Levels are based on the National Reporting System method of measurement for Adult Basic Education. TIA Literacy Levels are to be used as a guide in assisting students/clients to attain higher levels of computer literacy.

**Note: If post-test results are not listed, the student has not taken a post-test.

Clicking on the links *Pre-Test Results* and *Post-Test Results* will produce copies of the student's pre/post-test results as shown in Figure 4 (page 17).

Figure 7

Search TIA Results

The screen below (Figure 8) appears after selecting the “Search TIA Results” button.

TIA *Technology and Internet Assessment*

To search for records of individuals who have taken the TIA at your institution, enter your administrator key and institution number in the spaces below.

Enter Your **Administrator Key**: **Required**

Enter Your **Institution Number**: **Required**

Use the fields below to search for TIA data.

First Name:

Last Name:

ID Number:

Figure 8

To search for results, you must enter your administration key, institution number and search criteria. You can search by first name, last name, or ID number. After clicking on the “Search Results” button, you will be prompted to enter your user name and password. The results of your search will be displayed as in Figure 7.

If you are having trouble finding a student, try entering only the student’s last name and leaving the First Name and ID Number fields blank. This will broaden your search and may find other students with similar last names, but you will be sure to find the student you are looking for. Keep in mind that you do not even have to enter the entire name. Entering only the first few letters of a name will produce broader search results.

Advisor/Counselor Report

The Advisor/Counselor Report displays detailed information about each student. It shows pre- and post-test scores as well as the percentage of change in raw scores. The percentile ranks can be used to compare scores to other individuals who have taken the TIA. The section entitled “Interpreting Your TIA Scores” provides a more thorough explanation of each category and suggestions for improving skills. This report also includes a demographic section to assist advisors in counseling sessions. A sample of the Advisor/Counselor Report is shown in Figure 9.a

Technology and Internet Assessment (TIA) Advisor/Counselor Report		
Name: Jane Doe	Institution Name	
ID Number: 555-55-5555	MAY 15, 2002	Student Key: d5tj8r

This is a report of Jane's results based on the Technology and Internet Assessment. It shows pre- and post-test scores as well as the percentage of change in raw scores. The percentile ranks can be used to compare scores to other individuals who have taken the TIA. The section entitled "Interpreting Your TIA Scores" provides a more thorough explanation of each category and suggestions for improving skills. For more information see the TIA User's Manual.

Compare Pre/Post Test Scores					
Scale	Pre-Test Percentile	Post-Test Percentile	Pre-Test Raw Score	*Post-Test Raw Score	% Change Raw Score
UOT	15	60	18	27	50%
SCS	20	70	39	56	44%
ATK	10	30	16	19	19%
BIK	35	65	27	34	26%
IIS	30	55	20	23	15%
ATC	25	60	20	26	30%
IOT	05	55	19	25	32%
EIT	50	70	38	41	8%
**ABE Literacy Level			ABE Level 2	ABE Level 4	
Composite Score			197	251	27%

*Note: If post-test results are not listed, the student has not taken a post-test.

**Note: Literacy Levels are based on *National Reporting System* method of measurement for Adult Basic Education. TIA Literacy Levels are to be used as a guide in assisting students/clients to attain higher levels of computer literacy.

ABE Level 1	Individual has no knowledge of computers or other technology
ABE Level 2	Individual has minimal knowledge of and experience with using computers and related technology
ABE Level 3	Individual can use simple computer programs and perform a sequence of routine tasks given direction using technology
ABE Level 4	Individual can learn or work with basic computer software, such as word processing to produce own texts; can follow simple instructions for using technology
ABE Level 5	Individual is proficient using computers and can use most common computer applications; can understand the impact of using different technologies; can interpret the appropriate use of new software and technology
ABE Level 6	Individual is able to use common software and learn new software applications; can define the purpose of new technology and software and select appropriate technology; can adapt use of software of technology to new situations and can instruct others, in written or oral form on software and technology use

Interpreting Your TIA Scores

Scale: UOT	Use of Technology measures your knowledge of how to use technology as a labor-enhancing and problem-solving tool. If you scored low on this scale, you should seek help in mastering the basics of word-processing, spreadsheet, database, and graphic programs. With a basic understanding of these programs, you will begin to acquire and use technology to solve more advanced problems. Identifying where assistance is needed will help you form a systematic approach to improving your skills. Higher scores on this scale demonstrate that you can use technology to communicate information effectively.
-------------------	---

Scale: SCS	Specific Computer Skills measures your understanding of computer terminology, application programs, file management, and disk management. Low scores on this scale indicate that you need training and experience to master these basic skills. With an understanding of the basics, computer skills will be transferable from one program to another and from one operating system to another. If you have mastered these basics, you will be able to adjust to and learn new technologies more quickly.
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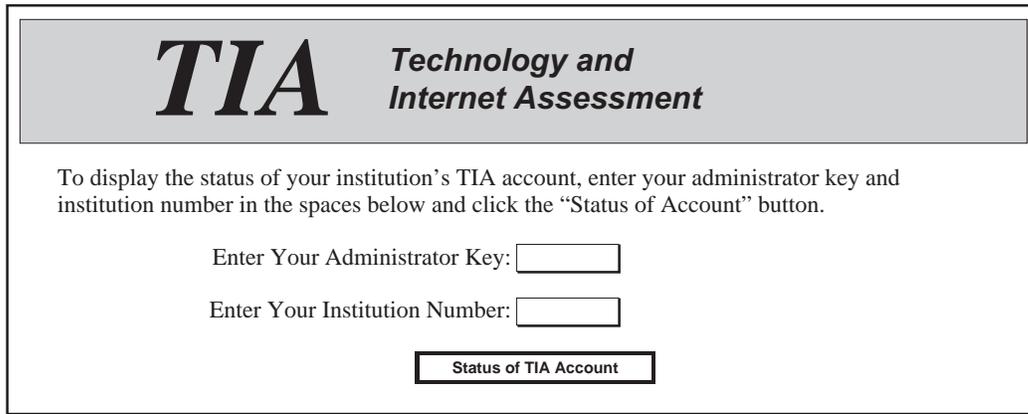
Continued...

Background Information		
Age Range: 21-22		
Gender: Female		
Ethnicity: White, non-Hispanic		
	Pre-Test	Post-Test
Estimated Grade Point Average:	2.5 - 3.0	3.0 - 3.5
Operating system most familiar with:	Windows 3.1 (or earlier)	Windows 95/98/NT
Own a computer:	No	Yes
Access to a computer when not at school or work:	No	Yes
Attended a computer training course:	No	Yes
Computer experience:	Less than 1 year	Less than 1 year

Figure 9

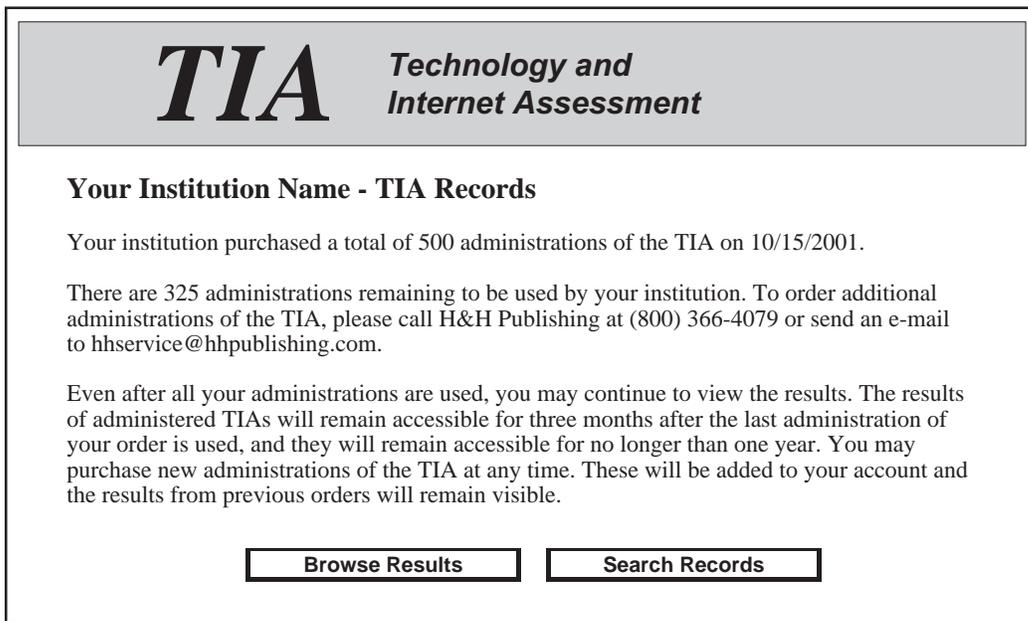
Status of TIA Account

The screen shown in Figure 10 appears after selecting the “Status of TIA Account” button. To display the status of your institution’s account, you must enter your administration key and institution number. After clicking on the “Status of Account” button, you will be prompted to enter your user name and password. Figure 11 shows your institution’s account status.



The screenshot shows a web interface for TIA (Technology and Internet Assessment). At the top, the TIA logo is displayed next to the text "Technology and Internet Assessment". Below this, a message instructs the user to enter their administrator key and institution number. There are two input fields: "Enter Your Administrator Key:" and "Enter Your Institution Number:". A button labeled "Status of TIA Account" is positioned below the input fields.

Figure 10

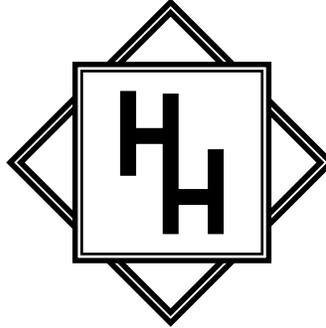


The screenshot shows the TIA account status page. At the top, the TIA logo is displayed next to the text "Technology and Internet Assessment". Below this, the heading "Your Institution Name - TIA Records" is shown. The main content area contains the following text: "Your institution purchased a total of 500 administrations of the TIA on 10/15/2001. There are 325 administrations remaining to be used by your institution. To order additional administrations of the TIA, please call H&H Publishing at (800) 366-4079 or send an e-mail to hhservice@hhpublishing.com. Even after all your administrations are used, you may continue to view the results. The results of administered TIAs will remain accessible for three months after the last administration of your order is used, and they will remain accessible for no longer than one year. You may purchase new administrations of the TIA at any time. These will be added to your account and the results from previous orders will remain visible." At the bottom, there are two buttons: "Browse Results" and "Search Records".

Figure 11

Part 5: Appendix

- American Association of State Colleges and Universities. (1995). On the Brink: Report on the Use and Management of Information Technology at AASCU Institutions. Washington, DC: Author.
- Baloun, T. L. (1995). The Skills Gap. Adult Learning, 6(6), pp. 23-25.
- Bork, Dr. Alfred (1996), Highly Interactive Multimedia Technology and Future Learning. Journal of Computing in Higher Education, 8(1), Fall edition.
- Brown, B., Kester, D. (1993), College Students and Computers. (ERIC Document ED366291).
- Charp, Dr. Sylvia (1997), Innovative Learning Environments Go Global. T.H.E. Journal: Technology Horizons in Education, 25(3), p. 4.
- Chisman, F. P., & Campbell, W. L. (1990). Narrowing the job-skills gap: A focus on workforce literacy. In F. P. Chisman & Associates (Eds), Leadership for Literacy: The Agenda for the 1990s. San Francisco: Jossey-Bass.
- College Board. (1997). Computer Literacy. [Online]. Available: <http://www.collegeboard.org/>.
- Davis, P. (1997), What Computer Skills Do Employers Expect From Recent College Graduates?. T.H.E. Journal: Technology Horizons in Education, 25(2), pp. 74-76.
- ICTE (International Conference on Technology and Education). (1997). Program Schedule. [Online]. Available: <http://www.ictc.org/progsch.htm>.
- Judy, R. W., D'Amico, C. (1997). Workforce 2020: Work and Workers in the 21st Century. Indianapolis: Hudson Institute.
- Kanter, Jerry (1996), Guidelines for Attaining Information Literacy. Information Strategy: The Executive's Journal, 12(3), pp. 6-11.
- Kester, D. (1994), Secondary School Library and Information Skills: Are They Transferred From High School to College?. Reference Librarian, 44, pp. 9-17.
- Monk, David, Philip Davis, Don Peasley, Peter Hillman & Paul Yarbrough (1996), Meeting the Needs of CALS Students for Computing Capabilities: Final Report of the Ad Hoc Committee on College of Agriculture and Life Sciences Student Computer Competencies. Ithaca, NY: Cornell University, (in process).
- Sasso, John A. (1997), The Future of Computers and Learning. T.H.E. Journal: Technology Horizons in Education, 25(3), pp. 45-48.
- SALT (Society for Applied Learning Technology). (1997). Program Schedule. [Online]. Available: <http://www.salt.org>.
- U.S. Department of Health and Human Services. (1997). Administration for Children and Families. [Online]. Available: <http://www.acf.dhhs.gov/news/6097rf.htm>.
- U.S. Department of Labor. (1991). A SCANS report for America 2000: What work requires of school. Washington, DC: Author.
- Wages Coalition of Hillsborough County. (1997). (WAGES) Work and Gain Economic Self-Sufficiency. [Request for Proposals Booklet RFP Number C-610-97]. Hillsborough County, FL: Author.
- Welfare Information Network. (1997). Welfare Information Network: A Clearinghouse for Information, Policy Analysis and Technical Assistance on Welfare Reform. [Online]. Available: <http://www.welfareinfo.org/>.
- Welfare to Work Partnership & National Alliance of Business. (1997). Blueprint for Business: Reaching A New Workforce. Washington, DC: Author.



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by
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