A NEEDS ASSESSMENT OF COMMUNICATION SKILLS NEEDED BY TRADE AND INDUSTRY PROGRAM GRADUATES OF WISCONSIN INDIANHEAD TECHNICAL COLLEGE

By

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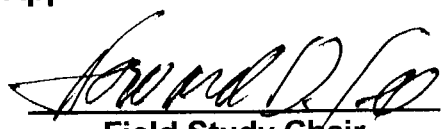

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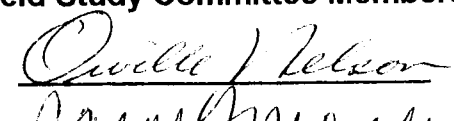

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ABSTRACT

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A NEEDS ASSESSMENT OF COMMUNICATION SKILLS NEEDED BY
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The purpose of this needs assessment was to determine the communication skills most important to employers of Trade & Industry program graduates of Wisconsin Indianhead Technical College (WITC). The assessment used a survey distributed to the employers of graduates in the Machine Tool Technics and Automated Packaging Systems Technician programs. The survey instrument asked employers to identify the primary communication skills (including electronic) necessary for employees of their company. The survey instrument was distributed to employers of 1999 graduates of WITC. A fifty-five percent response rate was tabulated and analyzed. The results indicated that interpersonal

communication skills were most important to employers. Specifically, the ability to support relationships with customers was rated as the top subcategory under interpersonal communications. The results as a whole provided insight into the types of communication skills that should be incorporated into these trade and industry degree programs.

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Through the support, encouragement, and advice of many people, this study has evolved from an idea into a completed reality. To the following people, I offer my sincere thanks:

Drs. Howard Lee, Carol Mooney, and Orville Nelson, Field Study committee members and advisors at the University of Wisconsin – Stout.

Dr. Philip Keezer, Paul Turenne, and Olaf Wick, consultants at Wisconsin Indianhead Technical College.

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CHAPTER I

Research Problem and Objectives

Introduction

Wisconsin Indianhead Technical College is a post-secondary institution serving 11 counties in northwest Wisconsin. Wisconsin Indianhead Technical College (WITC) offers associate degrees, technical diplomas, and continuing education courses for those seeking new employment or broadening their skills in an existing job. Instruction focuses on the areas of industrial technology, business, and health.

WITC is accredited by many regional and national organizations. The most comprehensive accreditation is that of the North Central Association of Colleges and Schools Commission on Institutions of Higher Education (NCA). Based in Chicago, Illinois, NCA utilizes teams of consultant evaluators to visit learning institutions and produce a written report acknowledging the college's achievements and making recommendations for change. Accreditation by this Commission is required for participation in Federal grants and financial aid programs. NCA maintains a list of General Institutional Requirements (GIR). These requirements are suggested operating procedures for affiliated institutions such as WITC and compliance is required to maintain accreditation. According to NCA's Handbook of Accreditation (1997), WITC's degree

programs of 45 credits or more had to, "include a coherent general education requirement consistent with the institution's mission and designed to ensure breadth of knowledge and to promote intellectual inquiry" (p.23).

In 1999, most degree programs in the business and health divisions of WITC included over 45 credit hours of instruction and required 15 general education credits. The industrial technology division programs, in 1999, catered to learners focused on a more specific set of skills. While the many technical diplomas offered by this division did not fall under the GIR on general education minimum credit requirements, the Automated Packaging Systems Technician program with 71 credits and the Machine Tool Technics program consisting of 64 credits both were bound by this NCA requirement.

Statement of the Problem

Both the Automated Packaging Systems Technician and Machine Tool Technics programs had historically used the majority of their credit hours to enhance technical skills. Occupational supportive, general education courses in 1999 accounted for 11 of 71 credits in the Automated Packaging Systems program and 11 of 64 credits in the Machine Tool Technics degree. In 1999, an increase in the number of communication credits within the general education component was being considered to

better comply with the NCA General Institutional Requirements. The additional credits would be in the form of two new communications courses.

Purpose of the Study

The purpose of this needs assessment was to determine the communication skills most important to employers of Trade & Industry program graduates of Wisconsin Indianhead Technical College. The assessment used a survey distributed to the employers of graduates in the Machine Tool Technics and Automated Packaging Systems Technician programs. The survey instrument asked employers to identify the primary communication skills (including electronic) necessary for employees of their company. The results would then be used to determine the content of new communications courses to be offered to students in these occupational programs.

Research Objectives

The objectives of this needs assessment were:

1. To identify the primary communication skills desired by employers of manufacturing technology graduates.
2. To identify which communication skills should be of special emphasis for WITC Trade & Industry program graduates.

Limitations

Constraints affecting the needs assessment were:

1. The scope of this project was limited to employers of students graduating from Wisconsin Indianhead Technical College. The findings may not be indicative of all geographic areas.
2. Not all employers chose to return the survey instrument. This caused the results to be less representative of the entire population of employers.
3. The survey instrument distribution was limited to known employers of 1999 graduates of the Machine Tool Technics and Automated Packaging Systems Technician programs. Data was not available to track all the employers of 1999 graduates.
4. A certain amount of subjectivity can be involved when assessing communication skills. The responses were dependent upon the employer's ability to assess communication skill levels.

Need for the Study

WITC's mission statement in 1999 included a charge of being responsive to the educational needs of industry. A needs assessment of the communication skills desired by employers of industrial technology division graduates was believed to partially fulfill that mission and provide

a basis for additional required communication credits in the Automated Packaging Systems Technician and Machine Tool Technics programs.

Assumptions

The following assumptions pertained to this needs assessment:

1. Graduates were representative of those learners coming to the employment marketplace before and after 1999 in the designated programs.
2. The responding employers provided an accurate evaluation of their employees.

Definitions

Wisconsin Indianhead Technical College (WITC)--A two-year post-secondary educational institution serving northwestern Wisconsin from four campus locations.

Automated Packaging Systems Technician--A program training learners to service and repair a wide variety of packaging equipment and automated systems.

Machine Tool Technics--A program emphasizing mold and die making for the plastic injection molding industry.

Communication Skills--Written and verbal ways of exchanging information. This includes the use of devices such as telephone and electronic mail to convey the information.

CHAPTER II

Review of Related Literature

A review of the literature was conducted to provide a foundation for determining the communication skills needed by trade and industry program graduates. Communication skills were a key part of successfully obtaining employment as well as keeping it. The related literature presented in this chapter was initially focused on the topics of communication skills and technical education. Further study led to the areas of: the changing role of technical careers, employer expectations of graduates, studies in communication skills for technical education graduates, and instructional delivery.

Communication Skills

Having good communication skills or communicating effectively with other people was being specifically identified as an employer expectation of new hires. It was becoming an increasingly important part of getting and retaining a job. Maureen Carrig (1999) shared an Office Team study in the Treasury Management Association Journal.

> According to a research project conducted by the international staffing firm Office Team, by the year 2005, technology's transformation of the workplace will not only place a premium on technical competencies, it will also put employees' people skills to

their greatest test. In fact, your interpersonal and communication skills could make or break your career success (p. 53).

Carrig went on to suggest specific communication skills that would be of increased importance. Technology put a new emphasis on writing skills. Electronic mail required employees to draft documents that arrived in front of multiple customers simultaneously. Negotiation and persuasion skills would be required of those utilizing audio and video teleconferencing technology.

The Journal of Marketing Education published an article by Callum J. Floyd and Mary Ellen Gordon (1998). This piece compared employer, student, and staff perceptions of the most important skills required to be successful in a career. This publication catered to marketing professions, but stated that "communication skills have been found to be important in most studies" (p. 103) of employer skill preferences. Special emphasis was placed on the necessity of understanding customer requirements. The customer, in this case, was the student, the educational funding source, and employers.

Geoff Maslen (2000) of The Times Higher Education Supplement relayed the attitudes shared by a group of Australian employers. When surveyed regarding the preparation of students graduating from Australia's

universities and technical colleges, the most frequently cited deficiencies were in the areas of communication and interpersonal skills.

Technical Education

According to Ian Falk (1999) of Community College Journal of Research and Practice, technical education refers to programs serving industry. Falk's research took place in Australia. He asserts that vocational education's service to industry there had alienated a large portion of the population. The agricultural and small business areas, for example, were not seeing themselves as part of the service to the industrial sector. He suggested that vocational education and community education converge. Local networks of people studying together would ultimately lead toward vocational opportunity. Communities would serve as incubators of new vocational creations. In other words, small businesses created through enhanced communication.

Armistead et al., (1989) writing in the Community-Junior College Quarterly of Research and Practice described the results of a survey distributed to 200 corporate employers. The questions centered on the proportion of technical education program curriculum that should be devoted to general education and communication skill building. Fifty-one percent of the employers responding indicated that general education should comprise approximately 30% of the total curriculum. According to

the results; communication, employability skills, and critical thinking were in need of emphasis.

Finally, Richard T. Heckman (1993) asked the question, Should technical education be more liberal? His initial explanation included a two-perspective view of technical education. It was composed of a sociological perspective and a systems theory. By this, Heckman saw the workplace as part of the United States social structure. Heckman remarks:

> The curriculum must be constructed in a way that supports the faculty in their efforts to help provide students the kinds of skills and knowledge needed for successful employment opportunities. Assuming all this is true, the question faculty face then is one of how is the gap bridged. How does one prepare workers who can think, synthesize, problem solve, make judgments, communicate effectively, and who have a sense of purpose. More specifically, what can a two-year degree program realistically accomplish, particularly in light of the wide variety of personal and academic backgrounds that students of the two-year college bring to campus. It is my premise that one way this challenge can be addressed is through responding positively to the question posed at the

> beginning of this presentation, that is, technical education should be more liberal (pp. 5-6).

Heckman's specific recommendations included requiring a curriculum designed around outcomes. These outcomes are what graduates should be able to do upon completion of a program of study. The general education core should be designed first and the technical education component incorporated into the general skills. Both should be focused on the program outcomes.

The Changing Role of Technical Careers

The research was beginning to uncover a trend in the technical workplace. Roisin Woolnough (2001) of Computer Weekly indicated that the stereotype of an information technology technician being relegated to the backroom was over. Communication skills were now a necessity for jobs that once spent most of their time with things rather than people. Speaking specifically with regard to computer technicians, Woolnough described the workday of an information technology technician. Troubleshooting required interaction with people at all levels of the organization. Technical expertise was not enough to satisfy the needs of the company. A chief executive officer interviewed on the subject of communication skills described them as perhaps the most important component of a person's career.

When technicians lacked communication skills, employers often deemed the situation important enough to provide remedial training. Woolnough (2001) interviewed Paul Blackmore of Lancaster University for Computer Weekly publication. The University had recently added new curriculum to its courses in hopes of better developing communication skills.

The more active role of the employee required the ability to explain why tasks were being completed. Here is where communication skills became extremely important. Thomas Sullivan (1999) of Crain's Detroit Business stated the following:

> The promising part of the new workplace is that the worker is less and less of a cog performing an isolated, repetitive and boring function. It is not enough to be able to do these technical tasks. The new worker also must be able to articulate, verbally and in writing, what he or she is doing. The individual must have a quick understanding of incoming communication, written and verbal. The modern workplace is about teamwork, something that is impossible without effective communication skills (p. 9).

Sullivan suggested that an educational program combining technical skill training with practical education would be a recipe for success.

Robert Bocchino (1999) in Business News New Jersey focused on the changing role of technical occupations. Bocchino was writing in an open forum section of the publication in his role as President of DeVry Technical Institute. The economy of New Jersey was said to be dependent upon the state's supply of qualified and skilled workers. Bocchino added the following remarks:

> Whether it is the state's emerging high-tech sector or small businesses harnessing the power of technology, an urgent need exists for a new kind of college graduate. What the state's industries need now more than ever are graduates with a solid technological foundation and hands-on experience combined with strong interpersonal and communication skills (p. 8).

Foreseeing a future labor shortage, Bocchino suggested the preparation of graduates with emphasis in technology and workplace leadership.

The concept of workplace leadership was further explained as employees working well in teams. Working well meant communicating effectively and possessing the ability to identify creative solutions for human resource and technical challenges.

Communication skills in technical careers were not just an issue of discussion in the United States of America. The Asian Business Review (1997) acknowledged the importance of communication skills to

employers. Faculty at the University of Wollongong prophesized that the engineer of the next century would require excellent communication skills. Curriculum was being modified to reflect this belief.

Employer Expectations of Graduates

Education Week provided insight into employer expectations of future workers. Rosenfeld (1988) described the expanding range of skills that employers expected workers to possess. This expansion, noted during the 1980s, was the result of changing workers' roles within the enterprise. Training specific to an occupation was still of interest, but this needed to be combined with a foundation of basic academic skills.

The Business Journal Serving Greater Milwaukee presented the views of some southern Wisconsin business executives. Liz Elliot (1999) wrote about employers who were looking for, "experience, education, and determination" (p. 13). A student having graduated with a college degree was under a greater expectation to have well-developed written and presentation skills.

Techniques: Making Education and Career Connections (1997) took up the task of soliciting employer opinion in an article entitled, "What Do Employers Want?" The question of communication skills versus technical skills was just one of many topics posed to a panel of American Vocational Association member businesses. One employer responded

that communication skills and the ability to learn are crucial. Specific, technical training was easier to deliver at the workplace.

Another company responded to the issue of communication skills. The inabilities to listen to others, negotiate, write, and speak led to failure despite technical brilliance. Employers were searching for graduates who could assimilate well into organizations. Technical skill training would have to be delivered by the company in that retooling was a fact of business life. Good communication skills transcended any particular technical training and therefore traveled with the employee from one situation to another. John F. Smith Jr., then President and Chief Executive Officer of General Motors, expressed that a combination of organizational, leadership, communication, and technological skills was essential to succeeding in a competitive workforce.

Thomas Sullivan (1999) of Crain's Detroit Business described employers as desiring a combination of both education and training. Employers were looking for the ability to complete tasks as well as understand why they were doing them. It was no longer acceptable to operate in isolation from the company at large. Sullivan cited a line worker's position being posted as requiring a bachelor's degree. This illustrated an employers desire to have employees who have experienced

an educational process. This background would conceivably help them adapt to and learn a changing set of job skills.

According to a Journal of Marketing Education article, the research focused on the four areas of problem-solving skills, communication skills, work experience, and interpersonal skills. In the area of communication skills, superior verbal and written abilities were assigned the above-average level of competence. Lack of ability in the verbal and written areas was labeled as below average. The area of problem-solving skills was left to the interpretation of the survey respondent. No formal definition was provided.

In the final analysis, problem-solving skills ranked as most important to employers. The next areas were communication skills followed by work experience and then interpersonal skills. The results were based on ranking the skills most important to managers when recruiting management graduates. The perceptions of students in this survey appeared to de different. Students overestimated the significance of verbal communication skills in comparison with the problem-solving competencies. Educational staff ranked communication skills above problem-solving if they were making the hiring decision.

The differences in results showed the varied attitudes toward this subject area. A gap exists between employers, students, and educational

staff. Recommendations included the necessity of educators focusing their teaching objectives toward the requirements of employers. It must be remembered that this article referenced numerous studies covering business occupations. Studies involving Trade and Industry occupations as covered in this needs assessment seemed to be less common.

The publication Black Collegian (1990) reported a survey conducted by Erdlen Bograd Group, Inc.. Erdlen Bograd provided consultancy in the area of human resource management. When recruiters were surveyed as to what factors most often disqualified applicants for employment, the most frequently cited factors were a poor resume and poor communication skills.

Studies in Communication Skills for Technical Education Graduates

Studies in communication skills for technical education graduates were not easy to locate. One, however, of particular interest was conducted in Wisconsin. Max Farning and Elaine Boyce (1976) of Mid-State Technical College, Wisconsin Rapids, Wisconsin, published a report entitled, "Developing and Verifying a List of Competencies for the Communication Skills Area in Vocational-Technical Post-Secondary Education." This research focused on both student graduates as well as employers perceptions of skills that graduates should possess.

The first task of the study was to develop a set of competencies that students should possess upon graduation. The final result included 46 competencies. These competencies fell under the headings of speaking, reading, writing, listening, and miscellaneous. Distributing them to 765 vocational education graduates as well as 740 employers of vocational education graduates served to rank the competencies.

Vocational areas were grouped into clusters. An industrial cluster, most similar to the subject of this study, focused on the instructional areas of auto mechanic, auto body, welding, printing, and electronic servicing. Program graduates as well as their employers were asked to rank each competency on a continuum from extremely important to not important. The results were compiled for each of the two responding groups. Program graduates ranked the following as their top 15 of 46 competencies:

1. Recognize, understand, and remember essential information
2. Understand occupational terminology
3. Listen carefully and impartially
4. Question to clarify information
5. Accept criticism

6.5. When speaking express ideas clearly and to the point

6.5. Use communication skills to cooperate with others

8. Read to comprehend job-related journals and technical materials
9. Receive complaints
10. Give instructions orally
11. Be tactful
12. Distinguish fact from opinion
13. Persuade people to accept new ideas, change opinion, or strengthen beliefs
14. Complete job-related forms
15. Distinguish main ideas from supporting details (p. 76).

Supervisors of graduates in the industrial cluster responded with the following competencies as their top 15:

1. Recognize, understand, and remember essential information
2. Listen carefully and impartially

3.5 Question to clarify information

3.5 Accept criticism

5. Understand occupational terminology
6. Handle relationships with customers or clients competently
7. Be tactful
8. Distinguish fact from opinion
9. Receive complaints

10. When speaking express ideas clearly and to the point
11. Read to comprehend job-related journals and technical materials
12. Use communication skills to cooperate with others
13. Distinguish main ideas from supporting details
14. Make judgments and respond without emotional involvement
15. Maintain confidentiality concerning job-related information (p. 81).

The two groups agreed on the ranking of the first competency and shared an additional six competencies within the top 10. The study indicated listing the communications competencies as its achievement. Further research in determining competencies as well as instructional techniques to convey the competencies was recommended.

A study by Penny J. Cary and Kevin F. Sweeney (1986) took the research to Southern Maine Vocational Technical Institute. A study there focused on interviewing employers of technical program graduates. The primary intent was to gather information on which to base curriculum decisions in the English Department of that Institution. This study was of particular interest in that it surveyed employers of a machine tool technology program.

The following is the result of an interview with employers of Southern Maine Vocational Technical Institute Machine Tool Technology program graduates:

> As in the plumbing trade, the machine tool field requires mechanical ability as the most important employee qualification. Apprentice machinists have no call to write, but writing tasks do come into play as an apprentice moves up in the industry. Machinists on one crew will write instructions for the members of the crew on the next shift.
>
> At D & G Machine Tool some apprentices have become computer programmers. Communication skills become more important at this point. Merrill Briggs, a manager at D & G Machine Tool, says the computers are becoming more and more an integral part of the machine tool industry. As this trend continues, he sees an increased need for people with good language and writing skills to work with CNC machines and to communicate with employees on the floor.
>
> Apprentices in the machine tool field have the opportunity to work their way up to become engineers or managers (the owners of D & G Machine Tool are both SMVTI graduates.) Writing and speaking abilities are then more in demand. Engineers write

> "process sheets," step-by-step analyses of how a job is done and how the time for the job should be allotted. Foremen have to write letters to companies such as S.D. Warren or Boise Cascade giving quotes on jobs. Lots of phone contact, talking with customers, is also involved.
>
> Mr. Briggs notes that first class machinists are in demand, that businesses like D & G can't find enough of them. However, just as significantly, the opportunity for professional growth is there too; the employees with good computer skills, writing ability, and general cultural awareness are prime contenders for engineering and management positions (p. 17).

The preceding information led to a number of conclusions. A graduate would rely upon their technical skills area training; however, communication skills are still a necessity. Those graduates working in direct contact with the public required more developed communication skills than those working in private workshops.

The final recommendation of the study centered around oral and written communication skills. A three-credit oral communication course was a recommended addition to the technical program areas at Southern Maine Vocational Technical Institute. The content was to include

interpersonal communications, group process, critical thinking and problem-solving techniques.

Instructional Delivery

How could this information be applied to the classroom? Len Mrachek and Garry Bice (1995) addressed the topic of communication skills applied to vocational situations. In order to find success in an age where knowledge was doubling every seven years, these authors suggested applying communication skills to situations in the workplace. Although there were not always specific courses to teach communications skills, they should have been found throughout all the curricula. Application to specific vocational situations was believed to improve understanding. The authors referred to it as contextual learning.

Minoo Amini (1995) suggested a framework for improving communication skills through use of computer-based communication support systems. The Journal of Education for Business published the article that provided instructional guidance for a business education classroom. Although presenting examples from outside the industrial trades, Amini stressed the importance of electronic communication skills to any business. An effective way to help students become more proficient with computer-aided communication was to introduce applied casework and electronic mail to the instructional mix.

Gary Hoachlander (1999) authored an article appearing in Techniques: Connecting Education & Careers. Hoachlander described the need for integration of academic and vocational education courses. The two concepts complement one another if combined together. Hoachlander wrote:

> As a profession, as part of curriculum philosophy and objectives, as a matter of public policy, it is time to state forcefully and unequivocally that vocational education has a responsibility and will be held accountable for contributing significantly to students' academic achievement. This does not mean that a vocational class should become a substitute for an academic class; rather it becomes a more carefully coordinated compliment (p. 78).

Hoachlander suggested that more communication skills courses led to a better ability to understand vocational education topics.

The subject of integrating communication and technical skills was also discussed by Millie S. Perry (1997) in her doctoral dissertation titled "Barriers to integrating communication and technical skills in Georgia's postsecondary technical institutes." The study determined that a majority of communication and vocational education instructors perceived the necessity of integrating vocational and communication skills coursework. The experience of the student would be improved through curricular

coordination efforts. The two groups of instructors, however, perceived that a formal support process must exist in order to bring integration to fruition.

Also a point of interest in the secondary school system, Marlene Lozada (1999) in Techniques: Making Education & Career Connections, reported on the progress of integrated curriculum in the career and technical education arena. The Southern Regional Education Board (SREB) was a group of 22 states working to improve economic and education conditions. Through its High Schools That Work (HSTW) program, the SREB had encouraged higher-level academic and vocational education coursework. The more rigorous curriculum was combined with integrated and applied teaching methodologies. Academic and technical subject matter was integrated together and taught through direct, hands-on applications. Success was measured by graduates of HSTW schools that arrived at two-year colleges better prepared than other high school graduates.

Phaedra Brotherton (2000) investigated solutions to the increasingly wide variety of students that needed to be served by technical education. She asserted that increasing diversity meant new methods of instruction would be required in the technical education classroom:

> While the U.S. population will continue to diversify, one overarching rule appears clear: the current and future workplace will require workers ready with the technical and communication skills to compete in a global economy. Forward-thinking career and technical programs are adjusting to ensure that all students, no matter their background, are prepared to take their place in the workforce of the future (p. 20).

Getting students to the technical education classroom may be the first problem. Brotherton cited attracting learners to two-year institutions as a challenge. The perception that a bachelor's degree is the only road to success may have been working against recruitment of technical education students.

CHAPTER III

Research Design and Methodology

Introduction

The ultimate purpose of this study was to identify the primary communication skills desired by employers of manufacturing technology graduates and determine which skills should be of special emphasis for WITC graduates. Research design is defined as the plan and structure of a study. In order to document this structure, the following chapter describes the research questions, research design, instrumentation, data analysis, and evaluation of the study.

Research Questions

The research objectives of this study begged two main questions. What were the primary communication skill areas desired by employers of manufacturing technology graduates? Once the skill areas were determined, which skills should be of special emphasis for WITC graduates? The results were to be used in revising the content of communications courses for the industrial technology division. Those courses were titled Information Resources (see Appendix F) and Workplace Reality (see Appendix G).

Research Design

The objective of determining the primary communication skills desired by employers of manufacturing technology graduates was answered by utilizing a survey instrument. The instrument included suggested skills areas as well as allowed for respondent submission of additional skill categories. To identify which communication skills should be of special emphasis for WITC graduates, the survey instrument requested a ranking of importance. This ranking ranged from "(NI) not important" to "(VI) very important." Research that used a survey to obtain this type of information was regarded as utilizing a descriptive research design. Although data was reported in a quantitative format, the employer responses included very qualitative interpretations of the communication skills.

Instrumentation

An instrument to measure the importance of communication skills to employers was created. Initially, the survey sub-category items were based upon a study conducted by Max Farning and Elaine Boyce (1976) of Mid-State Technical College, Wisconsin Rapids, Wisconsin. They published a report entitled, "Developing and Verifying a List of Competencies for the Communication Skills Area in Vocational-Technical Post-Secondary Education." This research focused on both student

graduates as well as employers perceptions of skills that graduates should possess. The initial list of items was modified and grouped by instructors in the General Education department at Wisconsin Indianhead Technical College. Their changes were based on classroom experience in teaching courses for technical education students. The result was 11 categories of communication skills and 29 sub-category items. The categories included: oral, nonverbal, written, listening, interpersonal, small-group, presentations, research, electronic communication, information technology skills, other suggestions from the employer, and a free-response area. The data was collected using a paper-based survey.

The survey instrument was designed to be completed in a short time frame. Each subcategory item utilized a Likert scale to collect information based on four levels of importance. These levels ranged from "(NI) not important" to "(VI) very important" for successful job performance. Again, this scale was picked based upon the report entitled, "Developing and Verifying a List of Competencies for the Communication Skills Area in Vocational-Technical Post-Secondary Education." An open-response section was used to solicit additional skills areas not covered by the survey. A space for additional comments was also included. Any insight provided by the employer was welcomed.

The content validity criteria of the study was satisfied by the open-response area described in the previous paragraph. Any communication skill areas not covered by the survey were to be suggested by the employer. In addition, as referenced earlier in this chapter, a panel of instructors from the General Education department at Wisconsin Indianhead Technical College validated the initial content of the survey. Their changes were based on classroom experience in teaching courses for technical education students. Their contributions included the category groupings as well as the addition and deletion of sub-category items.

A pilot study was conducted by distributing the survey to two employers and three instructors associated with Wisconsin Indianhead Technical College. Their responses to the survey were used to determine the clarity of the instructions as well as the utility of survey results. The pilot study resulted in a modification of the instructions on the top of the survey document.

The limitations of the process included the inability to determine all the employers of WITC graduates. This was due to the less than 100 percent response rate to the WITC Graduate Survey. The WITC Graduate Survey collects information regarding employment status and employer. In addition, not all employers responded to the survey

instrument (45% did not). Some communication skills categories may not be represented due to an employer's failure to respond.

Population and Sample

The population for the survey of communication skills was described as employers of 1998-1999 graduates of Wisconsin Indianhead Technical College's Automated Packaging Systems Technician and Machine Tool Technics programs. As referenced in the first chapter of this paper, The North Central Association of Colleges and Schools Commission on Institutions of Higher Education (NCA) General Institutional Requirement (GIR) of including additional credits of general education applied to both the Automated Packaging Systems Technician and Machine Tool Technics programs. The survey was designed to assist in establishing the content of these additional credits of instruction for these programs.

Data Collection Procedures

Prior to the distribution of the survey instrument, a postcard (see Appendix C) was mailed as an announcement of the forthcoming survey. The postcard explained the benefits to the employer of completing the survey. Three weeks later, the survey itself (see Appendix A) was distributed to the supervisors of WITC graduates. A letter of explanation

(see Appendix B) and postage paid envelope were included to encourage prompt response.

The letter of explanation (see Appendix B) was written to covey a few key messages. First, the theme of "we need your help" was continued from the announcement postcard (see Appendix C). The employers were thanked in advance for their response. The letter explained how the employer was helping WITC to better train future employees. The anonymity of the device was stressed. It was hoped that the response rate would not be hampered by an employer's fear of commenting publicly about their employees.

A number of procedures were implemented to increase the response rate. The announcement postcard was issued to inform respondents of the upcoming survey. A letter of explanation accompanied the survey. The letter was written on WITC letterhead. It was hoped that this would distinguish the survey from other more common mail. A postage-paid response envelope saved the respondent from being inhibited by the cost of return postage.

Data Analysis Procedures

The researcher provided data analysis. The data was compiled and analyzed using SPSS 9.0, statistical analysis software.

Summary results were based upon the mean ratings for each category group as well as mean ratings of each sub-category item.

Research Schedule

The research activities were designed to follow the program planning process at WITC. Program and class modifications are established in the spring for implementation in the fall of the next fiscal year. The following schedule was followed:

Table 1

Research Schedule

Time Schedule	Research Activity
June, 2000	Finalization of research topic
August, 2000	Begin review of literature
September, 2000	Research committee meeting
October, 2000	Survey development
November, 2000	Survey approval
November, 2000	Survey distribution
February, 2001	Survey tabulation
April, 2001	End Literature review
	Compile results and recommendations
May, 2001	Committee evaluation of results

Project Staff

The graduate researcher conducted the field study. Dr. Howard Lee, a member of the University of Wisconsin – Stout Graduate Faculty, advised the study. The field study committee included Dr. Lee as well as Dr. Carol Mooney and Dr. Orville Nelson. The latter mentioned committee members are also members of the UW-Stout Graduate Faculty.

Evaluation

Critical processes were identified and monitored using the research schedule. The guidance of the research advisor and field study committee assured that the project was on target to meet its research objectives. Oral examination and written feedback were used to steer the project toward final completion.

CHAPTER IV

Research Results

Introduction

The purpose of the field study was to determine the communication skills most important to employers of Wisconsin Indianhead Technical College graduates. The assessment used a survey distributed to 29 employers of graduates in the Machine Tool Technics and Automated Packaging Systems Technician programs. Surveys were completed by 16 of the 29 employers resulting in a response rate of 55%. The results were then used to determine the content emphasis of new communications courses to be offered to students in these occupational programs.

The number of employers was determined by responses to the WITC annual graduate survey. This survey was used to contact 58, 1999 graduates of WITC. Of the possible 58 graduates, 52 responded with the requested information. The 52 respondents indicated 29 individual employers. The survey instrument utilized in this study was distributed to those 29 employers. Sixteen of the employers responded to the survey. This translated into a response rate of 55%.

Descriptive Data

The following shows the question categories as well as the sub-category areas within each communication skill category. A copy of the

actual instrument is located in Appendix A. The possible responses to each subcategory skill area included:

1 = NC = No comments

2 = NI = Not important for successful job performance

3 = SI = Somewhat important for successful job performance

4 = I = Important for successful job performance

5 = VI = Very important for successful job performance

Table 2, Instrument Questions and Standard Deviations provides each of the category headings and sub-category items. The mean score and standard deviation of each sub-category item is indicated. For example, the subcategory item of "communicate through spoken word" achieved a mean score of 4.44 and a standard deviation of .63. The category headings and sub-category items appear just as they did on the original research instrument.

The highest mean score of 4.81 was achieved by the sub-category item of "support relationships with customers." The lowest mean of 2.75 was in response to the "speak with good vocal technique" sub-category item.

Table 2

Instrument Questions and Standard Deviations

Category/ Sub-categories	Mean Score	Standard Deviation
Oral		
1. Communicate through spoken word	4.44	.63
2. Use the telephone effectively	3.25	.86
3. Follow grammatical standards	4.25	.58
Nonverbal		
1. Communicate effectively where safety devices prevent verbal communication	3.44	.96
Written		
1. Write technical reports	4.25	.68
2. Express ideas clearly	4.00	.73
3. Write directions and procedures	4.00	.73
4. Take notes	3.81	.66
5. Adapt messages to the audience	3.62	.62
Listening		
1. Listen carefully & impartially	4.50	.63
2. Provide thoughtful feedback	3.19	.75
3. Question to clarify information	3.81	.66
Interpersonal Communication		
1. Communicate effectively with co-workers	4.44	.63
2. Give instructions	4.38	.72
3. Give constructive criticism	3.50	.89
4. Support relationships with customers	4.81	.40
Small-Group Communication		
1. Share information in small (3-5) groups	3.94	.93

Table 2 (Continued)

Instrument Questions and Standard Deviations

Category/ Sub-categories	Mean Score	Standard Deviation
Presentations		
1. Persuasively communicate an idea to a group	3.25	.86
2. Prepare information in graphic forms	3.56	.63
3. Speak with good vocal technique	2.75	.68
Research		
1. Find information to support ideas	3.69	.87
2. Gathering and organizing information	3.87	.81
3. Comprehend job-related journals and technical materials	3.44	1.03
4. Distinguish main ideas from supporting details	3.44	.51
Electronic Communication		
1. Use electronic mail, voice mail, & facsimile	3.25	.93
Information Technology Skills		
1. Use a computer to obtain/generate information	3.88	.81
Other		
No information submitted		

Table 2 provides the mean score and standard deviation of each sub-category within the 11 categories of communication skill information. The sub-category items are in the same order as they appeared on the

instrument (see Appendix A). Note that the respondents contributed no additional subcategory information to the "Other" category.

In order to further analyze the data, Table 3 provides a each sub-category ranked by mean within its respective category heading. This helped to identify the relative importance of each sub-category item within the communication skill category.

Table 3

Instrument Questions Ranked by Sub-Category Means

Category/ Sub-Categories	Mean Score	Standard Deviation
Oral		
1. Communicate through spoken word	4.44	.63
3. Follow grammatical standards	4.25	.58
2. Use the telephone effectively	3.25	.86
Nonverbal		
1. Communicate effectively where safety devices prevent verbal communication	3.44	.96
Written		
1. Write technical reports	4.25	.68
2. Express ideas clearly	4.00	.73
3. Write directions and procedures	4.00	.73
4. Take notes	3.81	.66
5. Adapt messages to the audience	3.62	.62
Listening		
1. Listen carefully & impartially	4.50	.63
3. Question to clarify information	3.81	.66
2. Provide thoughtful feedback	3.19	.75

Table 3 (Continued)

Instrument Questions Ranked by Sub-Category Means (Continued)

Category/ Sub-Categories	Mean Score	Standard Deviation
Interpersonal Communication		
4. Support relationships with customers	4.81	.40
1. Communicate effectively with co-workers	4.44	.63
2. Give instructions	4.38	.72
3. Give constructive criticism	3.50	.89
Small-Group Communication		
1. Share information in small (3-5) groups	3.94	.93
Presentations		
2. Prepare information in graphic forms	3.56	.63
1. Persuasively communicate an idea to a group	3.25	.86
(3) Speak with good vocal technique	2.75	.68
Research		
2. Gathering and organizing information	3.87	.81
1. Find information to support ideas	3.69	.87
3. Comprehend job-related journals and technical materials	3.44	1.03
4. Distinguish main ideas from supporting details	3.44	.51
Electronic Communication		
1. Use electronic mail, voice mail, & facsimile	3.25	.93
Information Technology Skills		
1. Use a computer to obtain/generate information	3.88	.81
Other		
No information submitted		

Table 3 provides the mean score and standard deviation of each sub-category within the 11 categories of communication skill information. In addition, the sub-category items are in rank order according to mean and standard deviation. Note that the respondents contributed no additional subcategory information to the "Other" category. By arranging the sub-category items in this manner, importance among sub-categories can be noted. For example, under oral, "communicate through spoken word" was far more important (4.44) than using the telephone effectively (3.25).

The next data analysis step (Table 4) removed the category headings and ranked the sub-category items as a whole. The mean was used to determine which items were deemed most important and which sub-category items were perceived as being least important.

Table 4

Sub-Category Ranking by Mean

Mean	Category, Sub-Category Item Number, Sub-Category
4.81	Inter(4) Support relationships with customers
4.50	Listening(1) Listen carefully & impartially
4.44	Oral(1) Communicate through spoken word
4.44	Inter(1) Communicate effectively with co-workers
4.38	Inter(2) Give instructions
4.25	Oral(3) Follow grammatical standards
4.25	Written(1) Write technical reports
4.00	Written(2) Express ideas clearly
4.00	Written(3) Write directions and procedures
3.94	Small-Group(1) Share information in small (3-5) groups
3.88	Research(2) Gathering and organizing information
3.88	InfoTech(1) Use a computer to obtain/generate information
3.81	Written(4) Take notes
3.81	Listening(3) Question to clarify information
3.69	Research(1) Find information to support ideas
3.63	Written(5) Adapt messages to the audience
3.56	Present(2) Prepare information in graphic forms
3.50	Inter(3) Give constructive criticism
3.44	Nonverbal(1) Communicate effectively where safety devices prevent verbal communication
3.44	Research(3) Comprehend job-related journals and technical materials
3.44	Research(4) Distinguish main ideas from supporting details
3.25	Oral(2) Use the telephone effectively
3.25	Present(1) Persuasively communicate an idea to a group
3.25	Elect(1) Use electronic mail, voice mail, & facsimile
3.19	Listening(2) Provide thoughtful feedback
2.75	Present(3) Speak with good vocal technique

Table 4 includes all sub-category items ranked by mean. The originating category is indicated at the beginning of each row for reference purposes. The original sub-category item number also appears for reference. The "support relationships with customers" sub-category item was ranked first with a mean of 4.81. "Listen carefully & impartially" achieved second place with a mean of 4.50. Sub-category items originally from the interpersonal communication and oral categories took places 3 through 6 in the ranking. "Provide thoughtful feedback" and "speak with good vocal technique" rounded out the lowest ranking items with means of 3.19 and 2.75 respectively.

Table 5 was designed to examine only the category headings. The means for the categories as a whole were calculated. In addition, the marginal change in mean was indicated to help identify patterns with the responses. The results are as follows:

Table 5

Category Ranking by Average Mean

Rank	Category	Mean	Marginal Change In Mean	Tier
1	Interpersonal	4.28	.20	1
2	Written	4.08	.10	2
3	Oral	3.98	.04	2
4	Small Group	3.94	.06	2
5	Information Technology	3.88	.05	2
6	Listening	3.83	.22	2
7	Research	3.61	.17	3
8	Nonverbal	3.44	.19	3
9	Electronic	3.25	.07	3
10	Presentations	3.18	3.18	3
11	Other	0		3

Table 5 presents an average mean for each category. The categories are ranked by mean. The marginal change in mean is listed in the right column. The marginal change indicates three tiers of category data. The most important category was "interpersonal communication." A second tier of categories was composed of "written," "Oral," small-group

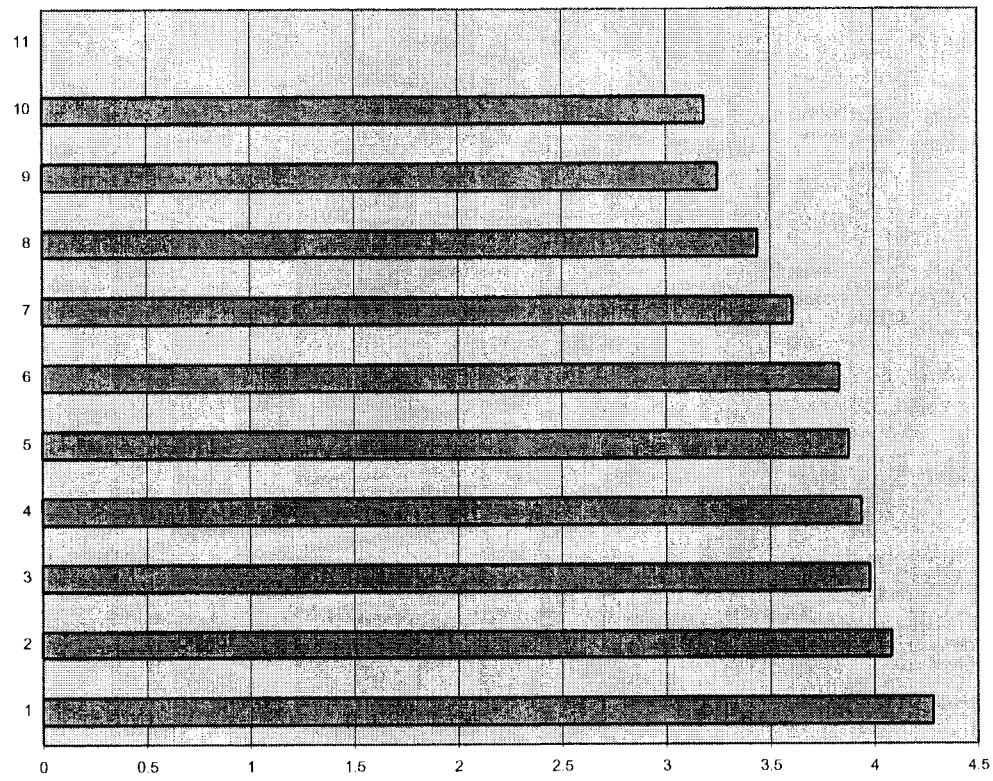
communication," "information technology skills," and "listening." The remaining category headings appeared as a third tier of skills. The tiers were determined by the predominant gaps in marginal mean changes.

Chart 1 provides a graphic representation of category heading rank. The bars show the change in mean responses. Again, three tiers appear as the data is compared according to marginal change in mean.

Chart 1

Category Ranking by Average Mean

Category Number



Mean Response

11 = Other
10 = Presentations
9 = Electronic Communication
8 = Nonverbal Communication
7 = Research
6 = Listening
5 = Information Technology Skills
4 = Small Group Communication
3 = Oral Communication
2 = Written Communication
1 = Interpersonal Communication

In Chart 1, interpersonal communication clearly stands out as having the highest mean score. The category of "other," having no responses, ranked last with a mean of 0. "Presenting information," with a cumulative mean of 3.18 ranked last of those categories receiving responses.

General Commentary

The following information was received from the comments portion of the survey:

"Remove bias from vocabulary"

"The communication block (oral, written, non-verbal, listening) is probably the cornerstone of success in any position. Its importance should be emphasized throughout the education process."

"Communication as it relates to aspects of customer service. Whether the employee is talking or corresponding to internal or external customers, they need to promote the appearance of being professional. This takes time and care in what is produced."

"Documenting processes and process changes so that everyone in the company can understand the events that have taken place is critical to us."

"I rated the items considering a machine operator. As an employee looks to move-up into a leadership position these items all become more important."

"One-to-one instruction or instruction to 2 or 3"

"Ability to explain a process or demonstrate a skill using a documented process sheet."

"Confidence in expressing oneself."

Summary

The preceding results were a quantification of qualitative research data. Employers were asked to consider the performance of current employees as well as the future demands placed upon these occupational areas. The responses were based upon employer's individual perceptions and observations of employees. Their opinions were translated, through the scaled ranking, into a numerical result. The results appear in Tables 1 through 4 and Chart 1.

CHAPTER V

Summary, Conclusions, and Recommendations

Introduction

The following section serves as a summary of the study. A review of the statement of the problem and purpose of the study are contained within. The steps involved in the study; review of the related literature, research methodology, and data analysis, will be reviewed in the following paragraphs. Finally, conclusions based on the research objectives and data analysis will be presented.

Summary of the Study

In 1999, an increase in the number of communication credits within the general education component of the Automated Packaging Systems Technician and Machine Tool Technics programs was being considered. The additional credits would be delivered under the banner of two new communications courses.

The purpose of this study was to determine the communication skills most important to employers of Wisconsin Indianhead Technical College graduates. A survey instrument asked employers to identify the primary communication skills necessary for employees of their respective companies. The results were to be used to determine the content of new communications courses

A review of related literature uncovered some key concepts relating to the research problem. The changing role of technical careers was documented in several articles. The technical career areas appeared to be requiring more customer interaction. The technical education graduate was expected to be highly skilled and able to share those skills with internal and external customers of the company. Employers expected good communication skills from new employees. Studies in technical education were attempting to identify the communication skills necessary and how to best integrate them into instructional practice.

A survey was created to collect information regarding communication skills of technical education programs. The survey instrument utilized a scale to determine the importance of individual communication skills (see Appendix A). The survey was distributed to known employers of Wisconsin Indianhead Technical College graduates.

The results were analyzed using statistical analysis software. A ranking by categorical average mean was calculated. In addition, the marginal progression of means was examined. Finally, a list of individual communication skills was compiled and ranked by mean score.

Conclusions

The following section presents the conclusions drawn by conducting this research. Each research objective of the study is

examined along with conclusions based on the data analyzed. The research objectives correspond to those outlined in chapter one.

The first research objective of this needs assessment was to:

1. To identify the primary communication skills desired by employers of the manufacturing technology graduates.

According to the research results, the primary communication skills desired by employers of the WITC graduates were included on the survey instrument developed for this study. The survey instrument itself, then, represents the communication skills desired by the employers. The option of adding additional skills was not exercised by any of the respondents. The primary communication skill categories identified included: oral, nonverbal, written, listening, interpersonal communication, small-group communication, presentations, research, electronic communication, and information technology skills.

2. The second objective of this needs assessment was to identify which communication skills should be of special emphasis for WITC graduates

From the aforementioned results, it appeared that the most desired communication skills involved interpersonal communications. The interpersonal skills sub-category of "supporting relationships with

customers" ranked number one. It received the highest mean score of all subcategory items and had the lowest standard deviation.

The next tier of skill categories provided for a secondary emphasis area within the trade and technology curriculums. Written, oral, small group, information technology, and listening skills emerged as a secondary emphasis area of study. Although still ranking within the "(SI) Somewhat Important" range; research, nonverbal, electronic, and presentation skills were perceived as needing the least amount of emphasis.

It is important to note that none of the skills on the survey instrument received mean ratings of two or less. All categories, therefore, were deemed as having at least "(SI) Some Importance" to the success of graduates. No categories were pinpointed as being outside the scope of the trade and industry curriculum.

Implementation of the Findings

WITC identified two vehicles with which to improve the communication skills of trade and industry graduates. A course entitled Information Resources (see appendix F) and another called Workplace Reality (see Appendix G) were designed to supplement the Machine Tool and Automated Packaging degree programs with additional communication credits. The results of this survey led to the

recommendation that interpersonal communication skills training be placed as the highest priority within the competencies of these courses.

The secondary area of emphasis should include written, oral, small group, information technology, and listening skills. The Information Resources course had an emphasis on information technology that needed then to incorporate written projects, verbal communication, small group process, and listening exercises.

Study in research technique, presentations, nonverbal and electronic communication should be included in the courses, but receive a lower amount of emphasis. It is recommended that the number of projects requiring the presentation of research from electronic sources be reduced in favor of increased interpersonal activities. Customer service should be situations could be incorporated to combine interpersonal communication with presentations.

It is suggested that further research be conducted in the area of interpersonal communication. This category may need further segmentation than the four areas used in this survey. The results would have implications for programs in the trade and industry as well as business occupations.

This research study should be conducted again in 10 years. The results should be compared with those of this study. This would help to

determine if there is even more emphasis necessary on communication skills. Perhaps the pendulum will swing back toward the technical skills?

Beyond Wisconsin Indianhead Technical College, this study has implications for all technical education programs in the United States. While other Wisconsin Technical Colleges would find the information most applicable to their curriculum, technical programs throughout the country could benefit from this information. Many programs face the task of balancing technical skills with the ability to communicate well.

In retrospect, this study should have been used to gather even more data from employers. The survey could have been extended to include preferences regarding instructional methodology and specific technical skills. The better than expected survey return rate was a great opportunity to communicate with employers of WITC graduates.

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APPENDICES

APPENDIX A

Survey of Communication Skills for Trade & Industry Program Graduates

Below is a series of topics that are or could be included in the curricula of Trade and Industry programs at Wisconsin Indianhead Technical College. In completing this survey, please consider the performance of current employees and the future demands you believe will be placed upon your industry. **Indicate the importance of the following communication skills to the success of your employees.**

1 = (NC) No comment
2 = (NI) Not important for successful job performance
3 = (SI) Somewhat important
4 = (I) Important
5 = (VI) Very Important

Communication Skills	NC	NI	SI	I	VI
Oral					
(1) Communicate through spoken word	1	2	3	4	5
(2) Use the telephone effectively	1	2	3	4	5
(3) Follow grammatical standards	1	2	3	4	5
Nonverbal					
(1) Communicate effectively where safety devices prevent verbal communication	1	2	3	4	5
Written					
(1) Write technical reports	1	2	3	4	5
(2) Express ideas clearly	1	2	3	4	5
(3) Write directions and procedures	1	2	3	4	5
(4) Take notes	1	2	3	4	5
(5) Adapt messages to the audience	1	2	3	4	5
Listening					
(1) Listen carefully & impartially	1	2	3	4	5
(2) Provide thoughtful feedback	1	2	3	4	5
(3) Question to clarify information	1	2	3	4	5
Interpersonal Communication					
(1) Communicate effectively with co-workers	1	2	3	4	5
(2) Give instructions	1	2	3	4	5
(3) Give constructive criticism	1	2	3	4	5
(4) Support relationships with customers	1	2	3	4	5
Small-Group Communication					
(1) Share information in small (3-5) groups	1	2	3	4	5
Presentations					
(1) Persuasively communicate an idea to a group	1	2	3	4	5
(2) Prepare information in graphic forms	1	2	3	4	5
(3) Speak with good vocal technique	1	2	3	4	5

(Next Page on Back)

Communication Skills (CONTINUED)	NC	NI	SI	I	VI
Research					
(1) Find information to support ideas	1	2	3	4	5
(2) Gathering and organizing information	1	2	3	4	5
(3) Comprehend job-related journals and technical materials	1	2	3	4	5
(4) Distinguish main ideas from supporting details	1	2	3	4	5
Electronic Communication					
(1) Use electronic mail, voice mail, & facsimile	1	2	3	4	5
Information Technology Skills					
(1) Use a computer to obtain/generate information	1	2	3	4	5
Other					
Please describe.					
(1)_____	1	2	3	4	5
(2)_____	1	2	3	4	5
(3)_____	1	2	3	4	5

Comments.

_____

_____

_____

Thank you.

Please return in the postage paid envelope to:

Alex Birkholz
WITC - New Richmond
1019 S. Knowles Ave.
New Richmond, WI 54017

I understand that by returning this survey, I am giving my informed consent as a participating volunteer in this study. I understand the basic nature of the study and agree that any potential risks are exceedingly small. I also understand the potential benefits that might be realized from the successful completion of this study. I am aware that the information is being sought in a specific manner so that no identifiers are needed and so that confidentiality is guaranteed. I realize that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice.

Questions or concerns about participation in the research or subsequent complaints should be addressed to Alex Birkholz, WITC - New Richmond. 1019 South Knowles Ave., New Richmond, WI, 54017, phone (715) 246-6561 and second to Dr. Ted Knous, Chair, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 11 HH, UW-Stout, Menomonie, WI, 54751, phone (715) 232-1126.

APPENDIX B

Wisconsin Indianhead
TECHNICAL COLLEGE
New Richmond Campus

Timothy O. Schreiner, Campus Administrator

November, 2000

Dear «Name»,

We Need Your Help!

Thank you for your willingness to help WITC identify communication skills that our graduates need to be successful in the workplace. As an employer of our graduates, you are just the one to tell us. Please take a moment to complete the attached survey, by mailing it, you are helping us to train your future employees.

This survey is anonymous and no portion of it will be used in conjunction with reference to a specific company. Please contact me if you have any questions or would like to receive a copy of the results.

Sincerely,

Alex Birkholz
WITC - New Richmond
Phone (715) 246-6561

WITC-New Richmond
1019 South Knowles Ave.
New Richmond, WI 54017

715-246-6561
Fax: 715-246-2777
TTY: 715-468-7755
Toll Free: 1-800-243-WITC

Internet: www.witc.tec.wi.us

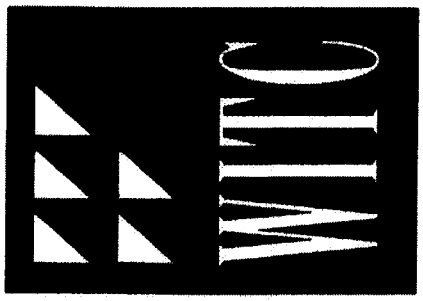
APPENDIX C

Wisconsin Indianhead
TECHNICAL COLLEGE

We need your help!

Wisconsin Indianhead Technical College needs your help in identifying the communication skills that our graduates need to be successful in the workplace. As an employer of our graduates, you are just the one to tell us. Please watch for the survey arriving in your mailbox soon. By completing it, you are helping us to train your future employees.

Thank you!



APPENDIX D

Frequencies

Statistics

		VERBAL1	VERBAL2	VERBAL3	NONVER1	WRITTEN1	WRITTEN2	WRITTEN3
N	Valid	16	16	16	16	16	16	16
	Missing	0	0	0	0	0	0	0

Statistics

		WRITTEN4	WRITTEN5	LISTEN1	LISTEN2	LISTEN3	INTER1	INTER2
N	Valid	16	16	16	16	16	16	16
	Missing	0	0	0	0	0	0	0

Statistics

		INTER3	INTER4	SMALL1	PRESENT1	PRESENT2	PRESENT3	RESEAR1
N	Valid	16	16	16	16	16	16	16
	Missing	0	0	0	0	0	0	0

Statistics

		RESEAR2	RESEAR3	RESEAR4	ELECT1	INFO1	OTHER1
N	Valid	16	16	16	16	16	0
	Missing	0	0	0	0	0	16

Statistics

		OTHER2	OTHER3
N	Valid	0	0
	Missing	16	16

Frequency Table

VERBAL1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat Important	1	6.3	6.3	6.3
	(I) Important	7	43.8	43.8	50.0
	(VI) Very Important	8	50.0	50.0	100.0
	Total	16	100.0	100.0	

VERBAL2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	2	12.5	12.5	12.5
	(SI) Somewhat important	10	62.5	62.5	75.0
	(I) Important	2	12.5	12.5	87.5
	(VI) Very important	2	12.5	12.5	100.0
	Total	16	100.0	100.0	

VERBAL3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	1	6.3	6.3	6.3
	(I) Important	10	62.5	62.5	68.8
	(VI) Very important	5	31.3	31.3	100.0
	Total	16	100.0	100.0	

NONVER1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	2	12.5	12.5	12.5
	(SI) Somewhat important	8	50.0	50.0	62.5
	(I) Important	3	18.8	18.8	81.3
	(VI) Very important	3	18.8	18.8	100.0
	Total	16	100.0	100.0	

WRITTEN1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	2	12.5	12.5	12.5
	(I) Important	8	50.0	50.0	62.5
	(VI) Very important	6	37.5	37.5	100.0
	Total	16	100.0	100.0	

WRITTEN2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	4	25.0	25.0	25.0
	(I) Important	8	50.0	50.0	75.0
	(VI) Very important	4	25.0	25.0	100.0
	Total	16	100.0	100.0	

WRITTEN3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	4	25.0	25.0	25.0
	(I) Important	8	50.0	50.0	75.0
	(VI) Very important	4	25.0	25.0	100.0
	Total	16	100.0	100.0	

WRITTEN4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	5	31.3	31.3	31.3
	(I) Important	9	56.3	56.3	87.5
	(VI) Very important	2	12.5	12.5	100.0
	Total	16	100.0	100.0	

WRITTEN5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	7	43.8	43.8	43.8
	(I) Important	8	50.0	50.0	93.8
	(VI) Very important	1	6.3	6.3	100.0
	Total	16	100.0	100.0	

LISTEN1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	1	6.3	6.3	6.3
	(I) Important	6	37.5	37.5	43.8
	(VI) Very important	9	56.3	56.3	100.0
	Total	16	100.0	100.0	

LISTEN2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	2	12.5	12.5	12.5
	(SI) Somewhat important	10	62.5	62.5	75.0
	(I) Important	3	18.8	18.8	93.8
	(VI) Very important	1	6.3	6.3	100.0
	Total	16	100.0	100.0	

LISTEN3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	5	31.3	31.3	31.3
	(I) Important	9	56.3	56.3	87.5
	(VI) Very important	2	12.5	12.5	100.0
	Total	16	100.0	100.0	

INTER1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	1	6.3	6.3	6.3
	(I) Important	7	43.8	43.8	50.0
	(VI) Very important	8	50.0	50.0	100.0
	Total	16	100.0	100.0	

INTER2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	2	12.5	12.5	12.5
	(I) Important	6	37.5	37.5	50.0
	(VI) Very important	8	50.0	50.0	100.0
	Total	16	100.0	100.0	

INTER3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	1	6.3	6.3	6.3
	(SI) Somewhat important	9	56.3	56.3	62.5
	(I) Important	3	18.8	18.8	81.3
	(VI) Very important	3	18.8	18.8	100.0
	Total	16	100.0	100.0	

INTER4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(I) Important	3	18.8	18.8	18.8
	(VI) Very important	13	81.3	81.3	100.0
	Total	16	100.0	100.0	

SMALL1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	1	6.3	6.3	6.3
	(SI) Somewhat important	4	25.0	25.0	31.3
	(I) Important	6	37.5	37.5	68.8
	(VI) Very important	5	31.3	31.3	100.0
	Total	16	100.0	100.0	

PRESENT1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	3	18.8	18.8	18.8
	(SI) Somewhat important	7	43.8	43.8	62.5
	(I) Important	5	31.3	31.3	93.8
	(VI) Very important	1	6.3	6.3	100.0
	Total	16	100.0	100.0	

PRESENT2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	8	50.0	50.0	50.0
	(I) Important	7	43.8	43.8	93.8
	(VI) Very important	1	6.3	6.3	100.0
	Total	16	100.0	100.0	

PRESENT3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	6	37.5	37.5	37.5
	(SI) Somewhat important	8	50.0	50.0	87.5
	(I) Important	2	12.5	12.5	100.0
	Total	16	100.0	100.0	

RESEAR1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	1	6.3	6.3	6.3
	(SI) Somewhat important	6	37.5	37.5	43.8
	(I) Important	6	37.5	37.5	81.3
	(VI) Very important	3	18.8	18.8	100.0
	Total	16	100.0	100.0	

RESEAR2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	6	37.5	37.5	37.5
	(I) Important	6	37.5	37.5	75.0
	(VI) Very important	4	25.0	25.0	100.0
	Total	16	100.0	100.0	

RESEAR3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	3	18.8	18.8	18.8
	(SI) Somewhat important	6	37.5	37.5	56.3
	(I) Important	4	25.0	25.0	81.3
	(VI) Very important	3	18.8	18.8	100.0
	Total	16	100.0	100.0	

RESEAR4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	9	56.3	56.3	56.3
	(I) Important	7	43.8	43.8	100.0
	Total	16	100.0	100.0	

ELECT1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(NI) Not important for successful job performance	3	18.8	18.8	18.8
	(SI) Somewhat important	8	50.0	50.0	68.8
	(I) Important	3	18.8	18.8	87.5
	(VI) Very important	2	12.5	12.5	100.0
	Total	16	100.0	100.0	

INFO1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	(SI) Somewhat important	6	37.5	37.5	37.5
	(I) Important	6	37.5	37.5	75.0
	(VI) Very important	4	25.0	25.0	100.0
	Total	16	100.0	100.0	

OTHER1

		Frequency	Percent
Missing	System	16	100.0

OTHER2

		Frequency	Percent
Missing	System	16	100.0

OTHER3

		Frequency	Percent
Missing	System	16	100.0

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VERBAL1	16	3	5	4.44	.63
VERBAL2	16	2	5	3.25	.86
VERBAL3	16	3	5	4.25	.58
NONVER1	16	2	5	3.44	.96
WRITTEN1	16	3	5	4.25	.68
WRITTEN2	16	3	5	4.00	.73
WRITTEN3	16	3	5	4.00	.73
WRITTEN4	16	3	5	3.81	.66
WRITTEN5	16	3	5	3.62	.62
LISTEN1	16	3	5	4.50	.63
LISTEN2	16	2	5	3.19	.75
LISTEN3	16	3	5	3.81	.66
INTER1	16	3	5	4.44	.63
INTER2	16	3	5	4.38	.72
INTER3	16	2	5	3.50	.89
INTER4	16	4	5	4.81	.40
SMALL1	16	2	5	3.94	.93
PRESENT1	16	2	5	3.25	.86
PRESENT2	16	3	5	3.56	.63
PRESENT3	16	2	4	2.75	.68
RESEAR1	16	2	5	3.69	.87
RESEAR2	16	3	6	3.87	.81
RESEAR3	16	2	5	3.44	1.03
RESEAR4	16	3	4	3.44	.51
ELECT1	16	2	5	3.25	.93
INFO1	16	3	5	3.88	.81
OTHER1	0				
OTHER2	0				
OTHER3	0				
Valid N (listwise)	0				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
VERBAL1	16	3	5	4.44	.63	.396
VERBAL3	16	3	5	4.25	.58	.333
VERBAL2	16	2	5	3.25	.86	.733
Valid N (listwise)	16					

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NONVERT	16	2	5	3.44	.96
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
WRITTEN1	16	3	5	4.25	.68
WRITTEN2	16	3	5	4.00	.73
WRITTEN3	16	3	5	4.00	.73
WRITTEN4	16	3	5	3.81	.66
WRITTEN5	16	3	5	3.62	.62
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LISTEN1	16	3	5	4.50	.63
LISTEN2	16	2	5	3.19	.75
LISTEN3	16	3	5	3.81	.66
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
INTER1	16	3	5	4.44	.53
INTER2	16	3	5	4.38	.72
INTER3	16	2	5	3.50	.89
INTER4	16	4	5	4.81	.40
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SMALL1	16	2	5	3.94	.93
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PRESENT1	16	2	5	3.25	.86
PRESENT2	16	3	5	3.56	.63
PRESENT3	16	2	4	2.75	.68
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
RESEAR1	16	2	5	3.69	.87
RESEAR2	16	3	5	3.87	.81
RESEAR3	16	2	6	3.44	1.03
RESEAR4	16	3	4	3.44	.51
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ELECT1	16	2	5	3.25	.93
Valid N (listwise)	16				

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
INFO1	16	3	5	3.88	.81
Valid N (listwise)	16				

Descriptives

Warnings

No statistics are computed because there are no valid cases.
This command is not executed.

APPENDIX E

Survey Comments

16 of 28 employers responding

Remove bias from vocabulary

The communication block (verbal, written, non-verbal, listening) is probably the cornerstone of success in any position. Its importance should be emphasized throughout the education process.

Communication as it relates to aspects of customer service. Whether the employee is talking or corresponding to internal or external customers, they need to promote the appearance of being professional. This takes time and care in what is produced. Documenting processes and process changes so that everyone in the company can understand the events that have taken place is critical to us.

I rated the items considering a machine operator. As an employee looks to move-up into a leadership position these items all become more important.

One-to-one instruction or instruction to 2 or 3
Ability to explain a process or demonstrate a skill using a documented process sheet.
Confidence in expressing oneself.

APPENDIX F

Information Resources

COURSE OUTCOME SUMMARY

Course Information

Title Information Resources

Course Number 10-890-112

Credits 2

Organization Wisconsin Indianhead Technical College

Developer(s) WITC Faculty

Development Date 8/16/2000

Instructional Level Associate Degree

Instructional Area General Studies

Division General Education

Types of Instruction

Instructional Type	Contact Hours	Outside Hours	Credits
Classroom Presentation	18		2
On Campus Laboratory and Clinicals	36		
Totals	**54**	**---**	**2**

Target Population Any WITC student

Description This course will allow the learner to develop skills in research, evaluations, selection, and preparation of information resources useful to their career area. Learners will use various information resources, including computer software applications to develop sound information research strategies. Learners will be exposed to ethical use of information, information provided by various methods and stored in various management formats, communicating by e-mail, developing search and selection of information resources, analysis, and use of results. This discussion- and lab-based course will use individual and group work to search and share information resources. Competencies learned in this course will be able to be applied in other courses within your program and will continue to be valuable in lifelong learning. You should have experience in keyboarding and basic computer skills for this course.

Textbooks

Supplies

Core Abilities and Indicators

- Act responsibly
  - learner takes responsibility for one's own learning
  - learner presents information that to the best of learner's knowledge is true
- Communicate clearly
  - learner uses language which matches level of audience
  - learner provides detail necessary to communicate idea to given audience
- Learn effectively
  - learner takes responsibility for his/her own learning
  - learner organizes information
  - learner accesses information from books, libraries, and other resources
- Think critically and creatively
  - learner applies problem-solving steps
  - learner acknowledges other points of view
  - learner makes decisions based on analysis
  - learner differentiates between facts and opinions
  - learner applies logical reasoning in solving problems or dealing with information
- Value self positively
  - learner takes responsibility for own behavior
- Work cooperatively
  - learner appreciates the diversity of values and cultural differences among people
  - learner shows respect for others through work and action
- Work productively
  - learner manages time and workload
  - learner carries out instructions and job requirements

Competencies and Performance Standards

UNIT

1. Use information ethically

Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--Medium

Linked Core Abilities

- Act responsibly
- Value self positively

Performance Standards

Your performance will besatisfactory when:

- learner cites sources following established guidelines

- ☐ analysis of case study includes copyright issues
- ☐ learner abides by the college Acceptable Internet Use Agreement

Your competence will be demonstrated:

- ☐ in documents produced
- ☐ using case studies provided by instructor
- ☐ during computer exercises

Learning Objectives

a. Know how and when to give credit to information and ideas gleaned from others
b. Cite sources in order to avoid plagiarism
c. Discuss concepts and issues relating to censorship and intellectual freedom
d. Understand the social/political issues affecting information, such as: privacy, access to government information, electronic access to information, etc.
e. Discuss the issues related to copyright laws
f. Discuss the issues related to free vs. fee-based access to information

2. Produce information

Domain–Cognitive *Level*–Application *Importance*–Essential *Difficulty*–High

Linked Core Abilities

- o Learn effectively
- o Think critically and creatively
- o Work productively

Performance Standards

Your performance will besatisfactory when:

- ☐ spreadsheet document is submitted to the instructor
- ☐ word processing document is submitted to the instructor
- ☐ database document is submitted to the instructor
- ☐ presentation document is submitted to the instructor

Your competence will be demonstrated:

- ☐ individually
- ☐ in a computer lab
- ☐ using checklist provided by instructor

Learning Objectives

a. Format documents
b. Edit documents
c. Save documents
d. Print documents
e. Understand basic file extensions
f. Use help features

3. **Manage information**
Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- o Learn effectively
- o Think critically and creatively
- o Work productively

Performance Standards

Your performance will besatisfactory when:

- ☐ information is stored correctly (floppy disk, hard drive, network)
- ☐ information is retrieved
- ☐ information is edited (cut, copy, paste)
- ☐ disk contains folders and files as indicated

Your competence will be demonstrated:

- ☐ individually
- ☐ in a computer lab
- ☐ using checklist provided by instructor

Learning Objectives

a. Save files to network drive
b. Back up files on floppy disk
c. Maintain traditional and electronic filing systems
d. Find saved files
e. Understand file names and extensions
f. Work with file menu features
g. Use help features

4. **Communicate electronically**
Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- o Communicate clearly
- o Learn effectively

Performance Standards

Your performance will besatisfactory when:

- ☐ learner participates in established chat sessions
- ☐ e-mail messages are correctly transmitted (with and without attachments)
- ☐ e-mail messages are received and acted on
- ☐ list of URLs of selected newsgroups visited is submitted to instructor

Your competence will be demonstrated:

- ☐ individually
- ☐ in established chat rooms

- ☐ in a computer lab
- ☐ using checklist provided by instructor

Learning Objectives

a. Manage e-mail attachments
b. Use e-mail addresses and address books
c. Manage e-mail messages
d. Discuss e-mail etiquette
e. Use chat room effectively
f. Discuss newsgroups
g. Explain meaning of URLs

5. Select information source

Domain--Cognitive *Level*--Analysis *Importance*--Important *Difficulty*--Medium

Linked Core Abilities

- o Learn effectively
- o Think critically and creatively
- o Work productively

Performance Standards

Your performance will besatisfactory when:

- ☐ list of information sources is submitted to instructor
- ☐ examples of information obtained from a variety of sources is submitted to instructor

Your competence will be demonstrated:

- ☐ individually
- ☐ in a computer lab
- ☐ using checklist provided by an instructor

Learning Objectives

a. Recognize the availability of a variety of sources
b. Recognize assistance available to access information resources
c. Identify types of information resources in a variety of formats (e.g., books or periodicals, print or electronic, primary or secondary)
d. Select types of information resources appropriate to a specific information need

6. Develop information search strategies

Domain--Cognitive *Level*--Analysis *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- o Think critically and creatively

Performance Standards

Your performance will besatisfactory when:

- ☐ learner submits chart containing appropriate search strategy for each topic

Your competence will be demonstrated:

- ☐ individually
- ☐ using a checklist provided by instructor

Learning Objectives

a. Recognize that different information sources and formats require different searching techniques
b. Select the search strategies appropriate to the topic and resource
c. Use search language appropriate to the search
d. Use local resources to locate information sources in the global information environment
e. Recognize that libraries have developed methods for locating and sharing resources
f. Discuss the validity of information sources

7. Search information resources

Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--Medium

Linked Core Abilities

- o Learn effectively
- o Work cooperatively
- o Work productively

Performance Standards

Your performance will besatisfactory when:

- ☐ examples of job searches are submitted to instructor
- ☐ examples of map searches are submitted to instructor
- ☐ examples of resources used are submitted to instructor

Your competence will be demonstrated:

- ☐ individually
- ☐ using checklist provided by instructor

Learning Objectives

a. Discuss job search sources
b. Examine URL addresses
c. Discuss map search sources
d. Discuss information resources
e. Locate specified URLs
f. Locate specified information
g. Assess effectiveness of search strategies
h. Refine search strategies

8. Analyze information resources

Domain--Cognitive *Level*--Analysis *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- o Think critically and creatively
- o Work cooperatively
- o Work productively

Performance Standards

Your performance will besatisfactory when:

- ☐ examples of resources are submitted to instructor
- ☐ list contains analysis of each example

Your competence will be demonstrated:

- ☐ using checklist provided by instructor

Learning Objectives

a. Establish criteria for evaluating sources
b. Use a variety of criteria to assess the authority of the source
c. Assess the relevancy of the source
d. Assess the comprehensiveness of the topic
e. Assess the accuracy of the source
f. Assess the currency of the source

9. Use information

Domain--Cognitive *Level*--Synthesis *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- o Act responsibly
- o Communicate clearly

Performance Standards

Your performance will besatisfactory when:

- ☐ report is submitted to instructor
- ☐ presentation is made to class/instructor

Your competence will be demonstrated:

- ☐ individually
- ☐ using a checklist provided by the instructor

Learning Objectives

a. Explain the use of search information in written reports
b. Discuss the use of search information in public presentations
c. Organize information in a logical manner
d. Write an outline of information gathered
e. Create visual aids from information gathered
f. Create a presentation using information gathered

APPENDIX G

Workplace Reality

COURSE OUTCOME SUMMARY

Course Information

Title Workplace Reality

Alternate Title Workplace Reality-The Challenges and Promises Ahea

Course Number 809-170

Credits 3

Organization WITC

Developer(s) WITC Faculty

Development Date 6/27/2000

Instructional Level Associate Degree

Instructional Area General Studies

Division General Education

Types of Instruction

Instructional Type	Contact Hours	Outside Hours	Credits
Classroom Presentation	54		3
Totals	**54**	—	**3**

Description This course prepares the learner to enter the contemporary workplace with a variety of skills needed in today's rapidly changing world of work. This course will explore management styles, leadership styles, organizational structures of the new century, functions of Fortune 500-level company departments, systems and constraint theory, employee responsibilities, issues of globilization, diversity and reward systems in the workplace, total quality management and continuous improvement models, and ethics in the workplace. Interpersonal skill building will be a focus throughout with hands-on practical experiences and exercises designed to reinforce learning. Competencies learned in this course will be applicable to other WITC courses, and provide the launchpad for lifelong learning.

Textbooks

Supplies

Core Abilities and Indicators

- Act responsibly
  - learner takes responsibility for one's own learning
  - learner applies principles of effective citizenship
- Communicate clearly
  - learner applies listening skills to communication
- Learn effectively
  - learner takes responsibility for his/her own learning
  - learner follows instructions
  - learner uses productive study skills
  - learner organizes information
  - learner asks questions
- Think critically and creatively
  - learner applies problem-solving steps
  - learner acknowledges other points of view
  - learner makes decisions based on analysis
- Value self positively
  - learner applies stress management skills
  - learner takes responsibility for own behavior
- Work cooperatively
  - learner applies conflict management skills
  - learner gives and accepts constructive criticism
- Work productively
  - learner manages time and workload
  - learner demonstrates dependability, accuracy, initiative
  - learner articulates the values and norms of the work culture

Competencies and Performance Standards

UNIT

1. **Describe three management and leadership styles in terms of positives and negatives**
   Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--Medium

   #### Linked Core Abilities

   - Think critically and creatively
   - Work cooperatively

   #### Performance Standards

   Your performance will be satisfactory when:

- learner correctly distinguishes specific management styles
- learner correctly distinguishes specific leadership styles

Your competence will be demonstrated:

- working individually
- using a case study

Learning Objectives

a. Describe authoritarian management.
b. Describe democratic management.
c. Describe laissez-faire management.
d. Discuss learning organizations as described by Peter Senge.
e. Explain an organization's structure using an organizational chart.
f. Discuss the role of supervision of various management styles.
g. Give examples of conflict resolutions strategies used by various management styles.

2. Describe organizational structures of the 21st century

Domain--Cognitive *Level*--Application *Importance*--Important *Difficulty*--Medium

Linked Core Abilities

- Act responsibly
- Work productively

Performance Standards

Your performance will be satisfactory when:

- Report includes an analysis of three departments within a large company

Your competence will be demonstrated:

- working individually
- on a written report

Learning Objectives

a. Describe the functions of the "central office" or administrative staff.
b. Describe the comptroller or business office functions.
c. Describe the functions of the human resources department.
d. Describe the functions of the "production" department.
e. List other types of departments found in various businesses and industries.
f. Explain the purpose of a mission statement.

3. Explain functions of key departments in three Fortune 500 companies

Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- Communicate clearly
- Value self positively

Performance Standards

Your performance will be satisfactory when:

- ☐ learner presents analysis of key departments to peers

Your competence will be demonstrated:

- ☐ working individually
- ☐ using presentation guidelines provided by instructor

Learning Objectives

a. Describe the use and purpose of organizational charts.
b. Explain the relationships between departments in a case study.
c. Discuss functions within departments in a case study.

4. Explain manufacturing systems theory

Domain–Cognitive *Level*–Application *Importance*–Essential *Difficulty*–Medium

Linked Core Abilities

- o Communicate clearly
- o Learn effectively

Performance Standards

Your performance will be satisfactory when:

- ☐ learner diagrams an example of systems theory in the workplace.

Your competence will be demonstrated:

- ☐ working in small groups
- ☐ in class using a case studies

Learning Objectives

a. Define systems theory.
b. Give examples of various components of a system.
c. Apply systems theory to everyday examples.
d. Explain the impact of change on a system.

5. Describe key employee responsibilities

Domain–Cognitive *Level*–Application *Importance*–Important *Difficulty*–Medium

Linked Core Abilities

- o Learn effectively
- o Value self positively

Performance Standards

Your performance will be satisfactory when:

- ☐ learner describes appropriate course of action given specific examples of workplace issues

Your competence will be demonstrated:

- ☐ using case studies
- ☐ in a group exercise

Learning Objectives

a. Discuss selected employment laws.
b. Describe an effective contract.
c. Discuss Labor Authority.
d. Describe an effective training or staff development department.
e. Explain selected OSHA rules and regulations.
f. Give examples of EPA regulations pertaining to selected businesses.

6. Explain quality improvement concepts

Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- Communicate clearly
- Learn effectively

Performance Standards

Your performance will besatisfactory when:

- learner diagrams Plan-Do-Check-Act cycle
- learner successfully completes group problem-solving exercise

Your competence will be demonstrated:

- in a classroom exercise
- working with a group

Learning Objectives

a. Describe the Plan - Do - Check - Act cycle of continuous improvement.
b. Describe the value of teamwork.
c. Describe customer feedback mechanisms.
d. List a variety of improvements made in a business.
e. Apply Plan - Do - Check - Act is case studies.

7. Discuss effective employee/employer relationships in the workplace

Domain--Cognitive *Level*--Application *Importance*--Essential *Difficulty*--High

Linked Core Abilities

- Communicate clearly
- Think critically and creatively

Performance Standards

Your performance will be satisfactory when:

- learner

Your competence will be demonstrated:

Learning Objectives

a. Explain the need for job descriptions.
b. Describe an effective employee appraisal system.

c. Discuss benefit packages.