THE RECRUITMENT AND ASSESSMENT PROCESS IMPLELMENTED BY WORKFORCE RESOURCE, INC.

by

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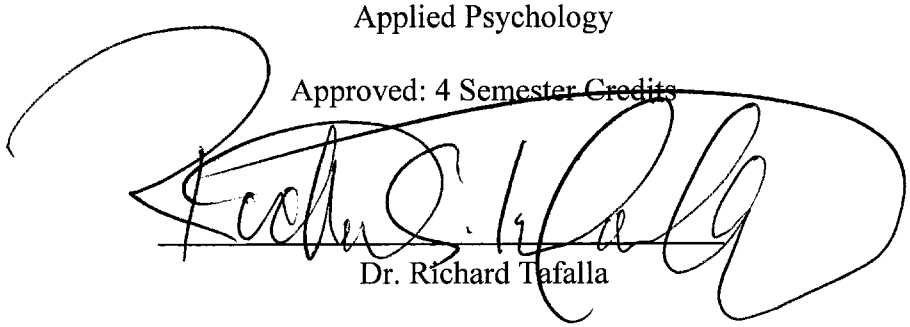

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ABSTRACT

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The purpose of this research was to determine the efficacy of the tools employed by Workforce Resource, Inc. to assist Andersen Corporation's Menomonie facility in the hiring of their production associates. Workforce Resource, Inc., assists Company's in the St. Croix and Chippewa Valley's with their recruitment and assessment needs. Andersen Corporation contracted with Workforce Resource Inc., to under take the assessment of applicants for their production associate positions. The recruitment announcement specifically requested applicants to include in their application materials information such as work history, education, flexibility, and team experience. The announcement also requested that applicants apply with a cover letter and one page resume and they submit their materials to the Dunn County Job Center. This study analyzed and reviewed the data from tools used to assess the applicant's success in progressing in the hiring process. Applicants who met the minimal expected criteria were referred for an assessment of their math, language, finger and manual dexterity skills. Statistical reports are also

provided examining the math and language levels for the available manufacturing/industrial labor pool in West Central Wisconsin. Results of the study show that for applicants to be referred on for an interview they needed to score highly across all of the variables. This research also suggested that applicants who made an effort to upgrade their math skills had a much higher success rate in the hiring process.

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CHAPTER ONE

STATEMENT OF THE PROBLEM

The purpose of this research was to examine and determine the efficacy of the recruitment and assessment criteria used in making hiring decisions for Andersen Corporation's Menomonie facility. Several measures are used in the hiring process, and this study was done to determine which of these were the best predictors of hiring. This research provides insight into the basic skill levels related to math and language aptitudes of the available manufacturing/industrial labor pool in West Central Wisconsin.

Andersen Corporation is a worldwide market leader in the wood window and patio door industry. Andersen Corporation's Menomonie Facility is a 212,000 square feet assembly facility that manufactures custom windows. Andersen Corporation is committed to its employees and staying at the top of its business. They believe in hiring talented individuals and providing them with challenges. They are dedicated to giving back to the community and encourage their employees to be very community minded. Employees rotate their positions/work centers and teams every two hours. During one two hour rotation, employees may be assembling a window, the subsequent rotation they may be reading blueprints and changing the specification in the computer to manufacture the windows.

Andersen Corporation chose Menomonie, Wisconsin because of its close proximity to the Twin Cities, access to rail, interstate highway and a regional airport. Menomonie also has a manufacturing company who is a major producer of flat plate glass required by Andersen Corporation.

Application and assessment criteria was collected for 1,344 applicants for the position of Production Associate between April and September 2000. The assessment criteria was determined jointly between the Investigator and Ms. Julie DuBoise the Human Resource Generalist for Andersen Corporation.

Statistical reports were generated for each of the selection criteria, detailing the percent of applicants meeting minimal expectations. Relationships between variables were examined to determine if any significant correlation existed between applicants hired and selection criteria. Examples of interest were, applicants who were hired did they score the highest in math and language skills. In addition, did any of the other collected variables show a correlation to hiring such as education or ability.

Data were also collected for a number of applicants referred to Andersen Corporation for interviews following initial selection procedures by Workforce Resource, individuals actually interviewed and hired following the selection procedures.

In addition, the investigator will analyze the relationship between the selection criteria used and it's effectiveness in the hiring process.

With this information both Workforce Resource and Andersen Corporation will recognize areas in the assessment and hiring process that are effective and areas that may need further modification in order to increase the effectiveness of their assessment and hiring process. This research will provide Workforce Resource, Secondary and Post Secondary institutions, with an understanding of the basic math and language aptitudes of the present labor pool, and ultimately could be used by teaching institutions in making the necessary changes in curricula to enhance the math/language skills of the present and future labor pools in West Central Wisconsin.

CHAPTER TWO

INTRODUCTION

In the spring of 1999, Andersen Corporation made the decision to locate an assembly facility in Menomonie, Wisconsin. Not being familiar with the labor pool in the Chippewa Valley Andersen Corporation approached this investigator from Workforce Resource at the Dunn County Job Center for assistance with the recruitment and selection process of their applicants.

Andersen Corporation's main interest was to attract and hire a quality workforce, during a period of a labor shortage and to hire these individuals with in a six-month period of time. This investigator in cooperation with Ms. Julie DuBoise, Human Resource Generalist for Andersen Corporation, analyzed the production associate position and determine the necessary qualifications required to perform the tasks of the position. The decision was made to assess applicants based on a number of variables relating to the ability to communicate coherently, follow directions, math and language aptitude and good manual and finger dexterity. Prior to the interview process a number of specific tools were identified that were thought would adequately assess applicants and then allow for selection of individuals that would be interviewed for the production associate position. The initial steps of the process reviewed the submitted cover letter and resume of an applicant for communication skills, ability to follow directions, education

level, work history and community involvement. Individuals who met the criteria were then referred for an assessment of math, language, manual and finger dexterity skill. The tool used to evaluate applicant's aptitude was the APTICOM test.

This paper researched three areas, the importance of employee's basic skills, use of pre-employment assessments to confirm these skills and the recruitment and selection of a quality workforce. Studies have shown that pre-employment assessments are one of the most successful tools to predict job applicant's probable job performance. Basic skills are critical for perspective employees to possess to aid their employers need to be competitive in today's ever changing markets. A quality workforce is vital for companies to develop and succeed. Therefore, having an appreciation of the process of recruitment and selection for a quality workforce is essential. The issues researched were all crucial in the development of the recruitment and assessment process implemented by Workforce Resource Inc., for Andersen Corporations workforce needs.

Recruitment and Selection of a Quality Workforce

Building a company and hiring a new workforce can be very challenging, especially when the need is to hire several hundred people over a five-month period. With an average unemployment rate of 3.0%, building a workforce in the Chippewa Valley is a great challenge (Gerhke, 2000).

To optimize the available workforce pool during the recruitment process, it is pertinent to use as many resources as possible to draw a quality workforce. To accomplish this the use of various sources such as existing employees, newspaper advertisements, the Internet, press releases, and broadcast media are often engaged (Canadian Manager, 1998). There is a draw back to utilizing such an assortment of resources, applicants are attracted that may not have the skills necessary for the position, thus make the selection process difficult and challenging

According to Griffin (2000), when recruiting and selecting a quality workforce, a new employer in the community must ensure that the long-term vision and potential profitability of the company is shared with the community. An employer with a positive public image will find recruitment efforts are greatly enhanced and as a result more and better-qualified applicants will seek employment with that employer (Mondy & Noe, 1996). In addition, a report from Business West pertaining to a Lucas Group study indicates that in the recruitment and selection of applicants in the current tight labor market, it is key to act quickly when making an offer of employment to quality, competent candidates (Business West, 2000).

Quality employees are key for a company to grow, manufacture a quality product, and remain stable in the market (Griffin, 2000). The knowledge, skills and abilities of your employees are crucial and will contribute to the growth and

prosperity of the company (Pollack, 2000). In the selection process of a new employee is it important to determine the most desirable skills for the future workforce? According to a study conducted by the American Society for Training and Development in conjunction with the US Department of Labor, there are specific skills an employer is looking for when recruiting and selecting quality employees. These skills include: applicants who portray an interest in learning; demonstrate good communication skills; have the ability to problem solve; portray a high self-esteem; show motivation, and understand the importance of teamwork (Clark, 1996).

Pre-employment Assessments

For a company to obtain a competitive edge in the market place today, pre-employment assessment is essential. Advantages to pre-employment assessments are increased productivity, job satisfaction, effective communication and a reduction in turnover (Myers, 1998).

The use of pre-employment assessments as a tool for analyzing the strengths and weaknesses of the job applicant will aid the employer in identifying individuals for the provision of a quality workforce. When an employer hires an applicant who meets the assessment criteria that the employer is seeking for a quality employee, the employer will find that the employee will quickly fit in and they become highly productive and profitable for the company. Research

confirms that individuals who were top performers on assessments proved to be top producers (Walsh, 1999).

Testing is key in a tight labor market. Boeing, Seattle's aircraft maker, extensively and successfully uses pre-employment testing for their assembly workers. Integral parts of the assessment include work aptitude, which includes math, verbal and spatial aspects. Boeing views pre-employment assessment as critical in the recruitment process, to prevent the old nepotistic adage of "Your father worked here so you can have a job here to," (Nicholson, 2000).

According to Waln (1999), research has proven that testing of applicants increases the likelihood of hiring successful candidates who will increase company profitability through the quality of their work and conscientiousness of their work ethic. The US military and private business has successfully used ability assessments for many years. These assessments measure general intelligence such as basic language and math skills that are identifiers in how well a person can solve problems (Waln, 1999). According to Mercer (1994), one of the main reasons to evaluate applicants is to predict their aptitude in reference to problem solving. Aptitude assessments accurately evaluate math, vocabulary, grammar and the ability to deal with detail (Anfuso, 1995).

Companies who manufacture products find that when they use technology such as computers on their assembly systems it is critical to perform pre-employment testing. One study found that large portions of companies, 95%, use

pre-employment testing in their selection criteria (Smith, 1994). According to a more recent study conducted by Corporate University Review, the American Management Association discovered that seven out of 10 companies conduct pre-employment assessments (Greenberg, 1999).

Aptitude assessments are one of the most successful predictors of an employee's potential job performance. Research shows that applicants who perform poorly on pre-employment assessments will perform poorly on the job (Switchenberg, 1999).

The APTICOM which is the aptitude assessment tool used by Workforce Resource to assess Andersen Corporation applicants is validated against the U.S. Department of Labor's General Aptitude Test Battery (APTICOM, 2000). A study by industrial psychologists John Hunter and Frank Schmidt shows that the General Aptitude Test Battery effectively predicts job performance, as measured by job evaluations and supervisors ratings. The National Research Council performed approximately 100 studies that found the General Aptitude Test Battery to be equally predictive for whites and minorities, therefore preventing any discrimination in the testing process (D'Souza, 1995).

Assessment of Applicant Basic Skill

The employer's competitive edge in this global economy is its employee's basic skill level such as reading, writing, computing and solving basic math problems (Hays, 1999).

According to Greenberg (1999), employees in the workplace today need a higher basic skill level because o f new and changing technology.

A 1996 study conducted by the American Management Association revealed that 36% of job applicant's nationwide lack the basic reading and math skills needed to do their job, this is an increase from 19% in 1996 and a result of the technological advances in the workplace. Reports indicate that because of the labor shortage employers especially manufacturing based employers have had to test a greater number of applicants to find qualified employees. As a result some employers will hire skill-deficient applicants and remediate their skills (Greenberg, 1999). A study by Smith, cites that 90% of companies won't hire applicants who are basic skills deficient. However, many will retest at a later date if the applicant has made an effort to enhance that skill (Smith, 1994). Employers need employees who have the ability to read, write and perform computation to meet the competitive demands of today's market place (Clark, 1996).

A survey conducted by the Manufacturing Institute's Center for Workforce Success, reports that inadequate basic skills in employees have prevented one in five manufactures from expanding (Hays, 1999). According to a report written in the National Association of Manufactures, to be competitive in today's global market employees need the basic skills to keep up with the technological changes. This report also found that 75 % of applicants are

considered unqualified by more than one quarter of the companies hiring. These companies are declining these applicants based on inadequate skills in one or more of the following basic skill areas: reading, writing, communication and/or math (National Association of Manufactures, 2000). In a study conducted by Hays, 1999, it was stated that an estimated 10 percent of Americans couldn't read or write. Once these individuals enter the workforce it is difficult to identify them because of their fear of admitting to their employer and/or family that they lack these skills (Hays, 1999).

A study conducted by the National Institute for Literacy, employees who lack the basic skills required for the job result in a $60 billion loss in productivity for American companies each year. Reasons for this may include high-tech assembly lines which may have complicated directions, employees who do not understand shipping instructions or do not understand warning signs therefore resulting in workplace accidents or damage to equipment. In order for companies to remain competitive in today's global economy they demand the labor pool from which they hire be well educated (Hays, 1999).

Georgia-Pacific is an example of a company who realized the importance of basic skills literacy in the workplace to remain competitive. They worked with representatives from the local technical college to develop an assessment tool targeting the reading and math skills of both their employees and applicants. Applicants whose scores were low were given the opportunity to attend training to

improve their basic skill level. Increases in basic skill levels were noted following training. As a result, Georgia-Pacific has made it a requirement that all individuals who apply to their company complete a basic skills course at a local community college before applications are accepted and considered (Davis, 1997).

According to Parnell (1991), a large percentage of high school graduates lack basic skills. The U.S. Department of Labor stated that teachers must effectively teach these skills so that qualified workers have technical and basic skills for success in today's workforce. It is imperative that teachers are educated on the importance of basic skills in the workplace. Once teachers comprehend the importance they can prepare their students to learn and understand how these skills are applied in the work setting (Echternacht & Wen, 1997).

Most companies who manufacture products feel that a partnership between business and education are a key process in the development of an entry-level workforce. The National Association of Manufactures has made a dire warning that if we do not train, prepare and develop young people prior to entering the workforce, our competitive edge will be lost to other countries (National Association of Manufactures, 2000).

Literature Summary

Employers have found that notifying the community through the use of media of their immediate need to hire personnel proved to be successful.

Employers with a positive image are able to draw from a larger pool of perspective employees because of this positive image.

The use of pre-employment testing as a tool in assessing applicants for perspective employment is key to the success of developing a quality workforce. And more specifically, assessment of basic math and language skills will assist in determining the future productivity of the employee. Companies who use pre-employment testing along with other assessment tool in the hiring process will reap the benefits of a quality workforce therefore increasing profitability.

Evidence supported that the most pertinent basic skill for an employee to possess is reading, writing, math and communication. One of the reasons for pre-employment tests is to evaluate the competency of applicants in the basic skill areas. These skills are necessary to adjust to the continual technological changes that occur within a company. A workforce that possess these skills will more quickly and skillfully adapt to change, therefore increasing the profitability of the company.

Evidence suggests that there is a weakness in the educational system in teaching the importance of basic skill as related to the workplace. The basic skills that have shown to be the weakest are math, language and communication. These are all essential in the workplace for successful problem solving and critical thinking. It is a known fact that a minimum of 10 percent of Americans cannot read or write, therefore reducing the available literate workforce to employers. It

is important for educators and employers to form a partnership. This partnership will aid the educational community to fulfill the needs of employers regarding the basic skills necessary for their potential workforce.

This study examined the variables used to assess Andersen Corporation applicants and determine which variables were the most effective predictors of hiring in the hiring process.

CHAPTER THREE

METHODOLOGY

Participants

Subjects for this study consisted of individuals from the Chippewa Valley and the surrounding area who applied for advertised Production Associate positions with Andersen Corporations, Menomonie, WI. facility. The number of individuals responding to the advertisement placed by Andersen Corporation through September of 2000 were 1,344. Data regarding race, gender and age of the subjects was not available. From this pool of laborers, 254 did not satisfy the initial requirements established by the investigator and Andersen Corporation. The initial screening removed from the potential pool of laborers those that did not meet the minimum level of a score of 12 out of a possible score of 20 on the initial assessment tool. In addition, another 140 participants had scores ranging above 12, but when called to be scheduled for assessment either did not show or declined to proceed with the application process.

Instrument

There were two instruments used in the assessment process. The first instrument was the application assessment criteria used to evaluate and assess applicant's submitted application materials. The second instrument was the

APTICOM a computerized assessment of vocational aptitudes and educational skill development.

Application Assessment Criteria

The application assessment criteria instrument included five specific variables. These variables included communication skills, ability to follow directions, education level, work history and community involvement. Each variable was evaluated individually and the following numerical rating scale was used. A rating of (2) if the applicant definitely met the criteria, a rating of (1) if the applicant somewhat met the criteria and a rating of (0) if the applicant did not meet the criteria. To assess communication skill these ratings were assigned to the cover letter based on how well it was written and if it conveyed clear concepts. The second section related to the ability to follow directions, including if the applicant submit a cover letter and one page resume, was it submitted to the Job Center, and did it include all information requested by Andersen Corporation in the advertisement. The third section included education. Did the applicant indicate he/she had a high school diploma, a high school equivalency diploma (HSED) or a general equivalency diploma (GED)? The fourth section was work history, did the applicant show stability in their work history and was their work history relevant to manufacturing. The last criteria examined was whether or not the applicant conveyed any level of community involvement. A complete copy of the instrument is attached see Appendix A.

APTICOM

The APTICOM was an instrument developed and validated by the Vocational Research Institute, a division of the Jewish Employment and Vocational Service, Philadelphia, Pennsylvania. The specific sections of the APTICOM that were used to assess Andersen Corporation applicants were finger dexterity, manual dexterity, math and language skills Appendix B.

Andersen Corporation required a level 2 math aptitude for the production associate position. Level 2 is equivalent to a grade level of 4-6. Applicants are given a total of 15 minutes to complete level 1 through 4 of the math. A level 1 is met when an applicant being assessed answers 5 correct questions out of 7 questions. Level 1 is equal to a grade level of 1-3. Level 1 measures ability to add and subtract two digit numbers. Multiply and divide 10's and 100's by 2, 3, 4, and 5. Perform the four basic arithmetic operations with coins as part of a dollar. Perform operations with units such as cup, pint and quart; inch, foot, yard; and ounce and pound. A level 2 is met when an applicant being assessed answers 5 correct questions out of the 7 questions. Level 2 of math is equal to grade level of 4-6. Level 2 measures the ability to add, subtract, multiply and divide all units of measure. Perform the four operations with like common and decimal fractions. Compute ratio, rate and percent. Draw and interpret bar graphs. Perform arithmetic operations involving all American monetary units. Some of the applicants also met a level 3 of math this is equal to 7-8 grade. A level 3 is met

when applicants being assessed answers 6 correct questions out of 8 questions. Level 3 required applicants to compute discount, interest, profit and loss; commission, markup and selling price; ratio and proportion and percentage. Calculate surface, volumes, weights and measures; algebra and geometry. Refer to Appendix C for math skill development instructions, Appendix D for example of score cut-off for mastery of skill level and Appendix E for an analysis of the results by topic area.

Andersen Corporation required a level 3-language aptitude for the production associate position. A level 1 is met when an applicant being assessed answers 5 correct questions out of 7 questions. A level 1 is equal to a grade level of 1-3. A level 2 is met when an applicant being assessed answers 5 correct questions out of 7 questions. A level 2 is equal to a grade level of 4-6. A level 3 is met when an applicant being assessed answers 6 correct questions out of 8 questions. A level 3 is equal to a grade level of 7-8. A level 4 is met when an applicant being assessed answers 6 correct questions out of 8 questions. A level 4 is equal to a grade level of 9-12. Applicants are given a total of 10 minutes to complete the language aptitude assessment. A level 1 assesses the ability to recognize meanings of two or three syllable words. Compare similarities and differences between words and series of numbers. Print simple sentences containing subject, verb, object and series of numbers, names and addresses. These individuals have the ability to speak simple sentences using normal word

order and present and past tense. A level 2 is equal to 4-6 grade level. Level 2 assesses the ability to use passive vocabulary, look up unfamiliar words in a dictionary for meaning, spelling and pronunciation. Read instructions for assembling an item. Write compound and complex sentences, using cursive style, proper end punctuation and employing adjectives and adverbs. And the ability to speak using pauses, emphasis, correct pronunciation, variations in word order, using present and future tense. A level 3 of language skills is equal to 7-8 grade level. Level 3 assesses the ability to read novels, atlases and encyclopedias. Read safety rules, instructions in the use and maintenance of tools and equipment, methods and procedures in mechanical drawings and layout work. These individuals have the ability to write reports with proper format, punctuation, spelling, grammar and using all parts of speech. They also have the ability to use correct English when speaking. For language skill development instructions see Appendix F, for example of score cut-off for mastery of skill level see Appendix D and for an analysis of the results by topic area see Appendix E.

A score of at least 5 correct out of the 7 questions related to level 1 meant the applicant had mastered level 1 or grade level 1-3. A score of at least 5 correct out of the 7 questions related to level 2 meant the applicant had mastered level 2 or grade level 4-6. A score of at least 6 correct out of the 8 questions related to level 3, which meant the applicant, mastered level 3 or 7-8 grade level.

Andersen Corporation required a minimum finger dexterity score of 80 percent for the production associate position. Participants were given 2 minutes to work with the finger dexterity module. The dexterity module required repetition beginning on the left side of the board, putting a spacer on a rivet and moving them to a hole as fast as they can, then going to the right side of the board and putting the spacer on the rivet and moving them to the hold as fast as they can. Then going back to the left side and disassembling the pieces and putting them back in their original spots and the same with the right side. They continued this process for 2 minutes, see Appendix G for finger dexterity assessment instructions, see Appendix H for example of finger dexterity module.

Andersen Corporation required a minimum manual dexterity score of 80 percent for the production associate position. Participants were given 2 minutes to work with the manual dexterity module. The dexterity module required repetition, turning the middle peg over with your dominate hand then moving the pegs from the upper to the lower part of the board at the same time. Then going back to the middle peg turning it and moving the pegs from the bottom to the upper part of the board. They continued this process for 2 minutes, see Appendix I for manual dexterity assessment instructions and Appendix H for an example of the module.

Procedure

During the month of April and May, 2000 Andersen Corporation placed a want ad in area newspapers and on Wisconsin's Job Net see Appendix J. The advertisement stated the type of position available, what the qualifications were for the position and how to apply. Once the application was submitted the staff of Workforce Resource reviewed the application material based on the criteria outline in instrument one Appendix A. The highest total score for all variables used in Instrument one was 20. Individuals with scores of 12 or higher were referred on for assessment of manual, finger, math and language skills. Applicants were assessed in groups of five. The skills assessment took approximately one hour, and Workforce Resource staff then interpreted the results. For instrument two, the minimum score required of individuals in the four criteria/variables assessed were as follows: Finger and manual dexterity = 80 percent or more; Math = GED level 2, equivalent to fourth to sixth grade school level; Language = GED level 3, equivalent to seventh to eight grade school level Appendix K. Applicants who met the minimum criteria were then referred on to Andersen Corporation to be considered for an interview. Those who did not meet the minimum criteria in math and language were allowed to be retested following a referral to their local technical college for remediation in that skill area. Once they remediated the skill area they were told they could contact Workforce

Resource to be scheduled for a reassessment in the area in which they did not meet a minimum standard, individuals were given three opportunities to reassess.

CHAPTER FOUR

RESULTS

Tables 1 through 12 contain the results from the assessment tools employed in instrument one. These were communication skills, ability to clearly follow directions and convey concise ideas, education level, relevant work history, stability of work history and finally community involvement. As a result of analysis of the tools employed in instrument one, 82% of the applicants were allowed to participate in the second round of screenings related to finger and manual dexterity, math and language aptitudes.

Ability to Follow Directions

Tables 1 through 3 measure the ability of applicants to follow directions. The advertisement in local newspapers and the job order on Wisconsin's JobNet specifically requested the following: a cover letter, one page resume and that the materials be submitted to the Dunn County Job Center. It also indicated that the production associate must have a willingness to learn multiple tasks (positions), have a team-focused attitude and ability to think independently. Table 1 and 2 reports that approximately 90% of the applicants provided a cover letter and one page resume and submitted it to the Job Center as directed.

Table 1

Frequency of those meeting the criteria of Cover Letter/Resume

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	9	9.0
	Somewhat Meets Criteria	7	.6
	Definitely Meets Criteria	993	90.4
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Table 2

Frequency of those meeting the criteria of Submitting materials to the Job Center

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	70	6.4
	Definitely Meets Criteria	1,029	93.5
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Table 3 reports that only 33% of the applicants provided all the information requested such as reference to a team-focused attitude and willingness to learn multiple tasks/positions. As a result many applicants failed to garner all of the points available to them by not providing all of the requested information in their cover letter and resume.

Table 3

Frequency of those meeting the criteria of All Information Included

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	129	11.7
	Somewhat Meets Criteria+0	610	55.5
	Definitely Meets Criteria	360	32.8
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Cover Letter Criteria

Table 4 and 5 report the measured results of the criteria regarding the number of errors related to grammar, spelling, whether the cover letter was typed or whether it conveyed clear concepts. In the qualification section of the advertisement, it was stated that a cover letter and good communication skills were required for the position. Table 4 shows that only 39% of the applicants met all of the requirements for the cover letter.

Table 4

Frequency of those meeting the criteria of Cover Letter Rating

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	245	22.3
	Somewhat Meets Criteria	431	39.2
	Definitely Meets Criteria	423	38.5
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Table 5 shows that 63% of the applicants conveyed clear concepts within the cover letter. It appeared that the cover letter rating criteria were somewhat more discriminating amongst applicants on whether they would be referred on to the next level of the application process.

Table 5

Frequency of those meeting the criteria of Conveys Clear Concepts

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	121	11.0
	Somewhat Meets Criteria	282	25.7
	Definitely Meets Criteria	696	63.3
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Education Criteria

The next criteria used in evaluation of applicants related to education level. Table 6 and 7 measures education level of the labor pool and distinguishes between high school and post secondary educated applicants. A required qualification of the production associate position is that the participant have a High School diploma or equivalent (High School Equivalency diploma-HSED or a General Education Diploma-GED. Table 6 reports 85% of the applicants met this qualification and among the available applying labor pool in the Chippewa Valley only approximately 12% had a post secondary education, and another 38% had some training program or equivalent that would relate to education beyond the High School degree.

Table 6

Frequency of those meeting the criteria of High School Diploma, HSED, GED

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	139	12.6
	Somewhat Meets Criteria	26	2.4
	Definitely Meets Criteria	934	85.0
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Table 7

Frequency of those meeting the criteria of Post-Secondary Education

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	551	50.1
	Somewhat Meets Criteria	422	38.4
	Definitely Meets Criteria	126	11.5
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Work History

Work history appears to have able been very valuable tool in distinguishing viable applicants for the production associate position. Table 8 reports stability of work history.

Table 8

Frequency of those meeting the criteria of Stability (Length Employed) 2-3 years

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	163	14.8
	Somewhat Meets Criteria	48	4.4
	Definitely Meets Criteria	888	80.8
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Table 9 shows that slightly less than 45% of the applicants had any relevant work experience. Andersen Corporation considered applicant who had a manufacturing background to have relevant work experience. Thus this variable proved to be a valuable discriminating tool amongst applicants.

Table 9

Frequency of those meeting the criteria of Relevant Experience

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	348	31.7
	Somewhat Meets Criteria	262	23.8
	Definitely Meets Criteria	489	44.5
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Community Involvement

Andersen Corporation portrays and values a strong philosophy regarding the community service amongst its employees. Andersen Corporation had specified that this variable be considered when assessing application materials. Table 10 reports community involvement, surprisingly, only approximately 16% of the applicants expressed some level of involvement in their community and thus it appears to be another highly distinguishing variable among applicants.

Table 10

Frequency of those meeting the criteria of Community Involvement

		Frequency	Valid Percent
Valid	Does Not Meet Criteria	919	83.6
	Somewhat Meets Criteria	75	6.8
	Definitely Meets Criteria	105	9.6
	Total	1,099	100.0
Missing	System	245	
Total		1,344	

Total Qualification Score and Percent Referred for Assessment Met

As previously mentioned, a total score for this portion of the assessment process was calculated by the establishment of a point system. Each variable had the potential for providing the applicant with 2 points if he/she definitely met the requirement, 1 point if the applicant only somewhat and 0 points if the applicant did not meet the criteria. Table 11 shows the average score of all applicants following the testing provided in instrument one. Of 1,099 individuals assessed, the mean score was approximately 13 out of 20 with a standard deviation of 4.1 points.

Table 11

Average Total Qualification Scores for Referral for Assessment

	N	Minimum	Maximum	Mean	Std. Deviation
Total Assessment	1,099	.00	20.00	12.96	4.1
Score	1,099				
Valid N (listwise)					

Table 12 reports that based on a previously established score of 12 or more, 254 applicants were not referred on for further assessment or approximately 19%. Of those referred on for the math, language and dexterity assessment, only 950 or 71% of the original 1,344 applicants chose to continue in the selection process.

Even though 1,089 people were referred for assessment, not all of them chose to go any further in the selection process. Of those referred, 950 (71% of the original 1,344 applicants) continued in the selection process.

Table 12

Frequency of those meeting the criteria of Referred for Assessment

		Frequency	Valid Percent
Valid	Yes	1,090	81.1
	No	254	18.9
	Total	1,344	100.0
Total		1,344	

Those referred for assessment continued in the selection process by taking a math and language aptitude assessment and finger and manual dexterity assessment. Tables 13 through 22 refer to those assessments.

Math Aptitude

Table 13 reports Math Level (Scale) 1 and Math Level (Scale) 2 means and standard deviations.

Table 13

Math Averages

	Mean	Std. Deviation
Math Scale 1	6.06	1.06
Math Scale 2	5.03	1.48

Table 14 reports Math Grade Levels. A score of at least 5 correct out of the 7 questions related to level 1 meant the applicant had mastered level 1. A score of at least 5 correct out of the 7 questions related to level 2 meant the applicant had mastered level 2. A score of at least 6 correct out of the 8 question related to level 3, which meant the applicant, mastered level 3. Out of the 950 applicants assessed 64 percent of them had a math level of 4-6 grades. Only 8 percent of the 950 applicants had a math level above sixth grade.

Table 14

Frequency of those meeting the criteria of Math Grade Levels

		Frequency	Percent
Valid	Grade Level 0	61	6.4
	Grade Level 1-3	199	20.9
	Grade Level 4-6	611	64.3
	Grade Level 7-8	79	8.3
	Total	950	100.0

Language Aptitude

Table 15 reports Language levels (Scale) 1, 2 and 3 average mean and standard deviation.

Table 15

Language Averages

	Mean	Std. Deviation
Language Scale 1	6.65	.80
Language Scale 2	5.73	1.05
Language Scale 3	7.03	1.45

Table 16 reports the results of the language aptitude tests. The majority of applicants (89%) mastered a language level of grade 7 or above. It appears that according to the standards required by Andersen Corporation, that the math aptitude assessment was more highly discriminating among applicants than the language aptitude assessment.

Table 16

Frequency of those meeting the criteria of Language Grade Levels

		Frequency	Percent
Valid	Grade Level 0	16	1.7
	Grade Level 1-3	24	2.5
	Grade Level 4-6	63	6.6
	Grade Level 7-8	584	61.5
	Grade Level 9-12	263	27.7
	Total	950	100.0

Finger Dexterity

Table 17 shows the results mean and standard deviation for the finger dexterity test. Out of 950 applicants the mean was 109 with a standard deviation of 16.2.

Table 17

Finger Dexterity Averages

	Mean	Std. Deviation
Finger Dexterity Adjusted Score	108.97	16.17

Table 18 reports Finger Dexterity Levels. A minimum score of 80 was required by Andersen Corporation to be considered for the production associate positions. Ninety nine percent of the 950 participants had a score of 80 or higher.

Table 18

Frequency of those meeting the criteria of Finger Dexterity Qualification

		Frequency	Valid Percent
Valid	Qualified at 80 or Higher	939	98.8
	Not Qualified	11	1.2
	Total	950	100.0

Manual Dexterity

Table 19 shows the results mean and standard deviation for the manual dexterity test. Out of 950 applicants the mean was 129 with a standard deviation of 11.7.

Table 19

Manual Dexterity Averages

	Mean	Std. Deviation
Manual Dexterity Adjusted Score	128.73	11.64

Table 20 reports a minimum score of 80 was required to be considered for the production associate positions. 99.6 % of the 950 participants had a score of 80 or higher.

Table 20

Frequency of those meeting the criteria of Manual Dexterity Qualification

		Frequency	Valid Percent
Valid	Qualified at 80 or Higher	946	99.6
	Not Qualified	4	.4
	Total	950	100.0

Retested for Math and Language Qualifications

Following the language and math aptitude test, a number of individuals took the opportunity to retake the tests after not meeting the levels required by Andersen Corporation. Table 21 reports that 6 percent of the total participants, or 57 individuals, took the opportunity to retake the math assessment because their initial math level was under level 2.

Table 21

Frequency of those meeting the criteria of Retest Math

		Frequency	Percent
Valid	Yes	57	6.0
	No	893	94.0
	Total	950	100.0

Table 22 reports that 2 % of the participants, or 18 individuals, retested in language because their language level was under level 3.

Table 22

Frequency of those meeting the criteria of Retest Language

		Frequency	Percent
Valid	Yes	18	1.9
	No	932	98.1
	Total	950	100.0

Referral for Interview

Table 23 reports the number and percent of those who meet the skills assessment criteria and were referred for an interview. Of those assessed 70 percent were referred for an interview. Thirty percent did not meet the minimum criteria and were not referred for an interview.

Table 23

Frequency of those meeting the criteria of Referred/Not Referred for an Interview

		Frequency	Percent
Valid	Referred for Interview	661	69.6
	Not Referred for Interview	289	30.4
	Total	950	100.0

Hiring Results of Referred Individuals

Table 24 reports the number and percent of the 950 applicants who met the assessment criteria and were then employed. About 20% of referred applicants obtained employment. Of the original 1,344 applicants the percent eventually employed was 14%.

Table 24

Frequency and Percent of those Hired

		Frequency	Percent
Valid	Yes	187	19.7
	No	763	80.3
	Total	950	100.0

Relationships between Assessment Criteria and Employment

Each of the initial assessment criteria was significantly related to obtaining employment, with the exception of community involvement. People who somewhat or definitely met each of those criteria were significantly more likely to be employed. Tables 25 through 33 report those results.

Table 25 shows that crosstabulation of cover letter rating by hired or not hired category the chi square result was $\chi^2=18.01(2);p<.01$.

Table 25

Cover Letter Rating by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Cover Letter Rating	Does Not Meet Criteria	15	230	245
	Somewhat Meets Criteria	76	355	431
	Definitely Meets Criteria	55	368	423
Total		146	953	1,099

Table 26 shows the crosstabulation of the ability to convey clear concepts rating by hired or not hired category. The chi square result was $\chi^2=16.07(2);p<.01$.

Table 26

Conveys Clear Concepts by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Conveys Clear Concept	Does Not Meet Criteria	2	119	121
	Somewhat Meets Criteria	40	242	282
	Definitely Meets Criteria	104	592	696
Total		146	953	1,099

Table 27 shows the crosstablulation of submitting a cover letter and resume rating by hired or not hired categories. The chi square result was $\chi^2=14.23(2);p<.01$.

Table 27

Submit Cover Letter/Resume by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Submit Cover Letter/Resume	Does Not Meet Criteria	1	98	99
	Somewhat Meets Criteria	1	6	7
	Definitely Meets Criteria	144	849	993
Total		146	953	1,099

Table 28 shows the crosstabulation of submitting application materials to the Job Center rating by hired or not hired categories. The chi square result was $\chi^2=11.63(2);p<.01$.

Table 28

Submitted to Job Center by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Submitted to Job Center	Does Not Meet Criteria	0	70	70
	Definitely Meets Criteria	146	882	1,028
Total		146	953	1,099

Table 29 shows the crosstablutation of inclusion of all information rating by hired or not hired category. The chi square result was $\chi^2=19.82(2);p<.01$.

Table 29

All Information Included by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Submit Cover Letter/Resume	Does Not Meet Criteria	1	98	99
	Somewhat Meets Criteria	1	6	7
	Definitely Meets Criteria	144	849	993
Total		146	953	1,099

Table 30 shows the crosstablution of high school diploma, HSED or GED rating by hired or not hired category. The chi square result was $\chi^2 17.74(2); p<.01$.

Table 30

High School Diploma, HSED, GED by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
High School Diploma, HSED, GED	Does Not Meet Criteria	4	135	139
	Somewhat Meets Criteria	1	25	26
	Definitely Meets Criteria	141	793	934
Total		146	953	1,099

Table 31 shows the crosstablulation of post-secondary education by hired or not hired category. The chi square result was $\chi^2=8.87(2);p<.01$.

Table 31

Post-Secondary Education by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Post Secondary Education	Does Not Meet Criteria	57	494	551
	Somewhat Meets Criteria	66	356	422
	Definitely Meets Criteria	23	103	126
Total		146	953	1,099

Table 32 shows the crosstabulation of stability of work history rating by hired or not hired category. The chi square result was $\chi^2=22.80(2);p<.01$.

Table 32

Stability (Length Employed) 2-3 years by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Stability (Length Employed) 2-3 years	Does Not Meet Criteria	3	160	163
	Somewhat Meets Criteria	5	43	48
	Definitely Meets Criteria	138	750	888
Total		146	953	1,099

Table 33 shows the crosstabulation of relevant work history rating by hired or not hired category. The chi square result was $\chi^2=19.74(2);p<.01$.

Table 33

Relevant Experience by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Relevant Experience	Does Not Meet Criteria	23	325	348
	Somewhat Meets Criteria	42	220	262
	Definitely Meets Criteria	81	408	489
Total		146	953	1,099

Table 34 showed the means and standard deviations for a t test comparing total assessment scores for those hired and not hired showed significantly higher assessment scores for those hired ($t=5.87$, $df=1097$, $p<.01$). This result is reported in Table 34.

Table 34

T-Test Comparing Total Assessment Scores for Those Hired and Not Hired

	Hired	N	Mean	Std. Deviation
Total Assessment Score	Yes	146	14.79	1.60
	No	953	12.68	4.30

Chi Square analyses were used to examine the relationships between each final assessment criterion (following referral for final assessment based on initial assessment results) and whether the applicant was or was not hired. These analyses revealed which assessment criteria actually discriminated among applicants for employment.

Table 35 shows the crosstabulation of math grade levels rating by hired or not hired category. The chi square result was $\chi^2 = 88.2(3); p < .01$. Higher levels of math were related to hiring success.

Table 35

Math Level by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Math Level	Grade Level 0	0	61	61
	Grade Level 1-3	0	200	200
	Grade Level 4-6	167	444	611
	Grade Level 7-8	20	58	78
Total		187	763	950

Table 36 reports the mean math score for hired applicants was M=2.11 (SD=2.31) while the mean for those not hired was M=1.65 (SD=2.73). This difference in average scores was statistically significant (t=8.26, df=948, p<.01).

Table 36

Math Score Averages for Hired and Not Hired

	Hired	N	Mean	Std. Deviation
Total Math Score	Yes	146	2.11	2.31
	No	953	1.65	2.73

Table 37 shows the crosstabulation of language grade levels rating by hired or not hired category. The chi square result was $\chi^2 = 30.58(4); p < .01$. Higher levels of language were related to hiring success.

Table 37

Language Level by Hired Crosstabulation

Count

		Hired		
		Yes	No	Total
Language	Grade Level 0	0	16	16
Level	Grade Level 1-3	0	24	24
	Grade Level 4-6	0	63	63
	Grade Level 7-8	137	447	584
	Grade Level 9-12	50	213	263
Total		187	763	950

Table 38 The mean language score for hired applicants was M=3.27 (SD=.44) while the mean for those not hired was M=3.07 (SD=.82). This difference in average scores was statistically significant (t=3.17, df=948, p<.05).

Table 38

Language Score Averages for Hired and Not Hired

	Hired	N	Mean	Std. Deviation
Total Language	Yes	146	3.27	.44
Score	No	953	3.07	.82

When applicants were given the opportunities to retest for math and language qualifications, many of them not only retested, but also were eventually hired. Making efforts to remediate in math and language paid definite dividends for employment. Table 39 reports the percent of applicants hired after retesting for the math.

Table 39

Frequency and Percent of Hired after Math Retest

		Frequency	Percent
Valid	Yes	30	52.6
	No	27	47.4
	Total	57	100.0

a. Retest Math = Yes

Table 40 reports the percent hired after language retest.

Table 40

Percent Hired after Language Retest

		Frequency	Percent
Valid	Yes	12	66.7
	No	6	33.3
	Total	18	100.0

a. Retest Language = Yes

Differences Between Those Hired and Not Hired

To determine if there was a difference between those individuals hired and those not hired and the selection variables a discriminant analysis was employed. Discriminant analysis is a valuable tool in this situation because there are to very distinct groups those hired and those not hired, which is a prerequisite for the use of this tool. For this assessment 22 variables, which were used to differentiate among hired and non-hired individuals. Initially each variable was analyzed individually. Table 41 reports the results of the discriminant analysis. The results showed that of these predictive variables none of them were significant regarding the difference between those hired and those not hired. However, of those 22 variables there were six variables that showed to have the most impact on those hired and those not hired, those six variable in order were referred/not referred for an interview .881, retest Math .829, retest language .807, cover letter rating .796, manual dexterity .790 and stability (length employed) 2-3 years .786.

Table 41

Discriminant Analysis – Equality of Group Means

	Wilks' Lambda	F	Sig.
Math Scale 1	.987	9.594	.002
Math Scale 2	.923	61.895	.000
Math Level	.918	65.790	.000
Language Scale 1	.995	3.459	.063
Language Scale 2	.998	1.805	.179
Language Scale 3	.986	10.824	.001
Language Level	.986	10.837	.001
Finger Dexterity Adjusted Score	.997	1.934	.165
Finger Dexterity Qualification	.996	2.728	.099
Manual Dexterity Adjusted Score	.990	2.698	.006
Manual Dexterity Qualification	.999	.980	.322
Referred/Not Referred for an Interview	.881	99.569	.000
Retest Math	.923	61.333	.000
Retest Language	.963	28.366	.000
Cover Letter Rating	.988	8.976	.003
Conveys Clear Concepts	.993	5.395	.020
Submit Cover Letter/Resume	.999	.571	.450
All Information Included	.999	.743	.389
High School Diploma, HSED, GED	.999	.558	.455
Post Secondary Education	.999	.989	.320
Stability (Length Employed) 2-3 years	.998	1.606	.205
Relevant Experience	.999	.947	.331

CHAPTER FIVE

DISCUSSION

This paper examined the effectiveness of instruments and variables used by Workforce Resource, Inc., in the assessment process of identifying qualified applicants for the position of production associate for Andersen Corporation's, Menomonie facility. Through this research we have identified the best predictors of which skills or variables were necessary for an individual to have in order for them to be hired as a production associate. In addition, due to the large number of individuals analyzed, the investigator was able to report means (averages) of math and language skills for the available manufacturing labor pool in West Central Wisconsin.

Data was analyzed on each of the nine variables used to initially assess an individual's application materials. The purpose of this analysis was to classify individuals into one of three categories: individuals who did not meet, somewhat met and definitely met the criteria previously established for each variable. Based on pre-set standards, individuals meeting a 12 out of 20 points were selected and referred on for assessment of math, language, manual and finger dexterity skills. This study also determined if any or all of the initial nine variables employed were of value to Workforce Resource, Inc., and Andersen Corporation in discriminating amongst the most qualified applicants within the application pool.

From the data collected it was reported that of the initial pool of 1,344 applicants 82% expressed the cognitive ability to read and follow directions as specified in the advertisement. Eighty one percent of the initial applicant pool were referred for assessment.

The second portion of the application process employed tools that analyzed and assessed an individual's math and language aptitude as well as manual and finger dexterity. From the resulting analysis, it was shown that math aptitude appeared to be the most highly discriminating of these variables among the potential group of hired versus non-hired individuals. Data indicted that only 8% of those assessed had a higher than sixth grade math level. These findings are consistent with a study conducted by the American Management Association, which revealed that 36% of job applicants nationwide lack the basic reading and math skills needed to do their job. This data suggests that there is a lack of retention of math skills of individuals once they leave secondary educational institutions and move into employment.

A crosstabulation analysis was employed of all 22 variables used in the selection and assessment process. This was carried out to determine which variables were associated significantly with the group of hired individuals and conversely with the non-hired group. Data suggested that each of the initial assessment criterion with the exception of community involvement was distinctly related to individuals obtaining employment.

Andersen Corporation preferred that applicants have a stable work history with no gaps during the past 2-3 years. Only 80% of the applicants met this criterion, thus suggesting that this variable was of relative importance in the assessment of application materials and whether an applicant would be selected for further assessment.

Finger dexterity and manual dexterity were not significantly related to hiring success. Most applicants met dexterity criteria. Consequently those criteria did not discriminate for employment decisions.

No one variable stood out as being significant in determining an individual's progression through the hiring process. Results indicated that applicants needed to score highly in each of the nine variables as well as those variables relating to math, language, finger and manual dexterity in order to be referred on for an interview.

To determine the differences between those individuals hired and not hired a discriminate analysis was employed. The results showed, of the nine variables used to assess the initial application materials, the two most important variables were the clarity of the cover letter and the stability of the applicant's employment history. Regarding the math and language assessments, data indicates the importance of training and reassessment of math skills was the ultimate success of an individual in being hired. Of those who retook the math assessment, 53% were hired and 67% of those who retook the language assessment were hired. This

data indicate that individuals who make the effort to remediate and up grade their skill levels have a much higher success rate in the hiring process versus individuals who do not make an effort.

Demographics such as gender and age were not gathered for this study. This data would have been valuable to gather to investigate the potential correlation with other variables used in this hiring process.

Additional research may include a comparison of pre and post scores of those individuals retested in math and language. This comparison would determine if the educational development levels were increased due to taking the same test a second time or remediating the skill.

Of those individuals assessed for finger dexterity, 99% had a score of 80 or higher and manual dexterity 99.6% had a score of 80 or higher. It is suggested by the investigator that this assessment be employed in the future by Andersen Corporation and other Corporations hiring for similar manufacturing positions. They may want to consider increasing the cutoff score to 92 –108 which would be in the proper range for this position. This would aid the interviewers in discriminating amongst potential employees.

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ANDERSEN CORPORATION

Applicant: _____ **Date Submitted:** _____
Phone: _____
Screener: _____ **Date:** _____

Assessment of Application Criteria (*required)	Definitely Meets (2)	Somewhat Meets (1)	Does Not Meet (0)	Total Pts.
1. Communication skills				
-Cover letter well written *				
-Conveys clear concepts *				
2. Ability to follow directions:				
-Submit cover letter/resume (1pg) *				
-Submitted to Job Center *				
-All information included *				
3. Education				
-HS Diploma, HSED, GED				
-Post Secondary Education; Program:				
4. Work History				
-Stability (length employed) 2-3 yrs*				
-Relevant experience				
5. Community Involvement				
TOTAL				

Final Assessment Criteria	Meets	Does Not Meet
1. Math		
2. Language		
3. Finger Dexterity		
4. Manual Dexterity		

_____ Schedule for Assessment _____ Non-Select

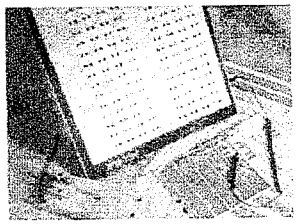
_____ Assessment Date _____ Date Letter Sent

ANDERSEN Final Refer:_____ Non-Refer:_____

Date of Referral:_____

APTICOM

Vocational and Career Assessment that Works



Apticom is the premier career assessment system for special needs populations. The use of a dedicated computer and a game like format make Apticom fun to take and eases the anxiety of being "tested".

Within 90 minutes Apticom delivers a multiple aptitude battery, interest inventory and educational skills battery in one easy to administer device. The use of a single platform to present the three batteries allows for the production of a single report which integrates the information and presents vocational recommendations.

The aptitude battery is validated against the U. S. Department of Labor's General Aptitude Battery and the interest inventory is validated against the U. S. Employment Service interest inventory.

The Apticom is also available in a Spanish bi-lingual version that allows both the administration and reporting functions to be conducted in English or Spanish.

Apticom's reports can be printed on its dedicated Okidata® printer or can be downloaded to a PC for printing. Click here for *Apticom Download Files*.

Aptitudes measured by Apticom:

- General Learning Ability
- Numerical Aptitude
- Form Perception
- Motor Coordination
- Manual Dexterity
- Verbal Aptitude
- Spatial Aptitude
- Clerical Perception
- Finger Dexterity
- Eye-Hand-Foot Coordination

Interest Areas measured by Apticom:

- Artistic
- Scientific
- Plants and Animals
- Protective
- Mechanical
- Industrial
- Business Detail
- Selling
- Accommodating
- Humanitarian
- Leading - Influencing
- Physical Performing

Educational Skills measured by Apticom:

- Mathematics
- Language

Replacement Parts Prices *Product Information Request* *Sample Report* *E-mail VRI*

Test Instructions

TEST 2: MATH SKILLS DEVELOPMENT

Time Limit: [15] Minutes

Test Panels: Math Skills Development Practice
Math Skills Development (02)

Probe Position: Plug into left or right side, depending on preferred hand for examinee.

Begin with Math Skills Development Practice Panel mounted on APTICOM console. Check the TEST PATTERN window to make sure that "00" appears. Read aloud:

THIS TEST IS INTENDED TO MEASURE YOUR MATH SKILLS. THERE WILL BE A NUMBER OF DIFFERENT KINDS OF QUESTIONS MEASURING DIFFERENT MATH SKILLS.

Check to make sure the TEST PATTERN WINDOW displays "00". Depress the START button and continue:

TRY THESE PRACTICE QUESTIONS NOW. USE THE PAPER AND PENCIL IF YOU NEED THEM.

Allow time for answering the three questions, then proceed:

THE CORRECT ANSWER FOR THE FIRST QUESTION IS IN THE THIRD POSITION; FOR THE SECOND QUESTION THE FOURTH POSITION HAS THE CORRECT ANSWER; AND THE FIRST POSITION IS THE CORRECT ONE FOR THE THIRD PRACTICE PROBLEM.

ONCE THE TEST BEGINS, YOU WILL HAVE FIFTEEN MINUTES TO DO THE THIRTY MATH QUESTIONS. WORK AS QUICKLY AS YOU CAN WITHOUT MAKING MISTAKES, AND ENTER YOUR BEST GUESS WHEN YOU ARE UNSURE OF AN ANSWER.

Depress STOP button if time has not yet expired. Flip the panel (or have the examinee do so) to reveal the test side. Mount the panel so that the "02" appears in the upper right-hand corner. Check the TEST PATTERN window to make sure that "02" is displayed. Depress the START button as you say:

BEGIN NOW.

NAME: ID#: DATE:

EDUCATIONAL SKILLS DEVELOPMENT BATTERY
COMPREHENSIVE SCORE REPORT

SECTION I. SCALE SCORES

The table below reports the number of correct responses, the number of items attempted and the highest possible score for each scale within the mathematics and language tests. When an "X" is reported in the far right column, under " Cut-Off Achieved ", the "X" indicates that there is evidence that you have mastered skills at the identified level(s).

Educational Development Level	Number Correct	Number Attempted	Maximum Score	Cut-off Achieved
Language 1	7	7	7	X
Language 2	6	7	7	X
Language 3	8	8	8	X
Language 4	6	8	8	X
Math 1	5	7	7	X
Math 2	4	7	7	
Math 3	3	8	8	
Math 4	1	8	8	

APTICOM A5B PAGE 5

NAME: ID#: DATE:

SECTION II. PERFORMANCE ANALYSIS

The table below reports an analysis of your results by topic area. The number reported to the left of a slash is the number of correct responses; the number to the right of a slash is the number of items of that type on the test. A review of these findings may help you identify your areas of greatest strength or weakness.

A. LANGUAGE DEVELOPMENT

Topic Area	Scale 1	Scale 2	Scale 3	Scale 4	Totals
Spell/Vocab	2/ 2			1/ 1	3/ 3
Vocabulary	2/ 2	3/ 3	5/ 5	4/ 4	14/14
Ref Skills	1/ 1	0/ 1	1/ 1	1/ 1	3/ 4
Punct/Caps	1/ 1	1/ 1	1/ 1		3/ 3
Verb Forms	1/ 1	2/ 2	1/ 1	0/ 2	4/ 6
Totals.....	7/ 7	6/ 7	8/ 8	6/ 8	27/30

B. MATHEMATICS DEVELOPMENT

Topic Area	Scale 1	Scale 2	Scale 3	Scale 4	Totals
Computation	4/ 6	2/ 4	0/ 2		6/12
Measurement	1/ 1	1/ 1			2/ 2
Ratio/Percent		1/ 2	2/ 3		3/ 5
Algebra			0/ 1	0/ 2	0/ 3
Geometry			1/ 2	1/ 2	2/ 4
Trigonometry				0/ 4	0/ 4
Totals.....	5/ 7	4/ 7	3/ 8	1/ 8	13/30

Test Instructions

TEST 1: LANGUAGE SKILLS DEVELOPMENT

Time Limit: 10 Minutes

Test Panels: Language Skills Development Practice
Language Skills Development (01)

Probe Position: Plug into left or right side, depending on preferred hand for examinee.

Begin with Language Skills Development Practice panel mounted on APTICOM console. Check the TEST PATTERN window to make sure that "00" appears. Read aloud:

NOW THAT YOU KNOW HOW TO USE THE PROBE, LET'S GO ON TO THE FIRST TEST, LANGUAGE SKILLS DEVELOPMENT. THIS TEST IS INTENDED TO MEASURE YOUR STRENGTHS IN USING THE ENGLISH LANGUAGE, AND POSSIBLY TO FIND AREAS WHERE YOU COULD DEVELOP GREATER SKILL. THERE ARE A NUMBER OF DIFFERENT KINDS OF QUESTIONS ON THIS TEST. SEVERAL KINDS ARE SHOWN HERE FOR YOU TO PRACTICE ON. AS YOU SEE, INSTRUCTIONS FOR ANSWERING EACH INDIVIDUAL QUESTION ARE WRITTEN IN SPECIAL TYPE ABOVE THE QUESTION ITSELF. PLEASE ANSWER THE THREE PRACTICE QUESTIONS NOW.

Depress the START button. Allow time for answering the three questions; then proceed:

THE CORRECT ANSWER FOR PRACTICE QUESTION ONE IS THE THIRD POSITION; THE CORRECT ANSWER FOR THE SECOND ONE IS THE FOURTH POSITION; FOR THE THIRD, THE CORRECT ANSWER IS THE THIRD POSITION. ON THE TEST THERE WILL BE 30 ITEMS TO DO IN TEN MINUTES. WHEN TIME IS UP, YOU WILL HEAR A TONE AND THE LIGHTS WILL GO OUT. WORK AS QUICKLY AS YOU CAN WITHOUT MAKING MISTAKES. IF YOU ARE UNSURE OF AN ANSWER, ENTER YOUR BEST GUESS.

Continue on next page

Test Instructions

TEST 7: FINGER DEXTERITY

Time Limit: [2] Minutes

Test Panels: None

Probe Position: *Probe must be removed.*

Dexterity Module: Place module so that words "RIVET", "SPACER" and "ASSEMBLY" are horizontal and the lower edge of the module is aligned with the edge of the table top. Place rivets and spacers in holes respectively labelled "RIVET" and "SPACER". Place spare rivets and spacers in holes labelled SPARES.

Set MANUAL/FINGER switch on FINGER.

Check Test Pattern window for pattern number "07".

Substitute words in parentheses for left-handed examinees.

Begin with examinee seated and parts disassembled, inserted in appropriate holes.

NOW YOU ARE GOING TO WORK WITH THE DEXTERITY MODULE FOR A TEST OF FINGER DEXTERITY. PLEASE DO NOT MOVE ANY RIVETS OR SPACERS UNTIL I TELL YOU TO BEGIN.

Point to left rivet, spacer and assembly hole and then right rivet, spacer and assembly hole.

YOU ARE GOING TO PUT THIS SPACER ON THIS RIVET AND MOVE THEM TO THIS HOLE AS FAST AS YOU CAN. NEXT, YOU ARE GOING TO PUT THIS SPACER ON THIS RIVET AND MOVE THEM TO THIS HOLE AS FAST AS YOU CAN. THEN YOU ARE GOING TO TAKE APART THE ASSEMBLIES AND PUT EACH PIECE BACK WHERE IT BELONGS.

Test administrator should be seated, in front of dexterity module, and should ask examinee(s) to stand alongside and watch. Demonstrate complete cycle (left then right assembly, then successive left and right disassembly), twice. When inserting rivet in spacer, insert rivet into spacer opening which was originally within the dexterity module.

Push START button.

Continue on next page

PICK UP THE RIVET WITH YOUR RIGHT HAND (LEFT HAND); USE YOUR LEFT HAND (RIGHT HAND) TO PICK UP THE SPACER AND PUT IT ON THE RIVET. THEN, HOLDING THEM IN YOUR RIGHT HAND (LEFT HAND), INSERT THEM INTO THIS HOLE. DO THE SAME FOR THESE PARTS. THE LIGHT GOES ON WHEN BOTH ASSEMBLIES ARE IN PLACE.

THEN USE YOUR RIGHT HAND (LEFT HAND) TO REMOVE THE RIVET FROM THE ASSEMBLY ON THE LEFT. ONCE THE RIVET IS OUT, REMOVE THE SPACER WITH YOUR LEFT HAND (RIGHT HAND). REPLACE THE PIECES IN THEIR ORIGINAL HOLES. DO THE SAME THING FOR THE PARTS ON THE RIGHT. WHEN ALL THE SEPARATE PIECES ARE IN THEIR PLACES, THE LIGHT GOES ON.

Push STOP button.

YOU WILL KEEP PUTTING THE SPACERS AND RIVETS TOGETHER, THEN TAKING THEM APART, AS FAST AS YOU CAN UNTIL TIME IS UP. NOW YOU WILL HAVE A PRACTICE EXERCISE.

Push START button, *and then* say:

BEGIN.

Time for 30 seconds. If necessary, encourage examinee to simultaneously pick up rivet and spacer for assembly phase. Make sure test-taker places assembly with dominant hand. During disassembly, make sure examinee first disassembles on left side of board. The rivet should first be extracted from the spacer and hole with the dominant hand and then the spacer should be removed with the non-dominant hand. Encourage the examinee to replace pieces simultaneously.

STOP!

Begin test with parts disassembled, inserted in appropriate holes.

Continue on next page

YOU WILL HAVE 2 MINUTES FOR THIS TEST. PUT SPACERS AND RIVETS TOGETHER AND TAKE THEM APART AS FAST AS YOU CAN. IF YOU DROP A RIVET OR SPACER ON THE FLOOR, USE ONE OF THE SPARE PARTS.

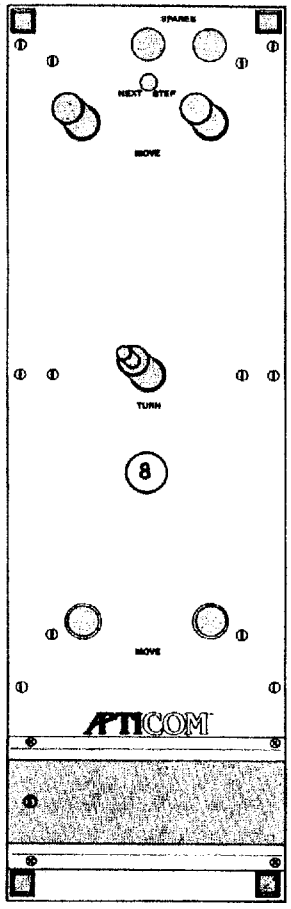
Push START button, *and then* say:

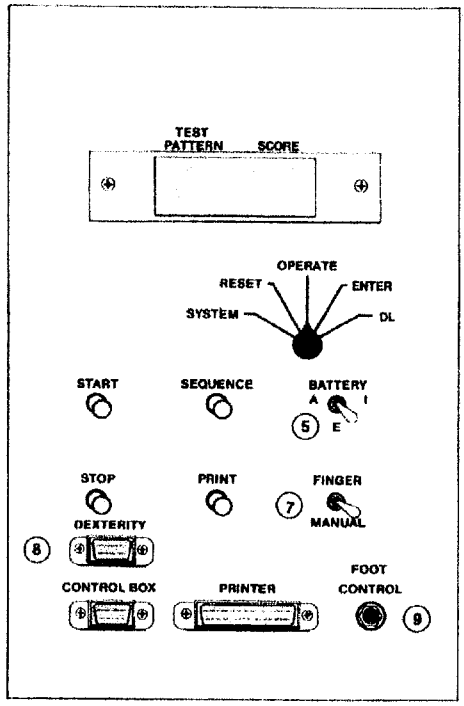
BEGIN.

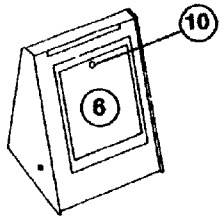
(After the administration of this test, move the dexterity toggle switch on the back of APTICOM to "MANUAL" position.)

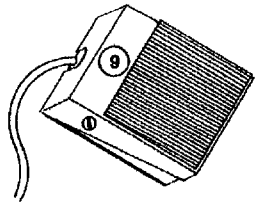
Note: If rivets or spacers are removed from holes prior to depression of START button, APTICOM will not be correctly programmed! Rivets and spacers must be in "start" position when START button is depressed.

Manual Dexterity
Insturment

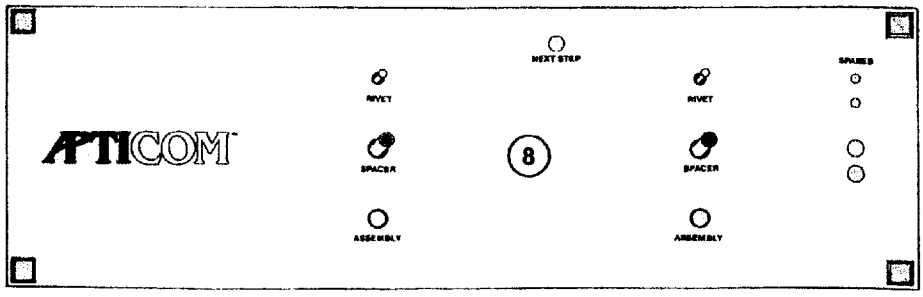








Finger Dexterity Insturment



Test Instructions

TEST 9: MANUAL DEXTERITY

Time Limit: [2] **Minutes**

Test Panels: None

Probe Position: *Probe must be removed.*

Dexterity Module: Place module so that words "MOVE" and "TURN" are horizontal and the lower edge of the module is aligned with the edge of the table top. Place the peg with protrusion in middle hole with protrusion directed upward. Place a regular peg in each of the two top holes. Place spare pegs in holes labelled SPARES.

Set MANUAL/FINGER switch on MANUAL.

Check Test Pattern window for pattern number "09".

Substitute words in parentheses for left-handed examinees.

Begin with examinee(s) standing and pegs in upper holes. Peg with protrusion should be seated in middle hole, wide end down.

YOU ARE GOING TO WORK WITH THE DEXTERITY MODULE FOR A TEST OF MANUAL DEXTERITY. PLEASE DO NOT MOVE ANY PEGS UNTIL I TELL YOU TO BEGIN.

Point.

YOU ARE GOING TO TURN THE MIDDLE PEG OVER WITH YOUR RIGHT HAND (LEFT HAND). THEN YOU WILL MOVE THESE PEGS FROM THE UPPER TO THE LOWER PART OF THE BOARD AT THE SAME TIME, ONE IN EACH HAND. AFTER YOU DO THIS THE LIGHT WILL GO ON. THEN TURN THE MIDDLE PEG AGAIN AND MOVE THE PEGS, ONE IN EACH HAND, BACK TO THE UPPER PART OF THE BOARD. AFTER YOU DO THIS THE LIGHT WILL GO ON.

Test administrator should sit in front of dexterity module and ask examinee(s) to stand alongside and watch. Demonstrate full cycle (rotation of middle peg, simultaneous movement of upper pegs to bottom, rotation of middle peg, simultaneous movement of lower pegs to top), twice.

Push START and say:

Continue on next page

WATCH ME WHILE I SHOW YOU HOW.

Push STOP button.

NOW YOU WILL HAVE A PRACTICE EXERCISE. KEEP TURNING AND MOVING PEGS AS FAST AS YOU CAN UNTIL TIME IS UP.

Push START button, *and then* say:

BEGIN.

Time for 30 seconds.

STOP!

Begin test with pegs in upper holes and middle peg wide end down.

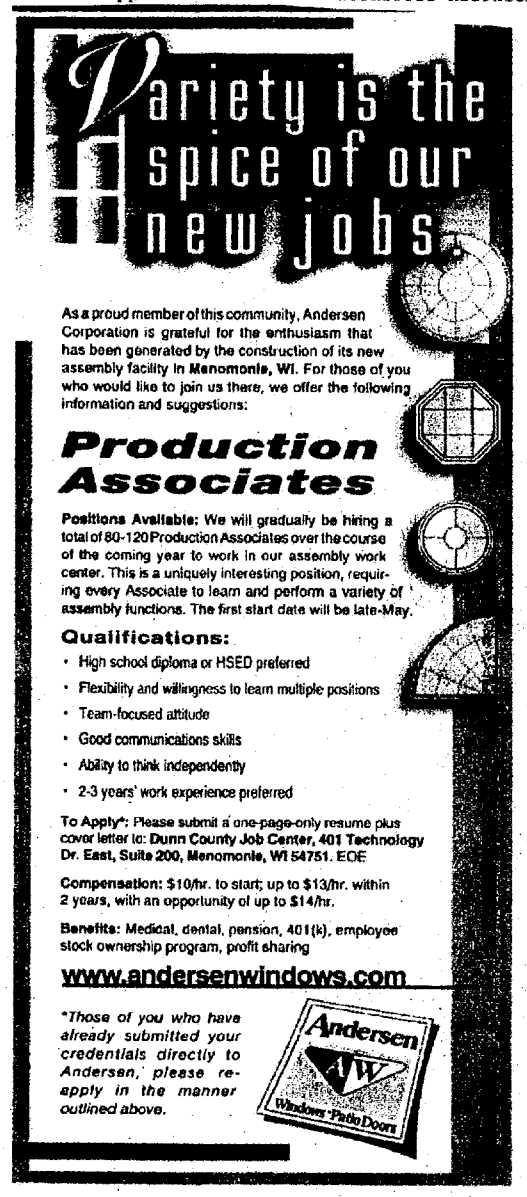
YOU WILL BE ALLOWED 2 MINUTES FOR THIS TEST. IF YOU DROP A PEG ON THE FLOOR, USE ONE OF THE SPARE PEGS. WORK AS FAST AS YOU CAN.

Push START, *and then* say:

BEGIN.

(After administration of this test, move dexterity toggle switch on back of APTICOM to FINGER position.)

Note: If a peg is removed from a hole prior to depression of START button, APTICOM will not be correctly programmed! All pegs must be in place when START is depressed.



Variety is the spice of our new jobs

As a proud member of this community, Andersen Corporation is grateful for the enthusiasm that has been generated by the construction of its new assembly facility in **Menomonie, WI**. For those of you who would like to join us there, we offer the following information and suggestions:

Production Associates

Positions Available: We will gradually be hiring a total of 80-120 Production Associates over the course of the coming year to work in our assembly work center. This is a uniquely interesting position, requiring every Associate to learn and perform a variety of assembly functions. The first start date will be late-May.

Qualifications:

- High school diploma or HSED preferred
- Flexibility and willingness to learn multiple positions
- Team-focused attitude
- Good communications skills
- Ability to think independently
- 2-3 years' work experience preferred

To Apply*: Please submit a one-page-only resume plus cover letter to: **Dunn County Job Center, 401 Technology Dr. East, Suite 200, Menomonie, WI 54751.** EOE

Compensation: $10/hr. to start; up to $13/hr. within 2 years, with an opportunity of up to $14/hr.

Benefits: Medical, dental, pension, 401(k), employee stock ownership program, profit sharing

www.andersenwindows.com

**Those of you who have already submitted your credentials directly to Andersen, please re-apply in the manner outlined above.*

Andersen Windows • Patio Doors

PRODUCTION ASSOCIATE OPPORTUNITIES

Andersen Corporation- Menomonie

Over the course of the next few years, we will be hiring Production Associates to work in our Menomonie assembly work centers. This is a unique position, requiring every Associate to learn and perform a variety of assembly tasks. Associates will be an integral part of our assembly team and will be expected to do the following:

- Comply with Andersen plant and safety policies
- Support work center team members to achieve production goals
- Develop a working knowledge of multiple stations within their work center
- Operate a variety of equipment to assemble window components
- Regularly lift and/or move up to 40 lbs.
- Operate powered industrial trucks (such as fork lifts) as required
- Support product quality by performing machine side quality checks as required.
- Accurately record inventory transactions
- Openly communicate with team members
- Participate in periodic training

Production Associates are an important key to our success. Decisions made by Associates will impact the quality of the product, customer satisfaction and the profitability of the business.

If you have a team-focused attitude and a willingness to learn, please apply in the following manner:

Submit a one-page-only resume plus cover letter to:

Dunn County Job Center
401 Technology Drive East, Suite 200
Menomonie, WI 54751

In addition to a complete benefits package, Associates will be offered $10.00 per hour to start; $13.00 per hour in two years. Associates will work 8 hour rotating shifts (four weeks per rotation). The Andersen Windows Menomonie facility is a tobacco-free work environment.

ANDERSEN CORPORATION
JOB DESCRIPTION

JOB CODE: N/A **TITLE:** Production Associate

DEPARTMENT: Menomonie Manufacturing **GRADE:** Hourly **FLSA:** Non-exempt

SUMMARY: Performs repetitive work station or line assembly operations to assemble components into a complete window unit by performing the following duties:

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Performs any assembly-type functions, using hand or power tools.

Operates pneumatic nailers and staplers to fasten window components.

Operates frame nailer to assemble the wooden window frame.

Hand assist pumping system to glue covers to frames.

Lifts, secures, and fastens window sash into frame.

Operates sash pinner to assemble sash components.

Lifts and places glass lights into sash frame.

Rolls and presses glazing bead roll around glass perimeter.

Places window unit into carton and manually transport to pick-up area.

Rotates through multiple work stations on a daily basis.

Records inventory transactions using required tools and software.

Openly communicates with team leader, service person, and other team members to maintain production flow.

Performs and records machine side quality checks as required. Reads and interprets process data.

Interacts in team pass-down and completes housekeeping responsibilities.

Operates powered industrial trucks (such as fork lifts) as required.

Operates any equipment needed to perform job.

Performs related duties as needed by supervision.

QUALIFICATION AND SKILL REQUIREMENTS:
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

- H.S. diploma, HSED, or GED preferred
- 2 – 3 years work experience, manufacturing or assembly experience preferred
- Mathematical skills: ability to add and subtract three digit numbers, to multiply and divide, add and subtract fractions, convert fractions to decimals and complete basic statistical computations. Able to perform these computations using American weight measurement, volume, and distance.
- Communication skills: able to understand and carry out written and oral instructions, able to communicate with co-workers to discuss process problems and solutions.
- Regularly required to stand and walk, frequently required to use hand to finger, handle, or feel objects, tools, or controls. Occasionally required to bend/stoop, and kneel. Must regularly lift and/or move up to 40 lbs.
- Willingness to perform multiple tasks within work station
- Team-focused attitude

ANDERSEN CORPORATE VALUES

Each employee is responsible for upholding these values in their daily activities.

SAFETY: We are committed to the safety and well being of the people who come into contact with our products. This includes those involved in our business process of product design, manufacturing, distribution, installation, and after-sale service as well as the people into whose homes and buildings our products are installed. Safety is our highest priority.

INTEGRITY: We are committed to working fairly and honestly with all those with whom we come in contact. This principle is the fundamental foundation of our business success.

TEAMWORK: We foster an environment where individual skills and talents are recognized and encouraged to thrive in a cooperative team environment.

INNOVATION: We capitalize on the strengths of our heritage and adapt them to the challenges of the future. Our motto "different and better" connotes innovation, aesthetic and economic value, going beyond the expected into the surprising - it is our rallying cry; it is our pride!

EXCELLENCE: We set the highest standards for our professional performance, our products and service. We recognize that today's excellence is tomorrow's average; therefore, we are committed to continuous quality improvement in all that we do.

INDIVIDUAL DIGNITY: We believe that respect for each other's cultures, point of view, professional business styles and differing performance abilities significantly contributes to our working together to achieve our business goals with trust and creativity.

CORPORATE CITIZENSHIP: We believe that we have a direct and compelling responsibility to our communities to conduct our business ethically, to engage in responsible stewardship of the environment, and to concern ourselves with the welfare of the people in the communities in which we work.

ANDERSEN "CODE OF BUSINESS CONDUCT"

Each employee is responsible for adhering to the Andersen Code of Business Conduct.

Table 2
GED Levels and School Grade Levels

GED Level	*Grade Level*
1	1–3
2	4–6
3	7–8
4	9–12
5	College 1–2
6	College 3–4