AN ANALYSIS OF THE RESULTS OF AN OCCUPATIONAL INFORMATION NETWORK (O*NET) CURRICULUM NEEDS ASSESSMENT PERFORMED BY THE FACULTY OF THE ORGANIZATIONAL LEADERSHIP AND SUPERVISION DEPARTMENT AT PURDUE UNIVERSITY.

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Executive Summary
In the spring of 2003 the faculty of the Organizational Leadership and Supervision Department at Purdue University began using a cutting edge web based business program to determine what faculty thought a Bachelor’s graduate from a leadership program should know and be able to do upon graduation. This paper discusses the process used along with a brief analysis of the findings.

Introduction
The explosive growth of the Internet along with an increasing focus on globalization has escalated three major business problems to critical status: how to build and maintain a descriptive workforce database in a culture that is experiencing rapid skill & knowledge obsolescence; how to find and extract relevant workforce development knowledge from multiple, changing sources; and how to format and present that knowledge so that business, education, and government executives can easily leverage it to shorten problem solving and concept building cycle times. In order to address these issues the United States Department of Labor has developed the Occupational Information Network (O*NET) as an online replacement for the Dictionary of Occupational Titles. This paper introduces the O*NET model in addition to discussing a revolutionary framework for conducting job analysis using O*NET based SkillObjects™. Additionally how this technology was used to determine what a B.S. degree holder from Purdue University’s Organizational Leadership and Supervision department should know and be able to do is discussed.

Introduction to the Occupational Information Network
The Occupational Information Network (O*NET) is a comprehensive database of worker attributes and job characteristics. As the replacement for the Dictionary of Occupational Titles (DOT), O*NET will be the United States primary source of public occupational information. O*NET is being developed as a timely, easy-to-use resource that supports public and private sector efforts to identify and develop the skills of the American workforce. It provides a common language for defining and describing occupations. In addition, through “O*NET On-Line” (http://online.onetcenter.org/) occupational information is moving into the technological age in a way never seen before (National O*NET Consortium, 2001).

It is expected that the O*NET database will serve as an engine that drives value-added applications designed around its core information. O*NET provides the essential foundation for facilitating career counseling, education, employment, and training activities. The database contains information about knowledge, skills, abilities, interests, general work activities (GWAs), and work context. O*NET data and structure will also link related occupational, educational, and labor market information databases to the system.

Specifically, some newly available and public domain applications include the O*NET Interest Profiler and the O*NET Work Importance Locator. An O*NET Ability Profiler is also expected to be released. The development and release of these applications is an exciting event because it allows educators and business professionals to use the O*NET immediately in their businesses and in classes. Additionally, as the tools have been created under Federal contract they are in the public domain and only require a minimal cost recovery investment for the actual forms with many of the associated manuals being available for downloading free of charge. The following link will take the reader to more information about these tools http://www.onetcenter.org/tools.html#profiler.

O*NET Conceptual Framework
The conceptual foundation of O*NET is called the Content Model (http://www.onetcenter.org/content.html). The Content Model provides a framework for classifying, organizing, and structuring O*NET data and was developed using extensive research from the field of job and organizational analysis. The Content Model, depicted
The Content Model Forming the Foundation of O*NET (National O*NET Consortium, 2001)

Worker Characteristics (enduring traits that influence a person’s performance on the job)
Worker Characteristics are enduring characteristics that might influence both performance and the capacities to acquire knowledge and skills required for effective work performance. Worker characteristics comprise enduring qualities of individuals that may influence how they approach tasks and how they acquire work-relevant knowledges and skills. Traditionally, abilities have been the most common technique for comparing jobs in terms of these characteristics.

Worker Requirements (attributes acquired through experience and/or education)
Worker Requirements are a category of descriptors referring to work-related attributes acquired and/or developed through experience and education. Worker requirements represent developed or acquired attributes of an individual that may be related to performance. Knowledge represents the acquisition of facts and principles about a domain of information. Experience lays the foundation for establishing procedures to work with given knowledge. This set of procedures is more commonly known as skills. Skills may be further divided into basic skills (skills, such as reading, that facilitate the acquisition of new knowledge) and cross-functional skills (skills, such as problem solving, that extend across several domains of activities).

Experience Requirements (training and experience needed)
Experience Requirements are requirements related to previous activities; explicitly linked to certain types of work activities. This domain includes information about the typical
experiential backgrounds of workers in an occupation or group of occupations. Certification, licensure, and training data also are identified. For example, information about the professional or organizational certifications required for entry and advancement, preferred education or training, and required apprenticeships are documented by this part of the model.

**Occupational Characteristics (labor market-related information)**

Occupational Characteristics are variables that define and describe the general characteristics of occupations that may influence occupational requirements. Organizations do not exist in isolation. They must operate within a broader social and economic structure. To be useful, an occupational classification system must incorporate these global contextual characteristics. O*NET provides this information by linking descriptive occupational information to statistical labor market information. This includes compensation and wage data, employment outlook, and industry size information.

**Occupational Requirements (actual work performed on the job)**

Occupational Requirements are a comprehensive set of variables or detailed elements that describe what various occupations require. This domain includes information about typical activities required across occupations. Task information is often too specific to describe an occupation or occupational group. The O*NET approach is to identify 41 generalized work activities (GWA) or dimensions that summarize the kinds of tasks that may be performed within multiple occupations. Using this framework it is possible to use a single set of descriptors to describe many occupations. Contextual variables (e.g., the physical, social, or structural context of work) that may impose specific demands on the worker or activities are also included in this section.

**Occupation-Specific Information**

Occupation-Specific Information reflects variables or other Content Model elements in terms of selected or specific occupations. Occupation-specific information details a comprehensive set of elements that apply to a single occupation or a narrowly defined job family. This domain parallels other Content Model domains in that it includes requirements such as knowledge, skills (46 basic and cross functional skill identified), tasks, and machines, tools, and equipment. Similarly, labor market information defined by industry or occupation is also provided here. This domain is particularly important when developing specific applications of O*NET information. For example, to specify training, develop position descriptions, or redesign jobs, it is necessary to refer to occupation-specific descriptive information.

Because of the detailed, well-researched foundation provided by the O*NET taxonomy, many products and processes are being developed to utilize the advantages of the O*NET taxonomy. One such approach is called SkillObject technology. It offers job/task analysis data that is more detailed than almost any available previously, with cycle times that historically have been impossible. The benefit of O*NET based products and processes is that they offer new tools for educators in developing curriculum, training, and education to meet the needs of their constituents. This will be explored in more detail in the following section.

**SkillObjects™**

SkillObjects™ technology, based on the O*NET taxonomy, transforms workforce information into knowledge by capturing work, worker, and workplace characteristics and their relationships to performance.
The increasing pace of change in the technology sector has escalated three major business problems to critical status:

- how to build and maintain a descriptive workforce database in a culture that is experiencing rapid skill & knowledge obsolescence; and
- how to find and extract relevant workforce development knowledge from multiple, changing sources; and
- how to format and present that knowledge so that business, education, and government executives can easily leverage it to shorten problem solving and concept building cycle times.

Business development, trainers, educators, and career placement professionals generally have antiquated diagnostic tools that are ineffective for New Economy jobs. SkillObject™ Technology incorporates “best-in-class” advances in occupational science and is a contemporary solution to managing workforce investments.

Current Approaches

Organizations today are inundated by skill and knowledge system providers offering work or worker descriptors claiming to meet management needs, however, none addresses the work at the level required to provide management everything they need. Most applications are designed to provide management a “snapshot” of workforce development needs using job titles or job classifications. Most of the job titles are too broad, are rapidly becoming obsolete or have been completely eliminated. Job titles that survive have different meanings to different organizations. A systems analyst has one meaning to an electrical company and a different meaning to a consumer products company. So, even if current approaches are successful, the analysis does not provide management the adequate knowledge to make an informed decision.

In fact, traditional approaches may actually impede critical workforce development activities because recommendations are too general and not contextualized to the organization's culture. While some offer extensive workforce development analysis, current approaches are costly, time-intensive, and cannot keep pace with current organizational growth and change.

Revolution in Job / Task Analysis

SkillObjects™ provides the next paradigm in understanding work by using an Internet-based job/task analysis process eliminating the need to have workers travel, thereby minimizing cost associated with lost time from work and travel. SkillObjects™ technology has embedded O*NET common language descriptors for Skills & Abilities and provides a valid framework to define unique tasks, tools, and knowledge requirements to perform Critical Work Functions (CWF’s). Unlike job titles or classifications CWF’s can be standardized to represent work for one or more job titles. The New Economy worker must be cross-trained to meet performance demands, and interventions or training events pointed to CWF’s are more efficient and measurable. Knowledge of the appropriate CWF’s and SkillObjects™ required to perform work, regardless of the job title, allows management to leverage performance capacity.

Harnessing SkillObjects™ data linked to CWF’s provides management with valuable knowledge and insight to workforce development needs. The SkillObjects™ database can be used to improve training & development content, performance measurement tools, and job recruitment and placement systems.
A Technology Breakthrough

SkillObjects™ technology is a product of 10 years of research & development. The research challenge was to reinvent a highly technical craft linking mostly industrial psychologist to a smart application enabling the teacher, trainer, marketing manager and others to perform a Job/Task analysis while maintaining stringent industry guidelines. General Electric, Thomas & Betts, AT&T, Graybar Electric, and other notable corporations joined, George Mason University, Georgia Tech, University of Nebraska, and the US Department of Defense to assist SkillsNET’s effort to reinvent the process.

The Process

Using workers that perform the work is central to the SkillObjects™ process. It has been learned that if a worker is asked, “what do you do”, the worker will often rely upon his or her memory of recent tasks and is unable to provide a comprehensive description of critical tasks and duties performed. To help the worker the SkillObjects™ process uses an intelligent queuing technique that challenges the worker to think critically about their work. This is accomplished by using a series of well-designed templates that begin the process by focusing on the O*NET Generalized Work Activities. The templates begin with broad descriptions of work and continue until the worker has developed a comprehensive list of tasks, tools, knowledges, skills, and abilities, all of which are evaluated and surveyed by other workers and placed in the SkillObjects™ database.

SkillObjects and Curriculum Development

The implementation of SkillObjects™ technology generates quantum leaps in workforce productivity and innovation among business, education and state leaders and enables a paradigm shift in organizations that supports the creation of an e-Skills Community Portal. The e-Skills Community Portal provides a level playing field to all corporations and their education and training providers. The SkillObjects™ database contains descriptors for hundreds of occupations and can be customized to meet specific workforce development training needs.

The modular structure of the SkillObject (see Appendix), with its cluster of interrelated tasks, the tools/software/devices required to perform the tasks, the unique knowledge required to perform the tasks, the skills and abilities required to perform the tasks, as well as the normative data for each task, tool, unique knowledge, skill and ability provides all of the information required to develop curriculum for
education and training courses. Additionally, because of SkillObjects' modular structure, it is very easy to develop a modularized curriculum approach that works very well in traditional delivery approaches or equally well in web-based delivery approaches.

Because of the detailed data provided by the SkillObjects, it is very simple to develop a modularized curriculum to prepare people to enter the occupation, or to provide targeted learning interventions for current employees. In the state of Texas, a statewide group of telecommunications companies worked jointly to develop the standards for Telecommunications Maintenance Technicians. Based on the data collected during the project, a statewide core curriculum was developed. This curriculum is offered at community colleges, technical schools, and universities across the state.

Additionally, SkillObject technology has been utilized to determine work activities performed by people worldwide who have CISCO certifications. This effort served two purposes: 1) to validate the content of existing curricula for the CCNA, CCNP, CCDA, and CCDP certifications; and 2) to determine the work-based activities of IT professionals who hold the certifications, which are not supported by the certification curricula. This has allowed CISCO to develop additional curricula for new certifications and specializations. In the fall of 2002 the faculty of the Organizational Leadership and Supervision (OLS) Department utilized the SkillObject technology system to identify the tasks they felt were part of the skills set needed by B.S. graduates. The following sections detail the specifics regarding the OLS department’s use of the system and the initial results of its findings.

OLS Process

As discussed previously the OLS faculty followed the principal steps of the SkillObject job analysis process. Each faculty member was provided a web site logon and password and was asked to access the system at a time of convenience. Each faculty member was asked to begin the process by selecting no more than 6 generalized work activities with 3 as a suggested amount. This process is in slight contrast to an industrial setting where a fewer number of subject matter experts would be used and where they would be asked to complete 6-12 GWAs each. Using the guided menus and options each faculty member proceeded to construct task statements that represented what they felt a graduate should know and do. An interesting note is that most faculty seem to choose GWAs that represented their area of specialty. The result of this part of the project resulted in 29 of 41 GWAs being included and over 600 task statements being generated. The process also delivered a list of tools and unique knowledge that faculty indicated were important.

Within the initial list of 600 tasks many duplicated statements seemed to exist, typical of the SkillObject process. To address this issue the faculty nominated a sub committee to perform the next step of the process which is task editing. The sub committee made it a key point not to evaluate the merits of colleagues contributions but simply to reduce redundant statements. The product of the consolidation was a more manageable list of 169 tasks which are discussed next.

Identified GWAs

Of the 41 GWAs included in the O*NET frame work 29 were identified as important to the needs of a OLS leadership students. The 29 identified GWAs are:

- Analyzing Data or Information
- Assisting and Caring for Others
- Coaching and Developing Others
- Communicating with Persons Outside the Organization
- Communicating with Supervisors, Peers, or Subordinates
- Controlling Machines and Processes
- Coordinating the Work and Activities of Others
- Developing and Building Teams
- Documenting/Recording Information
- Establishing and Maintaining Interpersonal Relationships
- Getting Information
- Guiding, Directing, and Motivating Subordinates
Implementing Ideas, Programs, Systems, or Products
Inspecting Equipment, Structures, or Materials
Interpreting the Meaning of Information for Others
Judging the Qualities of Objects, Services, or Persons
Making Decisions and Solving Problems
Monitoring and Controlling Resources
Monitoring Processes, Materials, or Surroundings
Organizing, Planning, and Prioritizing Work
Performing Administrative Activities
Processing Information
Providing Consultation and Advice to Others
Resolving Conflicts and Negotiating with Others
Scheduling Work and Activities
Staffing Organizational Units
Thinking Creatively
Training and Teaching Others
Working with Computers

All identified GWAs have been included in the list above but not all GWAs were represented equally by the number of tasks associated with them. Considering the number of tasks as a key variable in determining importance the top five GWAs were Guiding, Directing, and Motivating Subordinates, Training and Teaching Others, Coaching and Developing Others, Organizing, Planning, and Prioritizing Work and Developing and Building Teams. To assist the reader in gaining a complete understanding of the identified GWAs and tasks Appendix B includes a complete list.

Next Steps
The next step in the SkillObject process is to conduct a validation study of the identified tasks. Using web based surveys each of the task statements can be presented to multiple audiences (faculty as a whole, employers, students, program alumni, etc.). Typically each survey participant is asked to rate the importance of the task and when the task is needed in order to perform successfully on the job. Using this approach the validated tasks can be quantitatively ranked as to how important they are to require in a curriculum given that hard decisions must often be made regarding curriculum scope. At this time the faculty of the Purdue OLS program have decided to not use the software based validation process and they are engaging in a traditional review of the identified tasks against the existing curriculum.

References


APPENDIX A

Sample SkillObject™
Occupation: Secretary
Job Family: Business Administrative Support Occupations
Economic Sector: Business, Finance, and Management
Source: ABC Corporation, Dallas, Texas
SkillObject™ Metadata Summary

**SkillObject™ Name:** Writing Reports/Information

**SkillObject™ ID Number:** 01384

**Economic Sector:** Business, Finance, and Management

**Job Family:** Business Administrative Support Occupations

**Job Title:** Secretary

**Coverage (National, State, Regional):** State

**Source:** XYZ Corporation

**Source Location:** Dallas, Texas

**Elements Included:**

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<td>Unique Knowledges</td>
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<tr>
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Date Created: ............................................................. 07/01/1999

Date Last Updated: .................................................... 08/01/2000

Expiration Date: ........................................................ 08/01/2001

Critical Work Function: ........................................... Documentation Development

Intra-Office Communications

Known Learning Objects: ........................................... Not Applicable

Skills Compliance Officer: ........................................ Dr. Darrel Sandall

Skills Analyst: ......................................................... Elizabeth Worth
SkillObject™ Sample

SO ID  SkillObject™ Name
01384  Writing Reports/Information

Task ID  Task Statement
15    Communicate instructions for operation or repair of equipment to others.
      Primary O*NET Skill: Writing
      Primary O*NET Ability: Information Ordering

87    Communicate work progress and tool/equipment problems to others.
      Primary O*NET Skill: Writing
      Primary O*NET Ability: Problem Sensitivity

64    Enter detailed information of procedure on computer.
      Primary O*NET Skill: Writing
      Primary O*NET Ability: Wrist-Finger Speed

147   Prepare reports on job procedures for future reference.
      Primary O*NET Skill: Writing
      Primary O*NET Ability: Information Ordering

125   Update equipment manuals with any details or new information that is not already included in the manual.
      Primary O*NET Skill: Writing
      Primary O*NET Ability: Information Ordering

ID  Tools/Software/Equipment
1    Computerized maintenance management system (e.g. MIMS)
3    Inventory status books
4    Log books

ID  Unique Knowledge
3    Equipment and maintenance manual layouts
4    Departmental filing procedures
10   OSHA safe job procedures
### Survey Normative Ratings

#### Task Ratings:

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<th>When Needed*</th>
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<td>7 Problem Sensitivity</td>
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* See the Survey Rating Key on the next page
**Survey Normative Rating Scale Keys**

### Survey Key for Tasks

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<th>Criticality</th>
<th>When Needed</th>
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<td>How frequently do you perform the task?</td>
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<td>When is the task needed?</td>
<td>How long is required to learn how to properly perform the task?</td>
</tr>
<tr>
<td>0=Does not apply</td>
<td>0= Does not apply</td>
<td>0=Does Not Apply</td>
<td>0=Does Not Apply</td>
</tr>
<tr>
<td>1=More than once per year</td>
<td>1= No serious consequences</td>
<td>1=Job Entry</td>
<td>1=One day</td>
</tr>
<tr>
<td>2=More than once per month</td>
<td>2= Least serious consequences</td>
<td>2=0 to 3 months</td>
<td>2=One week</td>
</tr>
<tr>
<td>3=More than once per week</td>
<td>3= Moderately serious consequences</td>
<td>3=3 to 6 months</td>
<td>3=One month</td>
</tr>
<tr>
<td>4=Daily</td>
<td>4= Serious consequences</td>
<td>4=6 to 12 months</td>
<td>4=Six months</td>
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<tr>
<td>5=Several times per day</td>
<td>5= Most serious consequences</td>
<td>5=1 to 2 years</td>
<td>5=Greater than 6 months</td>
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</table>

### Survey Key for Tools/Software/Equipment

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<th>Frequency</th>
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<th>When Needed</th>
<th>Difficulty to Learn</th>
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<tr>
<td>How often is this tool utilized in your job?</td>
<td>How critical is proper use of this tool in the performance of your job?</td>
<td>When is the ability to use this tool required in your job?</td>
<td>How long is required to learn how to properly use this tool?</td>
</tr>
<tr>
<td>0=Does not apply</td>
<td>0= Does Not Apply</td>
<td>0=Does Not Apply</td>
<td>0=Does Not Apply</td>
</tr>
<tr>
<td>1=More than once per year</td>
<td>1= Not Critical</td>
<td>1=Job Entry</td>
<td>1=One day</td>
</tr>
<tr>
<td>2=More than once per month</td>
<td>2= Somewhat Critical</td>
<td>2=0 to 3 months</td>
<td>2=One week</td>
</tr>
<tr>
<td>3=More than once per week</td>
<td>3= Critical</td>
<td>3=3 to 6 months</td>
<td>3=One month</td>
</tr>
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<td>4=Daily</td>
<td>4= Very Critical</td>
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<td>5=Several times per day</td>
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### Survey Key for Unique Knowledges

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<td>1=More than once per year</td>
<td>1= Not Critical</td>
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<tr>
<td>2=More than once per</td>
<td>2= Somewhat Critical</td>
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<td>year</td>
<td>3= Critical</td>
<td>3=3 to 6 months</td>
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<tr>
<td>2=More than once per</td>
<td>3= Critical</td>
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</table>
Survey Key for Skill: Writing

3. Writing  Communicating effectively in writing with others as appropriate for the needs of the audience.

- Taking a telephone message.
- Writing a memo to staff outlining new directives.
- Writing a novel for publication.

0 1 2 3 4 5 6

Highest Level Unsure
APPENDIX B

Purdue OLS Task List
OLS B.S. - Tasks, Unique Knowledge, Tools
Consolidated List (DRAFT FOR DISCUSSION ONLY)
March 2003

The following should answer the question –
What should a B.S. graduate in OLS know and be able to do?

TASKS

Analyzing Data or Information
1. Analyze alternative options to solve problems
2. Analyze budget figures for proper utilization of funds
3. Analyze charts, work orders, or production schedules to determine production requirements
4. Analyze organizational problems
5. Analyze process data for process improvement
6. Analyze statistical data for process control
7. Analyze work related problems so that the root cause is established

Assisting and Caring for Others
8. Aid organizational co-workers to complete their tasks successfully while contributing to organizational goals
9. Help internal and external clients to understand problems and solutions
10. Help organizational co-workers understand and achieve requested tasks
11. Notify internal and external customers of issues, challenges, solutions, progress
12. Notify organizational co-workers of their impact on task performance and goal achievement

Coaching and Developing Others
13. Coach work teams to be more effective
14. Contact team members when information needs to be distributed
15. Create win-win agreements when problems arise
16. Direct the activities of employees engaged in production or processing of goods
17. Guide and facilitate teams to accomplish expected results
18. Guide subordinates toward organizational goals
19. Handle disagreements creatively and effectively
20. Help empower people to do their best work
21. Implement measures to motivate employees and improve production methods, equipment performance, product quality, or efficiency
22. Provide constructive feedback when performance is unsatisfactory
23. Provide groups whatever knowledge or assistance they may need
24. Report performance results regularly
25. Share current and new knowledge in the areas of leadership and interpersonal skills
26. Solve work related problems so that they are not repeated

Communicating with Persons Outside the Organization
27. Discuss options with clients
28. Present data at meetings for evaluation
29. Provide appropriate information as required

Communicating with Supervisors, Peers, or Subordinates
30. Communicate appropriate information to all stakeholders
31. Communicate job specific Information to subordinates, peers, and management.
32. Communicate work related Problems to subordinates so that behavior or process modification can take place
33. Prepare various Presentations to employees, superiors, and customers
34. Write administrative and job specific Messages for subordinates, customers, and management.
35. Write Instructions for informing and compliance
36. Write technical and informational Procedures concerning processes such as procedures or equipment operations.

Controlling Machines and Processes
37. Prepare process Procedures as required
38. Sets up machines and equipment

Coordinating the Work and Activities of Others
39. Coordinate Activities to achieve objectives
40. Coordinate all Meetings to accomplish organizational goals
41. Coordinate Meetings for efficiency of info transfer
42. Coordinate production Schedules for smooth work flow
43. Coordinate Subordinates for empowering and building interpersonal relationships
44. Coordinate task and process Activities to meet org objectives

Developing and Building Teams
45. Counsel Teams for development purposes
46. Develop attainable Goals to enhance the motivation of subordinates
47. Develop interpersonal Abilities
48. Develop leadership Abilities
49. Develop meaningful Relationships and responsibility toward understanding leadership
50. Develop People and team skills
51. Develop Professional and personal Skills needed for job and growth.
52. Develop team Members skills for optimum performance
53. Develop work Teams to achieve successful ends in a cooperative manner
54. Develop work-related Skills for desired output

Documenting/Recording Information
55. Enter work related Information into database so that historical information can be easily retrieved
56. File work related Documents for easy access and use at a later date
57. Gather work related Information for use at a later date
58. Record work related Events so that proper disciplinary action can be taken
59. Write work related Procedures to ensure that activities are consistence throughout a given area

Establishing and Maintaining Interpersonal Relationships
60. Develop, Establish, and Maintain Relationships with internal and external customers

Getting Information
61. Examine process Information for importance and relativeness
62. Exchange Information regularly
63. Listen to Ideas from all people

Guiding, Directing, and Motivating Subordinates
64. Confer with management or subordinates to resolve worker problems, complaints, or grievances
65. Define expected Results
66. Discipline Subordinates
67. Enforce safety or sanitation regulations
68. Evaluate all appropriate Options
69. Evaluate and identify all relevant Information needed to the solve the problem
70. Evaluate Processes through system assessment
71. Evaluate Programs for their effectiveness and efficiency
72. Evaluate task and process Information for use in the decision process
73. Evaluate Work outcomes to performance goals
74. List work Activities so that they are easily understood and accessible
75. Maintain focus on Ideas
76. Manage Time efficiently and effectively
77. Manage work Teams for task completion and in working together.
78. Negotiate Agreements between parties when problems arise
79. Provide positive Feedback for a job well done
80. Provide relevant Information to subordinates so that they are always informed of what is going on in the comp
81. Recommend measures to motivate employees and improve production methods, equipment performance, product quality, or efficiency

**Implementing Ideas, Programs, Systems, or Products**
82. Understand Systems thinking

**Inspecting Equipment, Structures, or Materials**
83. Inspect materials, products, or equipment to detect defects or malfunctions

**Interpreting the Meaning of Information for Others**
84. Discuss Ideas before making decisions
85. Interpret Information of all kinds

**Judging the Qualities of Objects, Services, or Persons**
86. Appraise People in the immediate and extended workplace
87. Assess current Employees to determine job performance
88. Assess job applicant Candidates in order to determine organizational fit

**Making Decisions and Solving Problems**
89. Choose among Options that have been evaluated based on established criteria
90. Choose Methods most appropriate to the situation
91. Examine Decisions for improvement
92. Examine Outcomes for evaluation and future review
93. Identify Strategies to accomplish organizational and departmental goals
94. Prioritize work Activities so that subordinates understand importance of each
95. Schedule Activities to best utilize resources
96. Solve task and process Problems to enhance productivity and competitiveness

**Monitoring and Controlling Resources**
97. Examine cost Options by seeking quality and low cost suppliers
98. Manage Spending without compromising quality
99. Monitor divisional Records seeking trends in costs
100. Requisition materials, supplies, equipment parts, or repair services

**Monitoring Processes, Materials, or Surroundings**
101. Adjust machines and equipment
102. Determine standards, production and rates based on company policy, equipment and labor availability, and workload
103. Formulate and monitor Plans to achieve goals
104. Maintain operations data, such as time, production, and cost records and prepares management reports
105. Monitor achievement of Standards
106. Monitor gauges, dials, and other indicators to ensure operators conform to production or processing standards
107. Monitor Performance of Groups and individuals to maximize efficiency
108. Review Processes for deviation and opportunity
Organizing, Planning, and Prioritizing Work
109. Arrange work Activities
110. Assign Tasks to subordinates
111. Calculate labor and equipment requirements and production specifications, using standard formulas
112. Organize Activities of all employees and involved participants
113. Organize individuals and group Members for maximum productivity
114. Organize production Tasks to best suit subordinate skills
115. Organize project and process Teams
116. Organize Schedules to meet needs of all parties
117. Organize Subordinates into teams
118. Organize team Activities so that priority levels and responsibilities are clearly defined
119. Organize Teams to achieve org objectives
120. Organize timelines and key steps required to complete Projects

Performing Administrative Activities
121. Document legal and performance based Records
122. Document Performance for purposes of maintaining quality
123. Review Performance formally and informally
124. Submit Reports as requested and as needed

Processing Information
125. Report appropriate Information as required
126. Review operations and accounting records or reports to determine the feasibility of production estimates and evaluate current production
127. Summarize Information to help others understand
128. Update Records as needed
129. Verify Information before passing along or taking action

Providing Consultation and Advice to Others
130. Advise Customers about products and services
131. Advise Groups when needed
132. Advise relevant Suppliers so that problems can be easily understood and resolved

Resolving Conflicts and Negotiating with Others
133. Facilitate the resolution of work-related Conflicts
134. Mediate Disputes among subordinates

Scheduling Work and Activities
135. Establish work schedules, assignments, and production sequences, to meet production goals
136. Formulate appropriate Strategies for the year's assignments
137. Prioritize departmental and organizational Goals to accomplish objectives
138. Report work-related Data up and down chain of command
139. Retrieve historical Data to track process or product improvement
140. Set performance Goals to be achieved

Staffing Organizational Units
141. Select Candidates who are most qualified for the job

Thinking Creatively
142. Create New Processes for continuous improvement
143. Design improved Procedures to increase work flow
144. Initiate process improvement Ideas of employees when feasible

Training and Teaching Others
145. Demonstrate equipment operations or work procedures to new employees or assigns employees to experienced workers for training
146. Demonstrate necessary Skills to complete tasks successfully
147. Design Classes to meet needs of trainees
148. Design experiential exercise Tasks knowledge for the student to proceed to the next level of expertise
149. Design Programs to address trainee needs
150. Design teaching Materials for classes assigned
151. Develop applied Skills to apply to distinguish and identify to discriminate
152. Diagnose subordinate Needs to increase performance
153. Direct Subordinates to be successful in work performance
154. Discuss relevant customer Complaints so that improvement efforts can be quickly implemented
155. Instruct Groups
156. Prescribe training and development Programs for continuous employee progress
157. Provide Subordinates whatever knowledge or assistance they may need
158. Provide work-related Skills to increase productivity
159. Teach training Classes to assist job performance using online and traditional training methods
160. Type employee performance Reports for ease of documentation and distribution

**Working with Computers**
161. Enter technical work related Data so that it can be analyzed and viewed in different formats at a later date
162. Open work related computer Programs which help in making everyday job activities more efficient
163. Retrieve employee Records for clarification or historical information
164. Search computer Files for relevant information
165. Search work related Data bases for company information
166. Type departmental performance Reports so that they can be documented and distributed easily
167. Update field Information for current application to work

**Unique Knowledge**

1. Know how to develop employees for current and future jobs.
2. Knowledge on how to motivate and encourage employees and co-workers.
3. machine limits
4. Instructional Design Methodology
5. Project Management Methodology
6. HTML Programming - Web Page Creation
7. Training Technology
8. Distance Education Technology
9. Compensation Planning
10. Benefits Planning
11. Curriculum Development
12. Coaching
13. Employee Development
14. Career Planning
15. Presentation Skills
16. Technical Writing
17. Drafting and Mechanical Drawing
18. Computer Application
19. Employee Motivation
20. Leadership Theory
21. Human Resource Development
22. Industrial Organizational Psychology
23. Industrial / Production Operations
24. Occupational Safety and Health
25. Industrial Facility Design
Tools

1. Accounting software
2. Automobile
3. Calculator
4. Calendar
5. Calendaring/Scheduling software
6. Cellular phone
7. Charts/graphs/blueprints
8. Computer
9. Database software
10. Desktop Publishing software
11. E-mail
12. Fax
13. Internet Access
14. LCD Projector
15. Network software
16. Overhead projector
17. Personal Digital Assistant (PDA)
18. Personal Information Management software
19. Photocopier
20. Printer (laser, dot matrix, or inkjet)
21. Project management software
22. Spreadsheet software
23. Teleconference equipment
24. Telephone
25. Television/VCR
26. Video Communication
27. Voice recognition input devices
28. Voicemail/Telephone answering machine
29. Word processing software
30. Digital video editing hardware and software