

## CHAPTER 3

### Job Analysis

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#### LEARNING OBJECTIVES

This chapter should help students understand:

- How important job analysis is to HR functioning
- The common terminology used in the area of job analysis
- How to differentiate between task-oriented and worker-oriented job analysis techniques
- How to conduct a job analysis using the Task Inventory Approach, Functional Job Analysis, Job Element Method, Position Analysis Questionnaire, and Common-Metric Questionnaire
- What's included in the *Dictionary of Occupational Titles* and how it has been improved through the development of the Occupational Information Network (O\*NET)
- What a job description is and how it is used in human resource practices

- What job specifications are and how they are used in human resource practices
- The variety of human resource functions for which job analysis is of great importance
- The newly developing role of technology in the analysis of jobs
- The role of job evaluation in setting compensation levels
- The doctrine of comparable worth and the wage gap

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## **Chapter Summary**

Although job analysis tends to receive little empirical attention, it is among the most important areas of I/O psychology, providing the foundation on which all other HR processes are built. This chapter was largely structured around Figure 3.1, which shows the interrelationships among job analysis, job descriptions, job specifications, job evaluation, and the HR functions that are built on these processes. It should be clear by now that without a carefully designed and executed job analysis, HR practitioners and I/O psychologists would have very little to go on in making HR decisions.

Both task-oriented and worker-oriented approaches to job analysis were presented in this chapter, along with a discussion of different methods within each category. Also discussed were the advantages and disadvantages of each approach, the choice of which should depend on the job analyst's purpose. Some developments in the area of job analysis were considered as well. First, although the DOT has been of great importance to the I/O field for many years, the Department of Labor's current undertaking, the O\*NET should provide more updated, useful, and accessible data on occupations and jobs. Second, the CMQ was presented as one of the newer job analysis instruments with great potential to serve the purposes of worker-oriented job analysis methods while avoiding criticisms regarding reading level and work behaviors that are too general.

Job descriptions and job specifications are derived either directly or indirectly from the job analysis and are directly or indirectly connected to a myriad of HR functions. This chapter provided a brief discussion of the links between job analysis and these HR functions; the remainder of the second part of the text will cover these HR functions at length. Finally, we considered the role of job analysis in job evaluation. The Equal Pay Act of 1963 mandates that individuals who do equal work should receive equal pay, but

it does not speak to wage gaps between “male-typed” and “female-typed” jobs. The emergence of the doctrine of comparable worth suggests that organizations and society need to do a better job in setting compensation for jobs while taking gender-based job classes into account.

## **TEACHING THE CHAPTER**

Job analysis is the foundation for the “I” (industrial) component of I/O psychology. I/O psychologists rely on job analysis data to design selection systems, performance appraisal instruments, and training programs and to select criteria for measuring work performance. For this reason, ensuring that students understand the material in this chapter is paramount to their comprehension of subsequent topics discussed in this book. From their reading, your lecture, and the class exercises, students should gain an understanding of the components of job analysis as well as the types of information collected and recorded during the process.

In this chapter, the technical issues, approaches, and methodologies involved in job analysis are discussed thoroughly. As an instructor, you can choose to emphasize either task-oriented or worker-oriented methodologies

(or both) in class assignments. But regardless of the methodology you emphasize in class activities or assignments, this chapter provides the foundation for explaining the use of job analysis for I/O psychologists, HR functioning, and organizational effectiveness.

To supplement chapter reading and lectures, students should be engaged in activities and assignments that focus on applying their knowledge to an actual job analysis project. The following section provides several activities designed to enhance textbook material. The activities will also help to develop students' practical knowledge and experience in the classroom and extend it toward a larger assignment that can be used throughout the semester as a resource for class exercises.

The first exercise is designed to get students thinking about the types of KSAOs and the level of investigatory work necessary for conducting a job analysis. By working to identify the knowledge, skills, abilities, and other requirements of psychology professors and students, your class will learn about the details that an effective job analysis should capture. This exercise also may stimulate a lively class discussion about academic responsibility. The remaining exercises/assignments can be conducted in class or given as assignments to provide your students with applied job analysis experience.

Because job analysis is the basis for so many other I/O activities, the job analysis assignment should be framed with a semester-length scope, requiring students to reference the data they collect in the job analysis for forthcoming projects (e.g., designing a job advertisement and a performance appraisal instrument).

## **SUGGESTED EXERCISES AND ASSIGNMENTS**

### **KSAOs for College Students and Psychology Professors**

**Purpose** Through this exercise, students will gain insight into the jobs of students and professors in the academic environment as well as what each party must bring to the class in order to create an effective educational experience.

#### **Instructions**

- *Prior to class:* Visit the O\*NET website (<http://online.onetcenter.org>) and look up the listing for a psychology professor (SOC code: 25-1066.00: “Psychology Teachers, Postsecondary”). Using the “Occupation Quick Search” field, enter “Psychology Professor” to quickly go to the listing. If your

classroom has multimedia (i.e., Internet access), you could bookmark the page so you can show it to students after they have completed this activity. Otherwise, you could print the classification's "Summary" page to show the class.

- Break the class into small groups and ask them to brainstorm about the KSAOs that are required to be a college student and a psychology professor. Also, time permitting, they should brainstorm task requirements for each job.
- Ask groups to share the KSAOs and tasks that they identified for each role. Create a class list that contains the unique KSAOs and tasks for each role. Each group will likely have unique contributions to these lists.
- After students have generated their lists and shared them with the class, share the O\*NET list of the KSAOs and task requirements of a psychology professor.

### **Discussion Questions**

- To what extent have we adequately described our roles as professor and students?
- Does the O\*NET adequately describe the professor's role? Are there

any areas of a professor's job that this description has omitted?

- Since the O\*NET already contains so much information, why do I/O psychologists conduct job analyses instead of simply referring to this comprehensive database?
- How could an I/O practitioner use the information from the O\*NET?

## **Developing Questions to Gather Job Analysis Information**

**Purpose** In this exercise, students will consider the questions they would use when interviewing job incumbents to collect job analysis information and to generate a set of questions they can use in their own job analysis assignments.

### **Instructions**

- *Prior to class:* Create a handout that outlines the critical information that must be collected in a job analysis:
  - A definition of knowledge, skills, abilities, and other characteristics along with an explanation of how each K, S, A, or O is different from the others
  - A definition of task requirements and work environment

characteristics

- A way to differentiate between essential and nonessential tasks
- Consider dividing the class into small groups. Or simply conduct this as an open class discussion if your class is not too large.
- Provide the handout outlining the necessary information to students.
- To ensure that students understand the differences between knowledge (K), skills (S), and abilities (A), you might provide examples and ask the class to identify each as a K, S, or A. For example, is being fluent in a second language a knowledge, skill, or ability? One must have knowledge of the language but must also be able to speak it well. Are skills manual-type activities (like typing or digging), or can speaking another language also be a skill? Stimulate class thinking about the challenges in classifying behaviors as K, S, or A.
- Have students brainstorm a set of approximately 10 questions, including any necessary follow-up questions they would use when interviewing a job incumbent.
- Have individuals/groups turn to other individuals/groups and share their list of questions to receive feedback on its comprehensiveness

and effectiveness.

- As an outcome of this exercise, a “job analysis questions” handout can be generated for students’ use in conducting their own job incumbent interviews.

### **Discussion Questions**

- Did you receive any surprising feedback from other groups? What are some examples?
- What were some aspects of the job that you overlooked?
- What did you find more challenging than you expected during this exercise?
- How do you think answers to these questions might differ if you interview a supervisor instead of a job incumbent?

### **Job Analysis**

**Purpose** Students will conduct an abbreviated version of a job analysis in a “safe” environment (i.e., they interview a friend or family member and write up the results for class instead of an organization).

### **Instructions**

- Ask students to conduct a job analysis by interviewing a friend or family member who is currently employed. Information should include (but not be limited to) the following:
  - An overall description of the job
  - An explanation of how the job is classified in the O\*NET (including the occupational code and task requirements)
  - A description of the knowledge, skills, abilities, and other characteristics that are essential to job performance (based on student findings, not the O\*NET)
  - A description of the work environment, including a description of the physical work environment, supervisory controls, physical demands, typical amount of interpersonal contact, amount of expected teamwork, job complexity, and amount of direction (supervision) typically required to get the job done (again, based on student findings, not the O\*NET)
  - A brief summary of the organization's culture and competitive environment
- Have students write their job analysis, including the information presented above. They should also outline any challenges they faced

in interviewing the incumbent and writing the job analysis. Write-ups can be anywhere from two to five pages in length.

- If feasible, have students present their job analysis findings to the class.

### **Discussion Questions**

- Were there any aspects of the job that you were surprised by? What are some examples?
- What challenges did you face while you were working on this assignment?
- How do you think your results might have differed if you interviewed a different person in this position at this organization?
- What would differ if you interviewed someone in the same position in a different organization?
- Why is accuracy so important in job analysis? What are some barriers to obtaining accurate responses from your interviewee?

### **Design a Job Advertisement**

**Purpose** Students will apply information from their job analysis to a real-

world application.

### **Instructions**

- *Prior to class:* Prepare a sample job analysis before class to present to students (this can be the psychology professor O\*NET description). Or have students bring a copy of their job analysis to class.
- Divide students into groups of three or four.
- Have students select one group member's job analysis to use in writing a job advertisement. Once they have selected the job, they should generate a fictional organization where the job is located.
- Have students create a brief advertisement for the job, including the following:
  - An accurate description of the task requirements for the job
  - A brief list of applicant requirements
  - Something that “sells” the organization to potential applicants
- Have students share their job advertisements with the class. You might consider having students vote on the most desirable job based on the advertisements.

### **Discussion Questions**

- Was there any information that you would have liked to have, but was not available, when you created the job description?
- Would you apply for a job like the one you are advertising based on the advertisement you created? Why or why not?
- What job advertisements have you seen that attracted you to apply for a job?

## **Conduct a Job Evaluation**

**Purpose** Students will consider what types of factors lead to different pay in organizations.

### **Instructions**

- *Prior to class:* Consider an organization with which students are likely to have had experience. For example, they can consider jobs on a college campus or in an organization for which they have worked or been a customer (e.g., a grocery store, restaurant, or a retail outlet).
- Divide students into groups of three or four. Ask them to think of three jobs in the target organization and consider the following:
  - How much *effort* is involved in each job?

- How much *skill* is required by the job?
- How much *responsibility* is required by the job?
- What are the *working conditions* of the job?
- Ask students to use their answers to these questions to estimate the annual salary for each position (these will likely be rather high compared to what would be realistic).
- Have students share the jobs they considered and their estimated salaries.

### **Discussion Questions**

- How important did you consider each component when deciding how much to pay each person? Did you tend to weight one aspect more heavily than others when you were estimating salaries?
- What information would you have liked to have? How might you go about getting that information?

## **EVALUATING “TAKING IT TO THE FIELD”**

The Chapter 3 activity involves having students interview college employees to learn more about what characteristics are required to be effective at a certain job. We use this approach so that students can also learn more about

their college/university. However, if you have concerns about receiving a number of varied responses, you can also ask the students to do a job analysis for an employee they all have access to (e.g., a college professor) or you can ask them to create a job description for a position they are likely to be familiar with (e.g., a fast-food cook, a server in a restaurant).

Below is a general rubric for what poor, good, and excellent responses look like.

<p><b>Poor responses . . .</b></p>	<ul style="list-style-type: none"> <li>• Contain spelling and grammatical errors.</li> <li>• Are copied directly from O*NET.</li> <li>• Use inconsistent verb tenses (e.g., <i>listens</i>, <i>observed</i>).</li> <li>• Are too vague to provide useful information about the job (e.g., “Knows how to clean”).</li> <li>• Provide the response in an essay-style format.</li> <li>• Focus on job tasks (e.g., “Cleans tables properly”).</li> <li>• Are too short (e.g., less than a half a page) or</li> </ul>
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	too long (over two pages).
<b>Good responses . . .</b>	<ul style="list-style-type: none"> <li>• Use proper spelling and grammar.</li> <li>• Use a consistent verb tense (e.g., <i>listens</i>, <i>observes</i>).</li> <li>• Provide adequate detail for an applicant to understand a position (e.g., “Knows how to properly disinfect a food preparation area”).</li> <li>• Effectively use bullet points.</li> <li>• Are an appropriate length (one to two pages).</li> </ul>
<b>Excellent responses . . .</b>	<ul style="list-style-type: none"> <li>• Use flawless spelling and grammar.</li> <li>• Use a consistent verb tense.</li> <li>• Provide adequate detail for an applicant to understand a position (e.g., “Knows how to properly disinfect a food preparation area”).</li> <li>• Effectively use bullet points.</li> <li>• Are an appropriate length (one to two pages).</li> <li>• Note details about workers that other students</li> </ul>

	may take for granted (e.g., whether speaking English is necessary, whether good vision is required for the job).
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## EVALUATING “APPLICATION QUESTIONS”

1. Find an online job posting. According to this posting, what are some KSAOs required for that position? Are there any KSAOs you believe might be expected but are omitted from this ad? What might be the consequences of this omission?

**Evaluation Guide:** Responses from students may vary a great deal in this activity. So you might ask to see the ad as well as students’ responses so you can better evaluate how well they have identified key points.

Here are some points you might consider making:

- There may be some expectations that are assumed on the part of the HR department and thus are not mentioned in the job ad. For example, sometimes job ads omit information about being able to work with others, having writing skills, or being able to work with ambiguous or poorly defined problems.

- There are some KSAOs that are likely to be common across ads. This might be a good opportunity to connect students' college experiences with these ads. For example, if many ads stipulate the importance of having good interpersonal skills, you might discuss with students how they can work on building these skills during their time in college.

2. Consider a position you currently hold or that you have held in the past. What pieces of information about your job did you know well that you could share with a job analyst? What pieces of information did you not know? Who in the organization would have been better equipped to provide this information to a job analyst?

**Evaluation Guide:** Responses from students will vary a great deal, and students may need some prompting to come up with ideas for what information they might have missed in their role. Below are some points you may consider making:

- Students are likely to know a great deal about behaviors and skills that are necessary, especially those that might not be apparent to a casual observer (e.g., extra tasks they do in the back room, or tasks that are important, but rarely done). Students often don't know what

the gaps are in their knowledge, so getting answers to this question may take some prompting.

- Students are less likely to know information about how their position compared to other jobs within and outside of the company.

Furthermore, they may not understand how their job fits into the organization on a larger scale. Students also may not have much information about what they didn't know about their job (e.g., tasks they didn't realize they were responsible for). Supervisors or other leaders, and job analysts may have a better sense of these issues.

Advantages of using supervisors include that they may have a good sense of which KSAOs are most important to the mission of the organization, and they may be more objective than job incumbents about which KSAOs are important. Some disadvantages include that they may not be aware of some of the day-to-day minutiae, and they may not know about KSAOs that are rare or not easily observable.

3. Imagine that your college or university is considering using a competency model to ensure that students who graduate have competencies that are necessary in the workplace. What might be some competencies that all students should master by the time they graduate?

**Evaluation Guide:** Responses to this item may vary, but students should be able to identify competencies that are fairly broad in nature. Example responses may include the following:

- With respect to any class in any college/university, competencies might include effective communication, effective writing, effective study skills, leadership skills, and ability to engage in teamwork. Encourage students to use broader competencies (e.g., effective communication) rather than specific tasks or characteristics (e.g., being proactive in asking an instructor for help).
  - With respect to competencies that might be unique to the student's institution, there may be unique skills or beliefs that are important for student success or self-esteem. For example, in religious institutions, demonstrating strong faith may be part of the student experience. In a school where volunteerism is a focus, interests and skills in this area may be relevant.
  - It is helpful to draw students' attention to the difference between competencies (which can be quite general) and a more task-oriented job analysis approach (which is quite specific).
4. Imagine you have a client who is hesitant to commit to a job analysis.

She states that the investment of time and money into developing a job analysis for every position isn't worth it, especially because she thinks that many jobs in the organization will change a lot within the next five years. What might you say to this client?

**Evaluation Guide:** Students may have a broad array of responses for this question. If they need prompting, you could encourage them to think about what jobs might be more important in the future work environment or how the changing nature of work and technology might affect the skills that are necessary. Here are some additional points to consider:

- Students should consider the value of competency modeling or strategic job modeling to help establish KSAOs that can adapt to the changes this client thinks she will be making. For example, the client might want to think about what types of skills someone can use to help adapt to changes in the job—good critical thinking skills, an interest in learning new technologies, or good communication skills can all be beneficial for selecting an adaptable employee.
- Students could also suggest to the client that she start with job analyses on positions that she doesn't expect to change much. For example, an HR position will likely not change much, while an

assembly line position might change a lot if new technology is going to be installed soon.

## **HIGHLIGHTED STUDY FOR DISCUSSION**

Landrum, R. E., Hettich, P. I., & Wilner, A. (2010). Alumni perceptions of workforce readiness. *Teaching of Psychology, 37*, 97–106.

Although not strictly about job analysis, this article provides an interesting example of a mismatch between individuals' skills and the jobs they hold. The article may also provide students some insight into how college can prepare them for the workforce and why instructors may make decisions about including particular projects or policies in the classroom. Key points in the article include the following:

- Several national surveys indicate that current employers are generally unsatisfied with the level of preparedness among recent college graduates.
- Three hundred and six Boise State University psychology alumni were mailed a survey regarding which skills they believed they gained in college and which they gained in the workplace. Seventy-

eight of these were returned with usable data.

- The top 10 skills in terms of importance were the following:
  1. Possessing self-discipline (punctuality and responsibility)
  2. Acting responsibly
  3. Working with others
  4. Meeting the needs of others
  5. Setting priorities and managing time effectively
  6. Identifying and solving problems
  7. Making appropriate decisions
  8. Working without supervision
  9. Working independently
  10. Managing several tasks at once
- The authors also noted personality characteristics of alumni that changed a great deal after graduation. These included being more confident, independent, mature, and assertive as well as being less shy, resentful, and defensive.
- The authors also collected open-ended comments from alumni. Many of the comments related to how professors should use classroom assignments to help build needed skills. For example,

respondents suggested that professors should be more stringent with deadlines and assignment completion because these qualities are expected in a work environment. Similarly, respondents noted the importance of group work in developing skills for working with other people.

## WEB LEARNING

Title	Address
O*NET online	<a href="http://online.onetcenter.org">http://online.onetcenter.org</a>
<i>Dictionary of Occupational Titles</i> , 4th edition	<a href="http://www.oalj.dol.gov/libdot.htm">http://www.oalj.dol.gov/libdot.htm</a>
HR-Guide.com	<a href="http://www.hr-guide.com">http://www.hr-guide.com</a>
U.S. Department of Labor website	<a href="http://www.dol.gov">http://www.dol.gov</a>
Job evaluation website (from HR-Guide.com)	<a href="http://www.hr-guide.com/jobevaluation.htm">http://www.hr-guide.com/jobevaluation.htm</a>

Job classification website (from HR-Guide.com)	<a href="http://www.job-analysis.net/G010.htm">http://www.job-analysis.net/G010.htm</a>
Equal Pay Act of 1963	<a href="http://www.eeoc.gov/policy/epa.html">http://www.eeoc.gov/policy/epa.html</a>