



## TASKS ANALYSIS AND ITS IMPORTANCE IN ORGANIZATIONS

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**Abstract:** *Task analysis is the analysis of how a task is accomplished including; a detailed description of both manual and mental activities, task and element durations, task frequency, task allocation, task complexity, environmental conditions, necessary clothing and equipment, and any other unique factors involved in or required for one or more people to perform a given task. A task analysis offers a comprehensive look at every aspect of the eLearning development process. Not only does it help you identify performance goals for your employees, but it gives you the power to develop a cost-effective online training program.*

*Tasks are the specific steps needed to complete a Job. Think of Tasks as the incremental steps necessary to complete a given Job. A Job can have any number of Tasks but all Tasks must be completed before the Job can be sent to review and archived. For example in a bookkeeping job the tasks involved may include; get the information from clients; verify the correctness of information; enter the information in the books; balance off the accounts*

*The general term Task Analysis can be applied to a variety of techniques for identifying and understanding the structure, the flow, and the attributes of tasks. Task analysis identifies the actions and cognitive processes required for a user to complete a task or achieve a particular goal.*

*Cognitive task analysis (CTA) is a type of Task analysis aimed at understanding tasks that require a lot of cognitive that is the user should have the mental processes of perception, memory, judgment, reasoning, decision-making, problem-solving and attention.*

*A detailed task analysis can be conducted to understand the current system and the information flows within it. These information flows are important to the maintenance of the existing system and must be incorporated or substituted in any new system. Task analysis makes it possible to design and allocate tasks appropriately within the new system. The functions to be included within the system and the user interface can then be accurately specified.*

**Keywords:** *cognitive task analysis, task analysis, performance Improvement (PI)*



## INTRODUCTION

Jobs can best be understood as a series of tasks. A task is an action designed to contribute a specified end result to the accomplishment of an objective. It has an identifiable beginning and end that is a measurable component of the duties and responsibilities of a specific job. Although each job has a title, the actual work that is expected of that job can vary widely. Tasks are the means of describing a job in detail. For example, a doctor is a job title. But the tasks performed by each doctor vary — from operating to performing physicals to providing emergency first aid. The following are the main characteristics of tasks:

- A task has a definite beginning and end.
- Tasks are performed in relatively short periods of time. They are usually measured in minutes or hours.
- Tasks are observable. By observing the performance of a jobholder, a definite determination can be made that the task has been accomplished.
- Each task is independent of other actions. Tasks are not dependent on components of a procedure. A task is performed by an individual for its own sake.
- A task statement is a statement of a highly specific action. It always has a verb and an object. It may have qualifiers, such as “measure distances with a tape measure.” A task statement should not be confused with an objective that has conditions and standards.

## ORIGINS OF TASK ANALYSIS

Task analysis has been studied almost since the Industrial Revolution, during which employers began to focus on breaking down jobs into the specific tasks required. One of the first true leaders of task analysis was Frederick Winslow Taylor, the author of *The Principles of Scientific Management*, first published in 1911. Taylor applied critical thinking to industry, seeking the most efficient way to perform tasks and/or jobs and rewarding workers who found ways to facilitate working toward that goal.

Taylor's theories were a precursor to Jonassen's first classification of task analysis: job or performance analysis. Originally meant to describe the simple behaviors performed on the job, analysis of this sort also became used as a way to plan technical training. During the 1950s and 1960s subject-matter analysis began to be used to plan curricula in educational facilities. This involved analyzing content into its most basic constructs and determining how



they relate to other subject matter. The 1960s led to another revolution in learning psychology, and thus, to another form of analysis: learning analysis. This movement focused on people who learned processed information as they performed certain tasks. Cognitive task analysis evolved from this class, as did research in human-computer interaction. Finally, activity analysis studies how people perform in natural surroundings and which social and contextual factors affect that performance.

Task analysis was studied in organizational literature and as part of the group process in the mid- to late-1960s. Scholars of group behavior felt that tasks undertaken as part of the group process played particularly important roles in how group members interacted and performed. Group support systems (GSS) literature also emphasized the importance of tasks and, from the mid-1980s to the mid-1990s, developed a task classification scheme that has since been widely used. In the late 1990s theories were explored as to how tasks and technology worked together within GSS. The theory asserts that clear descriptions of tasks are an important part of any GSS environment, and that technology is linked specifically to the demands of the tasks to be performed.

### **A COGNITIVE TASK ANALYSIS**

Cognitive Task Analysis is directed at the psychological processes underlying the performance and the subtle cues that may depend on context and experience. The main goal of a cognitive task analysis is to define the actual decision requirements of the task by:

- Mapping out the task using task analysis (traditional task analysis).
- Identifying the critical decision points.
- Clustering and linking the decision points.
- Prioritizing the decision points.
- Diagnosing and characterizing the decisions as to the strategies used, cues signaling the decision points, and the inferences made regarding cues and decision points.

### **DIFFERENCES BETWEEN TASK ANALYSIS AND COGNITIVE TASK ANALYSIS**

There is a key difference between a task analysis and cognitive task analysis. Task analysis focuses mainly on observable behavior and does not offer information on overall organization of knowledge. A cognitive task analysis is directed at the psychological processes underlying the behavior. Cognitive task analysis concentrates on the critical decisions and cognitive processes that separate the expert from the novice.



A detailed description of physical, perceptual, and cognitive activities involved with each task, task duration task frequency, task sequence, task allocation, task complexity, environmental conditions, data and information dependencies, tools required for the task, user skills, education, and training

Performance refers to the way people do their jobs and the results of their work.

Performance Improvement (PI) is a method for analyzing performance problems and setting up systems to ensure good performance. PI is applied most effectively to groups of workers within the same organization or performing similar jobs.

Performance improvement is measuring the output of a particular business process or procedure, then modifying the process or procedure to increase the output, increase efficiency, or increase the effectiveness of the process or procedure. Performance improvement can be applied to either individual performance or organizational performance.

In organizational development, performance improvement is organizational change in which the managers and governing body of an organization put into place and manage a program which measures the current level of performance of the organization and then generates ideas for modifying organizational behavior and infrastructure which are put into place to achieve higher output.

The primary goals of organizational improvement are to increase organizational effectiveness and efficiency to improve the ability of the organization to deliver goods and or services.

Organizations seeking to solve a performance problem frequently implement a specific intervention, such as training, without fully understanding the nature of the problem or determining whether or not the chosen intervention is likely to succeed. Just as often, professionals with a high level of expertise in a specific intervention area see every problem as an opportunity to ply their trade. As Abraham Maslow once said, "To the person who only has a hammer in the toolkit, every problem looks like a nail." In fact, there are a number of methods for improving the performance of organizations, teams and individuals. These include;

**Organizational development** - Organization Development is an effort that is: Planned; Organization-wide; managed from the top; Increase organization effectiveness and health.



It is the study of successful organizational change and performance. Industrial engineering - It is a branch of engineering which deals with the optimization of complex processes, systems or organizations. Industrial engineers work to eliminate waste of time, money, materials, man-hours, machine time, energy and other resources that do not generate value. Training and development – this is a function concerned with organizational activity aimed at bettering the job performance of individuals and groups in organizational settings. Training and development can be described as "an educational process which involves the sharpening of skills, concepts, changing of attitude and gaining more knowledge to enhance the performance of employees. quality assurance – it's the maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production. It comprises administrative and procedural activities implemented in a quality system so that requirements and goals for a product, service or activity will be fulfilled. Human resources development - Human Resource Development (HRD) is the framework for helping employees develop their personal and organizational skills, knowledge, and abilities. It includes such opportunities as employee training, employee career development, performance management and development, coaching, mentoring, succession planning, key employee identification, tuition assistance, and organization development. The focus of all aspects of Human Resource Development is on developing the most superior workforce so that the organization and individual employees can accomplish their work goals in service to customers.

#### **Problems associates with job analysis/task analysis**

Most problems that deal with doing the job right are related to the ability to define the tasks that concern each job:

- Workers need to know what they are supposed to do. This increases both autonomy and initiatives by defining the latitude workers have.
- Supervisors need to know what their workers should be doing in order to provide feedback. It must be clear on what is being done and why.
- Managers need to know the Knowledge, Skills, and Attitudes (KSA) they need to interview for. Making the correct hiring decision has extreme consequences throughout the organization.



- Human Resources need to know the KSA for a job so that the pay reference point can be set.
- Trainers need to know the tasks so that they can create the learning objectives in order to improve job performance.
- The organization at a whole needs to know what tasks need to get accomplished so that their goals and mission may be met.

Lacking an understanding of the work to be done leads to issues with performance, supervision, selection, pay, training, and goal achievement. This in turn leads to poor morale. And if the morale in your organization is not at its peak, then you will not be able to remain competitive.

**Certain factors need to be in place for workers to be able to perform well on their jobs:**

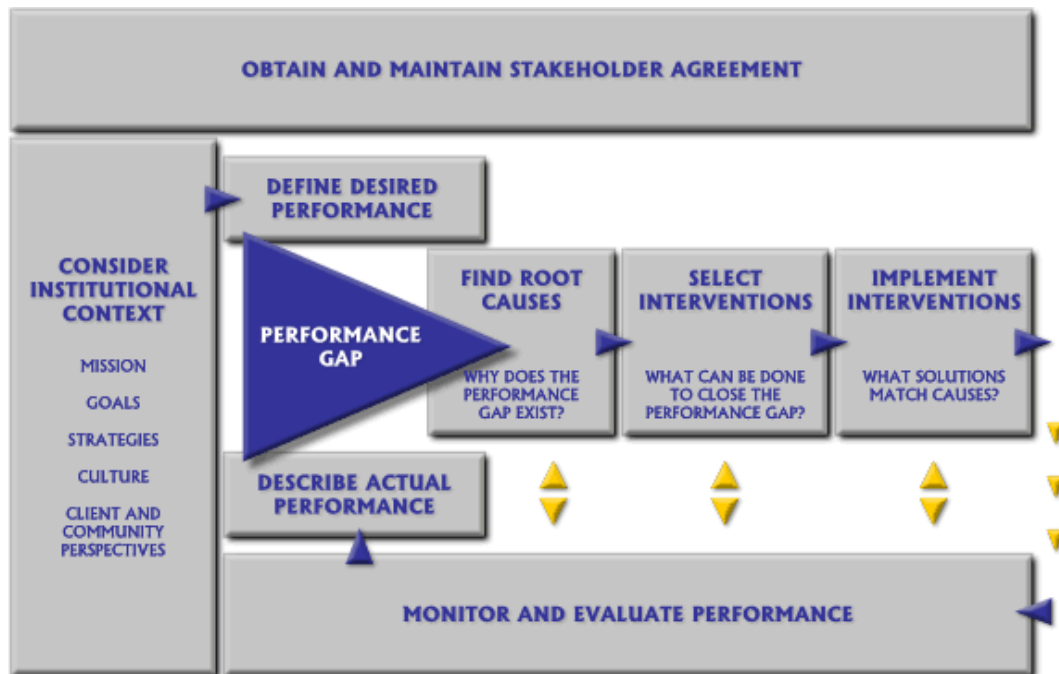
1. Clear job expectations
2. Clear and immediate performance feedback
3. Adequate physical environment, including proper tools, supplies and workspace
4. Motivation and incentives to perform as expected
5. Skills and knowledge required for the job.

Successful organizations support their workers by instituting and sustaining these performance factors. This support can be provided by a supervisor or emanate from a variety of other sources. For example, feedback can come from clients and incentives from a peer group. But no matter the source of these performance factors, it is the responsibility of the organization to make sure that a system is in place to deliver them.

When a performance factor is missing and a gap in performance has occurred, a solution, or intervention, usually becomes clear. For example, if workers lack information about what is expected of them, obvious interventions would include implementation of written policies, job descriptions or verbal directions.

**The Performance improvement Process Framework**

The following graphic illustrates the typical Performance Improvement process:



Following is a more detailed discussion of each of the stages in the PI process.

### Consider Institutional Context

Before taking the first steps in the PI process, the facilitator must understand the institutional context within which performance improvement will take place. The facilitator must be aware of the goals of the larger organization and maintain a consistent direction when defining performance targets. Familiarity with organizational goals—from the very top down to the level at which the main interventions will take place—helps to ensure the sustainability of the interventions.

### Obtain and Maintain Stakeholder Agreement

A client initiates the PI process by asking for assistance with problems or performance situations. In the initial stage, the PI facilitator, the client and the stakeholders meet to discuss and define the desired outcomes of the activity.

During the discussion, the group also addresses some or all of the following questions:

- How will the activity and its objectives fit within the goals of the organization?
- Who are the relevant stakeholders?
- Who are the PI team members?
- What steps need to be taken to determine the performance gaps?
- Are there any known impediments to proceeding with the activity?



This dialogue is important as it creates a collaborative working relationship that will continue for the life of the project.

### **Define Desired Performance**

The stakeholder group creates verbal statements that define desired performance in specific, observable and measurable terms. These statements of desired performance address the quality, quantity and timeliness of performance (i.e., how well, how many, when?). The group then sets initial and final target levels of performance.

### **Describe Actual Performance**

Once desired performance is described to everyone's satisfaction, current levels of performance are assessed using the same indicators developed to describe desired performance. Typically, describing actual performance levels necessitates baseline data collection

### **Describe Performance Gaps**

Once the desired and actual levels of performance have been defined, identifying the performance gaps becomes a simple matter of comparing the two levels. The gap should be described using the same indicators that were employed to describe desired and actual performance. The gap description shows, in objective terms, the difference between current performance and the performance the client wants to achieve.

### **Find Root Causes**

Once performance gaps have been described, the next step is to determine the cause of those gaps. Using the performance factors as a starting point, the stakeholder group participates in a root cause analysis to uncover the environmental factors that are impeding good performance. Any of the proven root cause analysis techniques (e.g., fishbone diagram, why-why analysis) will serve here. In PI, the analysis that concludes with the finding of root causes is frequently called a "Performance Needs Assessment" (PNA).

### **Select and Design Interventions**

The stakeholder group next selects interventions that will address the root causes discovered during the previous stage. Each intervention or set of interventions must address at least one root cause. During this stage, the team consults experts in each possible intervention area and plays a major role in designing and developing the selected interventions





### **Implement Interventions**

During the implementation stage, the team recruits additional expertise as needed, assures organizational readiness, applies the interventions, and helps enable and monitor organizational change.

### **Monitor and Evaluate Performance**

Through monitoring and evaluation, the team measures the change in the performance gaps identified during gap analysis. Monitoring happens on an ongoing basis so that changes in implementation can be made as needed. Whenever possible, the team develops an evaluation method that can be integrated into workplace processes and remain in the workplace after the interventions as a feedback device for workers and managers. The final evaluation should re measure the performance gaps and assess the extent to which they have closed as a result of the intervention

### **Importance of task analysis in organizations**

1. Improves comprehension by simplifying complex tasks.

More complicated tasks typically require a variety of different steps. This can make it increasingly difficult for employees to remember all of the steps they must carry out in order to complete a process. Keep in mind that employees are dealing with busy schedules and other work responsibilities. A task analysis breaks even the most complicated procedures down to its most basic components, making it easier for corporate learners to master each step before moving on to the next. They can take their time absorbing and retaining the information without having to worry about all of the stages at once. It also displays the relationship between all of the steps and highlights their importance. Essentially, a task analysis makes employees aware of why they need to complete each step to the best of their ability and what can happen if they do not.

2. Reduces on-the-job mistakes.

A task analysis increases productivity, streamlines work processes, and clarifies every aspect of a task. This, inevitably, reduces the number of errors that are made in the workplace. If an organization takes the time to, in essence, dissect their processes and break them down into easily digestible elements, then employees have the opportunity to explore every component at length. If they are struggling with a



specific step they can pinpoint what they are doing wrong and how they can improve, without having to first identify which step is causing the issue. For example, an employee who cannot complete a computer repair can view the complete list of steps and figure out where he is faltering. He can then receive the support he needs to practice that step until mastering it.

3. Identify which skills and resources are required for the process.

Aside from the steps that are involved, a task analysis can also identify what skills and resources are needed to complete the process. Many online training initiatives focus on the stages of the task, but fail to give the employees the tools they need to carry out these steps successfully. For instance, if you want them to be able to carry out a sales transaction you must ensure that they know how to use the terminal, communicate with customers, and have basic accounting skills. Through a task analysis you can narrow down these essential resources and skill sets and then integrate them into your online training course. Therefore, your employees have all of the knowledge they require to do their job effectively.

4. Improve existing processes and procedures.

Many organizations use task analysis to create online training for current processes. However, it also gives you the opportunity to improve the procedures that you currently have in place and identify their weaknesses. If you find that a specific task is outdated or not making the best use of resources, then you can modify or add steps, rearrange the stages of the process, or even eliminate the procedure altogether. In fact, all organizations should make this a top priority when conducting a task analysis. Before you start to develop online training courses based upon your findings, you must decide whether or not the task is serving your goals and objectives. Is it the most efficient way to carry out the business process, or is there another approach that may be more affordable and effective?

5. Helps to develop new tasks that may be more productive.

If you discover that a task is not living up to expectations, a task analysis can help you develop new processes that improve productivity. This can be done by using the task analysis as a framework for every new task. From the very start you can break the task down into more manageable steps and ensure that every phase is in-line



with the overall goals of your organization. In essence, you're working in reverse: Rather than analyzing an existing task, you are creating an entirely new task by analyzing data based on its structure. Just make sure that you have clearly identified your objectives beforehand, as well as the resources your employees must have to get the job done.

6. Reduces the risk of compliance fees and penalties.

There are some compliance procedures, such as those regulated by the state or country that can incur hefty fines and penalties. A task analysis can help you avoid these fees by improving task mastery and keeping your employees well informed. In fact, it may be wise to conduct a periodic task analysis for compliance online training, just to be on the safe side. This will help you stay current and integrate any new components that were recently added.

## **CONCLUSION**

A task analysis gives you the power to identify every skill, piece of information, and talent that employees must master. Though it may take time and resources, learning as much as possible about the task analysis process. Successful organizations support their workers by instituting and sustaining these performance factors. This support can be provided by a supervisor or emanate from a variety of other sources. For example, feedback can come from clients and incentives from a peer group. But no matter the source of these performance factors, it is the responsibility of the organization to make sure that a system is in place to deliver them.

When a performance factor is missing and a gap in performance has occurred, a solution, or intervention, usually becomes clear. For example, if workers lack information about what is expected of them, obvious interventions would include implementation of written policies, job descriptions or verbal directions.

Due to the rapid changes that are the major workings of many of today's organizations, a number of organizations are changing from task-based work to process-based. That is, they are becoming more knowledge-based. These jobs are no longer defined by a number of tasks, but by focusing on troubleshooting activities. In these cases, a cognitive task analysis may be more appropriate for identifying strategies involved in effective performance.



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