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# Quantum Design Fundamentals

## Overview

**Quantum Design** is a specific approach to instructional design (ID) that was developed over more than ten years and fine tuned in the process of developing more than 100 different training courses delivered in the classroom, via the Internet and released for self study. This system places learning development (LD) professionals in direct contact with management, training personnel and line employees as part of the overall process of improving performance ultimately increasing *efficiency*, *understanding* and *productivity*. The process of documenting and standardizing the **Quantum Design** method provided not only theoretical analysis but resulted in a comprehensive working ID system. This document is the product of documenting the practices that were tested and validated in actual training. Using these procedures makes it possible to building exceptional training and development systems and materials that provide companies with a **strategic advantage** in the market.

The lofty goal of building training that has such an effect is actually quite simple. However, it does require the incorporation of organizational goals and objectives into a company's training and development approach. Anyone who has worked in the learning and development field for any length of time recognizes what a tall order that is. However, the examination that went into building this approach makes it clear that if such an alignment takes place the resulting effect is flexibility and scalability sufficient to serve the needs of small, medium and large organizations. Once the training system has been linked to organizational goals the deployment of other parts of the training development take on entirely new effectiveness. Approaches such as:

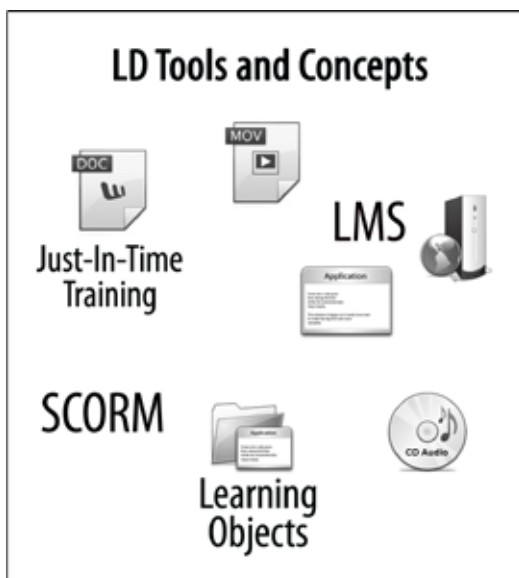


Figure 1 - 1: Sample Tools and Concepts for LD Professionals. This image includes some of the key concepts that learning and development professionals employ in developing resources.

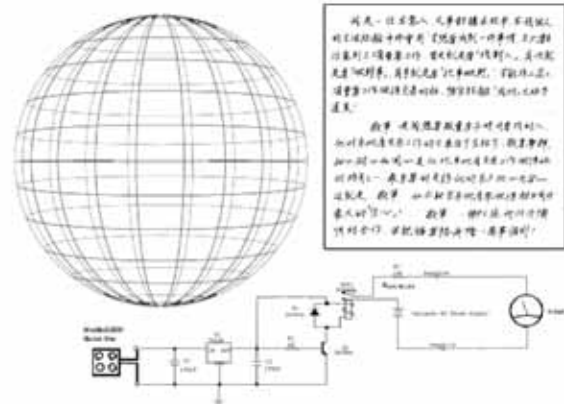
- Just-in-Time Training (*JITT*)
- Flash Based Delivery of Course Materials
- SCORM Compliance
- Learning Objects
- Learning/Content Management Systems (C/LMS)
- Blended Learning Approaches

result in greater effect that was previously hindered by improper alignment. The combined efforts result in the deployment of knowledge and skills through *situational*

*training, skill development, hands-on training and the creation of resources that can be reused and repurposed.*

## Evaluation Systems

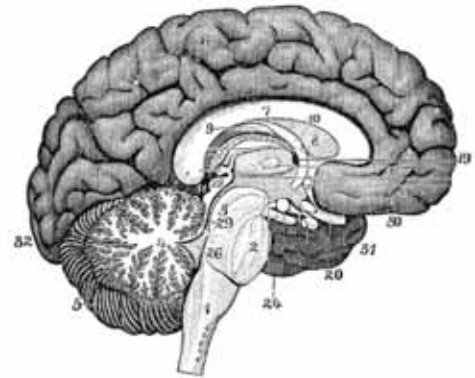
Building resources of this nature is important but equally important is incorporating a method used to evaluate the effectiveness of such resources. Understanding how to properly assess the impact of such materials is a skill in itself. Thus a great deal of effort is devoted to systems used for examining **behavioral changes, skill improvements, knowledge acquisition and return on investment (ROI)**. Without such efforts the impact of training remains unknown and adjustments to the resources are difficult to justify. In making these determinations the creation of detailed and sometimes necessarily complex tools are essential. These tools are used to measure behavioral changes, knowledge retention and the effect that the training has on the company's bottom line. Thus, the material covered in this document would not be complete without a careful review of training assessments and an explanation of a process used to develop such tools. In addition the method in which the results are read and an interpretation of the data is also discussed.



**Maximizing training effectiveness relies on the ability of a company to transform into a "learning organization."**

## The Learning Organization

The introduction thus far has been focused on addressing some of the core concepts that are part of **Quantum Design** but there is a more fundamental aspect of this approach that must be addressed. Underlying the various components that make up the ID apparatus is a foundation that makes the system possible. Establishing the foundation is a prerequisite for the success of the system and invariably requires a certain degree of transformation on the part of the organization. Clearly such a change is not mentioned without an understanding of the gravity of the requirement. Advocating any type of company-wide change should never be done lightly but without this adjustment the steps that come after are unlikely to achieve their full potential. This change is necessary because building a **Quantum Design** methodology on top of an organizational structure that is in conflict with the methodology limits its success. In fact, it is precisely these conflicts that are at the root of many weak or marginally successful training efforts within various companies.



The causes and solutions for these conflicts are discussed in later chapters. For the sake of this overview it is sufficient to point out that maximizing training effectiveness relies on the ability of a company to transform itself into a "learning organization." The points at which the existing makeup of the company conflict with the **Quantum Design** system are the points at which transformation is essential. Understanding where and why the conflict will occur is a function of examining the constructs a "learning organization."

The constructs identify key assumptions, explain important factors that influence course effectiveness, and establish parameters which impact the ability of the learning processes to thrive. The constructs are:

1. *An atmosphere that supports the life of the learning process.*
2. *Placement of LD professionals that can identify, define, design, build, test and repurpose resources that have a demonstrable impact on the success of the organization.*
3. *The creation of resources via standardized processes that leverage knowledge of human behavior, design principles, and utilize SMEs. Each resource is fundamentally tied to the goals of the organization.*
4. *A company belief in the learning process with employees and management actively engaged.*
5. *Training material that is standardized, results in measurable outcomes, tracked, and continually improved and updated.*



Each of the aforementioned constructs is comprised of elements that are narrowly defined and carefully applied. These constituent elements help learning architects understand what, if any, changes need to be made within a company in order to bring about the circumstances resulting in the company transforming into a “learning organization.”

## Environment

A corporate environment is the first and most critical factor in establishing conditions necessary for the organizational transformation to begin. It is important to note that the term *transform* was chosen over the word *become*. The reason that *transform* is the operative word is that the changes a company undergoes as it becomes a “learning organization” are continual. Companies rarely *become* anything. Whether that focus is on implementing quality programs, service initiatives or even the important transformation into a “learning organization.” The changes are incremental in nature because of the need to make them at such depth in the corporate culture.

This does not mean that positive results from the transformation are years away. The fundamental changes required to see an impact from *Quantum Design* may take a few weeks or several months to achieve but they are within reach. The size of the company and the degree to which previous approaches are entrenched in the culture of the company will unavoidably attempt to blunt the effect of the new strategy. Management must therefore take a long view and recognize that such fundamental changes grown organically upward in the culture once the primary changes have been made at the foundation.