The Challenges of Developing Training Programs for Generation Next

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ABSTRACT

Training in many organizations as well as the US military has traditionally been developed using some version of the Instructional Systems Development (ISD) or Systems Approach to Training (SAT) models. These training development models, which consist of five phases, Analysis, Design, Development, Implementation, and Evaluation, are very systematic and concentrate on developing technical subject matter in a logical manner that is efficient and cost effective. However, today the design of technical training programs has become much more challenging due to the new value systems of today’s Generation Next and their comfort with and expectations of various new technologies. These “20-somethings” have been using technology since pre-school. Now, as adults, they are comfortable using it in creative ways that are “fun” and demand much more from the technology whether for entertainment or training. This is posing a dilemma because many of those currently employed to develop training programs were taught to use “traditional” training media and methodologies and do not understand or feel comfortable with all the capabilities available in the new training technologies. This article suggests how training designers must not only learn to use technology but also change their philosophical perspective in order to enable the Gen Next students to take control over their learning and make the complicated feel simple.

INTRODUCTION

In order to develop effective organizational training programs it is imperative that instructional designers must be able to acknowledge how advanced technology (primarily the impact of the Internet) has caused the training paradigm to shift. The learning and instructional design theories proposed over the last 50 years which are embedded in the traditional Instructional Systems Development (ISD) methodology still have a great deal of applicability in the design of instruction. However, they must be viewed from a different perspective – one that considers both the capabilities of the technology and the interests and abilities of technologically perceptive student of the 2000’s.

Today’s organizations are comprised of employees who belong to four different generations and each generation has different values and is motivated by different things. However, if we examine today’s typical organization we find that a vast majority of its structures, values, practices and processes have been honed and shaped by Baby Boomers (age 46 and over). Now in their 50s and 60s, the Boomers are content with managing (and providing training) the way they were taught. However, the Boomers are starting to retire. Over the next couple of years, we can expect the Boomers’ influence to be minimal as Generation X (those ranging in age from about 28 to 48) and Generation Next (those younger than 28) assimilate into the organizations and ascend into positions of power and influence.

When the Boomers joined companies in the 1960s and 1970s, many of them expected a long-term working relationship in some type of hierarchical organization. They were taught to learn the rules of the
game, understand them, and to be competitive by responding to stimuli in ways acceptable to the corporation. Generally, they are hard working and job-focused, and do not consider work/life balance to be a major deciding factor in determining where they work or for how long.

However, the younger Gen X and Gen Next employees, who have fundamental differences between themselves, have a very different orientation than the Boomers. Generation Xers are much more cynical about worker-corporate contracts and are more likely to view themselves as "free agents.” Generation Next, also known as Millennials or Gen Y, who are joining companies right now, are very technically savvy, have strong ties with their (often virtual) communities and appear to be putting a premium on work/life balance and finding true meaning in their work. In addition, they want to be free to choose how they accomplish their work tasks because they want their work structured in a way that is “fun” for them rather than “real work.”

These vast value differences often create problems when it comes to managing or motivating employees in the organization. However, in order to appreciate these differences it is necessary to have an understanding of the process of how organizational training is designed and developed.

Why We Need To Change Our Training Approach

Marc Prensky (2008) writes about observing young people and the rich online world and life they are in the process of creating for themselves. He comments that “…for almost every activity in their lives, these so-called “Digital Natives” are inventing new, online ways of making each activity happen, based on the new technologies available to them” (Prensky, 2004). He also notes that the possibilities for what Digital Natives can do online are growing exponentially, and the online activities are being adapted and customized by more and more of them daily (and by some adults as well, although there are differences). However, the process of developing training in organizations (to include the military) and delivering academic content to our children in school systems has been extremely slow to react to the impacts that technology has had on learning and motivation. In order to appreciate the reasons why some senior educators, trainers, and instructional developers are so slow to react to these accelerated changes in our society, it is necessary to understand how the current instructional development methodology used by many organizations has developed over the years.

A Brief History of the Training Development Process

The concept of instructional design used in today's organizations was initially developed for military training efforts during and immediately following World War II (Dick, 1987). Training programs that were developed in the 1950’s and early 1960’s were based upon the work of numerous learning psychologists such as Robert Gagne, Leslie Briggs, John Flanagan and others. These learning theories revealed “…important new information about how human learning takes place, including the importance of specifying details of a task to be learned or performed, and the need for active participation by the student or trainee to ensure learning” (Kemp, 1985 p 4). In the decade following World War II one of the most popular learning theories that became increasingly influential in both the public schools and in training departments in organizations was called behaviorism, based upon the work of B.F. Skinner (Skinner, 1938, 1974). The Skinner approach to training was based on the functional relationships between environmental variables and human behavior. He believed that cues (stimuli) from the environment served as antecedents to behavior (responses) and those cues set the conditions for the occurrence of the human behavior. According to the radical behaviorist, what occurred in the mind of the individual during learning was immaterial to understanding or describing it. Skinner maintained that in
order for instruction to be effective it should a) be self-paced (whenever possible), b) be presented in small steps or increments, c) contain active student responses to frequent questions and d) provide immediate feedback to the student. He called this method of teaching “programmed instruction” which was, in essence based upon the components of his stimulus-response theory. This method of instruction became quite popular in the United States during the 1950’s and 1960’s when many of the Boomers were being educated in the school systems.

The effectiveness of this method of instruction relied on evaluating students as a whole based upon their ability to respond to established stimuli in the form of training objectives written by an instructor. Since the establishment of proper objectives was a key factor in evaluating the effectiveness of instruction, there were numerous academicians who concentrated on training educators to write objectives in behavioral terms (Gagne, 1970; Gagne & Medsker, 1996; Bloom, 1956; Mager, 1962; Simpson, 1972; Krathwahl, 1956). However there was an uneasiness among many educators and trainers regarding the fact that all students were being evaluated according to a single norm. Thus in the 1960s, the concept of criterion-referenced testing (Glaser, 1962) came into vogue. “Up until that time, most tests, called norm-referenced tests, were designed to spread out the performance of learners, resulting in some students doing well on a test and others doing poorly. In contrast, a criterion referenced test is intended to measure how well an individual can perform on a particular behavior or set of behaviors, irrespective of how others perform” (Reiser, 2002).

Also of great significance in the historical context of instructional system design is the work of Robert Gagne in the 1960s. In his Conditions of Learning (1970) he proposed categorizing learning activities into various learning domains (verbal information, intellectual skills, psychomotor skills, attitudes, and cognitive strategies) each of which required a different set of conditions to promote effective learning. He maintained that each of these domains can be incorporated into a hierarchy and in order to readily learn or perform a super ordinate skill in the hierarchy, one has to master the skills subordinate to it. He further described how instructional developers should compile a customized hierarchal structure for their training programs, which he called a “learning task analysis.”

In the late 1960s and 1970s “…the concepts that were being developed in such areas as task analysis, objective specification, and criterion-referenced testing were linked together to form a process, or model, for systematically designing instructional materials” (Reiser, 2002). Interest in this systematic method of instructional design flourished in the 1970s. The US military adapted an Instructional Systems Design (ISD) Model (Branson, Raynor, Cox, Furman, King, & Hannum, 1975) that was used (in part) in all services – Army, Navy, Air Force and Marines. Various customized versions of this ISD model have also been widely used in organizations since the 1980’s. The basic learning theories inherent in this model still underlie the training that is being developed in organizations today.

CHANGES IN SOCIETY

In the 1990s two significant changes took place in society which had a dramatic affect on training. First was the affordability, combined with the advanced technological development and accessibility of the personal computer and the Internet. This technology brought enormous capability to the development of training in the military as well as business and industry. The technology infusion of the personal computer not only affected organizational training but also had a tremendous developmental influence on the values of Generation X who was introduced to computers not only as an educational tool in elementary school but also used it as a popular means of entertainment at home. It became an expected
way of life for many of Generation Next, who was introduced to computer technology practically from birth.

The growing popularity of using the computer and the Internet as a means to both entertain and educate influenced a second major change that occurred in society in the 1990s - a new philosophy of education emerged – constructivism. The constructivist philosophers view learning and instruction as “…knowledge [that] is assumed to be constructed rather than acquired” (Driskoll, 2000, p 375). The increased capability of the “affordable” personal computer in the 1990s and 2000s coupled with the new “freedom to discover” offered to the computer user by the Internet served to increase interest and popularity of this philosophy as it related to training Generation X. This is even more applicable to training Generation Y.

The goals of the constructivist philosophy differ somewhat from those of the behaviorist. The behaviorist believes that students should be trained to simply respond to cues from the instructor (stimulus). The constructivist believes that the instructor should act like more of a facilitator and should allow the students to learn where and how to discover resources when they are needed. According to Driskoll (2000) the goals of constructivist instruction involve problem solving, reasoning, critical thinking and the reflective use of knowledge. She maintains that there are five learning conditions that must be present in order to achieve the constructivist’s goals:

1. Embed learning in complex, realistic, and relevant environments
2. Provide for social negotiation as an integral part of learning
3. Support multiple perspectives and the use of multiple modes of representation
4. Encourage ownership in learning
5. Nurture self-awareness of the knowledge construction process

These constructivist goals should govern the strategic design of modern instruction. This design must consider the adult learning principles as described by Malcolm Knowles’s theory of andragogy, which is a set of assumption of how adults learn (Knowles, 1978). Additionally, the delivery of the training material should be via an eclectic mix of modern media such as interactive computer based training and advanced simulators with which Generation Next can readily relate (Andrews, Moses & Duke, 2002). This is especially applicable to the psychological motivation of Generation Y students who, as young adults, are beginning to develop their careers and actively participate in the learning organization.

Unfortunately, many curriculum developers who have been educated under the behaviorism philosophy of education that was predominant in the 1960s and 1970s are having a difficult time adapting to the conditions of learning required by the constructivism philosophy of the 2000s. The behaviorist philosophy is based upon control by the instructor, whereas the constructivist believes more on facilitation. This tends to create discontent, frustration, and anxiety between the Boomer generation and Generations X and Y, sometimes referred to as the “why” generation. In order to better appreciate the implications of these paradigms one must realize how training is traditionally developed according to the five phases of the ISD model.

THE INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD) MODEL

Analysis Phase

The initial phase of the ISD Model is called the Analysis Phase. In this phase, the goal of the instructional analyst is to analyze the overall situation and determine if there is a training requirement. If
the analyst discovers that a training requirement exists then a determination of what tasks require training and the extent of that training must be made. The tasks requiring training are documented in a training task list, which is used as a foundation for training objectives that will usually be presented in a course. This phase is usually combined (or uses) information obtained from some form of gap analysis, needs analysis (Kaufman, 1998; Rossett, 1995) or Top Down Function Analysis (Duke, D.S., Guptill, R., Hemenway, M, and Doddridge, W., 2006).

Unfortunately, today’s Generation Next tends to question why such a large amount of training is needed since much of the information may become obsolete in the not too distant future. More specifically, they question why all of the information needs to be presented at a specific time in a traditional course. Consider that the technology savvy Generation Next trainee has been outwitting various electronic games for years – he has done this by learning how and where to get relevant information (codes) for complex situations only when it is needed – realizing that it may change tomorrow as the scenario changes. He has learned to obtain and apply only “relevant” information to solve his “current problem” in the game. This illustrates the first major paradigm shift between traditional Boomer perspectives on instruction and how the younger technical generations view training.

Design Phase

In the Design Phase, the analyst uses the training task list as the foundation for the development of the various design activities such as the development of learning objectives (LOs) and associated test items. According to this traditional ISD model, in order for classroom instruction to be successful, the analyst must insure that the domain and level of complexity of the learning objectives correlate with the test items and the tasks identified in the list of tasks to be trained (Gagne, 1970; Gagne & Medsker, 1996; Bloom, et. al. 1956; Simpson, 1972; Krathwalt, 1956). Additionally, these objectives should be presented in a hierarchical manner that is logical (ideally simple to complex but can be chronological, spatial, etc.). However, consider the constructivist’s learning conditions. Social negotiation is an integral part of their learning. They desire information to be presented in multiple modes. The desire for “flexibility” is a frequently cited trait of Generation Next. Unlike the Boomers, they prefer not to be assigned to learn tasks in a prescribed order while sitting in a classroom environment. Their desire for flexibility is related to their learned ability to multitask, which requires slicing their time and attention into small increments and frequently shifting them between different topics. This has implications for instructional development. Not only must there be relevance designed into instructional content but there must also be options for the student to pursue “discovery.” This combination is essential for increased motivation to learn in the younger generations.

Development Phase

During the third phase, the Development Phase, lesson materials, unit exercises, drills, and other instructional materials (i.e., computer based training) for both the student and the instructor are developed. Here the responsibilities of the instructional systems specialist shift from undertaking an analysis to developing the actual curriculum. Herein lays perhaps the most visible difference, between the Boomers and the Millennials. The Boomers, many of who have been taught according to the behaviorist philosophy, tend to develop their instruction from the stimulus-response perspective. Unlike entertainment game designers, instructional developers find it quite difficult (although many are now learning) to develop interactive instruction according to the constructivist conditions of learning. This can be illustrated by comparing a typical on-line training program to any popular entertainment game.
Many of the early on-line computer based training programs were actually “electronic page turners” – a modern electronic version of programmed instruction introduced by Skinner in the 1960s. This type of instruction resulted in a complete turn off for many of the Generation X employees – many who grew up watching professionally produced TV shows on PBS as well as playing interactive electronic video games that encouraged them to actively participate in complex environments (scenarios) and allowed them to make their own choices. The military has realized that training programs must be realistic and incorporate modern technology that is more interesting to the younger generations. The “serious training games” being developed today are interactive computer programs that require players to make their own decisions while being involved in constant interaction with numerous individuals who are networked together to solve a problem in a realistic real time scenario. This is far from the programmed instructional modules that were popular in the 1970s.

**Implementation Phase**

Of all of the phases in the ISD Model, the fourth phase, the Implementation Phase is by far the most visible to the layman and the general public. Most individuals who are not involved with training on a regular basis or those who have little to no background in training design and development have no idea of the complex intricacies (described earlier) that serve as prerequisites to this implementation (delivery) phase. This phase involves actually delivering (presenting) the information to the students – teaching the course. Historically, this phase receives the most attention in colleges of education in the United States. This is because all of the “front end work” has been done by the state Board of Education and the curriculum in the public schools is prescribed. For example, we generally learn algebra in 9th grade. The principles taught in 9th grade algebra class have not changed in over 50 years. However, the method (and media) used to present these principles have changed considerably. The mission of many Colleges of Education is to teach students (future teachers) these new techniques of information delivery and make them feel comfortable with how to use them in the classroom. The paradigm shift occurring in this phase contrasts the Boomers preference for instructor led group instruction while Generation Y desires self-paced individualized instruction with numerous options.

**Evaluation Phase**

The last phase of the ISD Model, the Evaluation Phase, is a continuous process that starts during the analysis phase and continues throughout the development and life cycle of the instructional system. The major purpose of this phase is to evaluate the effectiveness of the instruction that is presented to students. During the design and development of the training program there are several formative reviews that take place culminating with a summative review when the training program is completed. Over the life cycle of a training program there will be numerous evaluations undertaken as various updates are made to the curriculum. However, when considering the constructivist perspective, the major shift that must take place in the Evaluation Phase involves an increased concentration on actual job performance rather than just the academic achievement in the classroom. We, as instructional designers, must be able to assess a student’s ability to retrieve and use the proper information when needed to solve a problem on the job. Training developed under the new constructivist paradigm should encourage students to properly use the technology to easily retrieve the “right” information in a timely manner to make proper decisions to improve overall job performance. The training evaluation should be designed to determine not only how well the graduate uses the technology to obtain information, but how they use that information to improve their performance on the job.
SUMMARY

Instructional designers must acknowledge how technology (primarily the Internet) has affected the way we present training to younger employees in today’s organizations. All of the instructional design theories embedded in the ISD process still have a great deal of applicability. We still must analyze the situation to determine if there is a need for training (Phase I). We still must be systematic in developing a logical instructional strategy (Phase II). We still have to develop some type of training content (Phase III). We have to implement that content (Phase IV). We have to decide how the “training” will be evaluated (Phase V). However, there must be a change of perspective in order to meet the demands of the Gen Next who understands and demands more from technology. As suggested in this paper we must develop the training in creative ways that are fun to them.

In order to do this, we, as instructional designers, must view the systems approach to training from a different perspective. First, we can no longer view training as a list of tasks to be trained in a classroom or course (Phase I - Analysis). We must realize that there is not enough time to present all the information in any “course” of instruction - in addition, we have to consider that the information is changing so rapidly that the information we present today in a course may be obsolete tomorrow. Secondly, we must design training from the perspective of the new constructivist philosophy – that is, consider how the Gen Next student uses technology. Delaney (2008, p R4) in an article about computers for young preschool children, writes “…the Web is a defining media experience of my kids' childhoods in the way that TV and videogames were for me. Any technology aimed at kids needs to be able to deliver the richest experiences available on the Web or face an uphill battle in winning the attention of this browser generation.” Rather than teaching information in a classroom (course) setting we must consider designing a “repository of information” available through the Internet. Additionally, we must teach students where and how to find the correct information in that repository when they need it (Phase II Design). Third, we must then develop that information in modules that can be easily accessed when needed – similar to how interactive video games are structured (Phase III - Development). Fourth, we must learn to relinquish the control we have had as instructors in the classrooms (Phase IV – Implementation). We have to become facilitators in training sessions and encourage students to “discover” the information they need in a given situation on their own. Gen Next has been immersed in technology since they were little children. They feel comfortable with experimenting with interactive video games and welcome suggestions for various means to satisfy an end goal – not just a single solution. As trainers, we need to be able to build their confidence by implementing our training in such a way to facilitate their own discovery process. Lastly, we must concentrate on measuring optimal performance in accomplishing tasks on the job, rather than simply acquiring grades in a course (Phase V – Evaluation).

The conditions of learning associated with the constructivist philosophy provide the foundation for this new training development. This paper identified those conditions and provided some suggestions of how training applications should adhere to those conditions. It is now up to the instructional designer to implement those principles when developing training programs for the Gen Y (and next generation) student.

BIBLIOGRAPHY


