Research Article

PROGRESSIVE DEVELOPMENT OF OBJECTIVE BASED INSTRUCTIONAL DESIGNS IN CLASSROOM INTERACTION

Viji V[1] and Benedict K. Y[2]

[1]Education, University of Kerala, Thiruvananthapuram, Kerala, India
[2]Mar Theophilus Training College, Thiruvananthapuram, Kerala, India

A R T I C L E I N F O	A B S T R A C T
	The arena of instructional design was perceived as an endeavour to develop a particular, perfect instructional theory based in systems theory that would indicate teacher attributes, cataloguing and evaluation processes, and methods to modify the design systems being tested. The intention from this standpoint was the designing of instructional programs that would help majority of the students to attain stages of performance that were previously scheduled in terms of behaviourally defined objectives. The 21st century witnesses the materialisation of a novelseries of technological tools capable of offering learners more realistic learning experiences grounded on experimentation and action. Consequently, the students require a new goal direction and objective setting. This situation demands an immediate and drastic change in the entire educational pattern. A paradigm shift is inevitable for the whole educational system. In this paper, an objective based instructional architecture of classroom interaction designs is evolved through a timeline of objective based instructional development. Besides, the general impact of the instructional theories on the new generation learners is analysed.

INTRODUCTION

How learning occurs has been a question pondered by the masses since formal education began thousands of years ago. Understanding the process has included many paradigm shifts in thought and practice. A thorough look at one major paradigm shift occurred in the past century, which has led to a plethora of ideas when identifying best practices to encourage learning. A look into this transformation will exact a better understanding of learning and how it best arises, leading to designing instruction that greater impacts the learner. Instructional Design represents the methodical development of instructional stipulations utilising learning and instructional theory to guarantee the quality of instruction. It is the all-inclusiveprocedure of analysis of learning requirements and purposes and the development of a distributionscheme to meet those needs. It includes development of instructional materials and activities; and practice and evaluation of all instruction and learner activities.

Rationale of the Study

The birth and evolution of instructional theory could be tracked back to the early conceptions by educational psychologists so as to develop a connection between the

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Corresponding author: **Viji V**
Education, University of Kerala, Thiruvananthapuram, Kerala, India

science of psychology and the real-life application of learning theories in educational backgrounds. John Dewey, who envisaged a distinct linking science between learning theory and educational practice; and Edward Thorndike, who scrutinised the principles of learning that could be straight forwardly affected the teaching process, were two prominent theorists at the changeover of the century. Based on his research outcomes and student assessment methodologies, Thorndike built up a frame of instructional design principles, which comprisedof task analysis and teaching methods.

Recent keystones of instructional theory may be entrenched in behaviourism and the universal movement of the 1950s concerning the employing of scientific methodologies to social sciences. Efforts to incorporate psychology and instructional technology had emerged during and after World War II as educational psychologists became involved with the U.S. military in efforts to research and develop military training materials and instruction.

Statement of the Problem

The problem is entitled as 'Progressive Development of Objective Based Instructional Designs in Classroom Interaction'

Objectives of the Study

1. To review the history of the evolution of objective based instructional architecture of classroom interaction designs.
2. To sketch out the timeline of objective based instructional development.
3. Toanalyse the general impact of the instructional theories on the new generation learners.

METHODOLOGY

The investigator prefers a document analysis, which includes both primary as well as secondary sources. The data are collected by qualitative means.

FINDINGS AND DISCUSSION

In the early stages, instructional theory was defined primarily in behaviourist terms. Learner progress is based on successful attainment of defined behavioural objectives. The objective from the instructional design sphere was the spreading out of instructional programs that would facilitate a large number of students to accomplish desired performance levels that were destined with respect to behaviourally sketched objectives. Robert Mager's prominent book entitled 'Preparing Instructional Objectives', facilitated to disseminate the use of quantifiable behavioural objectives. Most of the early efforts in the domain of Instructional Development were directed at the construction of taxonomies for categorising learning objectives and organising the interactions meaningfully between the various categorisations.

During most of the 1960s, instructional research sustained to be established on behaviourist learning models and theories. The experimental findings strived for establishing the most successful measures of instigating a stimulus-response-reinforcement model like the operant model to assure that the proposed learning outcomes would be accomplished. The foremost purpose of instructional research targeted on approaches of task analysis and the development of behavioural objectives for learning. The objectives of the behavioural task analysis were on (a) recognizing small, incremental tasks or subskills, which the learner required to develop for fruitful accomplishment of the instruction; (b) formulating specific behavioural objectives which would direct to the attainment of those subskills; and (c) sequencing subskill acquirement in the order which would most capably lead to successful learner outcomes.

Investigation findings discovered that the programmed materials were frequently no more efficient than conventional materials, and students often observedthat the materials were boring. Furthermore, many of the principles of learning suggested by Skinner and other behaviourists were established to be incorrect, particularly for the multifaceted learning tasks necessary in the classroom. Exploration in the early 1970s exposed findings that challenged preceding philosophies about the function of those behavioural principles like feedback, rewards, sequencing, and definition of objectives in the learning process.

In the late 1960s and during the 1970s, the behavioural paradigm slowly paved the way for the cognitive approach to learning. Instructional investigators began to diverge from the conventional model of instruction namely stimulus-response-reinforcement, and to develop instructional theories grounded on the psychological processes of the learner. This trend was initiated by Bruner. The description of instructional design at this juncture changed to consequences of learning theory and to the development of models connecting those theories to the design of instruction.

Throughout the 1970s, information analysis procedures (including task and content) altered from behavioural objectives towards an understanding of phases of competent performance in numerous domains of knowledge and skills applicable to education. This development towards methods of information analysis continued with developments coming first from cognitive psychology and more newly from constructivist theory. Thus, an important constituent of instructional design theory is the analysis of the information-to-be-learned. Gagne and Briggs (1979) before hand as similated cognitive theory into their instructional theory for theorising instructional design. They defined a range of necessities for instructional systems design. Their instructional theory was built on a set of competences, or learning outcomes, that students would obtain through instruction.

By the 1990s, the trend in instructional design moved towards a synthesis of elements of the various instructional theories and advancements from cognitive science and educational technology. The impression of developing a particular, most efficient methodology to all instructional circumstances was substituted by efforts to find the best approaches to achieve precise, well-defined performance outcomes with respect to knowledge and cognitive processes. The prominence was on circumstances and instructional variables grounded on individual learner progress and requirement. That is, by evaluating the learner's progress, the learning requirement could be recognised from which proper instructional strategies, classifications, and media could be finalised. The responsibility of the instructor kept onaltering to replicate more flexibility in the learning environment. The task of technology also transformed as instructional design researchers functioned with computer software experts to develop collaborative instructional systems.A table showing the timeline of selected instructional designs related to educational developments is given below.

Transition from Instructional Theory to Instructional Design Model

Two instructional theories are portrayed to demonstrate the changeover from learning theory to instructional design models. These two theories are the elaboration theory and the linking theory. *Elaboration theory* is a theory of instructional design designed at notifying people how to teach instead of concentrating on why and how people learn. It is focused on the structure and organization of instructional material (stimuli) rather than the instructional material itself. Elaboration theory is grounded on cognitive psychology and strives to be in accordance with the cognitive theories of learning. The second instance of an instructional theory that exemplifies the conversion to instructional design models is the *linking theory* first recommended by Tennyson and Rasch (1988). This theory straight forwardly associates learning theory to educational goals, learning objectives, and instructional remedies. Moreover, it rises above any other instructional theory by connecting precise distributions of academic learning time to anticipated educational objectives and goals.

Year/Period	Contributor(s)	Theoretical Contribution
1910	John Dewey	Linked learning theory with educational practice
1913	John B. Watson	Launched the Behaviourist Revolution
	Edward Thorndike	Developed a body of Instructional Design Principles
1918	Franklin Bobbit	Emphasized creating relevant outcome and planning instruction to meet the educational objectives
1920s	Max Weithmer	Developed the Gestalt Theory
	Jean Piaget	Formed theories of experience-based learning and his Stages of Intellectual Development
1933	Ralph W. Tyler	Eight Year Study use of general and behavioural objectives and formative evaluation
1946	Edgar Dale	Developed the Cone of Experience
1952	Jean Piaget	Published his work on Cognitivism
1954	Skinner	Popularized Programmed Instruction
1956	Benjamin S. Bloom	Created the Taxonomy of Educational Objectives
	Robert Mager	Issued his book entitled 'Preparing Instructional Objectives'
1962	Robert Gagne	Published 'Conditions of Learning'
	Robert Glasser	Employed the term instructional system and named, elaborated, and diagrammed its components
	Lev Vygotsky	Published constructivist theories in the west
1968	Benjamin S. Bloom	Outlined Mastery Learning
1979	Gagne and Briggs	Incorporated Cognitive Theory into Instructional Theory
1980s		• Growth of users of microcomputers/personal computers • Computer-based instruction • Adoption of instructional systems development
1983	Howard Gardner	Published 'Frames of Mind: The Theory of Multiple Intelligences'
	Lorin Anderson	Revised Bloom's Taxonomy
1990s		• Use of multimedia in instruction • Development of CD-ROMs • Internet
1990	Tim Berners-Lee	Developed the World Wide Web
1995	Bernie Dodge and Tom March	Developed WebQuest

Constructivism – An overview of the learning theory

Constructivism is the last decade's principal theory that has origins in philosophy, psychology and cybernetics, and tries to designate how people know the world. Consistent with the constructivist theory, knowledge is being dynamically constructed by the individual and understanding is a transition process, which systematises the individual's experiential world. Hence, the learner is not regarded as an orderly respondent to stimuli as in the behaviourist rubric, but as one who had previously been a scientist, who dynamically constructs knowing while struggling to make sense of the world based on personal filters like experiences, interests, goals and beliefs.

As stated by constructivism, the core of instruction is the learner. Significant understanding happens when students cultivate efficient ways to work out challenging situations. Such situations promote inspiration, because students have a prospect to experience the inclination and gratification characteristic of problem solving. Except from problem solving approaches, technology tools must also generate active learning of the learners.

Impact of Naturalistic Philosophy

In most respects, the naturalistic hierarchy of educational objectives represents a complete reversal of traditional purposes of the school, chiefly, perfecting of man's highest powers via study of literature, philosophy, and classics. While conventional education had positioned major prominence upon intellectual function, the naturalist recommends that the learner be given opportunity to grow physically, emotionally, mentally, socially, vocationally and aesthetically, under the backings of the school.

The Paradigm Shift

Two main alterations have happened in education in recent years. One is that distributed learning has become approximately as universal as so-called conventional classroom learning. The second is a shift from the absolutely cognitive, domain-based instruction representative of the industrial age to problem-based/constructivist learning that is domain-independent. The difficulty for those who were involved in the teaching-learning procedure is how to design problem-based learning in both conventional and distributed learning environments that occupies students in active learning by means of using innumerable technology-based tools. To encourage the ever-increasing need to be able to solve problems and think critically so as to function well in society, we should concentrate more on instructional design in our classrooms.

Transition to Technology Tools

Technology is infiltrating nearly every sector of society, and education is no exception. Many teachers are exploring ways that they can incorporate technology into their lesson plans. When using technology in your classroom, it is important to think carefully about how it can be purposefully integrated into teaching. Prior to deciding to employ a specific technology for a particular lesson, teachers should primarily make decisions about the learning objectives, activities, and assessments that will influence the learning experience.

The media collaboration of learners and learning environments became significant in the late 1990s and persists to be a zone of rising focus during the first decade of the 21st century. Interactive technologies, which can judiciously and adaptively meet instantaneous learning needs and progresses can activate

that environment. Online interactivity is a fundamental area of research given the growth of the Internet. E learning will develop as a delivery system and will be the foremost point for educational technology researchers.

Advancements in technology could make constructivist approaches to learning more possible, as technology-related learning ventures represent growing opportunities for applying instructional theories,. Multimedia and the Internet are also alternatives to the linear structure and facilitate data gathering techniques, supportive of constructivist learning principles. As an experiential learning tool, virtual reality is also considered an enactive knowledge-creation environment. Microworlds and virtual reality simulations could stimulate authentic learning while the World Wide Web in general and Web Quests as innovative teaching strategies in particular could offer multiple representations of reality (Cey, 2001).

CONCLUSION

Countless changes are happening in the twenty-first century, which will have an effect on the nature of learning and learning styles being implemented. The multiplicity of the 21st-century classroom generates abundant trials for teachers who may not have been exposed to the same diversity themselves as students. Among these, teachers must maintain equilibrium between the necessities of high-stakes responsibility while meeting the needs of the heterogeneous students within their classrooms. The 21st century perceives the materialisation of a new set of technological tools, which can present students more genuine learning experiences based on experimentation and action. Subsequently, the students need new goal directions and objective settings. This scenario stresses an instantaneous and radical modification of the entire educational pattern. Whether the instructors are able to make a quantum leap from the traditional system to the contemporary digital era, in order to fulfil the needs of the present day inhabitants is a thought-provoking question, still to be answered.

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