THE EVALUATION OF THE INSTRUCTIONAL APPLICATIONS AT DIFFERENT SCHOOL SETTINGS PRIOR TO THE IMPLEMENTATION OF NEW CURRICULUM IN TURKEY

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ABSTRACT

A qualitative study of was conducted to have an insight about public school teachers' use of instructional applications and their daily practices. The specific objective of this study was, to explore how teachers apply instructional theories, methodologies, strategies and techniques in their lessons before the implementation of new constructivist curriculum in Turkey and to see how instruction was implemented at different school settings just before the implementation of the new curriculum in Turkey. The researchers used a descriptive case study approach in which data collected from 10 teachers via observations. The researchers deliberately chose different field teachers with different school settings. The participants in this study consisted of teachers teaching at different fields such as English, Science, Math, Turkish and Computer. The result of this study showed that the teachers wittingly or unwittingly apply almost all instructional theories concerned methodologies and strategies in their lessons to some extent. The results additionally proved that teachers should be better provided with practical training in these applications.

Keywords: Instructional theories, instructional strategies, curriculum

INTRODUCTION

This study focused on observations of the applications of instructional theories, methodologies, and techniques/strategies in different field teachers' classrooms and their students' attitudes towards teachers' way of teaching. Teachers' use of materials during the lessons was additionally observed. This study was carried out just before the implementation of the new curriculum, which is based on constructivist approach to demonstrate what was preferred by teachers at schools before its implementation. The research questions of this study were:

1. How do the teachers make use of instructional theories in their classrooms before curriculum change in Turkey?
    a. How do teachers apply instructional methodologies in their classrooms before curriculum change in Turkey?
    b. How do teachers perform instructional techniques and strategies in their classrooms before curriculum change in Turkey?
        i. What kind of instructional activities do the teachers apply in their classrooms before curriculum change in Turkey?
2. How are students' attitudes towards the teaching strategies during the lessons?
3. What kind of instructional materials do the teachers use in their classrooms before curriculum change in Turkey?

MAJOR INSTRUCTIONAL THEORIES

Behaviorism

The theory of behaviorism concentrates on the study of overt behaviors, which can be observed and measured. One of the most important contributions of behaviorism to the instructional design process is the identification and measurement of learning. The emphasis on producing observable and measurable outcomes led to the creation of performance objectives (Driscoll, 2000). In the instructional design process, performance objectives describe what the learner will accomplish, under what conditions, and how the learner will be measured.

Learning according to a behaviorist can be defined as a persistent change in performance that occurs as a result of experience and interaction with the world. (Driscoll, 2000). In IT, the behavioral changes are observed through both summative and formative evaluation to see if the learning successfully took place or any changes of the teaching program are needed to improve the learner performance.

According to Skinner, learning as a change in either the form or the probability of responses. In most cases, this change is brought about by operant conditioning. (Bigge & Shermis, 1990) Classical Conditioning, on the other hand, focuses on the involuntary response of the learner following a stimulus. Ivan Pavlov and John Watson studied on it. Many of the students' attitudes are learned through classical conditioning.

Behavior modification techniques aim to manipulate the antecedents and consequences of behavior so that the likelihood of appropriate behavior is increased and inappropriate behavior is decreased. Intentionally or unintentionally teachers have been using behavior modification techniques in the classroom for ages. There are behavior modification strategies to create new

behavior such as shaping, fading, chaining and modeling and there are strategies to increase or decrease behavior such as reinforcement, punishment, avoidance, token economy and extinction.

Cognitive Construct Theory

Cognitivism focuses on conceptualization of the students learning process and address the issues of how information is received, organized, stored and retrieved by mind (Ertmer&Newby,1993). In contrast to behaviorism, cognitive involves study of mental events rather than actual behaviors. Therefore, cognitive theories emphasize, "the acquision of knowledge an internal metal structures, they focus on the conceptualization of students' learning process and address the issues of how information is received, organized and retrieved by the mind" (Ertmer&Newby, 1993, p.58)

For cognitive psychologists, learning is viewed as a constructive process where changes occur to the internal representation of knowledge (Wildman, 1981, cited in Bonner, 1998, p.5). Here, the emphasis is learning information rather than learning responses, which is the case in behaviorist learning theory. Learning is concerned not so much with what learners do but with what they know and how they come to acquire it (Jonassen, 1991 cited in Ertmer&Newby, 1993, p.70) In addition, because mental processing is the key point in cognitivisim, instead of simple procedural kinds of tasks, some more complex level learning skills such as reasoning, problem solving, classification and information processing skills can be gained through the use of it. (Bonner, 1998) In addition, cognitivism wants the active participation of learners in solving problems and some instructional techniques are used to help learners relate new information to their existing knowledge.

Jerome Bruner played an important role in the development of cognitive construct theory. According to him, the student selects information, constructs hypotheses, and makes decisions in the process of integrating experiences into their existing mental constructs. (Bruner, 1973) Bruner's research disclosed that teachers need to provide children with experiences to help them discover underlying idea, concepts, or patterns. He stated that "…any subject can be thought effectively in some intellectually honest form to any child at any stage of development" (Bruner, 1963, p.33). We can infer from here that children are able to grasp any concepts, provided it is approached in a manner appropriate for their particular grade level. Therefore, teachers should encourage children to handle increasingly complex challenges and to discover principles by themselves. The task of the instructor is to translate information to be learned into a format appropriate to the learner's current state of understanding. Here, the instructor should consider the students' current development level, degree of familiarity with the material in selecting the appropriate way of presenting.(Bruner, 1966).

Constructivism

The central idea of constructivism is that human learning is constructed, that is, learners build new knowledge upon the foundation of new learning (Brooks&Brooks, 1993). Since the primary goal of constructivist environment is to help students learn how to learn, the emphasis is placed on the learner or the student rather than the teacher or the instructor. (Brooks&Brooks, 1993). Constructivism focuses on learner's interaction with real world to gain their own knowledge. Truths or facts change for each individual in that everyone interprets the gained knowledge differently. It is the learner's responsibility to search for knowledge and they create their own meaning through experiences. Instead of a specified content is given, the students should search for knowledge from many different sources (Ertmer&Newby,1993). By benefiting from different sources, the learner is able to have a variety of perspectives instead of having the fixed perspective of instructor. As understood, some high-level learning skills can be gained through the use of constructivism so it is better to use constructivism in ill-defined problems which needs high-level learning skills to be solved.

In constructivist classroom, the learner has an active role since the emphasis is placed on learner rather than teacher. Learners actively take knowledge, connect it to what they already know, make it theirs by constructing their own interpretation. (Brooks&Brooks, 1993) Here, it emphasizes that conceptions already held by the learner influence the way he interprets and internalizes new knowledge. Learners are responsible for their own learning and should support this learning with various resources. However, Brooks and Brooks (1993) state that although the learner is active and constructivism is student-centered, it is the teacher who creates all this environment suitable for a constructivist education. Constructivist teachers do not take the role of "sage on the sage", they act as "guides on the side" who provide students with opportunities to test the adequacy of their current understandings. (Brooks&Brooks, 1993) For this reason, the teachers' major roles are to make suggestions, give recommendations, challenge creativity and encourage independent thinking to support development. Consequently, the teachers should create educational environments that allow enough time, opportunity and suitable classroom atmosphere for students to be actively involved in the learning process (Brooks&Brooks, 1993, p. 5).

Humanism

Humanism is based on the premise that students have a need to become adults, a term used by Maslow. Self-actualized adults are self-directed, confident, mature, realistic about their goals and flexible. For this students need a classroom that gives them the freedom to be creative. Humanistic teaching strategies combine individual and small group instructional

activities.Humanistic education looks more closely at what happens in the room. The teacher is the facilitator and believes that there should be no lesson plans or a standard curriculum. The role of a humanistic teacher is to organize her classroom so that students will be eager to learn, grow; seek to find out; hope to master and desire to create (Rogers, 1959).

INSTRUCTIONAL METHODS

Clark (1994) defined instructional method as "the inclusion of one of a number of possible representations of a cognitive process or strategy that is necessary for learning but which students can not or will not provide for themselves" (p. 26). Some different instructional methods are explained by Heinich (1999) as given below:

- **Presentation**: In this method, a source (a textbook, an audiotype, a film, an instructor) tells, dramatizes or disseminates information to learners.

- **Demonstration:** In this method, the learner views a life-like example of the skill or procedure to be learned.

- **Discussion:** It includes the exchange of ideas and feelings among students or among the students and teacher.

- **Drill and Practice:** The learners are directed towards a series of practice exercises designed to improve their fluency in a new skill or to refresh an existing one.

- **Tutorial:** It (a person, a computer or printed materials) presents the content, possess a question or problem, request a learner response, analyzes the response, supplies appropriate feedback, and provides practice until the learner demonstrates a predetermined level of competency"

- **Cooperative Learning Groups:** Students learn from each other when they work on projects as a team. (Slavin, 1990, cited in Heinch, 1999)

- **Gaming:** Learners follow prescriptive rules as they strive to attain a challenging goal.

- **Simulation:** The learner confronts a scaled-down version of a real life situation, which lets realistic practice without the expense and risks otherwise involved.

- **Discovery:** It uses an inquiry approach to learning, since it presents problems to be solved through trial and error.

- **Problem Solving:** It involves placing students in the active role of being confronted with an ill-structured problem situated in the real world. (Heinch, p. 10)

RESEARCH DESIGN

In this study, the researchers tried to find out the teachers' use of Instructional Applications in their daily practice, which means that it focused on teachers' lived experience, so, as stated by Marshall and Rossman (1999), it is not possible to understand human actions without understanding the meaning that the participants attribute to those actions- their thoughts, feelings, beliefs, values, and assumptive worlds; therefore, researchers need to understand the deeper perspectives captured through face-to-face interaction. (p.57) Also, in order to learn their hidden experience with the use of Instructional Applications at different settings, the researchers need to probe their progress by establishing face to face interaction with the subjects via observations. Morse and Richards (2002) clarified that "If the purpose is to learn from the participants in a setting or process the way they experience it, the meanings they put on it, and how they interpret what they experience, you need methods that will allow you to discover and do justice to their perceptions and the complexity of their interpretations" (p. 28) Consequently, by using qualitative methods, it is possible to reveal what kinds of instructional applications the teachers follow in their daily practices, therefore, the researcher decided to use a Qualitative Research Design.

In addition, this study used a Descriptive Case Study approach as the researchers tried to describe the teachers' use of Instructional Applications. As stated by Berg (1989), "Case study methods involve systematically gathering enough information about a particular person, social setting, event or group to permit the researcher to effectively understand how the subject operates or functions (p.251)".

Sampling

In this research, the researchers talked to the Administrator of the schools, who had a good deal of information about his/her own teachers, to find out the information-rich key informants for this study. Also, as teachers from different subject areas might use Instructional applications differently, it was important to include teachers from different subject areas in order to increase the likelihood of representativeness of the population. For this reason, the participants in this study consisted of

teachers teaching at different fields English, Biology, Math, Turkish and Computer. Therefore, Criterion Sampling Method, which tries to review and study all cases that meet some predetermined criterion of importance (Patton, 1987), was used in this study.

Data Collection Methods

Regarding data collection, there were observations to different school settings in order to gather information about teachers' teaching and to find out whether teachers followed a specific approach, methodology and strategy or chose an eclectic way of teaching in performing their instructions, researchers visited 3 different public schools in 2004-2005 school year in Ankara Province, in Turkey.

Teachers were observed during their lessons. These observations were based on the:

1. Main instructional theories applied
2. Major instructional methodologies used in the lessons
3. Teachers' use of instructional strategies
4. Teachers' preference on instructional materials

Besides analysis of lessons included how teachers:
*   made use of instructional theories in their classrooms,
*   applied instructional methodologies in their classrooms,
*   performed instructional techniques and strategies in their classrooms,
*   applied instructional activities in their classrooms,
*   used instructional materials
*   and students' attitudes towards the teaching strategies during the lessons,

FINDINGS

Observation items determined to delineate what was actually done in the classrooms. For this purpose, of the 10 public school teachers were observed to find out commonalities/differences in their instructional approaches. Each observation lasted approximately 45 minutes, a lesson hour. Data gathered were subjected to descriptive analysis. The researchers set the frame for descriptive analysis by identifying the themes. Major themes were "instructional theories," "instructional strategies and techniques," "instructional materials," "teacher attitudes and characteristics," "students attitudes and characteristics," "physical environment" and "evaluation". Later, under each theme data were organized. For instance, the theme "teacher Attitudes and Characteristics" included codes like "the authoritarian teacher," "the democratic teacher," "the laissez-faire teacher" etc.

It was found out by the researchers that teachers applied various instructional theories or approaches with a great many strategies in their classrooms. Apart from one teacher of English language, all teachers preferred applying various methodologies backed up with various theories or approaches in their classrooms. Hence, they chose an eclectic way of teaching. Besides this, the results of the research indicated that teachers should be better provided with practical training in their applications of theories.

CONCLUSION

A class is full of mixed ability students with different mental abilities, learning habits and intelligences, the route a teacher follows should consist of various perspectives meeting the needs of the learners and solving the instructional problem(s). Just like an instructional designer, a teacher's responsibility is not deciding on the subject but creating various learning environments for learners by the help of various methodologies. By concerning instructional designers, Snelbecker states "they cannot afford the luxury of restricting themselves to only one theoretical position" (cited in Ertmer and Newby, 1993). Similarly, Bonner emphasizes eclecticism by claiming "Instructional design undoubtedly will remain an eclectic practice

that will draw from cognitive psychology as well as other disciplines, and this selective variety will continue to be viewed as a strength" Besides, the differences among the learners, different points during instruction may require different strategies. Cognitive theory is there for complex forms of learning requiring higher-level skills similarly behavioral theory is for strengthening stimulus-response associations or constructivism is for advanced knowledge acquisition. However, this is only one point of view; the content or let's calls it subject matter. Likewise, it is believed that, behavioral approach can effectively help mastering the content of a profession (knowing what); cognitive strategies are good for problem-solving tactics (knowing how) and constructivism for dealing with ill-defined problems through reflection interaction. (Ertmer & Newby, 1993) These are concerned with task analysis, as well.

A teacher should keep in mind that there might be a need for changes, which have not been estimated at the design of the

process. These changes may depend on some psychological, sociological or even technological (media) facts, which require different strategies. The critical question should be not which theory is best but which theory effectively fosters the specific tasks by specific learners. (Ertmer & Newby, 1993) Accordingly, each different approach is validated in emphasizing different learning needs in different learning situations and they are complimentary of each other so a teacher should benefit from all to enhance and solve the problems of learning environments.

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