

Elementary School Teachers' Instructional Design Process: An Insight into Teachers' Daily Practices

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Abstract: A qualitative study on teachers' use of Instructional design process was conducted to have an insight about their daily practices. Researchers aimed to determine the use of each identified Instructional design phases, as Analysis, Design, Development, Implementation, and Evaluation. Although several publications exist on teachers' planning and organizing approaches, literature still needs to provide more evidences about how the teachers relate instructional design methodology into the their preparation. Therefore, this research aims to contribute some basics for the theoretical framework on the traditions. Also, it may provide some insights related with their daily use of Instructional design methods and how support can be put into practice to design specific learning tasks. In this study, the researchers used a qualitative approach to describe cases in which data collected from interviews and observations with 8 public school teachers. The results of the study showed that the teachers use all instructional phases to some extend even though some deficiencies were underlined.

Introduction

As stated by Khan (2001), "advances in information technology, coupled with the changes in society, have created a new paradigm for training" (p.5). As we evolve deeper in the information age, there was a shift from passive to active learning and from teacher directed to student directed learning (Reigeluth, 1999). Also, Heinch (1999) stated that the roles of teachers and students have been imposed to change because of influence of the media and technology in the classroom. Therefore, teachers' role has been shifted from transmitter of knowledge to coach, such as monitoring students' learning, and designer of study tasks that promote 'new learning' (Hoogveld, 2003). In this process, teachers are required to prepare effectively designed courses with the considerations on learner centered, engaging, interactive, meaningful learning environments that contribute answers for the demands of this century (Khan, 2001). Hence, they should employ accurate Instructional Design processes, because of the fact that ID provides more effective and efficient learning guidance, which is the primary goal of every individual involved in education and training (Burkman, 1987).

According to Anglada (2002), ID process provides a framework for planning, developing, and adapting instruction, based on learners' needs and content requirements. There are lots of different ID models to put into practice in the ID process, but, in fact, majority of designers follow the same basic generic categories named analysis, design, development, implementation, and evaluation. (Gustafson&Branch, 1997). In order to visualize the problem in ID, it is necessary to break it down into discrete, manageable units so that complex process of instructional design becomes easier and more understandable. The phases helps teachers to become aware of what to do during design process without focusing on unimportant issues. Therefore, it is important for teachers to know, understand, and apply instructional design phases while developing their courses.

In this research, a qualitative study was conducted to determine the elementary school teachers' use of ID Process in their daily practices. The researchers aimed to determine how elementary school teachers in Ankara use each identified Instructional design Phases.

The following research questions specifically provided to guide this study:

1. How do the elementary school teachers in Ankara employ ID Process while preparing their courses?
 - 1.1. How do they use
 - Analysis ,
 - Design ,
 - Development,
 - Implementation, and
 - Evaluation Phase while preparing their courses?

The significance of this research supports the Hoogweld's (2003) idea that little literature can be found about how the teachers apply instructional design processes during their course preparation. Since the design of instruction directly affect effectiveness of teaching, it is important to explicate teachers' ID Process. This information would be critical to ensure quality in instruction in the classroom settings. In addition, Hoogweld (2003) also states that in order to determine how teachers can be supported in their struggle to design learning tasks, it is important to explore what instructional design methods they actually use in their current daily practice. Therefore, the results of this research may provide an idea about how teachers can be supported to engage instructional design process while preparing their courses.

Furthermore, in a country specific manner, Turkey educational system is centralized and the Ministry of National Education (MNE) is responsible for developing curricula, designing instruction, and developing educational materials (Kiraz et al., 2004). Curriculum was imposed by this centralized authority may prevent teachers from designing their own instruction. Therefore, teachers might be confused about whether to design their own instruction or using a designed instruction. Nevertheless, there is little literature about teacher' use of Instructional Design Process in Turkey. Teachers face many kinds of problems due to not being aware of principles of instructional design. The results of research may contribute teachers' awareness that they would implement Instructional Design Process. Also, looking through the results of this study, the decision makers will have an opinion about what processes and principles that the elementary school teachers use or do not use in their daily practices. Therefore, they would take some initiatives in the areas teachers' ID skills needed to be improved.

Research Design

Most teachers don't know what the Instructional Design exactly means and what the components of Instructional Design Process are. Even so, many teachers use Instructional Design Process to some extent even though they are not aware of it. In order to learn their hidden experience with the use of Instructional Design, the researcher needs to probe their progress by establishing face to face interaction with the subjects via interviews and 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 kind of a process the teachers follow while preparing their courses; therefore, the authors used a Descriptive Case Study approach to describe the teachers' Instructional Design Process. 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)". Likewise, the purpose of the study is to find out how the teachers operate the Instructional Design Process and its phases while preparing their courses. Also, as stated by Yin(1994), "how" questions are likely to lead to the use of case studies because such questions deal with operational links needing to be traced over time, rather than mere frequencies or incidence.

Participants and Sampling

In this research, participants were chosen from two different public schools located in the western part of the Ankara, in Turkey. Both schools have a good deal of media, materials and also most teachers were qualified in their field. While choosing the participant teachers, criterion sampling method was used to gain information from key informants. We tried to reach to the key informants by asking the school administrators to find the teachers who use innovative methods and activities in their courses. The sample of this study was 8 teachers, 4 coming from one elementary school and 4 from the other elementary school, including Turkish, Computer, English and Science teachers from both elementary schools.

Data Collection and Data Analysis Methods:

The authors conducted semi-structured interviews with the teachers in order to find out what is on their mind and what they think about Instructional Design and how they use ID Process and its phases in their daily practice. The interview sections took approximately 60 minutes and we tape recorded all the interviews. To support the interview results. We conducted some non-participant observations with the same teachers. We observed one lesson hour of the teachers interviewed. Therefore, the data was triangulated by obtaining data from the same participants through two different methods, observations and interviews.

Then, the authors transferred all transcribed interviews to the computer immediately after conducting in order to prevent any data loss. Then, they read them carefully to maintain inter-coder reliability. Next, they made a "line by line analysis" in order to have a greater analysis of what the concepts stand for or mean. They tried to code the transcripts by giving a name to the concepts after breaking the data into discrete incidents, ideas, events, and acts. After coding process, they grouped the concepts and categorized them under more abstract explanatory terms, categories or themes. Finally, they wrote up the results by giving information about determined themes and categories.

In addition, the authors dealt with the validity and reliability issues by using some different strategies. First, some colleagues and teachers reviewed the interview process in some time intervals from the beginning to the end. Second, all the data analysis and data collection processes were written in a detailed way. Then, they added quotations of the participants in the results section.

Findings

After analyzing interview and observation results, much valuable information was gained about teachers' use of Instructional Design Process. In order to answer the research questions, the results of the study was written under 5 headings, analysis, design, development, implementation and evaluation.

Analysis

Before designing their lessons, participant teachers made some analysis. As shown in the Figure 1, teachers

considered many different issues while deciding on the objectives of the lesson, instructional method/activities and instructional media and materials. They did those analysis whether in their mind or written in the lesson plan before coming to the lesson.

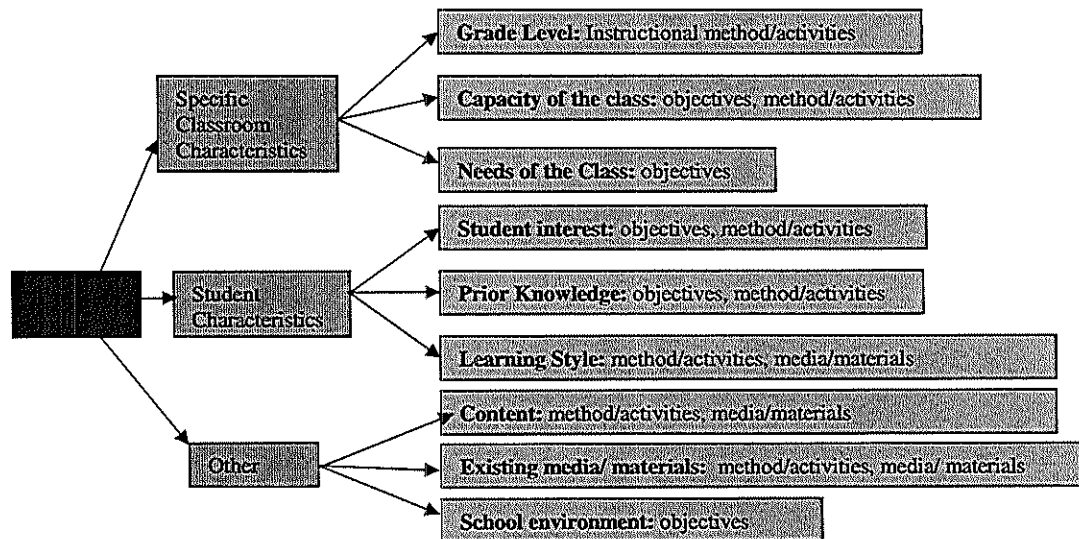


Figure 1: The main issues that teachers analyze in order to decide objectives, instructional method/activities and media/materials.

In Turkey, the objectives set forth by MNE. Most teachers (5 out of 8) found the objectives given by Ministry of National Education (MNE) unsatisfying and superficial, so they had some problems with applying these objectives. They said that the objectives changes with the school environment, student interest, their prior knowledge, class capacity and needs of the class. One teacher stated that MNE doesn't know each of the classes' needs as the schools in different regions and with different culture and environmental conditions differ highly from each other. Thereof, objectives changes from one school to another and also from one class to another at the same school. Likewise, although teachers said to consider many different issues while deciding on the instructional methods/activities and media/materials, MNE provided them teacher books which included explanations of the predetermined instructional methods and materials for each lesson. Teachers do not need to make any analysis since it is easier to use the instructional media and materials determined by MNE. One teacher stated that she did not develop new instructional materials since she was required to employ predetermined method and materials. However, she was aware of the fact that these predetermine materials and methods might not be appropriate for her class, the students' needs', interests' capacity and their learning style. She expressed that:

“...the methods and activities are predetermined in the teachers' book. I read the teachers' book and textbook of the lesson sentence by sentence and I try to apply them. Although there are very beneficial activities, sometimes I have some difficulties in applying them. The activities may not be appropriate for my classes, so I had to do some minor changes. Still, the lesson time may not enough to complete all the activities since curriculum is very loaded...”

Consequently, although teachers wanted to design their instruction depending on their analysis results, they are not free to do it. MNE requires them to employ the determined instructional method/activities and materials in order to reach the intended objectives given by MNE.

Design

The interview results showed how the teachers design their lessons and what kind of preparation

activities they do before coming to the classroom. Participant teachers stated that they conduct many preparation activities, such as finding different resources (textbooks, sample tests, materials), deciding on instructional method/activities and instructional media/materials, writing objectives and goals of each lesson. Then, teachers wrote all those issues on their lesson plans.

First, most teachers (6 out of 8) stated that they prepare lesson plans before coming to the classroom. They followed specific patterns in writing their lesson plans based on what Ministry of National Education (MNE) put forth, but their practices in classroom were some how various. They stated that MNE forced them to write very detailed lesson plans but they found writing everything that they will do step by step very robotic and not applicable to the lessons. Teachers thought that something happens in lessons in an improvisational way that can not be planned or written beforehand in a piece of paper. Most of the teachers stated that they planed in their mind while considering specific classroom characteristics, such as the grade level or class capacity or student interests and needs. The participant teachers expressed that the lesson plan is a visual exhibition because someone forced you to do it. One teacher pointed out that:

“You can apply what you have written in the lesson plans, but it is not possible to write everything that you do in the classroom, in a lesson plan. I mean that the lesson plans something like a visual exhibition, you do it because someone forces you to do so...”

7 teachers stated that they planed their lessons in their mind. One of them explained that:

“...it (lesson plan) addresses the exhibition or paper part; of course you plan something in your mind... I plan differently for each class depending on their specific characteristics... it (lesson plan) doesn't talk to me much but I still have to do it, there is not much application of it. All the teachers have their plan in their mind...”

However, the teachers stated that the lesson plans still beneficial for them as they helped to shape things in their mind by thinking about the main points and estimating what outcomes are likely to be gained etc... Also, the teachers emphasized that lesson plans easies the flow of the lesson.

5 teachers used the Internet while preparing their courses and their lesson plans. With the invention of internet, teachers are able to reach many valuable resources for their courses easily and quickly as they stated to have very limited time for preparing their lessons. While preparing lesson plans, 4 teachers said that they shared ideas and resources with their colleagues.

Second, participant teachers gave some valuable information about their use of instructional objectives. Most teachers (5 out of 8) found the objectives given by Ministry of National Education (MNE) unsatisfying and superficial and they had some problems with applying these objectives. Looking through the results, we can state that the teachers, especially the novice ones, felt an impression from Ministry of National Education to write the MNE objectives in the lesson plan although they can not apply those objectives much. Teachers' reasons for not applying MNE objectives was that curriculum was very loaded and they could not find enough time to apply all the objectives given by MNE. Thereof, some teachers (3 out of 8) changed the MNE objectives to make it more applicable and appropriate for each classroom, and some teachers (3 out of 8) used only their own objectives.

On the other hand, they talked about the benefits of the objectives as they helped to reveal the focus of the lesson and guided them by showing the expected outcomes and purpose of the lesson etc... Also, they helped to discover any missing point and check students' understanding. Therefore, you can understand that the teachers found the objectives somehow beneficial for their lessons. Although they wrote the MNE objectives in the lesson plan, many teachers determined their own objectives in their mind. Therefore, the Ministry of Turkish National Education should allow teachers to make some changes to the objectives and write them in the lesson plan whenever there is a need. It might increase also to the applicability of the lesson plans accordingly.

Third, the teachers talked about how they decide instructional method/activities and instructional media/materials. Although they said to consider many issues while deciding instructional method and materials, most of them were still writing the predetermined method/activities and instructional materials in the lesson plans. However, they were using some different methods/activities and materials in that they have enough time to complete the activities. For example, one teacher used some role-playing activities since she thought that it was the most effective way to increase students' learning in such a lesson. Also, another teacher used some instructional media such as overhead projector or computer to attract students' attention and participate them to the lesson.

Development

The teachers were asked whether they develop any instructional media and materials for their lessons. 5

teachers said that they don't develop new materials since they didn't have enough time to do. Actually, they thought that there is no need to develop new materials since the materials given by MNE was enough. On the other hand, three teachers said that they have some problems with the materials given by MNE and so they developed some instructional materials such as PowerPoint slides, some pictures, excel and word documents. Also, two English teachers complained about MNE books since they didn't sent listening cassettes and teacher books. They also thought that the activities were not appropriate for teaching English. So, they tried to find out any additional materials, and used some different methods. For example, one teacher made a role playing activity in the listening part instead of playing it in a cassette player. She used [everything in or around the school as teaching materials] in her courses. She commented that:

"I use everything as an Instructional Material in my courses, such as worms, birds, insects, toys, CDs, video, cassettes, charts, overhead projector, computer, TV, pictures and everything you see around us...."

Implementation

First, teachers stated to use some different instructional method and activities, such as direct instruction, demonstration, question-answer, discovery learning, authentic learning, discussion, scenario based learning, cooperative learning, student presentation and role playing. It was supported by the observations that teachers used those methods in their lessons. All the teachers used question-answer method for different purposes, such as to participate their students to the lesson, to attract the students' attention, and to assess their students' understanding.

Second, the participant teachers have access to many different instructional media and materials, such as computer, projector, TV, overhead projector, video, cassettes, educational CDs, laboratory materials, blackboard, books and pictures. Many teachers (4 out of 8) said that they used educational CDs in their courses. In addition, three teachers expressed that they used overhead projector. One teacher said that direct instruction doesn't work all the time since the students have the watchfulness capability of 20 minutes, so she tried to attract their attention with such visual materials showed in overhead projector... In the observation sections, most teachers (6 out of 8) used blackboard and books and two teachers used laboratory materials. In addition, two teachers used computers in their lessons.

Evaluation

In the evaluation part, participant teachers used different evaluation methods, such as question answer, written exam, oral exam, application exam, worksheets, homework and quizzes to assess whether their students reached to the intended outcomes or not. All the teachers used question-answer method to immediately check their understanding and give simultaneous feedback. Looking through the results, while making some assessments, teachers try to increase the participation of the students to the lesson by motivating them. For example, one of the teachers rewarded the students by giving some stickers for the desired behavior and also the students rewarded the teacher for her desired behaviors. By this way, she increased their self-confidence by showing that she gave value to them and they were equal with their teacher in that both can be rewarded in the same way.

All the teachers used written and oral exams in their courses. However, some teachers found the written examination nonsense as they had to obey the topics from curriculum though they taught much more in the lessons.

In addition, participant teachers revised their lesson plans and their lessons to update them or when some problems occurred in the classroom. They reconsider the student characteristics, their learning style and they try to teach in a way better than the last one by using different instructional methods or activities. Therefore, while revising, teachers make some re-analysis in order to see the reasons for the problems occurred.

Conclusions

In this research, the authors tried to reveal the teachers' use of Instructional Design Process by looking

through their use of identified Instructional Design phases as analysis, design, development, implementation and evaluation, in their daily practices. The results gave some valuable information about all the research questions of this study.

First, the teachers did not use analysis phase much because of the centralized educational system in Turkey. All the instructional objectives, method/activities, media/materials and evaluation methods were predetermined by Ministry of National Education (MNE) in the national education curriculum. Therefore, teachers are just required to employ them without considering school and classroom specific issues. However, because curriculum is very loaded, teachers could not find enough time to apply them. Still, teachers somehow used analysis phase connected to the design phase. They designed their courses in the lesson plan in a way required by MNE. Therefore, in the design phase, they had a conflict whether to design the courses depending on the analysis results or to design it depending on the requirements of MNE. Therefore, the MNE should let the teachers to be more flexible to design their courses depending on the analysis results of their own classes.

Second, looking through the results, it can be seen that the teachers don't use the development phase much since they generally used the predetermined materials by MNE. Another reason for it might be that they don't have enough time to do it; therefore the teachers should be given some more free time to develop some new and creative materials appropriate to their classes. On the other hand, it might be because of that the teachers don't have necessary skills to develop teaching materials appropriate for their students. Therefore, they should be given some in-service training about developing new and creative materials appropriate for the use of new media.

Third, in the implementation phase, mostly, they tried to use student-centered teaching methods and activities in order to answer the requirements of the information century. Also, they benefited from this century opportunities by using different visual and audiovisual materials. However, it seemed that they were unfamiliar with the use of student-centered methods and the new media and materials. Therefore, they should be given some more in-service training about these issues in order to prepare them to answer their students' needs and expectations in this century. Finally, they used evaluation phase by assessing students during the lesson or at the end of the lesson to see whether they reached the intended outcomes of the lesson.

Consequently, the teachers seems to use all Instructional Phases in some extend. However, looking through the results, we can see that there are still some deficiencies in their use of Instructional design Phases. For example, because of centralized educational system, they rarely used analysis and development phases. Therefore, the Ministry of National Education should let the teachers design their own courses and give some in-service training to them about the use of Instructional Design Process since it is critical to ensure the quality of the instruction in the classroom settings.

Though there is little information about teachers' use of ID phases in the literature, it was stated that teachers don't frequently apply the Instructional design process. However, our results showed that they apply ID process in some extend although they don't aware about it. Therefore, this research might be valuable to correct this idea in the literature by re-examining the teachers' use of Instructional Design process. In addition, it helped the participant teachers to be aware about their use of ID process... However, this research may not be enough to see the whole picture. Therefore, some future research should be conducted with some more teachers in order to reach more accurate results.

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