On applying the interdisciplinary approach in primary schools

Selma Denemea, Selen Ada

Trakya University, Edirne, 22030, Turkey

Abstract

An interdisciplinary approach has been at the core of attention in primary school education recently. In this approach, teachers collaborate to invent more effective means of teaching by associating the subjects and activities of a school subject in the curriculum with other subjects. The findings of this study, suggest that an interdisciplinary approach should be included in the primary school programs. The study reveals the benefits of using an interdisciplinary approach in primary school classes, as it can potentially sharpen students’ understanding of various subjects, thereby enabling them to become well-supported, creative and better learners.

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1. Introduction

Interdisciplinary approach is one of the newly developed approaches that are now commonly used in a wide spectrum of disciplines. Jacobs, H. (1989 pp. 3-4) defines interdisciplinary learning as “a knowledge view and curriculum approach that consciously applied methodology and language from more than one discipline to examine a central theme, issue, problem, topic, or experience”. The term interdisciplinary is defined in Collins English Dictionary as “involving two or more academic disciplines”. In interdisciplinarity, in order to maintain permanent learning, the teachers juxtapose and blend two or more disciplines to connect the topics, contents and the activities. Thus, the teachers work together for planning the teaching and evaluation process.

The curricular concept of integrating or connecting school subject areas has gained significant attention in recent years as a plausible solution to developing a more coherent and effective approach to teaching and learning (Adelman, 1989; Department of Labor, 1991; Cheek, 1992). The integrative and multi-disciplinary curricular approach related to technology education seeks to help students learn and appreciate the relevancy of how school subjects are tied together and how each subject builds on the other (Wicklein & Schell: 1995).
By employing interdisciplinary techniques teachers of different disciplines can collaborate and support each other while giving way to enliven their teaching (Austin & Baldwin, 1991; Gray & Halbert, 1998). Interdisciplinary teaching requires the application of methods and language from more than one academic discipline to deal with a theme, issue, question, problem or experience. Interdisciplinary methods create connections between discrete disciplines such as mathematics, history and English language arts.

Interdisciplinarity can play an essential role in education. It helps the learners to integrate school, lesson and life with one another. Furthermore, it helps learners to realize their own thinking and learning style, enabling them to think and learn effectively. Interdisciplinarity is an efficient way of learning as Schubert (1993) states “a true window on the world”. Lipson et al. (1993) stated that by the help of this effective learning way, the learners focus on the topic easily, comprehend why they are learning the topic, grasp connection through disciplines and transfer their learning from one situation to another. Furthermore, the learners can comprehend the relation between the content and the process and can acquire the integrated knowledge base.

In summary, an interdisciplinary approach aims to bring teachers from different disciplines together in order to solve the problem of effective teaching. As they are aware of the levels and the needs of their students, they design their syllabus and materials accordingly. Integrating various disciplines can help children comprehend a topic which may lead to effective learning.

2. Methodology

2.1 Purpose of the study

The aim of this study is to present the ways of applying the interdisciplinary approach in order to teach a primary school subject. In order to do this, the researchers will integrate 4 disciplines namely “Science and Technology”, “English”, “Drawing”, and “Music” in order to conduct the research.

2.2 Participants

The participants of the study consisted of 23 fifth class students; 15 of whom were girls and 8 were boys. They had been learning English at primary school for ten months and all were beginner level students between the ages of 10 and 11.

2.3 Procedures

The research was carried out by using the descriptive research method. Choosing a suitable school overlapping the expectations, the researchers asked for permission from the school manager and from the teachers to carry out the research. Next, they constituted a commission and chose a suitable class for the application of interdisciplinary approach. Following this, the teachers were interviewed in order to get information about the students, lessons, and the curriculum. Then, the researchers decided to integrate “Science and Technology”, “English”, “Drawing”, and “Music” lessons and they prepared a table of course integration. Finally, the chosen disciplines were integrated in the classroom to teach a topic.

2.4 Descriptions of the lessons

In Science and Technology lesson, the students learnt how to classify living things such as animals and plants. They talked about the environment they lived in or other environments. They learnt about the food chain and the effect of people on the environment by using different teaching techniques.
In English lesson, the students learnt the names of animals, vegetables and fruit by using matching activity games.

In Music lesson, the students learnt an English song called ‘Old McDonald’ and played the song by the flute.

In Drawing lesson, the students were divided into two groups. One group drew the combination of animals and plants and the other made a leaf press activity.

2.5 Classroom Applications

On Tuesday, during the “Science and technology” lesson, the teacher started the lesson after motivating the students. During the lesson, the teacher used different teaching techniques such as questioning, eliciting, and brain storming and at the end of the lesson she used a test in order to assess the student’s learning. On Tuesday, in “English” lesson, the topic of “Living things and their lives” which was studied in Science and Technology lesson was integrated: During this lesson, matching activity games were used so that the students could learn the living things in digital environment. At the end of the lesson, we assessed their learning by using a digital test and we observed that this integration improved their learning. On Wednesday, during “Drawing” lesson, the topic of “Living things and their lives” which had been studied in Science and Technology lesson was integrated: In order to achieve the goals of the lesson, a student-centric approach was used. The classes were divided into two groups. One group drew the combination of animals and plants and the other group made leaf press activity to learn the living things with a hands-on activity. Students played the flute to practice the names of the animals, and they sang the song and learnt more about animals.

3. Results and Findings

In this section, the application of the interdisciplinary approach is discussed in detail by integrating “Science and Technology”, “English”, “Music” and “Drawing” lessons and illustrated with students’ products.

3.1 Science and Technology lesson

In science and technology lessons the researchers made several observations. At the beginning of the lesson, the teacher brought some flashcards about the living things and some sample of vegetables and fruit to the classroom in order to attract the students’ attention and interest to the subject. Then, she introduced the topic and showed the related pictures in the book to the students and asked about their views on the topic to inform the students about the aim of the subject. The teacher started teaching by using visual materials and gave basic information about the subject. Next, she grouped the students into two and wanted them to classify animals and plants to help them make investigations and share their discoveries with the other group. During the lesson, the students also asked questions to their class-mates about the topic. Then, they watched an educational CD about the topic of “TTNet Meb Vitamin” (an educational program which is designed according to curriculum of National Education). At the end of the lesson, the teacher created a small test on the topic in order to test students’ improvement in the subject.

3.2 English lesson

In the English lesson, the researchers integrated the topic of “Living things and their lives”. For this lesson, the researchers used matching activity games in order to teach animals, vegetables and fruit. They reflected the matching activities on the board and wanted students to match the names of the animals, vegetables and fruit with their pictures. After matching the words with pictures, the students got feedback. At the end of the game, the researchers conducted a small test and in addition to this, the teacher wanted students to make a poster about animals, vegetables and fruit as homework.
3.3 Music Lesson

In the Music lesson, the researchers integrated the topic of “Living things and their lives”. For this lesson they used an English song called “Old MacDonald”. In order to teach the song, they used a CD player so that students could see the animation of the song and could learn the concepts in the song easily. Finally, they started to sing the song by playing the flute. As a result, the students learned the animals in the song and also learned the English names of the animals by integrating Music lesson with Science and Technology and English lessons.

3.4 Drawing Lesson

In drawing lesson, the researchers integrated the topic of “Living things and their lives”. The researchers grouped the students into two. One group drew the combination of animals and plants (in figure 1) and other group made a leaf press activity (in figure 2).

![Students' drawings](image1.png)  ![Leaf press by the students](image2.png)

Figure 1. Students’ drawings  Figure 2. Leaf press by the students

4. Conclusions and Recommendations

In view of the changing face of globalization, our perceptions and understanding of what constitutes education are also changing. The new modern approaches and techniques are slowly replacing the classical patterns of education (Gaur, 2008).

In this study, one of new approaches of interdisciplinary is studied. A lesson plan to apply interdisciplinary teaching was prepared and carried out in a primary school. During the practicing process, the researchers came together and integrated the lesson of “Science and Technology” and the topic of “Living things and their lives” with English, Drawing and Music lessons in order to teach the topic more efficiently and effectively. By the end of the study, it was found that an interdisciplinary approach positively affected the students’ learning ability. As the disciplines and topics were integrated with other disciplines and other topics, permanent learning was maintained. Having learnt the targeted topic, the students reflected their knowledge to other disciplines and used it in their daily lives. Moreover, with the help of interdisciplinary teaching methods, students are exposed to work with multiple sources of information, thus ensuring they are receiving a perspective broader than they gain from merely consulting one textbook (Wood, 1997).

In view of the findings of this study, we suggest that an interdisciplinary approach should be included in the primary school programs. The study reveals the benefits of primary school teachers using an interdisciplinary approach in their classes, as it can help them prepare their activities and choose their authentic materials according to this new teaching method and coordinate a more positive team work with the teachers of other branches. This can potentially sharpen their students’ understanding of various subjects, thereby enabling them to become well-supported, creative and better learners.
References


