Extended Summary

Applications of Layered Curriculum in Science and Technology Course

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Introduction

The new trends in teaching-learning process aim to train the students, who search, question, criticize and most importantly have responsibility of their own learning. One of the approaches that can accomplish these goals in teaching-learning process is layered curriculum. The layered curriculum, in which learning areas are divided into layers, and in each layer students are expected to fulfill different tasks, is a student centered approach based on constructivist learning theory. As the main feature, the layered curriculum is based on the consideration that students are responsible of own learning. Thus, it contributes students to learn learning and activate them in this process.

Purpose

The aim of this study is to reveal how the layered curriculum is applied in primary education 5th grade Science and Technology Course.

Methodology

In this study was designed as mixed method research design including both qualitative and quantitative research methods.

The study was conducted with 24 students attending to 5/B at Hürriyet Primary Education school at the spring term of 2008-2009 academic years. The applications of layered curriculum were carried out within the contexts of 5nd grade Science and Technology Course units of "Earth, sun, moon" and "Let's travel and know world of livings" for 52 class hours between 10. 03. 2009-08. 06. 2009. The data of the study was collected from multiple data collection instruments as personal information form, video records, semi-structured interviews, researcher and student journals, student portfolios and attitude scale. Then, the

collected data was analyzed through descriptive analysis and the obtained findings were interpreted referring to the research questions.

Results

Consequently, the results of the study can be listed as:

- In the study, the activities, which required basic knowledge and skill, were involved at C layer of layered curriculum and as a result, it was seen that the students actively participated to these activities. At C layer, the students fulfilled the expected tasks. Thus, it was concluded that by means of the activities at C layer, the students' skills such as criticizing, searching, being sensitive to current issues, being curious, relating with real life, creativity, classifying, having sense of responsibility, summarizing, displaying skills and empathizing were developed.
- At B layer it was seen that the students adapted to layered curriculum and interiorized the application. Moreover, it was noticed that the students adopted the evaluation processes at this layer. Thus, it was concluded that the activities carried out at B layer contributed to the development of students' skills of role playing, debating and awareness.
- At A layer, it was seen that the students fulfilled the given tasks using higher order thinking skills. At A layer, the activities which required more complicated thinking skills were presented by the students and it was obtained that the students' skills of individual work and cooperation via searching were developed.
- The students stated that in teaching-learning process within the context of layered curriculum, the activities were clear and comprehensible, they could practice learning by doing and living and teaching based on activity were carried out. Furthermore, the students explained that through layered curriculum, Science course became more interesting and thus, they loved this course, besides, they participated to this course more with these applications.

- In the study, it was obtained that the applications based on layered curriculum did not have any statistically significant effect on the students' attitudes towards Science and Technology Course.

Discussion and Conclusion

Layered curriculum multiple choices to make the student teaching process, taking on responsibility for elections, organizing learning cat, evaluation processes to identify and decide to what he learned. Research, the students made their own choices, have played an active role in learning, teachers and resources to multi-task presented to them. Students will undertake the responsibility of learning throughout the application. Students were forced to adapt to this approach at first, and "always doing the event, no lessons" he responded, but continued throughout the application "without realizing what they have learned many things," stated.

It is stated that when preparing Primary School Science and Technology Curriculum in Turkey, developments in the world were taken into consideration and fundamental changes in learning approaches were based. The curriculum has accepted the trends tending from behavioral perspective to constructivist perspective. The approaches such as multiple intelligence theory, problem-based learning, and inquiry-based learning required by constructivist perspective have taken place in the curriculum. Similarly, evaluation approaches have been designed in accordance with constructivist perspective, too. These approaches emphasize a learner-centered education. In fact, layered curriculum is a learner-centered education approach, too. But, layered curriculum hasn't been taken place in the primary curriculums in Turkey. However, in 2006, Ministry of Education prepared 1-8th grade Chess Curriculum on the basis of layered curriculum. In this sense, it is suggested that layered curriculum should take place in other program development processes, too.