



WCLTA 2013

The Perceptions and Views about Problem Solving Process of Pre-Service Science Teachers

Didem İNEL EKİCİ ^{a*}

^aAssist. Prof. Dr., *Usak University, Faculty of Education, Department of Science Education*

Abstract

In this study, it is aimed at determining pre-service science teachers' perceptions and views about problem solving process. In the study, a questionnaire consisting of six questions was used as data collecting tool. 116 pre-service science teachers studying at different grade levels participated in the study. Using descriptive analysis and content analysis assessed the data obtained from the study. As a result of the analysis of data, generally it is said that pre-service science teachers see problems faced with as obstacles that are needed to overcome; they think that every problem has a solution and have different views about how problem solving process can be taught to students. It is thought that the results obtained from the study will contribute to the relevant literature about the identifying and developing of the perceptions and views towards problem solving process of pre-service science teachers.

© 2014 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

Selection and peer-review under responsibility of the Organizing Committee of WCLTA 2013.

Keywords: Problem Solving, Pre-Service Science Teachers, Perception, View;

1. Introduction

When individuals that meet various problems through the life can solve the problems they meet, they can adapt daily life and can succeed in different areas. Generally, problems are described as obstacles that individuals meet and made difficult that an objective should be achieved (Yavuz, Arslan & Gulden, 2010). In other words, it can be said that the problems are difficulties individuals meet their life. Since problems are the main way of surviving in daily life, individuals need to solve the problems they meet (Tambychik & Meerah, 2010). So, it is needed individuals that meet the various problems through their life (Güven, 2010) should be used their problem solving skills in order to

*Corresponding Author: Didem İnel Ekici. Tel.: +0-506-235-5193
E-mail address: dideminel@gmail.com

overcome the so-called problems. As is known, problem solving skills help to individuals in solving of the problems met in not only academic life but also all stage of life (Armağan, Sağır & Çelik, 2009). Generally problem solving that mean as coping with the problems and need that problem solving skills should be used, is complex process included in cognitive, affective and behavioral activities (Serin, Serin & Saygılı, 2009). Since it is complex process, specialists suggest that this process should be divided into certain stage (Çalışkan, Selçuk & Erol, 2010). Therefore, problem solving process involve in various stages as from the definition of the problem to problem solving. In solving the problems met firstly problem is defined, the subjects needed to be investigated in order to solve the problem is determined, researches are made and problem is solved with knowledge obtained (Ekici & Balım, 2013). Individuals that chair the problem solving process well could be more successful in their life. When it is thought that the education-instruction process is an important process, it is able to say that teachers need to have problem solving skills (Yavuz, Arslan & Gulten, 2010). Generally since teachers have perceptions about problem solving process, they want for students to solve the problems by using the concepts and principles they have taught (Lee, 2010). But, it is not possible solving of the problems with only the concepts and principles learned. At first, It is needed that problem solving skills of the students that ask for support to improve themselves (Cifarelli et al, 2010) should be improved by helping from different teaching methods and techniques. For this reason, the knowledge levels, perceptions and views about problem solving process of the teachers are of great importance for them to teach the so-called problems to their students and use problem solving skills in their life. It is thought that the perceptions and views about problem solving process of pre-service science teachers to be teacher in the future is important since they meet various problems in their career and instruct to their students for them to learn problem solving process. So, it is aimed at describing the perceptions and views about problem solving process of pre-service science teachers in the so-called research.

2. Research Method

In this research, it has been used case study design that is one of the qualitative research methods (Yıldırım & Şimşek, 2006). It is aimed at determining the perceptions and views about problem solving process of pre-service science teachers by a questionnaire developed as data collection tool and included in 5 open-ended and 1 closed-ended questions. In developing of the questionnaire, literature has been researched and experts' view has been taken. Since, current research designed as a qualitative study, sampling has not been done and working group has been determined. In determining of the working group, purposeful sampling has been used. One hundred sixteen pre-service science teachers learn in first, second, third and fourth class in Usak University have been participated in the study.

3. Findings

The answers about questions in questionnaire of the pre-service science teachers and the percentages and frequencies of the answers are included in this part.

Table 1 The perceptions and views of pre-service science teachers about the first question

In your opinion, What does the problem mean?			
<i>Codes</i>	<i>f</i>	<i>%</i>	<i>The examples of some statements</i>
Trouble / Difficulty/ Negative	35	32	It is obstacle be needed to overcome (3)
The event needed to solve	18	17	It is the mistake that made through the event (5).
The obstacles needed to overcome	17	16	It is the negative thing that I meet (11).
The event that has not solution	15	14	It is the thing that I couldn't know the results of it (22).
Mistake / Misfortune / Uncertainty	13	12	It is the obstacle that met (35).
The event that has solution	10	9	It is the unknown events and uncertainty (54)

As is seen at table 1, pre-service science teachers have used more negative statements about the meaning of the problem. Pre-service science teachers have usually been associated the problems with the concepts like trouble, difficulty, obstacle and mistake. Besides, pre-service science teachers described the problems as the events to be needed solving, in % 17 frequently, the events have not solution in % 14 frequently and the events have solution in

Download English Version:

<https://daneshyari.com/en/article/1113248>

Download Persian Version:

<https://daneshyari.com/article/1113248>

[Daneshyari.com](https://daneshyari.com)