Metacognitive Behaviours of the Eighth Grade Gifted Students in Problem Solving Process

Abstract

This research aims to examine how gifted students exert their metacognition in each problem-solving step while solving a problem. In this sense, the researchers gave four students of the 8th grade three mathematics problems. The data of the study was collected through clinical interviews. The voice recordings of the students during the problem solving process and the solutions they wrote on paper formed the data of the study. The findings show that gifted students display metacognitive behaviours in problem solving process intensity. It was also observed that gifted students display some metacognitive behaviours which had not been determined by researchers before. These behaviours are seen at the stage of looking back and they are revision of connections between topics which were learnt in the past after solving a problem and relaxation of brain in order to evaluate what has been done by thinking over alternative ways. The findings of the research are important in terms of determining how gifted students exert their metacognition in each problem-solving step.

Keywords: metacognition, gifted students, problem solving.

1. Introduction

Metacognition as a concept was brought forward first by Flavell (1988), albeit theoretically it is dated back to earlier times. Many researchers defined it in different ways. According to Flavell (1979), metacognition comprises knowledge which an individual has acquired from his/her experiences through the cognitive process.