

COGNITIVE DEPTH IN NATIONAL LEVEL SCIENCE TESTS BIOLOGY TASKS FROM 2015 TILL 2017 YEAR

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Abstract

Educational system needs to adapt and change through times. To do that the last educational reform in Latvia was in 2006 and now, after eleven years, Latvia will try to make educational approach based on student's ability to apply HOCS (higher order cognitive skills). The need for new approach shows in OECD PISA results presented in 2016. They show that in Latvia only 3,8 % of students performance is in accordance to the 5th and 6th level of the deep learning skills framework where they need to apply skills in new contexts. Before making big decisions, it is necessary to analyze results from available and comparable data in order to identify ways how to promote student achievements. Therefore the research goal is to analyze how deep learning skills are approached in items with context of biology at National level Science tests in 9th grade from years 2015 till 2017. Furthermore, the research direction is to analyze the cognitive levels and student results of biology items in the Latvia's National level Science test in which scientific knowledge and skills were measured. From these three years results show that all items with context of biology were measuring only low and average cognitive levels and no one was in high cognitive level as opposed to the PISA framework. Student performance gets lower where higher order cognitive skills are needed.

Keywords: biology, higher order cognitive skills, student performance in National level Science test.