

Abstract: This thesis deals with the role of physics problems which help to develop various cognitive operations. Mainly the taxonomy of the learning tasks by Tollingerová and the Bloom's taxonomy of educational objectives have been used for this purpose. A material which contains characteristics of eleven chosen cognitive operations (induction, deduction, transformation, proving, abstraction etc.) and two typical learning tasks to each cognitive operation has been elaborated in this thesis. The material was created to guide and simplify the selection and creation of physics problems whose solution supports the development of cognitive operations. This process can inter alia help to define, fill and check required educational goals. It may also help with student's motivation or the development of key competencies.

Keywords: learning task, physics problem, cognitive operation, cognitive process, taxonomy by Tollingerová