This thesis deals with acquisition and evaluation of parameters of the physics tuition quality at high schools. Mapping the existing approaches to the education quality and tuition quality, the work includes also description of the progress and results of an expert investigation, contributing to creation of a new technique for monitoring the physics tuition and assessing its quality. Following chapters describe details of the research assessing the quality of the physics tuition performed by ten teachers at seven Prague high schools, discussing the validity and reliability of the technique created. Within the thesis, didactic preparation has been elaborated based on results of the research, usable for teaching the physical topic titled "Energy and Conservation Laws in Mechanics". I have taught this topic and the tuition has been assessed using the new technique. The thesis includes also a manual for future users of the monitoring and assessment technique.