acquired knowledge. From the results of testing, we may learn whether the student handled or did not handle the curriculum, how he/she liked the proposed course of the learning material, etc. On the basis of monitoring these dynamic characteristics, a good adaptive algorithm could possibly change the method of explanation, e.g., offer a different explanation, a different way to practise the material. But at the same time monitor the objective – lead the student to a defined target state of knowledge of the taught material.

The dynamic characteristics will be reported by a series of data on the study process. They will contain in part data on the course through the study materials. For each partial educational unit, the time of study is recorded, as is the time spent studying, answers to control questions and their accuracy, also for integral tests, for resolved practical exercises. Longer-term monitoring of a specific student brings together a sufficient amount of material to analyze his/her behavior during studies. On the basis of the analysis results it is primarily possible to modify the already listed initial static characteristics. It is also possible to adjust the behavior of the adaptive algorithm in order to optimize the learning process from the point of view of the student’s learning style, from the point of view of the learning objective of the specific subject and from the point of view of improving the student’s study habits over a long time.

The theoretical findings stated above will gradually be implemented in the Barborka educational system, implemented at the partner VŠB-TU university [the Technical University of Ostrava]. In parallel, special educational materials will be created with multiple explanation styles and with the possibility of detailed monitoring of the course of studying. This will make it possible to verify this theory in practice and to further develop it already with specific results.

Bibliography


