Summary

In conclusion I would like to highlight the fact that I believe all aims were fulfilled.
The results of the **educational materials analysis** show that there is none sufficiently suitable complex educational program on the market that could help teaching biochemistry at secondary schools. There are animations and presentations available on the Internet, but their level is far too high for the secondary schools. The animations are usually available only in the English version.
The **questionnaire investigation** has shown that the vast majority of schools are equipped with basic computer instrumentation and other necessary equipment (data projector, screen) to be able to include the modern information technologies into the educational process. The teachers would welcome any teaching aids aimed on the Photosynthesis, Citric acid cycle, Metabolisms and Proteosynthesis.
As the questionnaire investigation showed the most problematic parts of the biochemistry subject matter, I have prepared the **educational text** targeting these areas of biochemistry. This text was divided to form the basis for two **tutoring programs**: "*Biochemical Processes in Human Body*" and "*Photosynthesis in Dynamic Animations*". The tutoring programs are composed of educational PowerPoint presentations and Macromedia Flash animations supplemented with didactic tests and didactic games. Both programs verified on secondary schools and later modified by teachers' and students' suggestions. It also contains didactic notes that simplify the work with the created programs.
Prepared Flash animations and PowerPoint presentations were later used as a basis for the creation of three **distant-learning courses** used for the teaching of biochemistry on the Department of Chemistry teaching, Faculty of Sciences, Charles University in Prague. The courses were validated on the Department of Chemistry Teaching and later modified according to those who have gone through the courses.