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# STRENGTHENING OF BIOTECHNOLOGICAL EDUCATION IN MACEDONIA AS AN IMPORTANT DEVELOPMENT COMPONENT

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#### **ABSTRACT**

Biotechnology is a discipline which is applied in different areas such as: food production and processing, pharmaceutical industry, diagnostics etc. By strengthening of biotechnological education in Macedonia (SBEM) can be improved and modernized this field of education in order to meet the industry needs in the country. SBEM will be coordinated by the Faculty of Technological Sciences as a part of the "Mother Teresa" University in Skopje and it will include vocational high schools dealing with biotechnology in the Republic of Macedonia and appropriate clusters in the frame of Commercial Chambers. The main objective is to improve teachers' and trainers' competences and their ability to provide eLearning in-service vocational training courses for biotechnology secondary school teachers. Putting together of all stakeholders in biotechnological education will be done by establishment of a National Data for Biotechnological Education of Macedonia (NDBEM). Different type of training (courses, workshops, seminars) will be held at each faculty in e-learning way using active teaching/learning (ATL) approach. The trainings will be given by International and domestic experts in biotechnological education. ATL is important for university staff and vocational teachers as they had no pedagogical training during their graduate courses. University teachers will develop and implement classical and online vocational courses targeting recent advances in biotechnology for biotechnology teachers in VET schools. Previously, the market survey should be done in order to analyze the need of a real technological sector in cooperation with Commercial Chambers. NDBEM will be formed using assistance from Graz university and it will be used as a repository for online courses and teaching resources developed during trainings of university and teachers in biotechnology vocational education and training (BVET). Project deliverables will be stored and available in the NDBEM for future users. Its sustainability need to be provided by its recognition from the Ministries of Education and Science. SBEM will have the following specific objectives: improvement of quality and availability of vocational education; strengthening of professional and pedagogical competences of educators and trainers; and creation of the "open source" repository for educators in the area of biotechnological education.

**Keywords**: biotechnology, database, education, stakeholders