

DEVELOPMENT AND IMPLEMENTATION OF METACOGNITIVE
PROBLEM-BASED MODULES IN BLENDED LEARNING
COURSES IN MEDICAL SCIENCES (ProBLeMS)

PROJECT OVERVIEW



Co-funded by the
European Union

About project

🗨️ Call: ERASMUS-EDU-2022-CBHE

🗨️ Acronym: ProBLEMS

🗨️ Project Number: 101082790

🗨️ Project duration: 36 months

🗨️ Budget: 536.468 Eur



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Beneficiaries

University of East Sarajevo-coordinator

University of Banja Luka -partner

University of Zenica-partner

International Business College Mitrovica-partner

University of Pristina Kosovska Mitrovica-partner

University of Montenegro-partner

University of Belgrade-partner

Medical University of Innsbruck-partner

Institute of Public Health of Montenegro-partner

Association for Biomedical Informatics and Statistics of
Republika Srpska-partner

Background 1

- The trend of higher education towards e-learning, and especially towards blended learning, was already visible in 2014, when the EUA survey showed that 91% of institutions offer blended learning.
- Scientific publications have proven that problem-based learning enables students to learn through the problem-solving experience and increases the academic performance of medical students, with the recommendation that teachers consider its introduction to teaching.
- Blended-learning is a combination of traditional face-to-face learning and asynchronous or synchronous e-learning. There are positive experiences of a combination of problem-based learning and blended learning.

Background 2

- A meta-analysis of learning outcomes has shown that a combined learning model with PBL is effective in increasing students' knowledge, skills and satisfaction. The hybrid PBL pedagogical approach has become a trend in medical education in recent years.
- Metacognitive problem-based (MCPB) modules are one of the most modern models for improving blended learning.
- MCPB module will allow students to connect theory and practice, synthesize existing and create new knowledge, and show how to acquire knowledge through conceptual understanding. The module will contain metacognitive characteristics such as planning, management and review of what has been learned.

Objectives

- The main goal of this project is to improve the education of doctors in higher education institutions in the Western Balkans (WBC HEIs) in accordance with societal needs, with the support of higher education institutions from the European Union (EU HEIs) in the development and implementation of a new learning model.

Specific project goals

- Enable students to use conceptual, procedural and metacognitive knowledge in order to solve real problems, by implementing a new learning model
- Develop the capacity of WBC HEIs to further enhance blended learning through collaboration with and cooperation with EU universities.

Work packages (WPs)

Project activities are designed in 5 work packages (WP).

- WP1: All activities related to project management (including coordination, evaluation, reporting, etc.) are grouped in WP1 which will last from 1 to the last (36) month of the project. This package monitors and passes through all activities in other work packages, creating conditions for their successful implementation (including the procurement of necessary equipment). Within WP1, the project structure is established and the rules of project organization and management are established.
- WP1 will include a complete process of control and evaluation of project activities (quality control, monitoring, evaluation) on the basis of which transitional reports will be made as well as the final project report.

WP2

- Creating conditions for the application of MCPB modules in WBC HEIs, begins with an analysis of the conditions for the implementation of MCPB modules that will be implemented: searching data on HEIs sites, searching bibliographic databases, reviewing curricula, reviewing existing equipment and checking current staff training for the application of blended learning. By analyzing the conditions, WBC HEIs gain insight into their current capacities and the directions in which these capacities need to be developed in order for the implementation of the new learning model to be possible. This refers to the capacities of the staff as well as to the technical IT capacities.
- It is necessary to implement the transfer of knowledge from EU HEIs that already apply advanced learning models that contain MCPB modules. Knowledge transfer is carried out in two steps. In the first step, EU HEIs staff will transfer knowledge to some of the teaching staff and administrative and technical staff of WBC HEIs through the training of trainers, who will, in the second step, spread the knowledge to other teaching staff within their WBC HEIs.
- Harmonize the conditions in the WBC HEIs for the application of the MCPB module

WP 3

- After the completion of knowledge transfer, procurement of necessary equipment, and harmonization of conditions between WBC HEIs for the implementation of a new learning model, the development and implementation of MCPB modules in WP3 will be conducted. After the training, the teaching staff of selected courses in WBC HEIs will be trained to create conceptual solutions based on which will further develop MCPB modules.
- Development of software and design solutions for MCPB modules – conceptual solutions selected for implementation in MCPB modules are submitted to professionals who initiate the development of software and design solutions that will be used to transfer the ideas of teachers within the MCPB modules.
- Creation of MCPB modules - combining conceptual, programming and design solutions - the selected conceptual solution is combined with software and design solutions into functional MCPB modules. This is the most complex segment of the project because it involves the implementation of a large number of solutions in MCPB modules for different courses in different medical fields.
- Implementation of MCPB modules in selected courses - Within each of the selected courses, several MCPB modules will be implemented, in accordance with the curriculum of each subject separately

WP 4

- Database creation-The collected data will be used to assess the success of the implementation of the new learning model, and thus for the needs of further management of project action as well as for the preparation and publication of scientific papers on the importance of the application of the MCPB module
- Measurement of primary, secondary and tertiary outcomes - Through the primary outcomes, the achieved number of points on the implemented MCPB modules and colloquia during classes will be monitored. The number of points on the tests from the practical and theoretical part of the exam, the total number of points achieved and the final grade for each of the subjects will be monitored through secondary outcomes. Tertiary outcomes will monitor the results of retention of knowledge acquired through the learning process, at least 6 months after the end of the course.
- Analysis of the obtained results of monitored outcomes. The results of the formative evaluations will be used to upgrade the applied modules and correct any errors
- Upgrade of implemented MCPB modules. Based on the experiences of teaching staff, administrative staff, WGs, sector representative institution and students' observations, the MCPB module will be upgraded, with the aim of achieving the best possible output results for both HEIs and societal stakeholders.

WP 5

- Confirmation of the importance of the application of the MCPB module through the publication of project results in international scientific and professional journals from the ISI list, as well as through the announcement of results at conferences.
- Adoption of Improved curriculum of selected courses in WBC HEIs , the new learning model becomes an integral part of the curriculum of selected medical courses at WBC HEIs
- Analysis of the potential of MCPB module application in other courses - Based on the output results of the project (which will confirm the effects of the new learning model in selected courses), an analysis is conducted of the application of this model in other medical courses at WBC HEIs, as well as the possibility and capacity of WBC HEIs to implement MCPB modules in courses in other fields.
- Creation of the Final project document with recommendations for the development and implementation of MCPB modules
- Ensuring the sustainability of project results - The sustainability of the project results will be enabled in several ways, by adequate communication, which will be crucially aimed at strengthening the dissemination and visibility of project results, by the continuation of education according to the improved curricula.



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