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Integrating education with consumer behaviour relevant to energy efficiency and climate change at the Universities of Russia, Sri Lanka, and Bangladesh

Website http://beck-erasmus.com/

Research problem

The Sendai Framework for Disaster Risk Reduction has identified capacity building for climate change education as a key enabler to enhance the resilience of communities and institutions for climate change and climate change induced disasters. Climate change education is also an avenue to improve the policy gaps in disaster risk reduction (DRR) and climate change adaptation (CCA). A comprehensive climate change educational programme can inspire local to national actions for climate change adaptation and mitigation. Massive Open Online Courses (MOOC) is a promising way forward for improving climate change education in higher education programmes. MOOC in climate change education can allow local to international participation in climate change education thus, educate, empower, and engage stakeholders toward a global response to climate change can be achieved. The BECK project has carried out a capacity needs assessment survey (CAPNAM) among the partner HEIs and 07 key areas of capacity needs were identified to implement MOOC in climate change higher education. The objective of this research was to formulate a framework to address the key capacity building areas at micro levels for implementing the identified MOOC education platform. The BECK project, funded by the ERASMUS+ Programme, aims to address this approach by introducing new harmonized MOOC modules to the higher education curricular of four European, five Russian and five Asian higher education institutions (HEI). Accordingly, the framework has identified, cross-institutional resource sharing, development of adaptive MOOC modules, development of big data interuniversity networked effective educational system, systematic monitoring, evaluation of performance, and dissemination and exploitation of MOOC modules as key work plans to be implemented under the mentioned seven key areas of capacity needs. Each work plan is followed by short-term and long-term objectives and performance indicators for effective implementation and monitoring. The BECK project continues to implement the MOOC modules following a series of coordination and monitoring mechanisms.

Who is involved in the research?



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(LEAD Partner) Lithuania University of Huddersfield

Peter the Great St. Petersburg POLYTECH Polytechnic University Russia

International Public Organization of Assistance to Construction Education

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How does the research address the problem?

The project objectives and outcomes are achieved via planned management and educational activities included in 6 interrelated work packages that will be executed in a certain sequence as shown in the work plan for three years.

Accordingly, a comprehensive cross-institutional capacity needs assessment survey was conducted across the 14-partner country higher education institutions (PCHEI) to identify the capacity needs in implementing MOOC modules in climate change higher education curricular. Capacity Needs Assessment Methodology (CAPNAM) for Planning and Managing Education (UN 2013) was adopted for capacity need assessment survey. The findings of the survey were used to develop the common capacity building framework which was adopted among all the partners for identifying capacity building activities for MOOC implementation.

Planned activities

1. BECK Project capacity building framework

The activities are focused on the assessment of the current state of education on consumer behaviour related to energy efficiency and climate change in PC and European universities, their educational requirements and stakeholder needs, and on the estimation of the capacities of the project partners to provide necessary infrastructure, context and resource base for education and research.

2. Development of new 24 adaptive MOOC modules (7 BSc/specialists, 11 MSc, 6 PhD) on consumer's behaviour related to energy efficiency and climate change (BECK adaptive MOOC modules) and integration of these modules to existing BSc/specialists, MSc, and PhD programmes in PC universities.

The second outcome of the project is completed as follows: development of a common framework for BECK curricula based on a common philosophical and pedagogical understanding between partner institutions; development of a common approach to learner-centred and real problem-based teaching and learning activities between participating institutions to ensure maximum MOOCs compatibility; training of teachers at workshop; development of the new adaptive MOOCs content (learning outcomes, assessment methods, subject content, literature resources, video and other multimedia content, etc.) suitable for innovative delivery mechanisms.

3. Development and Exploitation of the Simulated Big Data Interuniversity Networked Affective Educational Centre.

The Centre is developed with the capability of hosting the developed 16 BECK adaptive MOOC modules, Computer learning systems, Big Data Mining, Affective Tutoring System, Access to e-sources, Moodle virtual learning environment and will then form the basis for cross partner collaboration in triangulated knowledge sharing. In addition, this Centre will enable and promote lifelong learning at large within the society by making study materials accessible outside the traditional classroom environment to various parties: from students and lecturers to practitioners and policy makers. In this way innovative education tools will be developed and used for education.

4. BECK quality assurance strategy.





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The quality assurance strategy ensures the systematic monitoring, evaluation and performance improvement of all the project's processes, events and outputs. The quality assurance strategy comprises three complimentary components: 1) quality planning (quality plan will be developed); 2) internal monitoring and evaluation will take place throughout the project; 3) external monitoring and evaluation.

5. BECK project result dissemination strategy.

The dissemination strategy disseminates the project results to the target groups as well as ensures appropriate exploitation of developed MOOC modules and the Simulated Big Data Interuniversity Networked Affective Educational Centre during and after the project. Dissemination strategy and exploitation plan is developed, dissemination through branch organizations, websites, printed dissemination materials and events foreseen. Sustainability plan for ensuring outcomes durability after the project is also developed under the dissemination strategy.

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