

Concept Mapping and Mind Mapping in Problem-Based Learning for Enhancing Students' Critical Thinking and Creativity

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Abstract

Teaching at universities is undergoing significant transformation due to advances in technology, changing student and labour market needs, and new understandings of how people learn. In response to emerging trends, the courses »Contemporary Human Resource Management Theories and Concepts« (master's course) and »Business Sustainability Management« (master's course) at Kaunas University of Technology (KTU) apply such techniques as Concept Mapping and Mind Mapping within Problem-Based Learning (PBL), mainly to enhance students' critical thinking and creativity. PBL refers to both a problem-centered and student-centered active learning approach with the intention of mobilizing students' initiative and enthusiasm, thus improving their ability to develop lifelong learning habits. Although concept maps and mind maps have some differences, both are learning tools that enhance students' ability to formulate concepts, analyze data, connect ideas, and understand the relationships between them. They both involve visual knowledge reconstruction and are easier to follow and engage with. A mind map starts with the main topic, often represented as an image at the center of the page, with subtopics branching out along curved lines. Meanwhile, a concept map illustrates the relationships between concepts by organizing them hierarchically in a pyramid-like structure, where connections are shown through links in both upward and downward directions. When applied in PBL contexts, concept and mind mapping enhance collaborative learning. Students work in groups to solve real-world problems, using maps to brainstorm solutions, plan strategies, and present their findings. In summary, both courses at KTU, using the mentioned innovative teaching techniques, aim to develop students' competencies for the future of work.

Keywords: concept mapping, mind mapping, critical thinking, creativity, innovations in teaching, Problem-Based Learning (PBL)