

Navigating the Learning Crisis: School Leadership Strategies and Competencies in Adopting Problem-Based Learning (PBL) in the AI Era

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Amidst the persistent learning crisis centered on equity, inclusion, quality, and relevance (United Nations, 2022), the ongoing challenge is to make educational systems relevant, appropriate, and responsive to contemporary needs. In alignment with this, there is a renewed commitment to addressing Sustainable Development Goal (SDG) 4, which focuses on more effective learning and the acquisition of relevant knowledge and competencies (UNESCO, 2024). Now more than ever, education leaders must continuously strategize to equip learners with the skills and competencies needed to contribute meaningfully to the ever-evolving world. The school experience plays a crucial role in shaping learners' perspectives and their interactions with society and the world, emphasizing the need for them to be engaged, curious, and adept problem solvers. Consequently, the teaching and learning process should be driven by a range of skills pertinent to students' lives and contexts.

Research in the science of learning has demonstrated that **student-centered learning**, which involves active and inquiry-based activities, significantly enhances student engagement and self-regulation (UNESCO, 2024). **Problem-based learning (PBL)** has recently garnered considerable attention as a method to foster curiosity, critical thinking, metacognition, collaboration, and problem-solving skills among learners (Leat, 2017).

In the rapidly evolving landscape of **Artificial Intelligence (AI) and Data Science**, it is crucial to thoughtfully adapt PBL while considering developments that trigger change (e.g. integration of digital technologies), and various stakeholders (e.g., learners, teachers, parents, and school leaders). **School leaders** play a pivotal role in driving the necessary changes to enhance learning outcomes.

This paper, guided by the **Educational Change Management Process Framework** and **Competency Framework for School Heads** developed by SEAMEO INNOTECH, revolves around the Change Management Strategies in adapting to change ensued by the evolving landscape of AI and Data Science as well as the needed competencies by school leaders in the process. It outlines the change management strategies and competencies required for school leaders to transition schools into implementing the PBL approach, addressing both the methods of learning and the potential achievements of learners in a world continuously shaped by Artificial Intelligence.