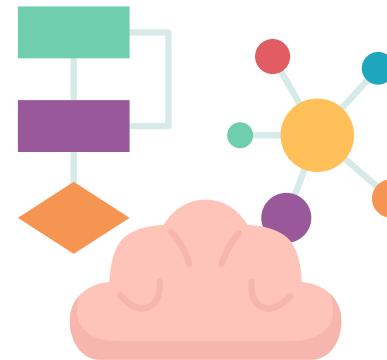


Instructional Guidelines for Promoting Computational Thinking of Lower Secondary Students

Research Background & Objective

Research Background



Computational thinking is a systematic process of problem solving that involves logical reasoning and various components to develop effective step-by-step solutions.

Research Objective



To propose instructional guidelines for promoting computational thinking of lower secondary school students.

Methodology

This qualitative study consisted of three phases:

- 1  Interview with five experts and stakeholders.
- 2  Synthesis 21 research studies.
- 3  Validate the final guidelines through a focus group.

Results



Learning objectives: should explicitly include key features of computational thinking components.



Content: should be contextualized, connected to real-life situations, and age-appropriate for students.



Learning management: should emphasize student-centered and constructivist approaches, hands-on activities and questioning techniques.



Learning media and resources: should combine both unplugged and plugged activities effectively.



Measurement and evaluation: should focus on assessing thinking processes over outcomes, using scenario-based assessments and provide constructive feedback or suggestions.