

# INTERD-BBC: INTERDISCIPLINARY LEARNING

## BREAKING DOWN BARRIERS AND OVERCOMING CHALLENGES

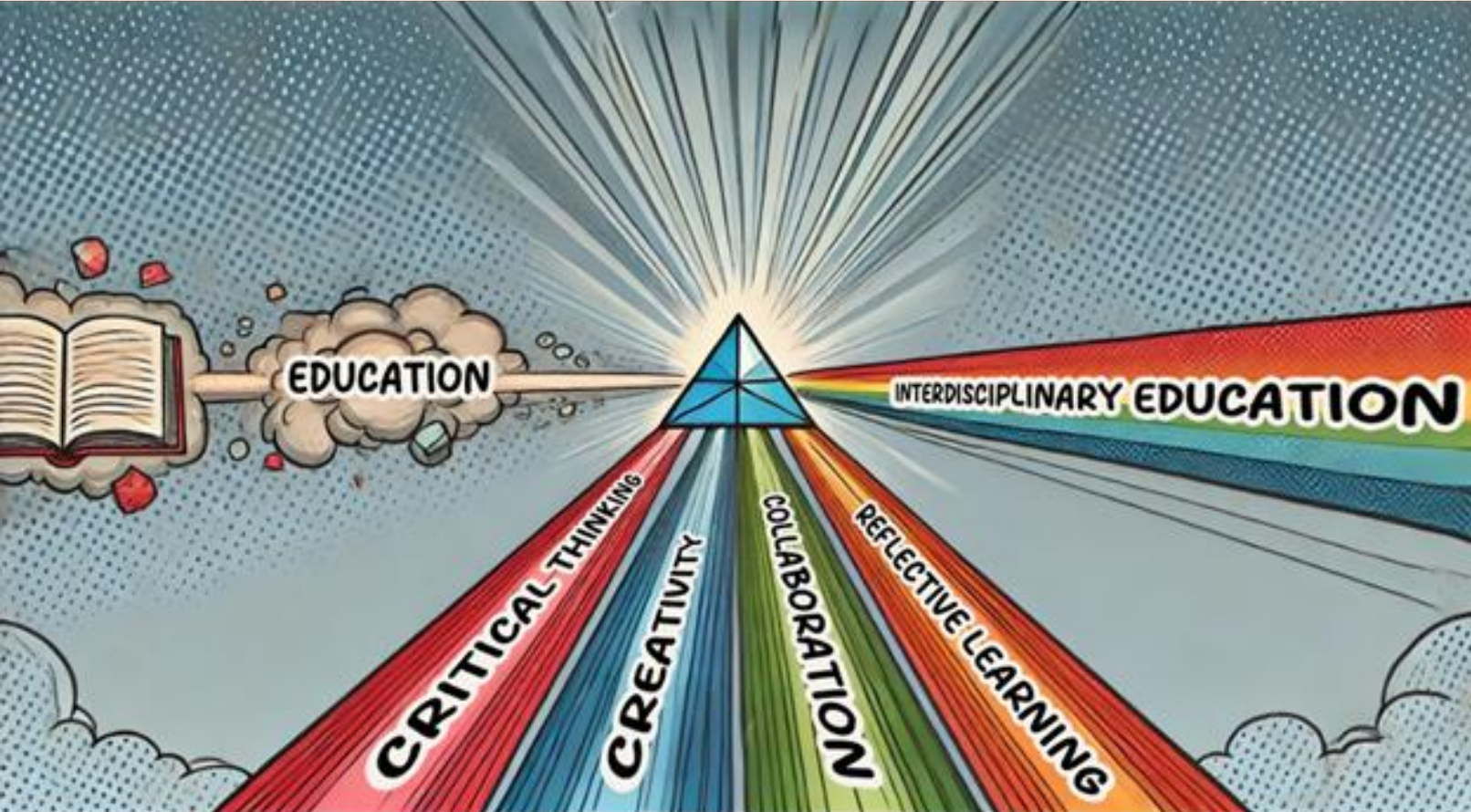
Learning Community (LC) supported by  
NUS CTLT Teaching Enhancement Grant  
Engineering Design and Innovation Centre (EDIC)  
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National University of Singapore (NUS)

### Why interdisciplinary learning matters?

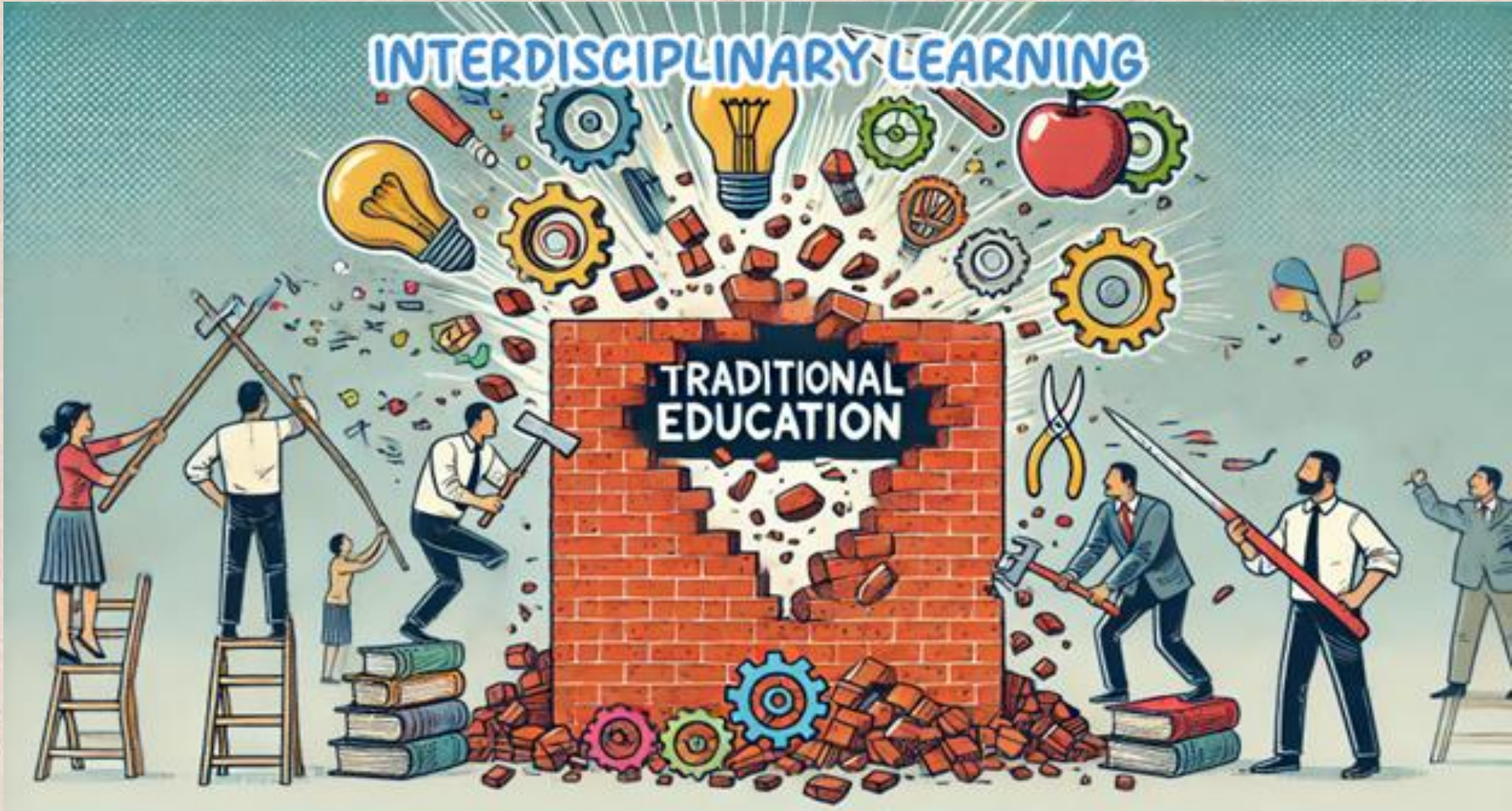
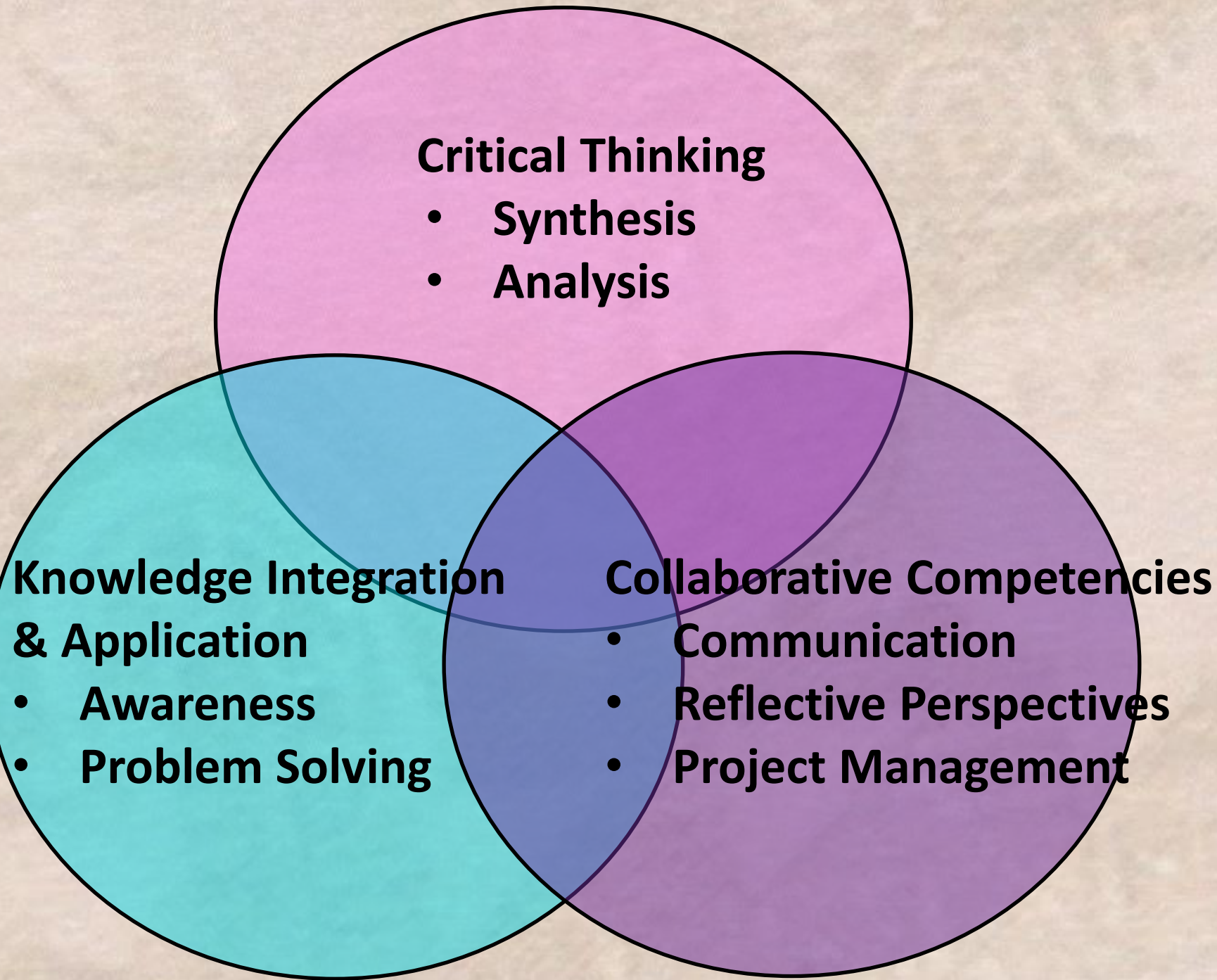
- ❖ Today’s world demands interdisciplinary thinkers as complex problems do not respect academic boundaries and real problems do not fit neatly into single disciplines.
- ❖ Students often struggle to work across disciplinary boundaries. We aim to tackle this head-on.

### Objectives of the INTERD-BBC LC

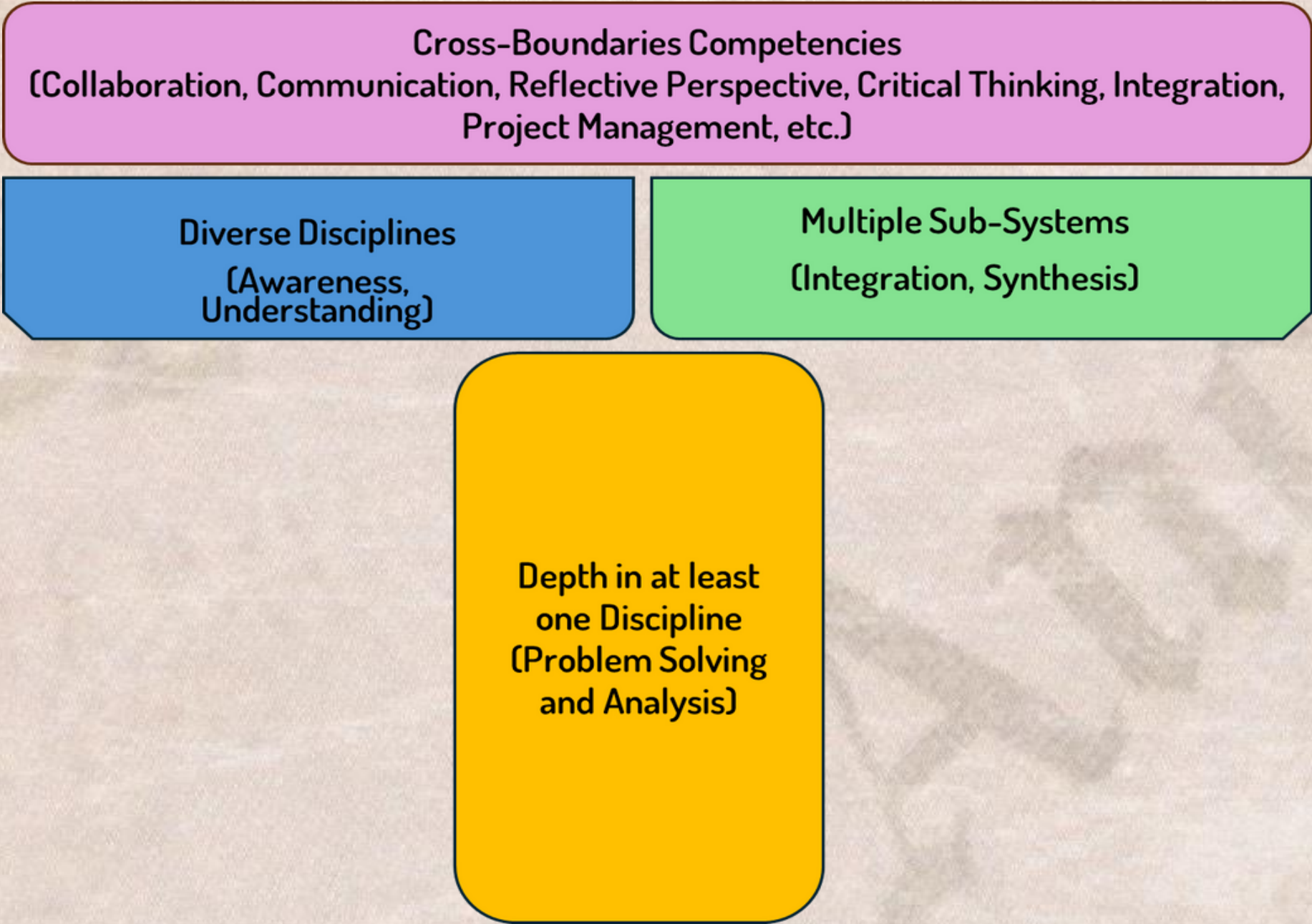
- ❖ Define interdisciplinary learning, learning outcomes, and evaluation methods.
- ❖ Focus on the context of interdisciplinary courses with team-based, real-world projects.



### Key outcomes of interdisciplinary learning:



The future demands T-shaped interdisciplinary graduates who can navigate complexity, integrate diverse knowledge, and tackle unprecedented challenges.



### Our exploration into evaluation methods has revealed several promising strategies:

- ❖ Standardized Critical Thinking Tests, e.g. Watson-Glaser Critical Thinking Appraisal (80 items across 5 areas: inference, recognition of assumptions, deduction, interpretation, evaluation of arguments)
- ❖ Interdisciplinary Understanding Questionnaire to assess Knowledge Integration. (24 items based on knowledge of different disciplinary paradigms, knowledge of interdisciplinarity, critical reflection, communication and collaboration skills)
- ❖ Guided reflection activities, such as self- reflection journals and team reflection to assess reflective learning.

### Redefining education isn’t easy. As a LC, we have learnt to:

- ❖ Focus on the interdisciplinary learning outcomes.
- ❖ Continuously refine our assessment of interdisciplinary skills.

Going forward, we seek collaboration on the teaching of interdisciplinary learning, its evaluation and assessment methods.



Curious to learn more?  
Check out our full blog post:

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