

Bridging Worlds: RPL as a Driver for Lifelong Learning, Collaboration, and Innovation in Practice

Session 3 - Future-Proofing RPL: Digital Innovation & AI

Topic: AI to Support Applicants and Instructors in the RPL Process



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A Decade of Growth

Today SIT is the 3rd largest AU

By undergraduate intake
~ 3,400

2024

2022

announced Competency-based Stackable Micro-credential (CSM) pathway

2016

U/G intake > 2,500 students

2014

became 5th Autonomous University
launched 3 SIT degree programmes

2009

incorporated as an Institute of Higher Learning

Programmes offered in Academic Year (AY) 24/25

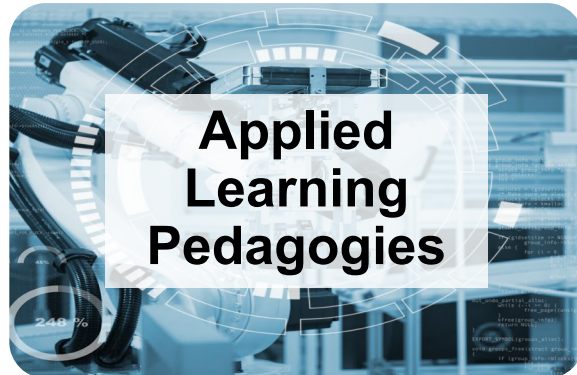
40 undergraduate degree programmes	8 postgraduate degree programmes
3 Competency-based Stackable Micro-Credential (CSM) programmes	

Staff strength and student population

~11,000 undergraduate students*	410 academic staff [^]
~200 postgraduate students*	~960 adjunct and part-time teaching staff [^]
~210 research staff [^]	~730 corporate administrative staff [^]

*as of Feb 2025
[^]as of May 2025

The SIT Difference



- Bridging academic knowledge and skills with real-world industry applications
- Focused on in-depth, domain-specific knowledge and skills, industry readiness, and transferable skills



Faculty

- Many have industry experience post-PhD

Professional Officers

- Technical experts with strong industry experience



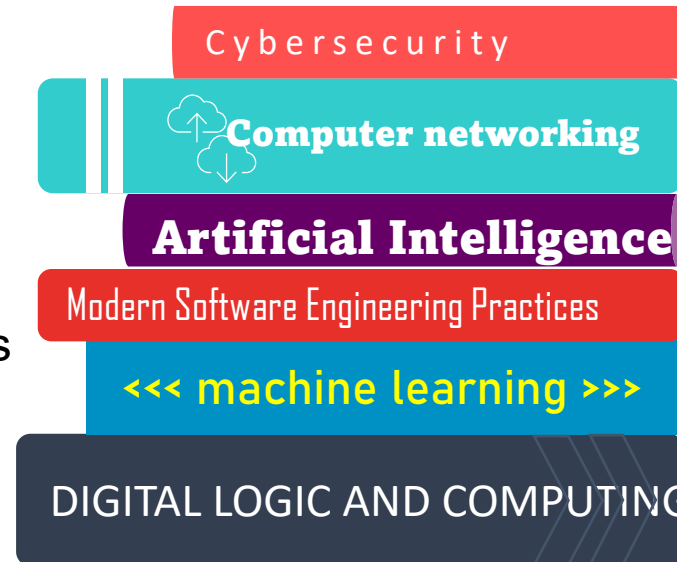
- 100% aptitude-based admissions
- **92%** are poly graduates, already exposed to applied learning
- More than 95% accepted into their 1st/2nd choice of studies

We develop new pathways, such as the Competency-based Stackable Micro-credential (CSM) pathway, to better address the industry's and learners' needs

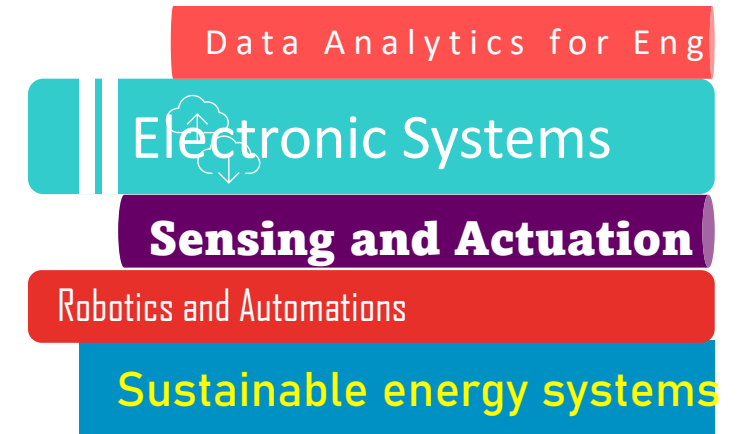
- Predominantly delivered through a competency-based education (CBE) approach.
- Skills acquired are relevant to the specific job roles in the industry.
- Superior pedagogical approach for fresh-school leavers as well as in-employment learners.
- Upon completion of each micro-credential, CET learners will be awarded a Specialist Certificate which can be stacked towards a degree.



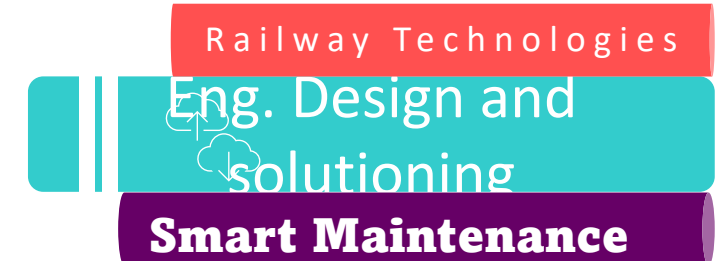
Degree in Applied Computing (Sep 2023)



Degree in Electrical and Electronic Engineering (Sep 2024)



Degree in Infrastructure and Systems Engineering (Sep 2024)



Stackable MCs provide flexibility to meet different needs of adult learners

Success Coaching

Learner A



4 months



4 months



Time

- In-employment learner
- Wants upskilling in an area of work
- Takes 2 single MC "C & F" in 4 months

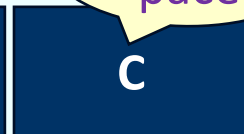


Learner B



Gap

Slower pace



Capstone Project



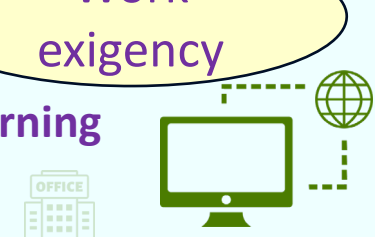
Time

- In-employment learner
- Wishes to upskill and get a degree
- Takes MCs A-H & capstone required for degree

Recognition of Prior Learning

Shorten with RPL

Work exigency



SIT Teaching and Learning Academy (STLA)



1. Champions SIT's endeavours in Competency-Based Education (CBE) that aim to boost the education progress for in-employment learners looking to up/reskill themselves.
2. Drives an innovative Recognition of Prior Learning (RPL) framework for greater efficiency in attaining new competencies and qualifications.
3. Develops future capabilities to provide unbiased and professional evaluations and certification of competencies to boost employers' confidence in assessing a potential employee's suitability for a role, which in turns promotes skills-based hiring.

Implementing RPL at SIT

Start with the WHY? What We Hope to Achieve Through RPL



Improved Access to Education

Applying for degree programmes using relevant work experience and informal learning



Reduced Time and Cost

Using existing knowledge and skills to earn credits for courses or programmes, hence reducing amount of time and cost



Improved Self-Efficacy and Motivation

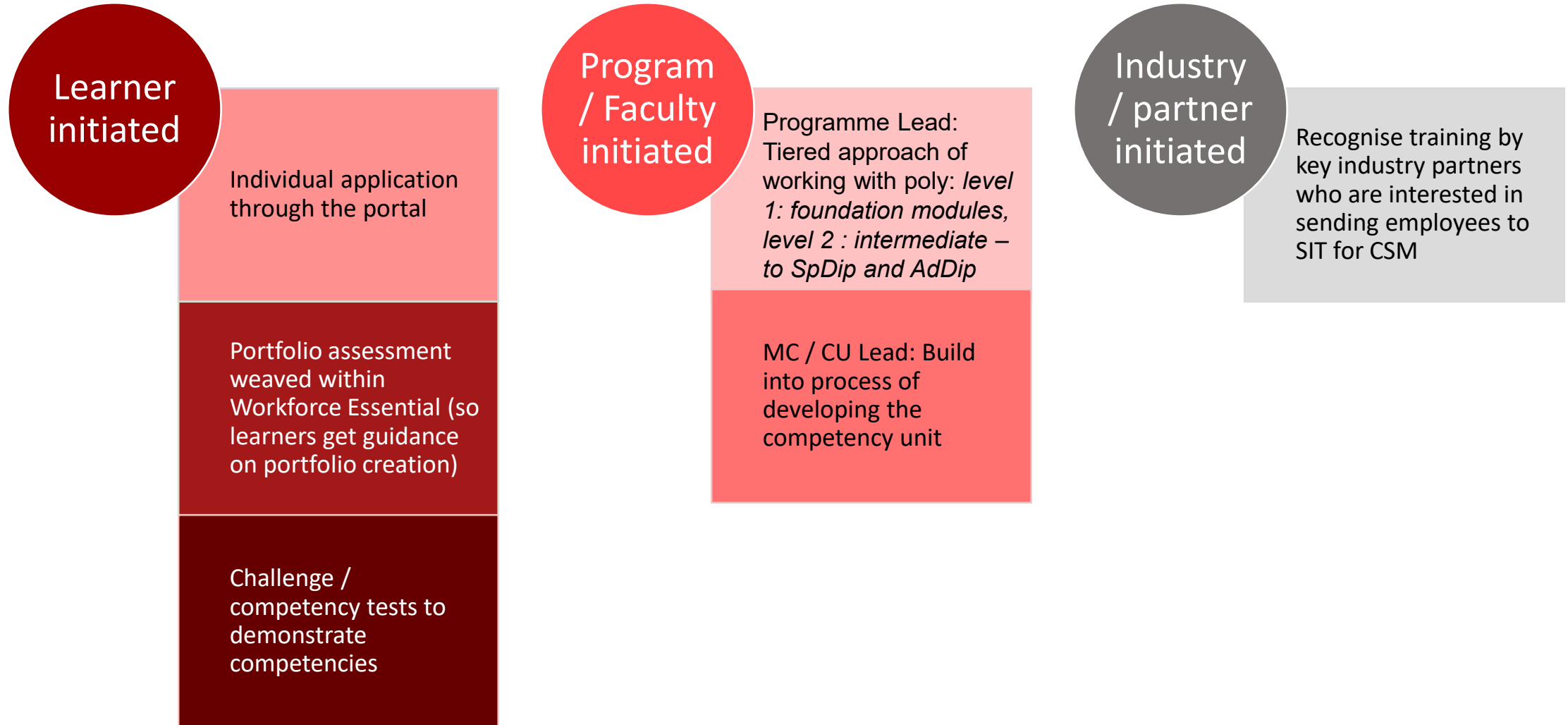
RPL fosters enhanced self-esteem and motivation, thereby boosting self-efficacy and the confidence to undertake further learning



Improved Job Prospects

Articulation of tacit knowledge and skills which facilitates recognition of competencies, which fosters a mindset around skills-based hiring

Types of Pathway



RPL Options

RPL Options

Formal Credentials

Formal qualifications
(e.g., diploma,
specialist diploma)

Industry Certificates

Industry certificates that
can map to competency
unit, micro-credential or
programme learning
outcomes

Industry Training / "Crosswalk"

Training by industry
partners for their
employees

Portfolio/ Work Experience

Collation of past learnings,
projects, competitions

Type of competencies
demonstrated at work

Assessments

Challenge exams /
competency
tests developed by faculty

Existing validated
assessments

Mapping to competencies at CU / MC / Programme level

Assessment of Competencies

- Relevance
- Comparison with competency unit
- Completeness

Considering RPL from Onset of Curriculum Design

SIT Confidential



COMPETENCY UNIT PROFILE FOR

Click to enter Competency Unit Code Click to enter Competency Unit name

EFFECTIVE TRIMESTER: TRIMESTER 123 ACADEMIC YEAR Enter Year

This Competency Unit Profile may be subject to change, please contact the Competency Unit Lead for any further clarifications.

Competency Unit Name	Click to enter text
Competency Unit Code	Click to enter text
Competency Level	Click to state the level
Credits	Click to enter number CR
Result Type	Letter Grades with Grade Points
Part of Micro-Credential	Click to enter name of Micro-credential
Competency Unit Owner	Click to enter name of Institution
Collaborator(s)	Click to enter list of collaborators or N.A.
Competency Unit Lead	Name: Click to enter text Email: Click to enter text Phone: Click to enter text

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5. Equivalent Demonstration of Competency

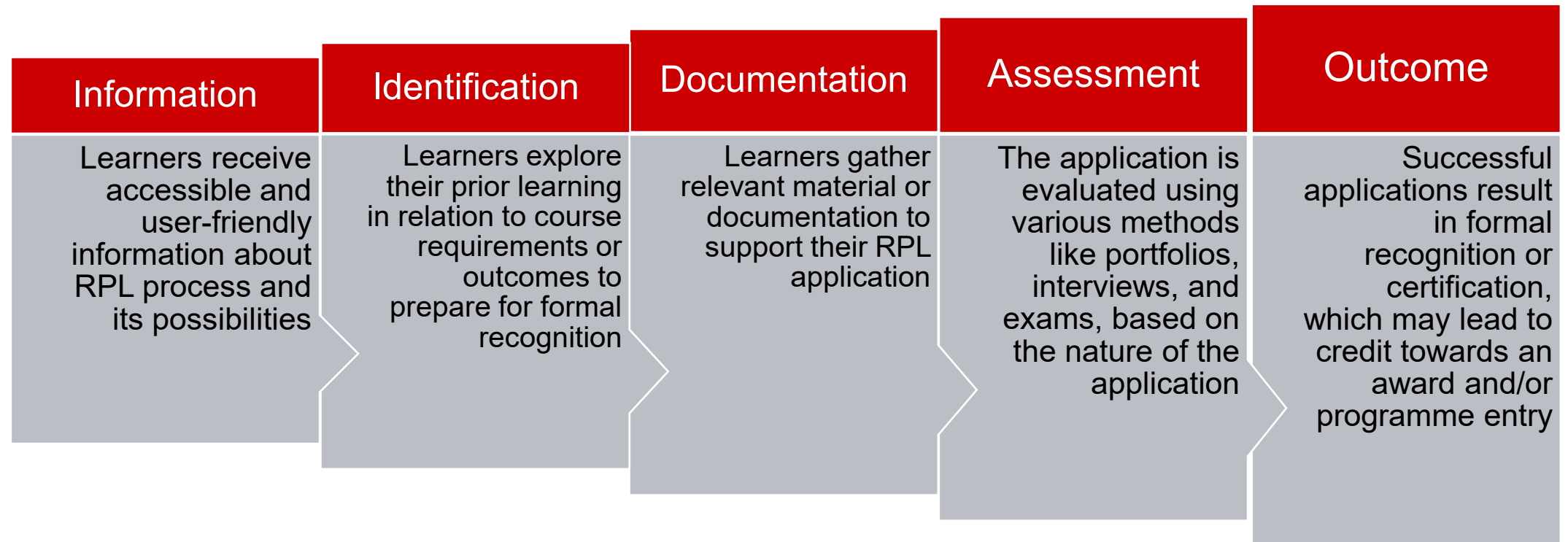
Mandatory inputs by Competency Unit Leads

A learner opting to demonstrate equivalent competency of this Competency Unit may show evidence of one the following qualifications.

No	Prior Learning Accepted for Equivalent Demonstration of Competency
1	Click to enter specific name of certificate or challenge test or specify, if others.
2	Click to enter mode e.g. project, lab work, presentation or specify if others.

Approach to the RPL Process

1. Adapted from European guidelines for the validation of non-formal and informal learning (CEDEFOP framework)



RPL as a Systemic Enabler

Operational Challenges of Implementing RPL

1. Lack of Dedicated Administrator

No in-house RPL administrator leads to insufficient personalized learner guidance.

2. Lean Structure Challenges

University's lean structure and growing scope make manual RPL support unsustainable.

3. Faculty Time Constraints

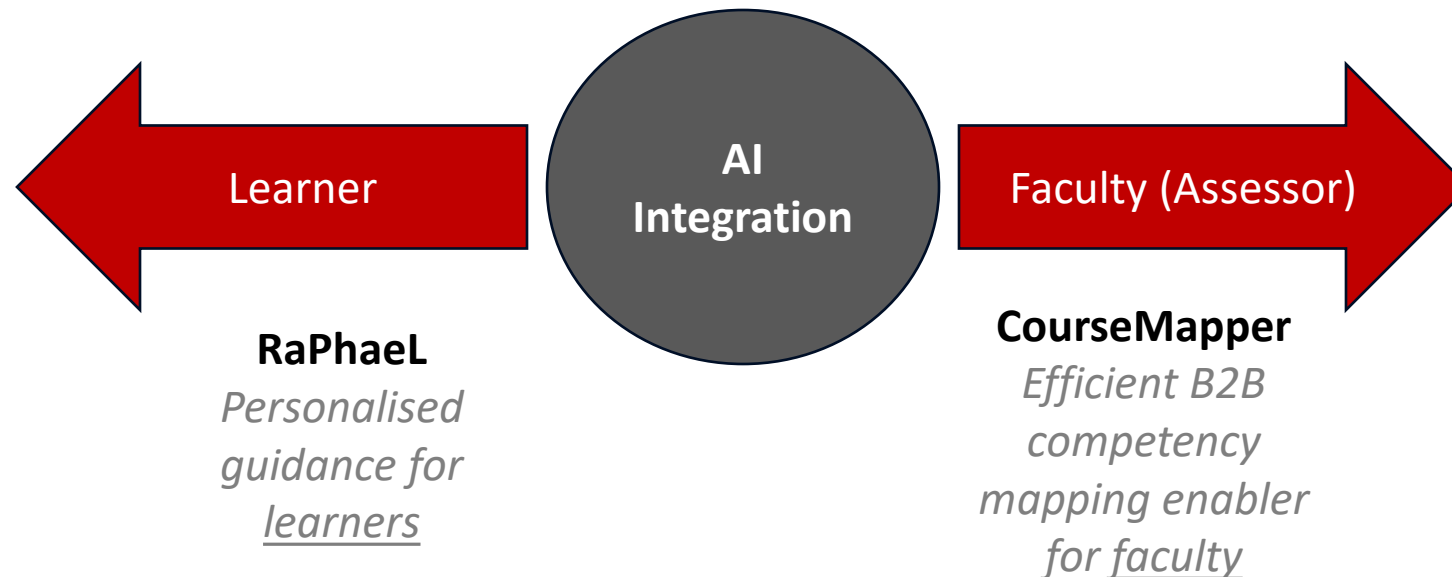
Faculty spend significant time mapping competencies, limiting RPL process scalability.

4. Need for Automation Solutions

Automation and AI-driven solutions are essential to support learners and faculty efficiently.

Integrating RPL with AI Tools

1. RPL integrated with AI tools for scale and consistency
2. Enables recognition of prior learning across diverse contexts
3. Supports SIT's competency-based education model



Using AI for Recognition of Prior Learning (RPL):

RaPhaeL - RPL Application with AI Assistant for Learners

About RaPhaeL (Learner)



RaPhaeL is an AI chatbot supporting Recognition of Prior Learning with personalized learner guidance.

Technology and Development

Built with no-code platforms and uses LLM with Retrieval Augmented Generation for more context-aware answers..

Deployment and Feedback

Deployed across multiple departments with faculty feedback improving usability and user experience.

AI Chatbots for RPL Applicants



Ask RaPhaeL

Your Friendly AI RPL Application Assistant



Ask questions on RPL or programme

Get guidance to write support statement



Hi I am RaPhaeL, your AI RPL Application Assistant (Applied Computing CSM). Ask questions about RPL and Applied Computing CSM or tell me which competency units you are thinking of applying for RPL, I will guide you to write your support statement. 😊 You can also put down your prior learning and get some suggestions for relevant Competency Units to apply for RPL. (I am still learning and can make mistakes, consider verifying important facts. Note that on the top right corner of each AI response, you can give a thumbs up or down, or flag an issue.)

Enter your message **I**



i You are chatting with a generative artificial intelligence (AI). The AI may provide information which might not be 100% accurate or up to date. Ensure you verify important information with trusted sources. Do not enter any private, personal, or sensitive information. All conversations with the AI are recorded. [Privacy Policy](#) [Terms of Service](#) [AI Transparency Statement](#)

Continual Improvements of AI Chatbot



Ask RaPhaeL
Your Friendly AI RPL Application Assistant

Users can easily give feedback on AI responses for continual improvements of AI Chatbot



what is needed to rpl for ICT2509C cloud computing foundations? Flag a problem with this message

To apply for RPL for the Competency Unit ICT2509C - Cloud Computing Foundations, you need to demonstrate that you met the competencies required for this unit. This can be done by providing evidence of your prior learning. Here are the types of prior learning that are accepted for this unit:

1. Non-expired AWS Certified Cloud Practitioner certificate
2. Non-expired Google Associate Cloud Engineer certificate
3. Non-expired Microsoft Certified: Azure Fundamentals certificate
4. Non-expired Alibaba Cloud Associate (ACA) Cloud Computing certificate

Please tell us why ✕

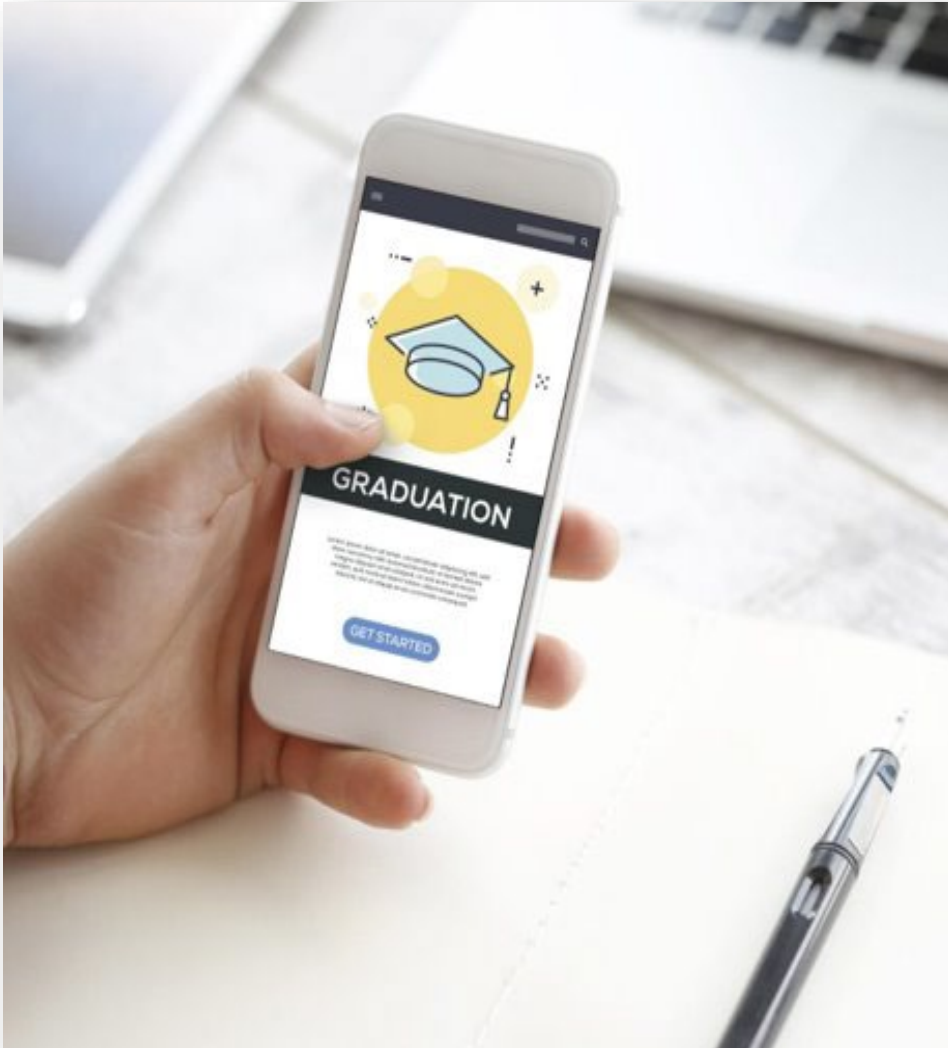
Enter your feedback

Thank you for your comments

No comment Submit comment

**Using AI for Recognition of Prior Learning (RPL):
CourseMapper – Competency Mapping for Assessors**

About the CourseMapper (Faculty)



AI-Driven Course Evaluation

CourseMapper uses generative AI for semantic analysis to assist in course equivalency evaluation. It generates similarity scores and detailed mapping rationales.

Real-World Applications

Used for mapping external curriculum to university curriculum and facilitating articulation with polytechnics and industry organisations.

Multi-Role User Support

Supports assessors, administrators, and external partners (in-progress) with tailored workflows and report reviews to streamline RPL processes.



Assessor Dashboard

Show Legacy Tabs

Utilize tools to browse external courses and perform AI-powered mapping analysis.

Organisation Course Mapping Tools

Browse External Courses Browse Internal Courses AI Mapping Analysis

Browse External Courses

View and filter all courses defined by external organisations.

Filter by Organisation

Select All / None

Search by Course or Programme Name

- Republic of Singapore Navy
- AeroStrata Solutions Pte Ltd
- InnoVectra Dynamics Pte Ltd

Type to search...

Republic of Singapore Navy

COMMUNICATION SYSTEMS-COMMUNICATIONS

Basic Specialisation Course One (BSC1)

BSC1 - Communication Systems Communications - Team Member (1T)



BSC2 - Basic Specialisation Course Two (BSC2)

Enhancements

1 Unified User Experience

Create a consistent interface that streamlines RaPhaeL and CourseMapper as part of the RPL applications

2 User Trust and Validation

Enable users to verify AI recommendations to enhance system credibility and reliability

3 Algorithm Refinement

Use feedback to continuously refine AI algorithms and improve mapping accuracy in RPL systems.

4 User Engagement

Engage users actively to ensure AI tools evolve with changing needs and expectations.



Future Plans for AI-assisted RPL for Assessors

AI-Assisted RPL chatbot for Assessors

To allow assessors to query on RPL Policies, CSM Programs, (PIL) Pre-identified list of courses, past approved list of courses

System Recommendation for RPL Approval

To alert assessors if applicant meets requirements, e.g. if credentials are in past RPL approvals or in pre-identified list of courses for RPL Approval

AI Portfolio Evaluator

To allow assessors to upload RPL Portfolio to get recommendations based on assessment rubrics

AI-Generated Challenge Test Avatar

To generate questions and first-cut assessment of applicant's competencies for RPL

Acknowledgement



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