



Sharing ITE's Perspectives

Digital Technology for Technical and Vocational Education and Training

Goh Mong Song

Institute of Technical Education

Singapore

25 July 2023

Hands-On Minds-On Hearts-On Skills Education at ITE

Theory Lessons (30%)



Practical Training (70%)



Value Proposition of Digitalisation

Empowering Learners and TVET Institutions for Lifelong Learning

Learners

- ✓ Job Market Knowledge
- ✓ Identify emerging skills
- ✓ Demographics

- ✓ Self-profiling
- ✓ Career counselling and coaching
- ✓ Skills Journey planning

- ✓ Self Paced
- ✓ Complementing and Supplementing Physical Lessons



Insights from Multi Data Sources



Personalization



Enhancing Learning Outcomes

Institution

- ✓ Leverage Jobs & Skills Analytics
- ✓ Insights for course development

- ✓ Personalising learning and assessment
- ✓ Making lessons more accessible

- ✓ Synchronous and Asynchronous lessons on open platforms
- ✓ Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR)
- ✓ Byte-Sized

Digitalisation can facilitate

① Understanding Self
(as Learner)

② Understanding
Learners



③ Understanding
Demands and Needs

④ Understanding
Course Marketplace

Understanding Self

RIASEC Online Profiling Tool



0 out of 3 assessments

The first step to learning is understanding yourself

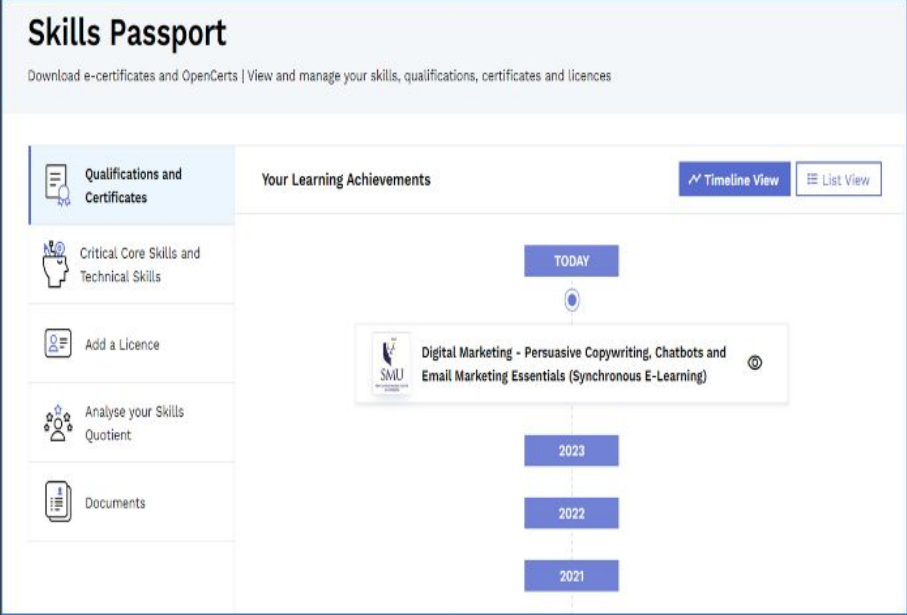
Career Interests
Find out about your interest level in different job activities.

Skills Confidence
Find out about your confidence level in performing different tasks.

Work Values
Find out which work values are important to you.

Understand personality, strengths, work values and learning styles to help identify suitable career and skill development options

Skills Passport



Skills Passport
Download e-certificates and OpenCerts | View and manage your skills, qualifications, certificates and licences

Qualifications and Certificates | Your Learning Achievements | Timeline View | List View

Critical Core Skills and Technical Skills

Add a Licence

Analyse your Skills Quotient

Documents

TODAY

Digital Marketing - Persuasive Copywriting, Chatbots and Email Marketing Essentials (Synchronous E-Learning)

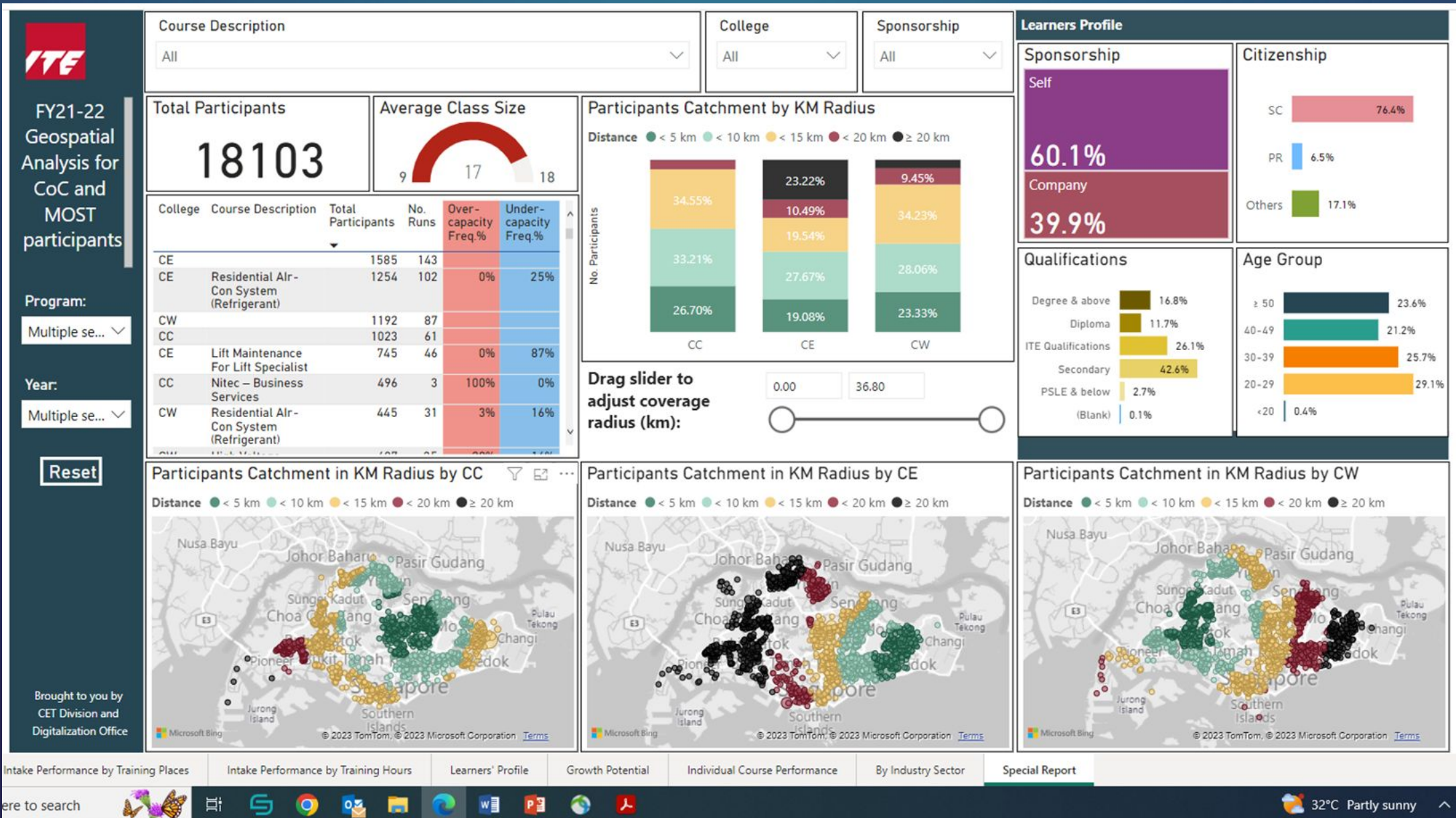
2023

2022

2021

Online platform to maintain records of individuals' education and training, certificates and skills sets

Understanding Our Learners



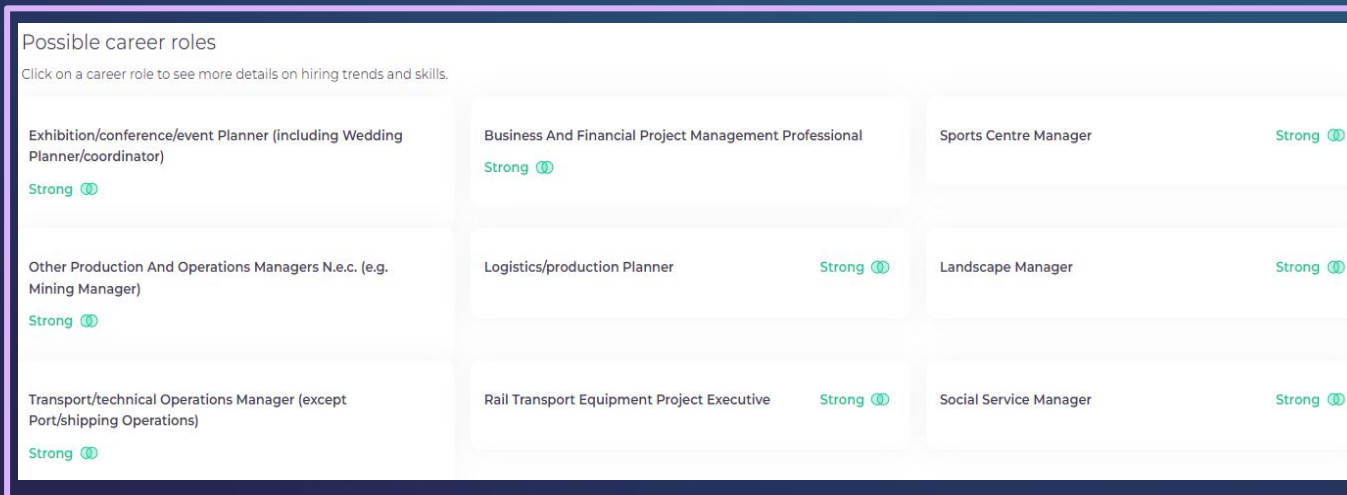
Understanding Job Demands & Skills Needs



JobTech - Jobs & Skills Dashboard

- Online AI platform that provides an overview of relevant jobs for each course
- Identification of emerging skills to guide curriculum planning

Example - *Higher Nitec* in Events Management Skills Graph & Skills Taught



Career roles based on skills

Strong - indicates that there are many transferable skills to this career



Hiring trends displayed based on career role selected on the left

Understanding Course Marketplace

Skills Training & Enhancement Portal

Platform to search and apply for courses offered by Polytechnics and ITE



STEP SKILLS TRAINING & ENHANCEMENT PORTAL
BY THE POLYTECHNICS & ITE

The Skills Training & Enhancement Portal (STEP) is a one-stop source to help upgrade, upskill and uplift our nation's workforce. Discover the full complement of our courses, which are designed to empower lives and boost careers.

Logos of participating institutions: ITE (Institute of Technical Education), NYP (Nanyang Polytechnic), Ngee Ann Polytechnic, Republic Polytechnic, SP (Singapore Polytechnic), and Temasek Polytechnic.

Simulating Reality for Procedural Skills Training

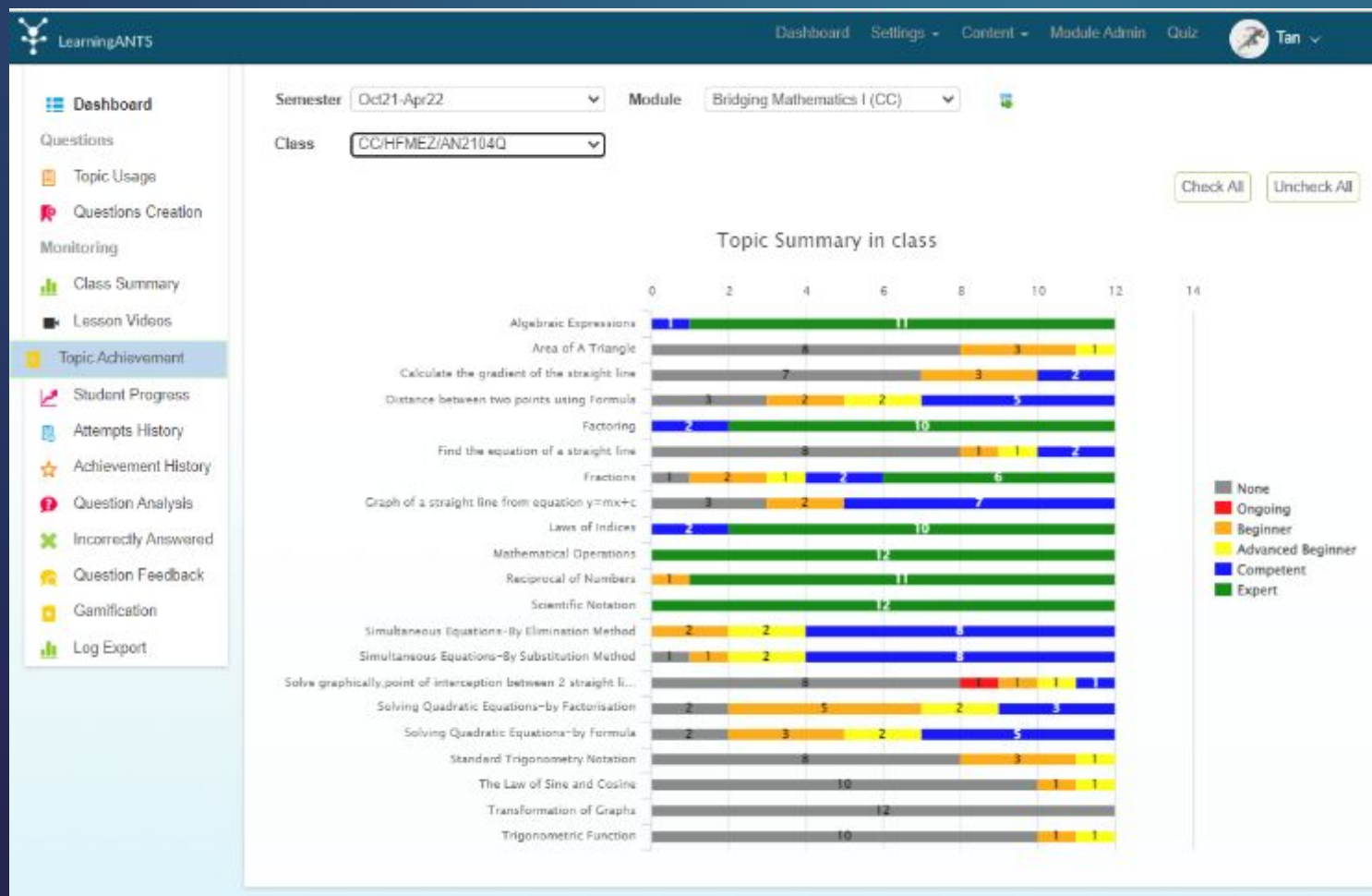


Engine Ground-run Procedures in a
Virtual Reality Environment



Chemical Process Plant
Virtual Reality Game for Furnace
Operation

Self-Paced and Personalising Learning

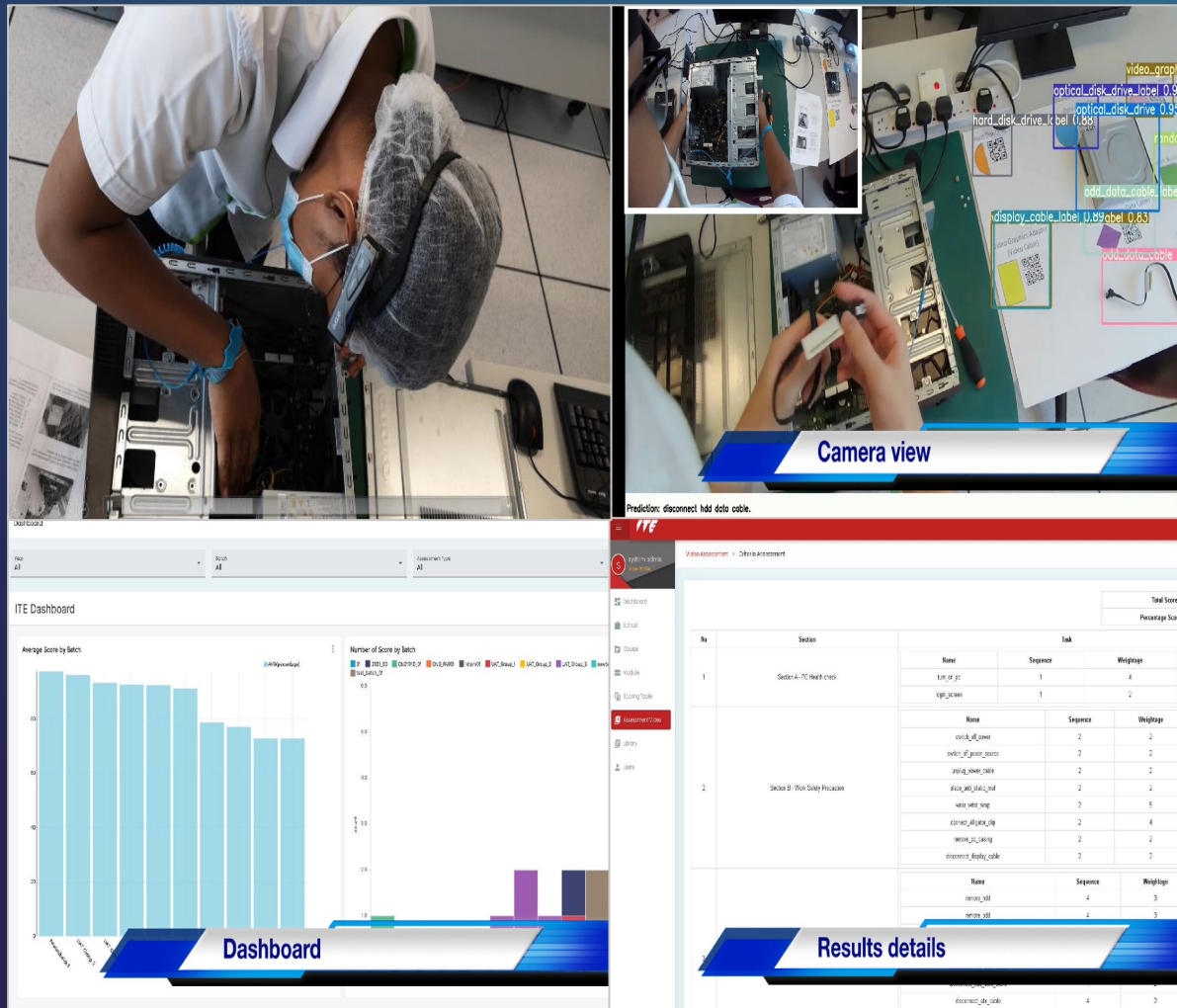


Learning Analytics Networked Tutoring System

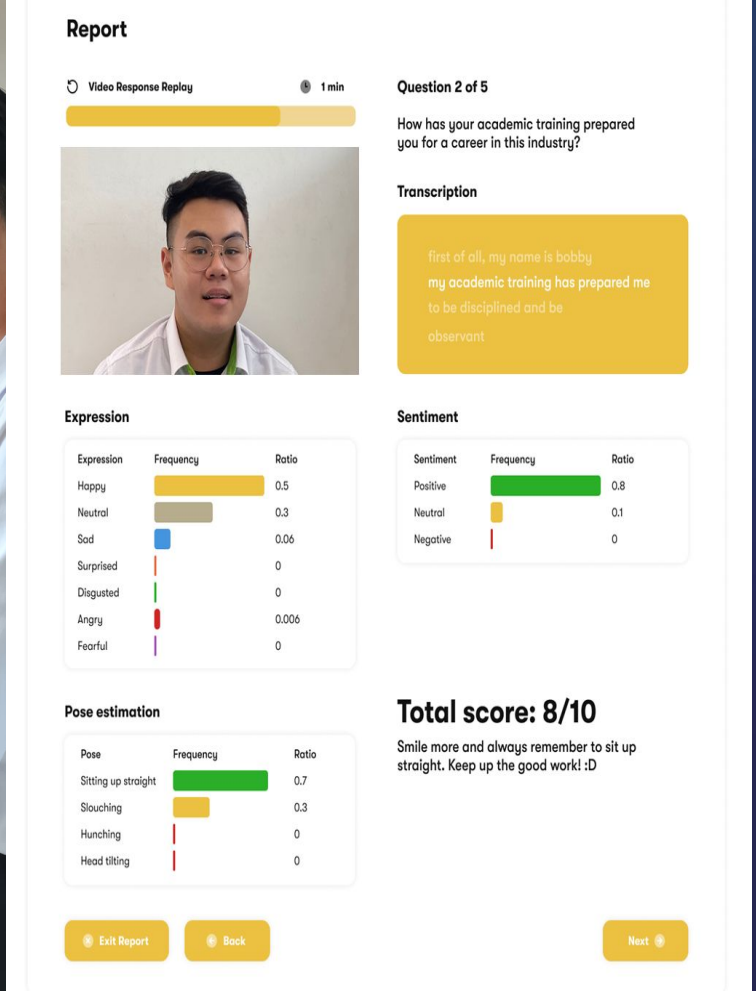
- Online tutoring system with AI
- > 20 Maths Topics, > 1000 questions
- Student progress at own pace, via an adaptive algorithm
- Learning analytics help lecturers to analyse performance and provide differentiated instruction

AI-enabled Analytics for Assessment

Technical Skills



Soft skills



Micro-Learning – Anytime, Anywhere

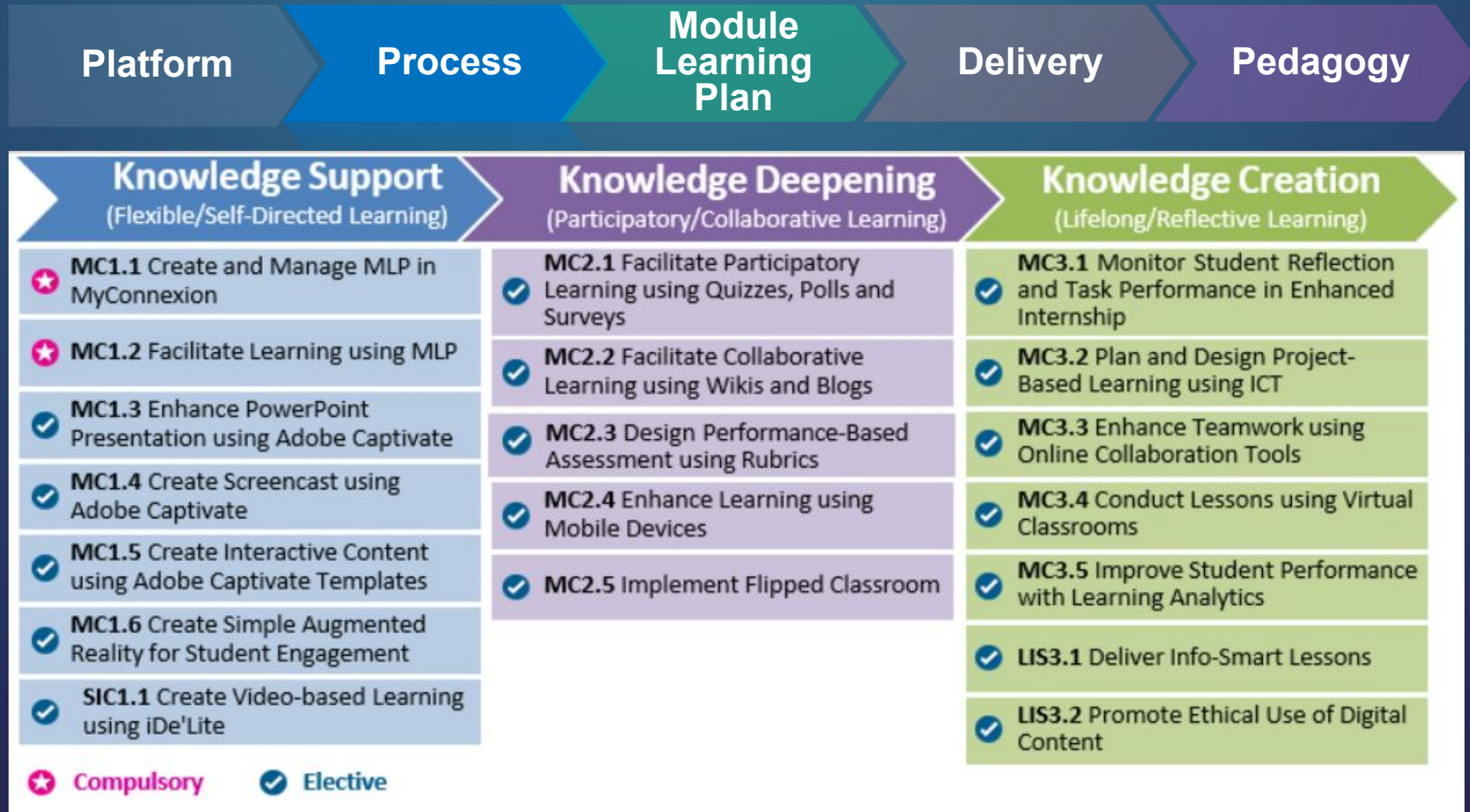
- Byte size online packages
- Hosted on different platforms
- Involvement of Industry Partners in design and development
- Can supplement on-campus learning and workplace training



Variety of Learning Activities

poll 1 min	Time for a quick poll	✓ >
view 1 min	Get ready to watch a short video	✓ >
watch 3 min	What is Artificial Intelligence?	✓ >
quiz 1 min	Is AI all around?	✓ >

Staff Readiness for Digitalisation in Learning



Some Challenges of Digital Technology in Skills Training



Inherent

- Social aspects of learning



Capability & Culture

- Capability to leverage digital technologies
- Willingness to adopt or adapt to technologies



Infrastructure

- Scalability
- ROI



Thank You
