SINGAPORE INSTITUTE OF TECHNOLOGY

Adaptive, online bridging courses for personalised learning

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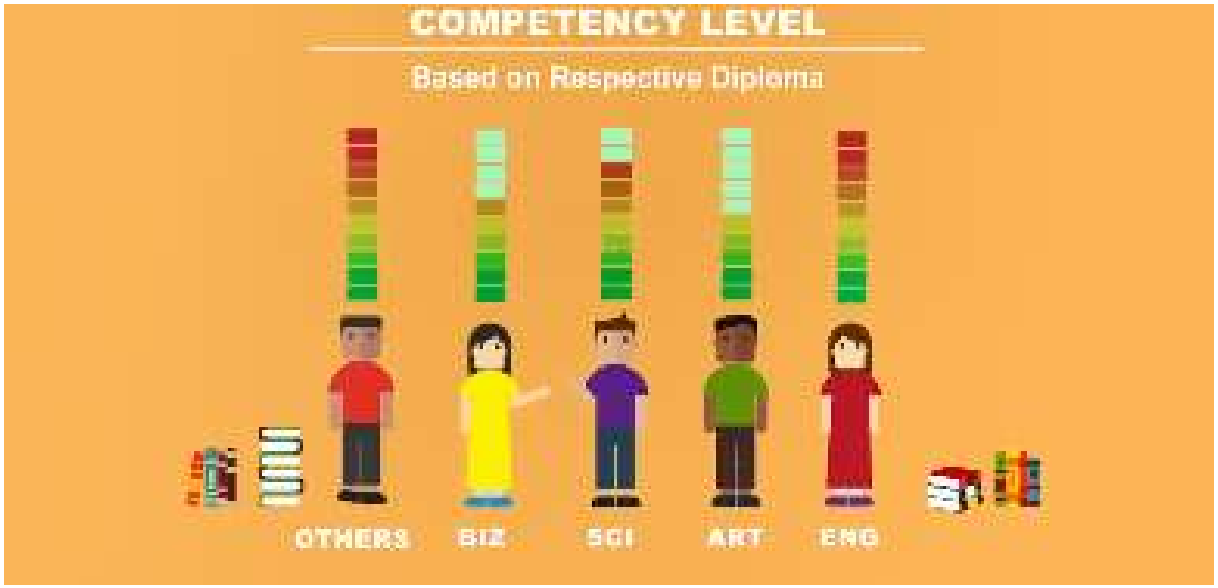
Our Student Profile

GCE A - Level

SIT SINGAPORE INSTITUTE OF TECHNOLOGY

More than 90% students at SIT are from Polytechnic (specialized industry programmes) – highly industry relevant skills

Our Challenges



Student: Finds the year 1 modules in SIT difficult (diverse competency)

Faculty: Finds it challenging to teach because of the diversity in foundational skills

We needed to find a tool to narrow the gap for 3500 freshman

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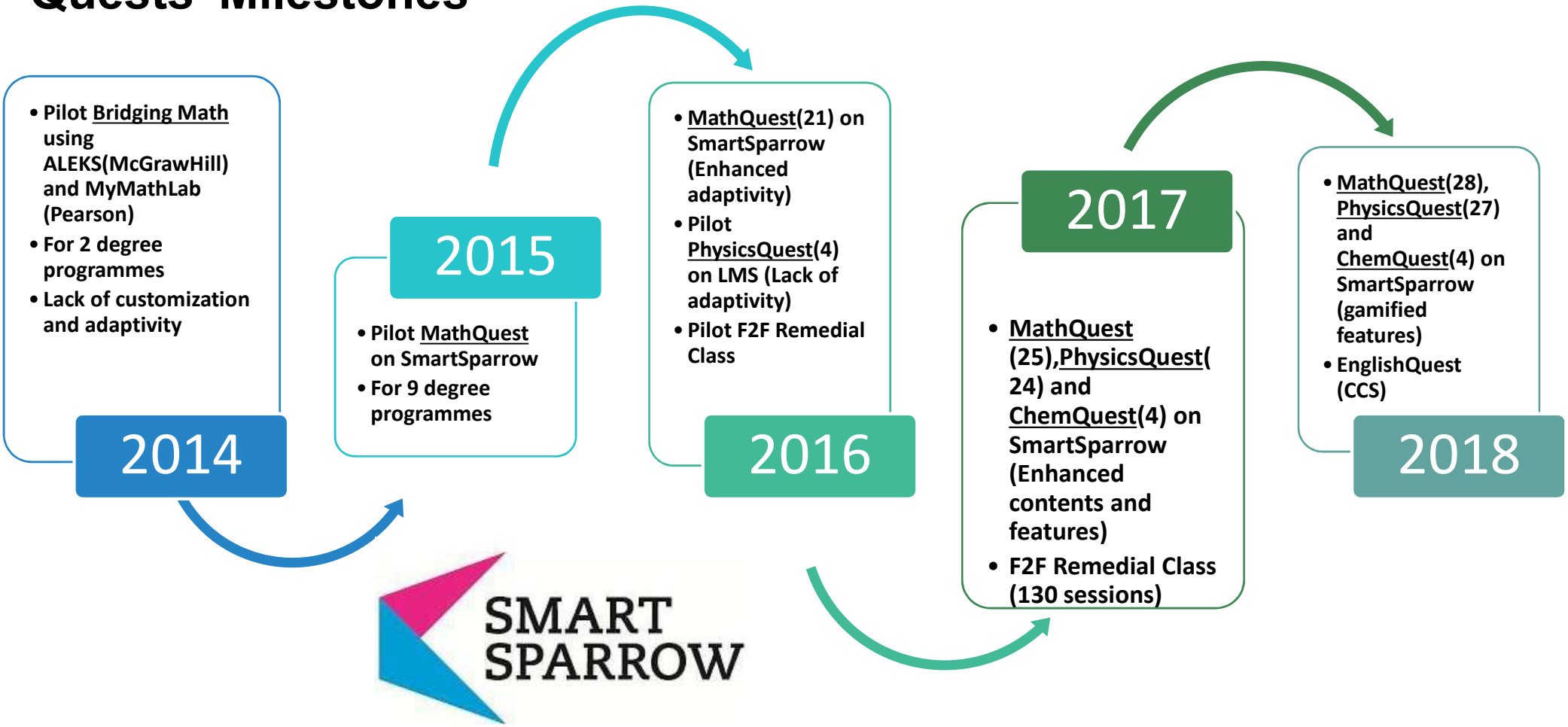
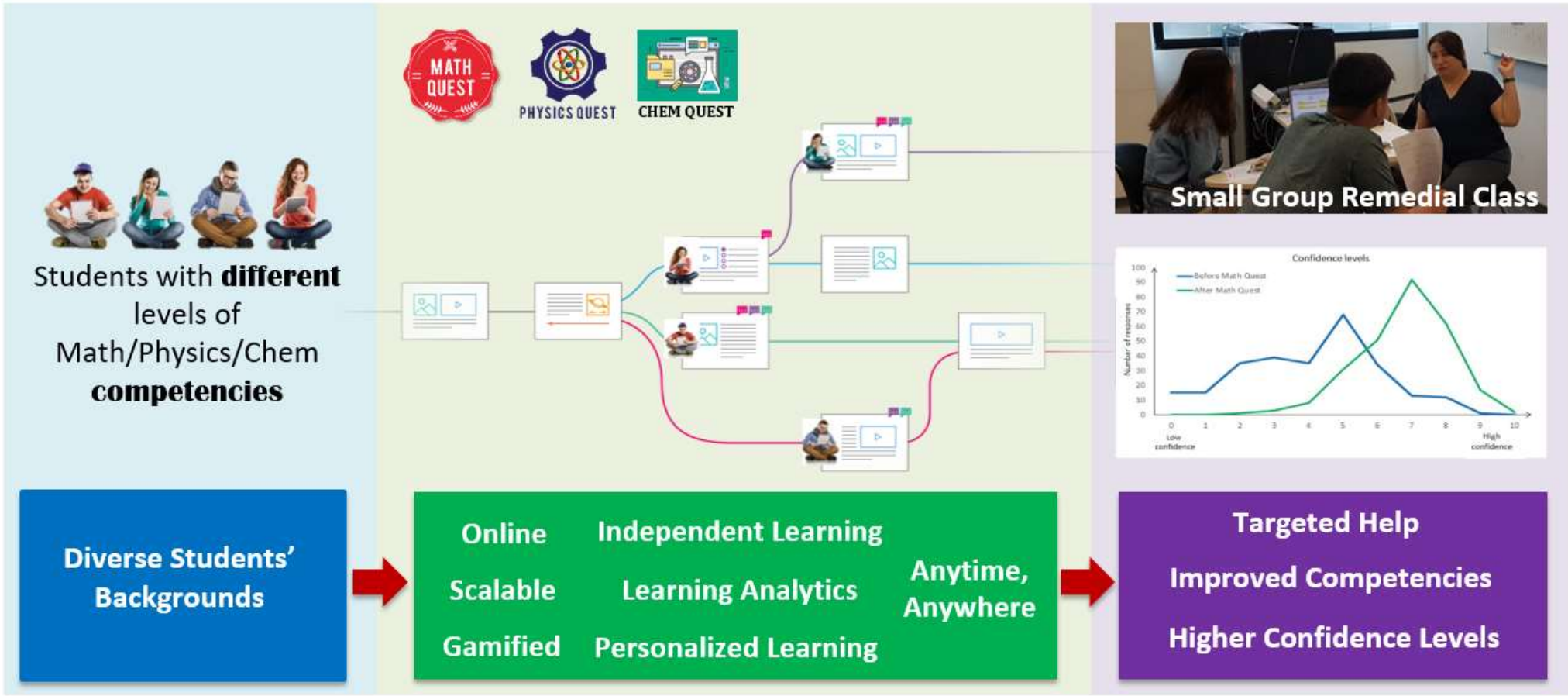
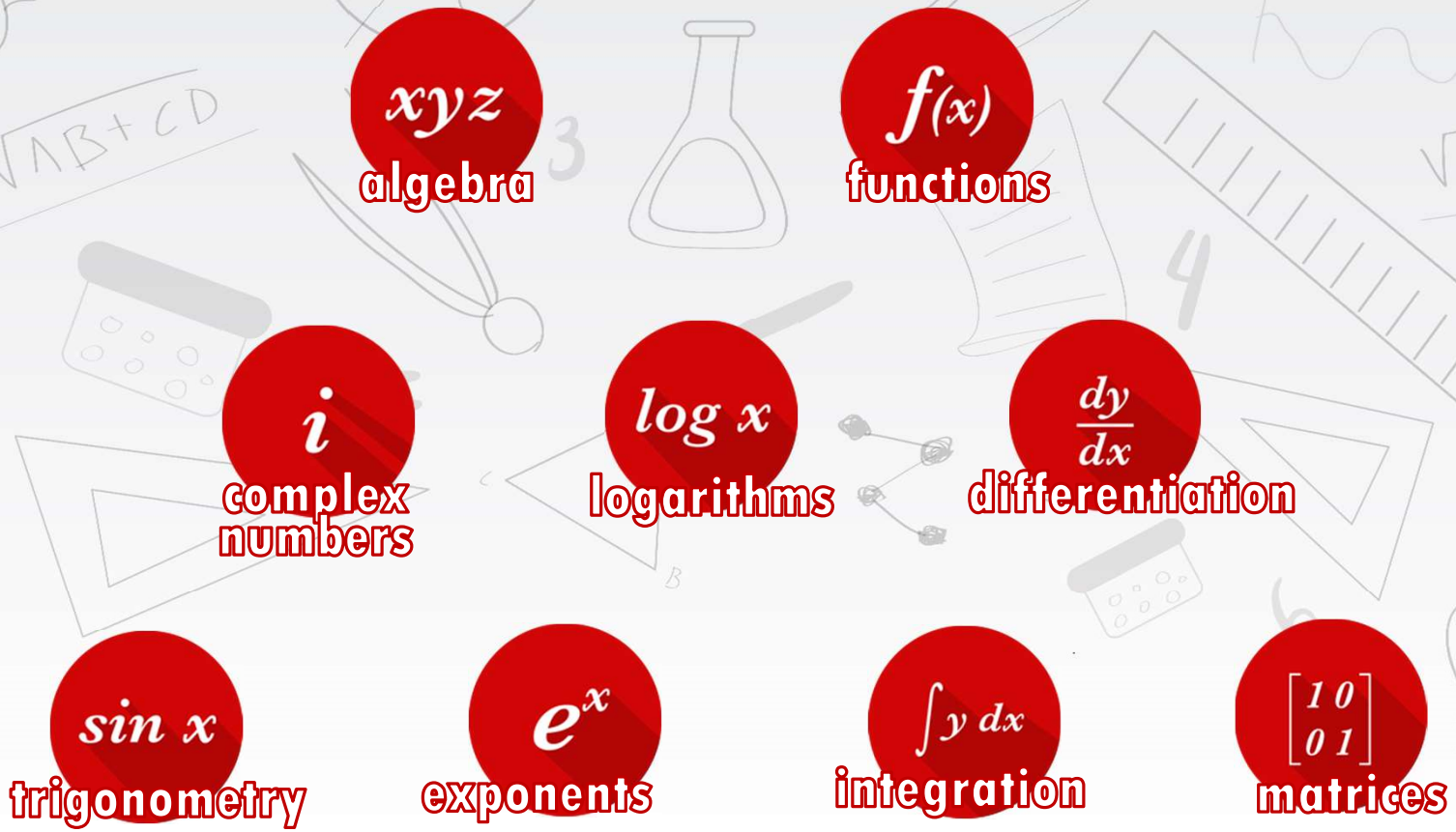
Our Journey in Adaptive Online Learning
Quests' Milestones



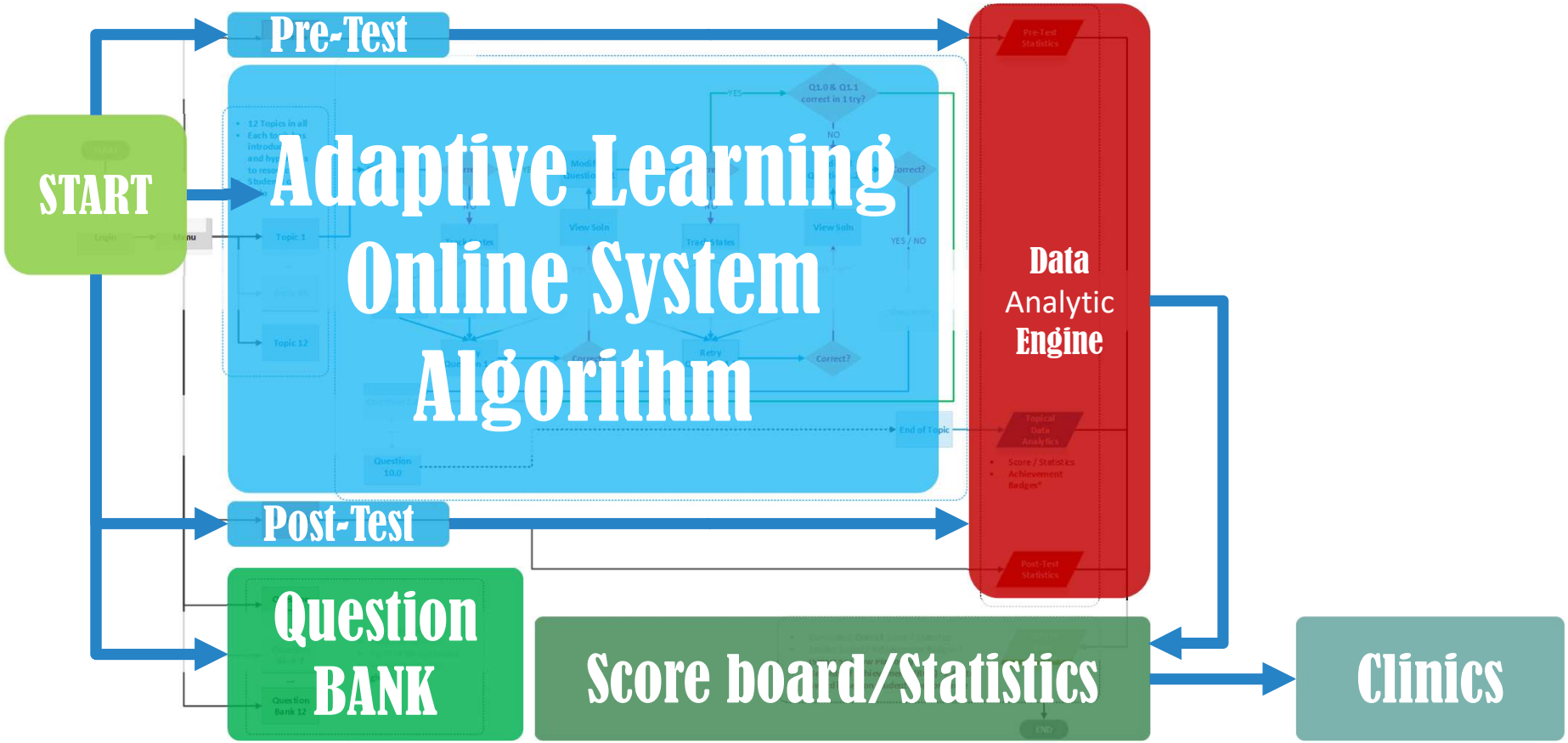
Adaptive Online Courses → Personalised Learning



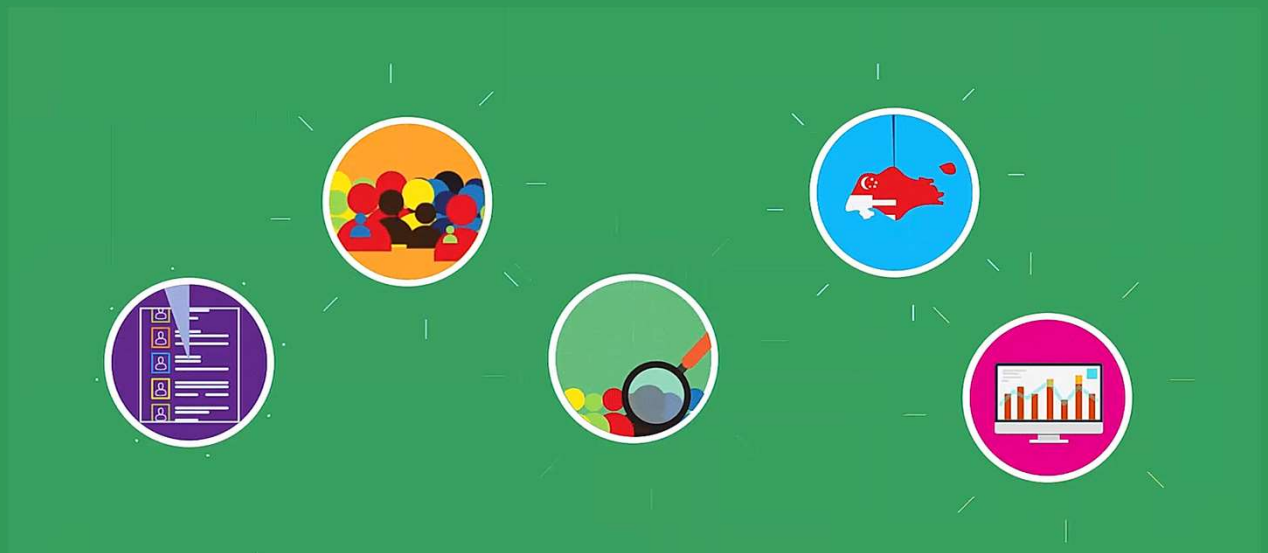
- **Fundamental concepts**
- **Problem solving techniques**



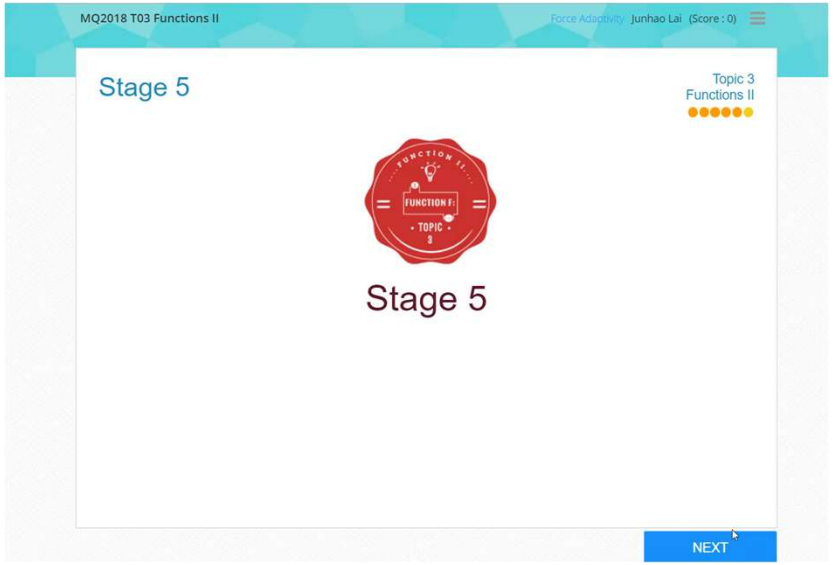
SIT Online Quest – General Work Flow

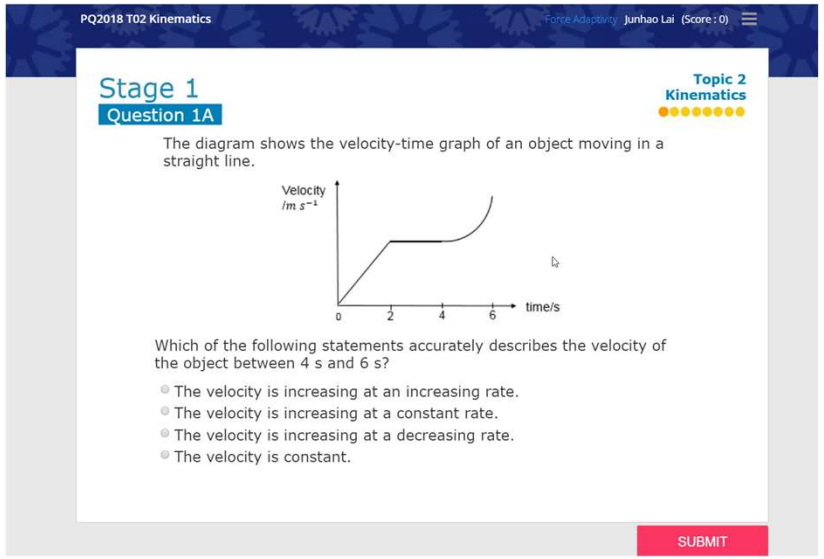


e-Learning system

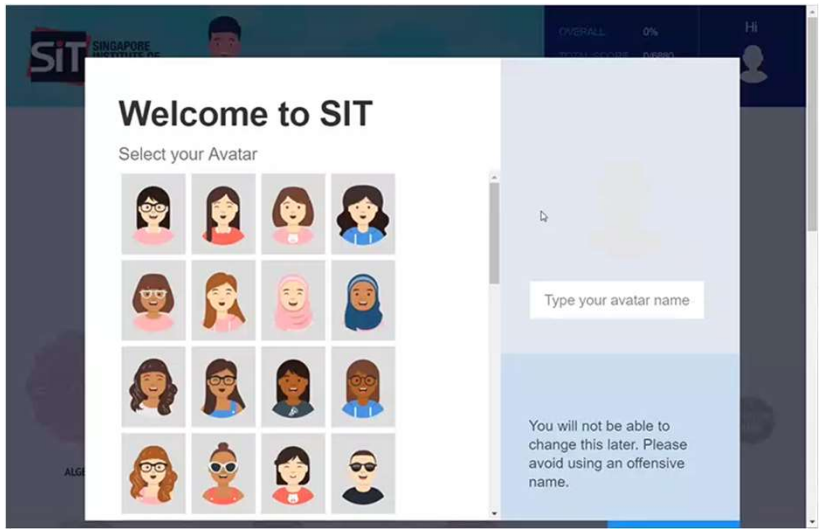


- Access anytime, anywhere
- Adapting to your needs
- We monitor your progress
- Additional support is available, if needed



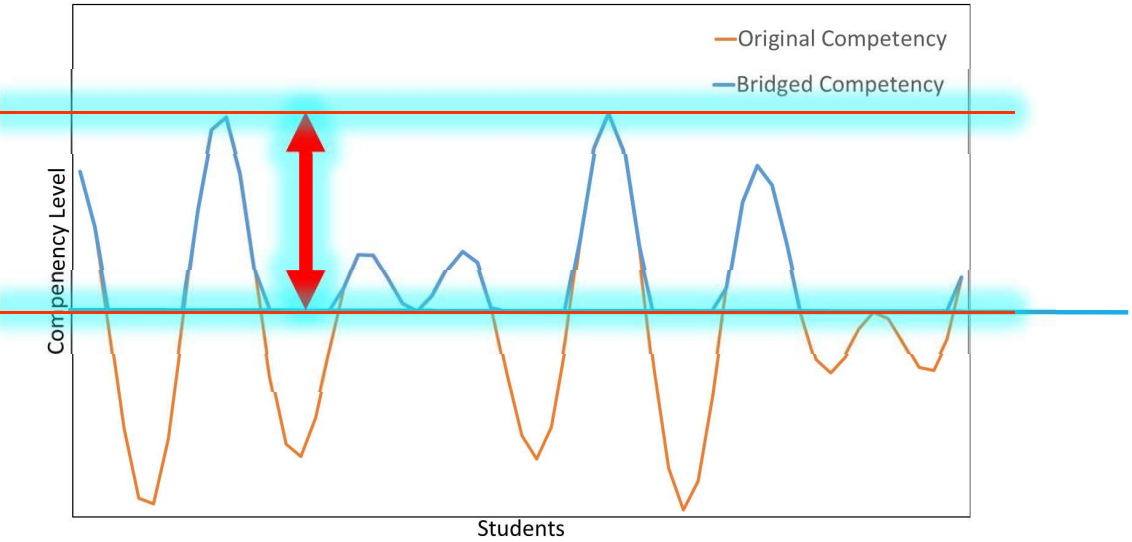


- **Interactive** to engage students
- Different **feedback** for different options chose by students
- Some **hints**/concepts from existing videos (e.g. Khan Academy)
- **Solution** videos available for students to strengthen understanding



Objectives on Online Courses

- To bridge/narrow students' competencies
- To bring up level of 'weaker' students



Comparison of students from different Pre-U Institutions (Average of 2016 & 2017)

	Pre-test			Post-test		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
S1	39	41	19	64	66	17
S2	45	46	19	68	69	16
S3	40	38	20	60	63	20
S4	43	45	18	65	66	18
S5	45	46	19	64	67	18
S6	66	75	19	80	79	12

	Pre-test		Post-test	
	Average	Standard deviation	Average	Standard deviation
Overall	44	20	65	17

From Our Students

*"The Math Quest **allows me to recap on the fundamentals of Engineering Math and AMath**. It has also links to e-lectures that guides you through the concepts before you start to attempt the questions. It was definitely essential as it helps to kickstart my preparation before I started my first trimester in SIT SIE. :)" – Syudent from SIE Building Services*

*Math Quest was a good bridging course for me as **it helped me to revise maths concepts that I forgot**. The practice questions also had videos on solutions which is a very good way of self-learning." – student from Pharmaceutical Engineering*

*"I am really grateful for your help and encouragement given. **The MathQuest had assisted in helping me re-learn the modules again (although I still struggle at some) and I do hope that my eventual post test score would improve as a result.** Really thankful to the school staff for carrying out this initiative by allowing students to do this MathQuest, which definitely helped us to reinforce our maths knowledge and prepared us for the upcoming uni maths modules."*

"SIT Math Quest was a great help in getting me back into the groove of solving math problems after 2 years of national service. It comprised of mathematical questions related to my course. Whenever I had any issues regarding the questions or answered them wrongly hints and video solutions to those problems would be provided to assist my understanding on the question." student from Chemical Engineering

From Our Faculty Staff

*"It seems to me that students **are more prepared for math in that they do not make "silly" mistakes.** Most students also hardly ask me very fundamental (e.g. secondary school level) questions. So this helps me in my teaching by covering all these fundamental materials so that I can cover more advanced stuff in my classes and not have to worry that the students do not have sufficient background."*

*"Maths Quest is pretty informative with the videos and the way it's structured facilitates in the learning process. **The pre-test feature is also very useful.** Kudos to you and your team <Two thumbs up> I see this tool making meaningful impact in refreshing and even getting the incoming students to be aware of their own level of understanding in engineering maths even before they start their new term"*

- **Fundamental concepts**
- **Problem solving techniques**

Physics

measurements

kinematics

dynamics

work, energy and power

electricity

forces

Chemistry

measurements

matter & energy

atoms and elements

solutions

acids & bases

Computational thinking

decomposition

pattern recognition

abstractions

algorithms

Maths

algebra

functions

differentiation

logarithms

complex numbers

integration

exponents

matrices

trigonometry


Thank You