By 2025, citizens across ASEAN are expected to be fully engaged in the digital economy and using digital technologies and services in both their professional and personal lives.

Education will be a key driver of such empowerment.

Top 10 Skills of the Future

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

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What can we do, as ASEAN +3, to enhance 21st Century Skills for students as part of university curriculum?
Strong university curricula instill **breadth** and **depth of knowledge** and offer opportunities to learn to apply this knowledge in the real world.

### SMU Core Curriculum

<table>
<thead>
<tr>
<th>Foundation Course</th>
<th>University Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. Programme in Writing &amp; Reasoning)</td>
<td>(e.g. Ethics &amp; Social Responsibility)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Modes of Thinking</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. Managing Volatility, Uncertainty, Change &amp; Ambiguity)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Globalisation</th>
<th>Asian Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. Corporate Responsibility in a Global Era)</td>
<td>(e.g. Exploring Asian Identities)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Education</th>
<th>Technology Studies</th>
<th>Entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. Computer as an Analysis Tool)</td>
<td>(e.g. Technology &amp; World Change)</td>
<td>(e.g. Design Thinking &amp; innovation)</td>
</tr>
</tbody>
</table>

### Real-World Experience

<table>
<thead>
<tr>
<th>Internship</th>
<th>Community Service</th>
<th>Finishing Touch Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>(400 hours’ worth of opportunities for global exposure)</td>
<td>(80 hours’ worth of giving back to society)</td>
<td>(e.g. interviewing skills)</td>
</tr>
</tbody>
</table>

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"It is not about provision of knowledge because that is available everywhere. It is about throwing students into the real world, getting hands and feet dirty, and learning that way."

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*SMU Provost, Professor Lily Kong*

International Academic Advisory Panel (IAAP) discussion on “The Role of Universities in Defining Singapore’s Future”.
The SMU curriculum is designed to graduate students who can create **meaningful impact** with acquired knowledge, skills, and attitudes.
The activities offered as part of **SMU Co-Curriculum** hone students’ soft skills such as critical thinking and problem solving skills, leadership and communication skills, self-awareness and personal mastery skills, which aligns to SMU Graduate Learning Outcomes.
Supporting this **broad-based curriculum** is a learning pedagogy that is **personalized, collaborative and interactive, and experiential**

<table>
<thead>
<tr>
<th>Student as Individual</th>
<th>Student as Social Being</th>
<th>Student as member of community/citizen</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Theory: Constructive (Individual)</td>
<td>• Theory: Constructive (Social)</td>
<td>• Theory: Situative</td>
</tr>
<tr>
<td>• Students learn by actively exploring the world around them, receiving feedback and drawing conclusions.</td>
<td>• Students learn by engaging in dialogue and developing a shared understanding of concepts with peers and instructors</td>
<td>• Students learn by participating in communities of practice, progressing from novice to expert through observation, reflection and mentorship. The context of learning is authentic.</td>
</tr>
</tbody>
</table>
What benefits will ‘ICT-integrated’ curriculum in universities and the use of ICT have on future jobs for students?
SMU courses presume and require secondary level skills.

**Plus:** specific ICT courses at SMU:
- e.g. IS 102: Computer as an Analysis Tool
  - Equips students with practical skills in modelling and resolving business problems using personal computers.
  - Students build a new application for a real client as part of the course
  - Course projects regularly go on to wider adoption within SMU – another instance of meaningful impact
Technology as an enhancer – technology offers fresh opportunities to advance teaching and learning.

Feedback

Learning analytics

Anytime, anywhere

Stackable bite-sized

SMU’s Technology-Enhanced Learning Framework

Personalised Learning

- Adaptive digital tools
- Interactive and immersive games
- Self-paced digital tools

Digital Tools

- Prescriptive recommendations
- Predictive reports
- Descriptive and diagnostic reports

Learning Analytics

Student as Individual

Collaborative and Interactive Learning

- Collaborative team-based games
- Collaborative development of material
- Online peer review
- Online asynchronous and synchronous discussion

Student as Social Being

Experiential Learning

- Participatory Learning and Action; Innovation & Knowledge Production
- Innovate solutions
- Prototype development and testing
- Conceptual solutioning
- Problem definition
- Student as member of community/citizen

Anytime, anywhere

Stackable bite-sized
SMU seeks to advance **personalised learning** and **collaborative, interactive learning** through development and in-class use of diverse Technology-Enhanced-Learning (TEL) tools.

**Personalised Learning**

**Collaborative and Interactive Learning**
What is the level of computer skills and knowledge required for lecturers/professors who are less familiar with IT in teaching and learning processes?
21st century educators need to acquire and develop knowledge and competencies in the use of education technology.

An overview of SMU’s approach toward progressively co-opting and engaging faculty.
EPTL strategically creates the **impetus** for online learning by lowering barriers to adoption while concurrently establishing a **business continuity** contingency plan.
SMU cultivates an **innovation greenhouse** through providing online resources, institutional funding and pedagogical support, development of TEL tools and study on impact of learning.

- **Content Development Workshop**
- **Blended Learning Workshop**
- **Learning Innovation Festival (LIFE)**

**ACE Accounting Challenge**
- Jim Bulloch Award for Innovations in Management Accounting Education (2017)
- AAA Innovation in Accounting Education Award (2015)
- CEEMAN Champion Award in Innovative Pedagogy (2013)

- **EDGE eBulletin**
- **Engage Develop Grow Empower Ideas: eBook**
- **Teaching Innovation@SMU**

**Thesis Statement & Plagiarism Learning Object**
- Foundation Course (797 students)

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SMU is keen to explore collaborations with institutions that are on a similar journey to introduce new technologies and redesign courses for personalised learning.

<table>
<thead>
<tr>
<th>What we aim to achieve</th>
<th>Potential Partners</th>
<th>Potential Collaborative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Develop a shared roadmap for personalized learning supported by Artificial Intelligence and Learning Analytics</td>
<td>1. Local IHLs (existing networks, e.g. Asia SoTL group, less complicated as data handling within Singapore legal framework)</td>
<td>1. Achieve critical data-scale to train machine-learning algorithms for personalised learning</td>
</tr>
<tr>
<td>2. Jointly develop common data-protection rules to comply with national and regional data protection schemes to enable data-pooling for intelligent systems</td>
<td>2. D2L Asia Pacific User Group (existing network; existing marketplace for IHLs-developed D2L compatible)</td>
<td>2. Achieve economies of scale in intelligent system development or procurement</td>
</tr>
<tr>
<td></td>
<td>3. ASEAN University Network (+3) (established platform; common course &amp; language used an issue?)</td>
<td>3. Achieve economies of scale in partnership agreements with private sector providers of personalized learning (e.g. e-Textbooks with Adaptive Learning features)</td>
</tr>
</tbody>
</table>

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Thank you