Mainstreaming OSH into Education:
Singapore's Pre-Employment Training Initiative

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Director, Industry Capability Building
Workplace Safety & Health Council, Singapore
SCOPE

1. Overview of Singapore’s WSH Journey
2. Pre Employment Training (PET) Initiative
3. Safety & Health Training in the Schools
Singapore’s WSH Journey

2006
- WSH Act
  - Embodiment of WSH Framework in Legislation

2007
- Review & Enhance WSH2015
  - PM refreshes target: 1.8 fatalities per 100,000 by 2015

2008
- Extension of WSH Act
  - WSH Act extended to cover 6 new sectors

2009
- Launch of WSH2018
  - Enhanced national strategy for workplace safety and health

2010
- Launch of Strategy and Roadmaps
  - Workplace Health strategy and Sectoral Roadmaps to support WSH2018

2011
- WSHI
  - Formation of WSH Institute

WSHC
- Formation of Workplace Safety & Health Council

WIC Act
- Work Injury Compensation Act replaces the Workmen Compensation Act

WSH Institute
- Building WSH Competencies in Singapore
An Evolving WSH Model for Singapore

Progressing WSH in Singapore

**OSHD**
Occupational Safety & Health Division

**WSHC**
Workplace Safety & Health Council

**WSHI**
Workplace Safety & Health Institute

**REGULATOR**
Legislation, Policies, Compliance Assistance & Enforcement

**INDUSTRY PARTNER**
Educating & Engaging Stakeholders, Promoting WSH

**THINK TANK**
Charting New Grounds for WSH Excellence and Innovation
WSH2018

WSH 2018 VISION

Safe and healthy workplace for everyone and a country renowned for best practices in workplace safety and health

Strategic Outcomes

- Reduction in workplace fatalities and injury rates
- WSH is an integral part of business
- Singapore is renowned as a centre of excellence for WSH
- A progressive and pervasive WSH culture

Strategies

- Build strong capabilities to manage WSH
- Implement an effective regulatory framework
- Promote the benefits of WSH and recognise best practices
- Develop strong partnerships locally and internationally
“Singapore needs people in our workforce with the necessary capabilities, to get to international standards to compete effectively in the global arena... The Council will further deliver a national competency framework to cover the WSH Professionals and at least 30 trade-specific fields. Competency-based training will be delivered by credible and competent training providers, who will be monitored closely to ensure professionalism. Looking into the future, the Council intends to engage educational institutions to introduce workplace safety and health early to our younger generation. Exposing our young early to safety and health before they begin working will help set expectations, drive change through the generations, and support raising of standards, as well as build a strong WSH culture.”

Mr Lee Tzu Yang, Chairman of the Workplace Safety and Health Council, at the Workplace Safety and Health Awards Ceremony 2007
Pre Employment Training Defined as in “WSH 2018 Strategy”

“We will also work towards educating individuals on safety & health even before they join the workforce, by incorporating WSH into PET framework. By encouraging students to view safety & health as part and parcel of their daily life at an early stage, this will set the stage for the creation of a strong safety & health culture at the workplace subsequently”.

Page 21, WSH 2018

“. Educational institutions help sow the seeds of a strong safety & health culture, by instilling the value of safety & health in students. Educational institutions should work closely with industry to integrate WSH concepts into the curriculum of relevant courses.”

Page 16, WSH 2018
Pre Employment Training Defined as in “WSH 2018 Strategy”

- In International Advisory Panel’s Recommendation

- From Industry Committee feedback

**WSH values should be inculcated from young.**

WSH messages could be included in the educational curriculum of children, when they are more ready to accept new values and beliefs.

Such values would stay with the individual for life and naturally translate to a greater emphasis on WSH when the individual enters the workforce.
Singapore Education Structure

Pre-Primary

Primary (6 years)

Secondary (4–5 years)

Junior college to University / Polytechnic (2+4 / 3 years)

WORK
Challenges faced in Phase I

- Existing academic curriculum already “overloaded” - cannot introduce new WSH curriculum / topics
- Students are not interested – see WSH not important to their educational outcome
- Overload with social & recreational activities
- Teaching staff are not equipped with the relevant WSH knowledge & competency
- Lack of easy-to-use teaching resources on safety & health
Challenges faced in Phase I

- Existing academic curriculum already “overloaded”
  - integrate WSH concepts into existing curriculum

- Students are not interested
  - Introduce WSH-related Studies / Electives
  - Conduct WSH briefings prior to industrial training
  - WSH briefings before graduation
Challenges faced in Phase I

- Overload with social & recreational activities
  - introduce WSH during orientation/ social activities

- Teaching staff are not equipped with the relevant WSH knowledge & competency
  - conduct training attachments for teaching staff who are interested in acquiring WSH knowledge
  - involve WSH professionals to teach

- Lack of easy-to-use teaching resources - tap on existing resources from WSHC, Ministry & others.
## PET Initiative

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<th>Programmes / Activities</th>
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# Engagement with IHLs (Universities & Polytechnics)

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<thead>
<tr>
<th>Forum</th>
<th>Date</th>
<th>Invites</th>
<th>Agenda</th>
</tr>
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</table>
| Inaugural   | Jan 2011    | • Provosts and Principals of IHLs  
  • Industry Committee members  
  • Ministry of Education | • WSH Act  
  • bizSAFE Programme  
  • Introduction of PET  
  • Open discussion |
| 2nd         | July 2012   | Provosts and Principals, IHLs’ & PET champions                          | Open sharing by IHLs on their PET Journey      |
## 2nd PET Forum

<table>
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<tr>
<th>IHL</th>
<th>Topic</th>
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<tr>
<td>National University of Singapore (NUS)</td>
<td>Making Safety Education relevant to NUS Undergraduates</td>
</tr>
<tr>
<td>Nanyang Polytechnic (NYP)</td>
<td>NYP’s PET Journey</td>
</tr>
<tr>
<td>Singapore Polytechnic (SP)</td>
<td>WSH Orientation for all New Students at SP</td>
</tr>
<tr>
<td>Republic Polytechnic (RP)</td>
<td>Understanding WSH through Industry Visits</td>
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<td></td>
<td>Hazard Identification Contest and WSH forums</td>
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</table>
- **NUS PET Journey**

<table>
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<tr>
<th>2-Day Safety Lectures: Faculty of Science students prior to graduation</th>
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<tr>
<td><strong>DAY 1</strong> - <em>Why is safety important?</em> Hazards, Risks, Controls &amp; Best Practices, Case Studies</td>
</tr>
<tr>
<td><strong>HOME WORK</strong></td>
</tr>
<tr>
<td>Assume role of manager/employer to improve safety. In groups of 4-5, students traverse the campus grounds to:</td>
</tr>
<tr>
<td>a) Spot 5 hazards and photograph the hazards</td>
</tr>
<tr>
<td>b) Risk assess the hazards and identify the control measures for each hazard</td>
</tr>
<tr>
<td>c) Students required to present project prior to graduating</td>
</tr>
<tr>
<td><strong>DAY 2</strong> – Safety Management system – Discussion on selected projects from Day 1</td>
</tr>
<tr>
<td><strong>Industrial Attachment (IA):</strong> - Pre WSH briefing to all participating students prior to actual IA</td>
</tr>
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Formal Curriculum - Examples

- Faculty of Engineering
  - Safety Health and the Environment
  - Process Design and Safety
  - Fundamentals in Industrial Safety
  - Structural Mechanics

- School of Design and Environment
  - Safety, Health and Environmental Management

- Faculty of Science
  - Food Safety
  - Environment and Public Health

- Yong Loo Lin School of Medicine
  - Occupational Health
NUS PET Journey
NUS PET Journey
NUS PET Journey
NUS PET Journey

- safety manual for Rag Day
- basic WSH training
NUS PET Journey
NUS PET Journey

Float Construction Worksite
CASE STUDY 1 - FLOAT CONSTRUCTION SITE

Can you identify the hazards?
“If our students do not see and experience safety & health best practices being implemented in the university, they will also most likely enter the workforce ignorant of safety & health issues.

So, in NUS, our responsibility to maintain high safety standards is even greater.”

Prof Tan Chorh Chuan
President
National University of Singapore
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<th>Year 1</th>
<th>Briefing to all new students on:</th>
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<tr>
<td></td>
<td>• WSH Act</td>
</tr>
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<td></td>
<td>• School safety</td>
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<tr>
<th>Year 2</th>
<th>Before <em>Industrial attachment</em>, all students will go through on-line WSH learning package and to take an on-line test</th>
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<th>Year 3</th>
<th>Project supervisors together with the students will carry out <em>Risk Assessment</em> before the commencement of the projects</th>
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Incorporating WSH Into relevant course contents e.g. machine safety, chemical safety, construction safety, healthcare safety etc),

Students will be briefed / taught *in the respective modules*
SP PET Journey

E-learning and online quiz

Chapter 1: Introduction
Chapter 2: Developing A Positive Attitude Towards Safety
Chapter 3: Occupational Safety
Chapter 4: Occupational Health
Chapter 5: Good Housekeeping Practices
Chapter 6: Safe And Health Legislation
**RP PET Journey**

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<th>WSH taught as part of course curriculum:</th>
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<tr>
<td>• Types of hazards identification, Risk Assessment, Communications &amp; OSH Standards</td>
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<th>All students:</th>
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<td><em>Safety Orientation Briefing</em> - Students are briefed on the importance of conducting fire evacuation briefings/routes, fire safety procedures</td>
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<th>School of Applied Science - <em>WSH Industry Visits</em></th>
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<td>Total number of participating students: 100 (2(^{nd}) &amp; 3(^{rd}) year students)</td>
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| Centre for Innovation & Enterprise – *Conducts Hazard Identification Contest cum WSH Talk* |
NYP PET Journey

Areas of WSH learning:

Knowledge of *Employee* Responsibilities

Knowledge of *Employer* Responsibilities

Hazards Identifications & Risk Assessment (HIRA)

Means to learning:

Incorporating WSH into course curriculum

Pre- Industrial attachment briefings
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## Secondary Level

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<th>Safety in Design and Technology Studios</th>
<th>Safety in Science Laboratories</th>
<th>Safety in Home Economics</th>
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<tr>
<td><strong>ASK – DO NOT ASSUME</strong></td>
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<td>Machine Safety e.g. Machine guarding</td>
<td>Personal Hygiene Management</td>
<td>Cooking/Baking appliance safety</td>
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<tr>
<td>Wearing of PPE</td>
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<td>Sharp object &amp; Fragile glass management</td>
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<tr>
<td>Workshop tool safety i.e. use correct tools</td>
<td>Chemical &amp; Biological Waste disposal</td>
<td>Chemical avoidance during food science experiment</td>
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<tr>
<td>Workshop Cleanliness</td>
<td>Sharp object management</td>
<td>Use &amp; location of Fire Extinguishers</td>
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<td>Dressing Safety e.g. no long sleeves</td>
<td>Proper labelling of Chemicals</td>
<td>Proper ventilation in kitchen</td>
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# Primary Level

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<th>Physical Health</th>
<th>Environment &amp; Health</th>
<th>Emotional &amp; Psychological Health</th>
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<td>Good Hygiene Habits &amp; Practices</td>
<td>Safety on Roads &amp; Public Places</td>
<td>Stress Management</td>
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<td>Food, Diet &amp; Exercise</td>
<td>Water &amp; Fire Safety</td>
<td>Emotions &amp; Self Esteem Management</td>
</tr>
<tr>
<td>Vision &amp; Oral Care</td>
<td>Simple First Aid</td>
<td>Peer Influence Management</td>
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<tr>
<td>Personal Hygiene</td>
<td>Prevention of Spread of Diseases</td>
<td>Managing Puberty changes</td>
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<tr>
<td>Puberty &amp; Physical Changes</td>
<td>Waste Water &amp; Air Pollution</td>
<td>Caring for others &amp; Conflict Management</td>
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“Barang siapa yang ingin memetek padi yang bagus, hendak-lah menaborkan benih yang bagus pula.”

“Whoever wants to harvest good rice, must also plant good seeds.”

- Malay proverb

Dr Lee Kong Chian
Chancellor
1962-1965

Installation Address by His Excellency the Chancellor on Tuesday, 12 June 1962, as the first Chancellor of the University of Singapore at the Victoria Theatre, Singapore.