

SIT Internal



Critical Design Futures Thinking for Design Innovation

Business, Communication & Design
Singapore Institute of Technology



At SIT, we pride ourselves on fostering a transdisciplinary curriculum that equips students with essential transferable skills, such as critical thinking, design thinking, and futures thinking for design and social innovation. Our comprehensive university-wide design innovation modules are meticulously designed to develop critical design futures thinking skills in 6000 students across 43 diverse degree programs each year.

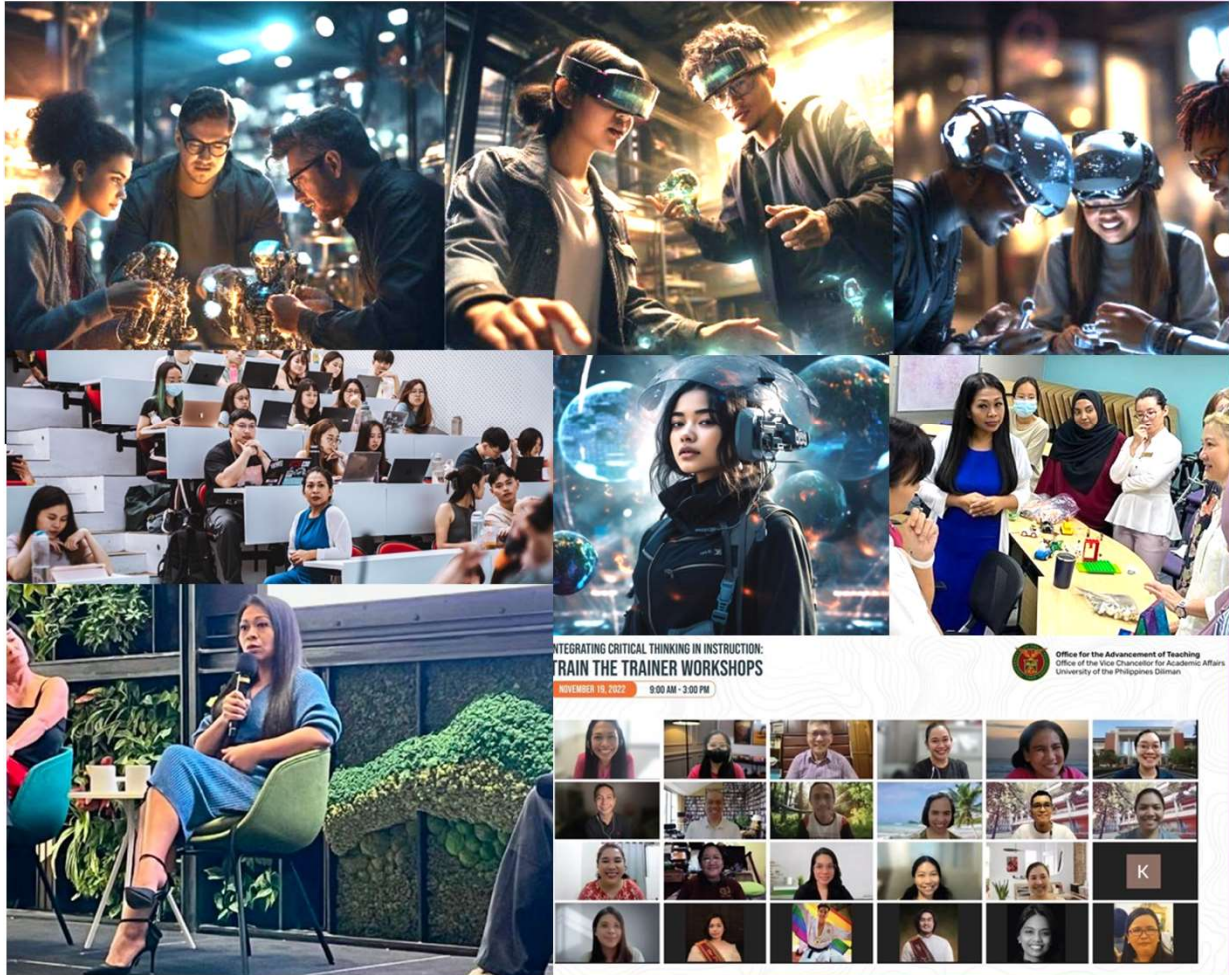


Dr. Nadya Shaznay Patel

Recipient of 2023 Singapore Teaching And Research Talent (START) Award from MOE

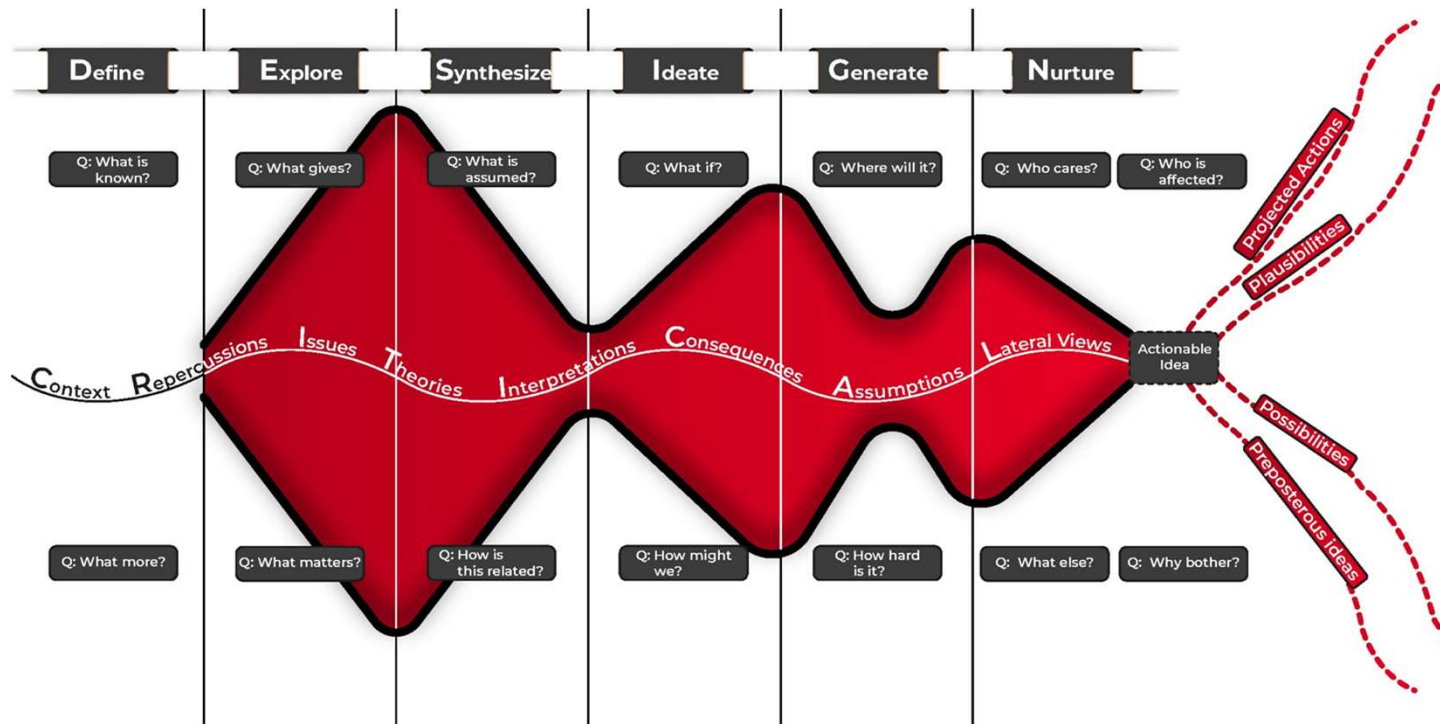
SIT Internal

Empower Your Students with SIT's Expertise in Critical Design Futures Thinking for Innovation



<https://www.singaporetech.edu.sg/directory/faculty/nadya-shaznay-patel>

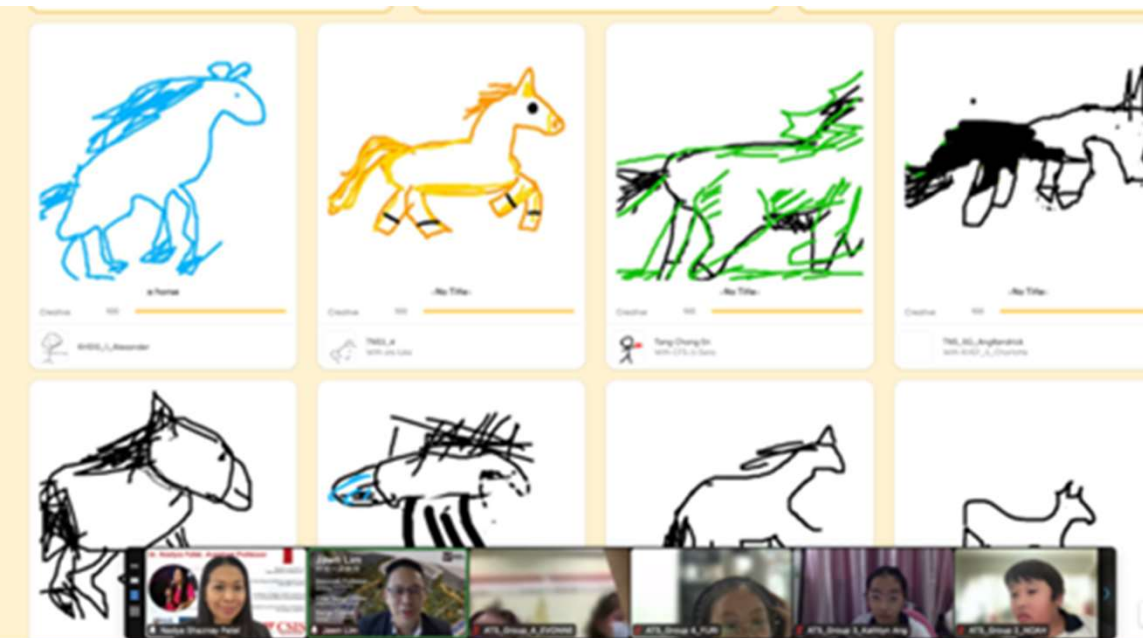
A Critical Design Futures (CDF) Conceptual Framework™



Patel, N. S. (2023). Critical Design Futures Thinking for Design Innovation. Conference Presentation at Connected Learning Summit. United Nations University. <https://doi.org/10.25447/sit.25965754.v1>

For more information: [Click Here](#)

Undergirded by the model, teachers will be introduced to “Question Starters” to ask good questions with a CDF mindset to explore multifaceted real-world issues in a humanity-centred approach. This highlights the need for our future-ready students to achieve creative confidence and critical competence when ideating solutions for a sustainable future.



Singapore Hokkien Huay Kuan (2022-present):
Design Thinking Bootcamp, Critical Design Futures
Thinking Train the Trainer, National Thinkers' Challenge.

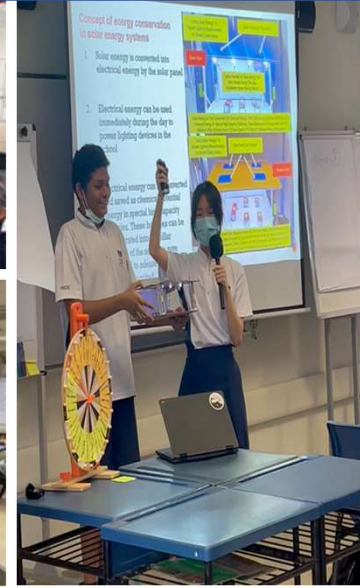
Over 200 students were trained each year, and over 100 participated in the National Thinkers' Challenge. In 2023, SHHK opened a National Challenge. We have trained over 600 students and are currently mentoring high-ability students and preparing them for the National Challenge.

- Objectives to be met:
- i. Develop DT mindsets (empathy, creative confidence, experimentation, and collaboration)
 - ii. Empower students and/ or school staff with DT skills for creative problem-solving – challenging assumptions, reframing problems into opportunities and seeking better ways of doing things

We encourage students to develop critical reflexivity, enabling them to question assumptions and their place in the world. This reflective practice is crucial in preparing them to tackle real-world challenges with innovative solutions. Our commitment to designing for good is evident in our teaching philosophy, which emphasises collaborative, transdisciplinary projects aimed at making a positive social impact.

Serangoon Garden Sec Sch Jan 2023-present: Trained 60 ALP teachers, co-facilitated student workshops with Sec 2 and Sec 3 students (over 200 students). Video interviews available indicating positive feedback on adoption of critical design futures thinking for ALP (design innovation projects)

- i) How might we empower youths to adopt sustainable practices?
- (ii) How might we create awareness among youths to adopt sustainable practices and increase the feasibility and desirability of the practice?



[Click here for video](#)

Summary of Packages

The workshops are a series of interactive and hands-on experiences that empowers participants to embrace a strong sense of creative purpose in facilitating students' design and/or social innovation projects by nurturing learners' curiosity, creativity, and confidence. Utilising critical, design and futures thinking, participants will be introduced to Question Starters as an instructional approach to help students explore, define, ideate and innovate with critical competence, design dexterity and futures flexibility.

Name	Introductory	Intermediate	Advanced
School Programme (for educators and students)	Workshop(s) (3h) + coaching – at least 50 pax Total Cost: \$4700	Workshop(s) (4.5 h) + coaching - Up to 100 pax Total Cost: \$5700	Workshop(s) (7.5 h) + coaching - Up to 200 pax Total Cost: \$8700
Educators' Programme	2 Sessions (4 h) + Coaching Conversations Total Cost: \$5700	3 Sessions (6 h) + Co-facilitation of lessons Total Cost: \$7950	4 Sessions (8 h) + Coaching Conversations & Co-facilitation of lessons Total Cost: \$10,200
School Improvement	3 Workshops (6 h) + Consultations Total Cost: \$6200	5 Workshops (10 h) + Consultations Total Cost: \$9200	8 Workshops (16 h) + Consultations Total Cost: \$11,200

Cost includes external audit fees.

The workshop aims to:

- (i) Raise awareness and appreciation of Critical Design Futures (CDF™) thinking for innovation: Teachers will gain insight into CDF™ principles and Question Starters as an instructional approach in facilitating students' projects.
- (ii) Develop CDF™ for innovation facilitation capabilities: Teachers will engage in hands-on activities to hone their facilitation skills and engage in framing conversations about facilitating design innovation projects from conceptualisation to prototyping.

Optional:

How would generative AI tools like a chatbot and text-to-image generation help students *make the unthought thought and the unseen seen* (Patel & Lim, forthcoming)?

School Programme (for educators and students) Introductory Programme Package

Note that the Educator (only) Introductory programme will be similar to this programme but without student workshops.



Target Audience

Students and Educators

School Level

Primary, Secondary and JC

- We encourage students to develop critical reflexivity, enabling them to question assumptions and their place in the world. This reflective practice prepares them to tackle real-world challenges with innovative solutions. Our commitment to designing for good is evident in our teaching philosophy, which emphasises collaborative, transdisciplinary projects aimed at making a positive social impact.
- By partnering with SIT, your school can leverage our expertise and unique approach to education, empowering your students to become the innovative thinkers and problem solvers of tomorrow. Let's work together to inspire and cultivate the next generation of leaders who will drive meaningful change in their communities and beyond.

Aims:

- To equip students and/or educators with skills to integrate **introductory critical design thinking** in instruction through train-the-trainer workshops and coaching sessions.
- To empower students and/or educators to be **critical design thinking champions forming a Community of Practice** collaborating with teachers from various departments and subject teams for a **school-level exhibition and showcase**.

Learning objectives:

- (i) Apply the **foundational principles of critical design thinking** in a conceptual- pedagogical framework, specifically designed to transform teaching and learning and by making it explicit and visible
- (ii) Understand how to analyse and evaluate students' thinking by focusing on its constituent parts or elements, using elements of thought and intellectual standards, and incorporating them into instruction using "question starters"

No	Package Price	Details	
	Description of Services	Specifications	Remarks
1	School-Design Consultancy	Identification of school needs and customisation	Comprises 1 session of consultation with school to customise content based on school's needs, 1 report comprising observations and recommendations on sustaining programme post-project
2	Design of Curriculum	Includes curriculum for Design of curriculum 2.5hrs	Final copy in PDF will be shared with school. • Syllabus • Lesson Plans • Related resources
3	Project Reporting	Impact and Documentation	Includes administering pre- and post- survey to measure impact of project, and documentation in the form of a Final Report at the end-point of the project.
4	Production of standard programme materials	Includes production of materials for 3hr Train-The-Trainer 2.5h of workshops	Final copy in PDF will be shared with school. Student workshops: 50 pax Educator Workshop: 50 pax
5	Third Party Costs	Costs paid out for project purposes	Project Audit Fees, Videography Documentation, Honorarium for Speakers/ External Experts
6	Delivery and Facilitation	3h of TTT session 2.5hr of student training	1 Lead Facilitator and up to 1 Facilitator for the TTT workshop 1 Senior Facilitator and 1 Facilitator for the Student Workshops

School Programme (for educators and students)

Intermediate Programme Package



Note that the Educator (only) Intermediate programme will be similar to this programme but without student workshops.

Target Audience Students and Educators
School Level Primary, Secondary and JC

- We encourage students to develop critical reflexivity, enabling them to question assumptions and their place in the world. This reflective practice prepares them to tackle real-world challenges with innovative solutions. Our commitment to designing for good is evident in our teaching philosophy, which emphasises collaborative, transdisciplinary projects aimed at making a positive social impact.
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Aims:

- To equip students and/or educators with skills to integrate **introductory critical design futures thinking** in instruction through train-the-trainer workshops and coaching sessions.
- To empower students and/or educators to be **critical design futures thinking champions forming a Community of Practice** collaborating with teachers from various departments and subject teams for a **school-level exhibition and showcase**.

Learning objectives:

- (i) Apply the **foundational principles of critical design futures thinking** in a conceptual-pedagogical framework, specifically designed to transform teaching and learning and by making it explicit and visible
- (ii) Understand how to analyse and evaluate students' thinking by focusing on its constituent parts or elements, using elements of thought and intellectual standards, and incorporating them into instruction using "question starters"

No	Package Price	Details	
	Description of Services	Specifications	Remarks
1	School-Design Consultancy	Identification of school needs and customisation	Comprises 1 session of consultation with school to customise content based on school's needs, 1 report comprising observations and recommendations on sustaining programme post-project
2	Design of Curriculum	Includes curriculum for Design of curriculum 2.5hrs	Final copy in PDF will be shared with school. • Syllabus • Lesson Plans • Related resources
3	Project Reporting	Impact and Documentation	Includes administering pre- and post- survey to measure impact of project, and documentation in the form of a Final Report at the end-point of the project.
4	Production of standard programme materials	Includes production of materials for 6hr Train-The-Trainer 4.5h of workshops	Final copy in PDF will be shared with school. Student workshops: 80 pax Educator Workshop: 100 pax
5	Third Party Costs	Costs paid out for project purposes	Project Audit Fees, Videography Documentation, Honorarium for Speakers/ External Experts
6	Delivery and Facilitation	6h of TTT session 4.5hr of student training	1 Lead Facilitator and up to 2 Facilitators for the TTT workshop 1 Senior Facilitator and 2 Facilitators for the Student Workshops

School Programme (for educators and students) Advanced Programme Package

Note that the Educator (only) Advanced programme will be similar to this programme but without student workshops.

Target Audience

Students and Educators

School Level

Primary, Secondary and JC

- We encourage students to develop critical reflexivity, enabling them to question assumptions and their place in the world. This reflective practice prepares them to tackle real-world challenges with innovative solutions. Our commitment to designing for good is evident in our teaching philosophy, which emphasises collaborative, transdisciplinary projects aimed at making a positive social impact.
- By partnering with SIT, your school can leverage our expertise and unique approach to education, empowering your students to become the innovative thinkers and problem solvers of tomorrow. Let's work together to inspire and cultivate the next generation of leaders who will drive meaningful change in their communities and beyond.

Aims:

- To equip students and/or educators with skills to integrate **advanced critical design futures thinking** in instruction through train-the-trainer workshops and coaching sessions.
- To empower students and/or educators to be **critical design futures thinking champions forming a Community of Practice** collaborating with teachers from other schools for an inter school **exhibition and Learning Festival showcase (hosted at SIT)**.

Learning objectives:

- (i) Apply the **advanced principles of critical design futures thinking** in a conceptual-pedagogical framework, specifically designed to transform teaching and learning and by making it explicit and visible
- (ii) Understand how to analyse and evaluate students' thinking by focusing on its constituent parts or elements, using elements of thought and intellectual standards, and incorporating them into instruction using "question starters"

No	Package Price	Details	
	Description of Services	Specifications	Remarks
1	School-Design Consultancy	Identification of school needs and customisation	Comprises 1 session of consultation with school to customise content based on school's needs, 1 report comprising observations and recommendations on sustaining programme post-project
2	Design of Curriculum	Includes curriculum for <u>Design of curriculum</u> <u>2.5hrs</u>	Final copy in PDF will be shared with school. • Syllabus • Lesson Plans • Related resources
3	Project Reporting	Impact and Documentation	Includes administering pre- and post- survey to measure impact of project, and documentation in the form of a Final Report at the end-point of the project.
4	Production of standard programme materials	Includes production of materials for <u>8hr Train-The-Trainer</u> <u>7.5h of workshops</u>	Final copy in PDF will be shared with school. Student workshops: 200 pax Educator Workshop: 100 pax
5	Third Party Costs	Costs paid out for project purposes	Project Audit Fees, Videography Documentation, Honorarium for Speakers/ External Experts
6	Delivery and Facilitation	<u>8h of TTT session</u> <u>7.5hr of student training</u>	1 Lead Facilitator and up to 2 Facilitators for the TTT workshop 1 Senior Facilitator and 4 Facilitators for the Student Workshops

School Improvement Introductory Programme Package

Target Audience

Educators

School Level

Primary, Secondary and JC

Transforming School Spaces with Critical Design Futures Thinking

- At the Singapore Institute of Technology (SIT), we understand the importance of creating engaging and functional environments that enhance the overall educational experience. Our School Improvement Project aims to empower educators to transform school spaces using Critical Design Futures Thinking. This approach involves a comprehensive process that engages teachers in problem-solving and design innovation to improve specific areas such as school canteens, libraries, or any other student-centric spaces.
- By partnering with SIT, your school can leverage our expertise and unique approach to education, empowering educators to become the innovative thinkers and problem solvers of tomorrow. Let's work together to inspire educator-leaders who will drive meaningful change in the schools, communities and beyond.

Aims:

- To equip teachers with skills to integrate **introductory critical design futures thinking** in instruction through train-the-trainer workshops and coaching sessions.

Learning objectives:

- Equip teachers with the skills to lead and manage school improvement projects using critical design futures thinking.
- Foster a collaborative environment where teachers can engage in continuous improvement efforts.
- Enhance the school environment to better meet the needs of students and improve their overall experience.

No	Package Price	Details	
	Description of Services	Specifications	Remarks
1	School-Design Consultancy	Identification of school needs and customisation	Comprises 1 session of consultation with school to customise content based on school's needs, 1 report comprising observations and recommendations on sustaining programme post-project
2	Design of Curriculum	Includes curriculum for <u>Design of curriculum</u> <u>2.5hrs</u>	Final copy in PDF will be shared with school. • Syllabus • Lesson Plans • Related resources
3	Project Reporting	Impact and Documentation	Includes administering pre- and post- survey to measure impact of project, and documentation in the form of a Final Report at the end-point of the project.
4	Production of standard programme materials	Includes production of materials for	Final copy in PDF will be shared with school. Educator Workshop: 50 pax
5	Third Party Costs	Costs paid out for project purposes	Project Audit Fees, Videography Documentation, Honorarium for Speakers/ External Experts
6	Delivery and Facilitation	<u>3h of working sessions with educators</u>	1 Lead Facilitator and up to 1 Facilitator

School Improvement Intermediate Programme Package

Target Audience

Educators

School Level

Primary, Secondary and JC

Transforming School Spaces with Critical Design Futures Thinking

- At the Singapore Institute of Technology (SIT), we understand the importance of creating engaging and functional environments that enhance the overall educational experience. Our School Improvement Project aims to empower educators to transform school spaces using Critical Design Futures Thinking. This approach involves a comprehensive process that engages teachers in problem-solving and design innovation to improve specific areas such as school canteens, libraries, or any other student-centric spaces.
- By partnering with SIT, your school can leverage our expertise and unique approach to education, empowering educators to become the innovative thinkers and problem solvers of tomorrow. Let's work together to inspire educator-leaders who will drive meaningful change in the schools, communities and beyond.

Aims:

- To equip teachers with skills to integrate **intermediate critical design futures thinking** in instruction through train-the-trainer workshops and coaching sessions.

Learning objectives:

- Equip teachers with the skills to lead and manage school improvement projects using critical design futures thinking.
- Foster a collaborative environment where teachers can engage in continuous improvement efforts.
- Enhance the school environment to better meet the needs of students and improve their overall experience.

No	Package Price	Details	
	Description of Services	Specifications	Remarks
1	School-Design Consultancy	Identification of school needs and customisation	Comprises 1 session of consultation with school to customise content based on school's needs, 1 report comprising observations and recommendations on sustaining programme post-project
2	Design of Curriculum	Includes curriculum for <u>Design of curriculum 2.5hrs</u>	Final copy in PDF will be shared with school. • Syllabus • Lesson Plans • Related resources
3	Project Reporting	Impact and Documentation	Includes administering pre- and post- survey to measure impact of project, and documentation in the form of a Final Report at the end-point of the project.
4	Production of standard programme materials	Includes production of materials for	Final copy in PDF will be shared with school. Educator Workshop: 100 pax
5	Third Party Costs	Costs paid out for project purposes	Project Audit Fees, Videography Documentation, Honorarium for Speakers/ External Experts
6	Delivery and Facilitation	<u>6h of of working sessions with educators</u>	1 Lead Facilitator and up to 2 Facilitators

School Improvement Advanced Programme Package

Target Audience

Educators

School Level

Primary, Secondary and JC

Transforming School Spaces with Critical Design Futures Thinking

- At the Singapore Institute of Technology (SIT), we understand the importance of creating engaging and functional environments that enhance the overall educational experience. Our School Improvement Project aims to empower educators to transform school spaces using Critical Design Futures Thinking. This approach involves a comprehensive process that engages teachers in problem-solving and design innovation to improve specific areas such as school canteens, libraries, or any other student-centric spaces.
- By partnering with SIT, your school can leverage our expertise and unique approach to education, empowering educators to become the innovative thinkers and problem solvers of tomorrow. Let's work together to inspire educator-leaders who will drive meaningful change in the schools, communities and beyond.

Aims:

- To equip teachers with skills to integrate **advanced critical design futures thinking** in instruction through train-the-trainer workshops and coaching sessions.

Learning objectives:

- Equip teachers with the skills to lead and manage school improvement projects using critical design futures thinking.
- Foster a collaborative environment where teachers can engage in continuous improvement efforts.
- Enhance the school environment to better meet the needs of students and improve their overall experience.

No	Package Price	Details	
	Description of Services	Specifications	Remarks
1	School-Design Consultancy	Identification of school needs and customisation	Comprises 1 session of consultation with school to customise content based on school's needs, 1 report comprising observations and recommendations on sustaining programme post-project
2	Design of Curriculum	Includes curriculum for <u>Design of curriculum</u> <u>2.5hrs</u>	Final copy in PDF will be shared with school. • Syllabus • Lesson Plans • Related resources
3	Project Reporting	Impact and Documentation	Includes administering pre- and post- survey to measure impact of project, and documentation in the form of a Final Report at the end-point of the project.
4	Production of standard programme materials	Includes production of materials for	Final copy in PDF will be shared with school. Educator Workshop: 100 pax
5	Third Party Costs	Costs paid out for project purposes	Project Audit Fees, Videography Documentation, Honorarium for Speakers/ External Experts
6	Delivery and Facilitation	<u>8h of of working sessions with educators</u>	1 Lead Facilitator and up to 2 Facilitators for the TTT workshop

LOGO



Rate Card

No.	Description of Services	Specifications	Unit of Measure	Price (S\$)	Remarks
1	Project Reporting	Pre/post Surveys and Interim & Final Reports	Per project	1,000.00	Requirement by Dsg o Conduct of Pre/Post Survey o Submission of Interim and Final Report o Submission of documents for audit report
2	Design Thinking (DT) Consultancy	Identification of School Needs and adaptation into programme	Per project	5,000.00	o Up to three 1.5hr-meetings with school representatives to discuss school needs. o Design a FGD or survey to identify school needs o Preparation of proposal with customised recommendations for the school on what the program will entail
3	School Process Review	Consultancy services to review school processes	Per report	5,000.00	o Up to three 1.5hr-meetings with school representatives to discuss the school process review. o Design a FGD or survey to identify areas of school process to be reviewed. o Work with the school to jointly construct/prepare customised recommendations to better school processes
4	School Programme Review	Consultancy services to review school programme	Per report	5,000.00	o Up to three 1.5hr-meetings with school representatives to discuss the school programme review. o Design a FGD or survey to identify areas of school programme to be reviewed. o Work with the school to jointly construct/prepare customised recommendations to better school
5	Updating of DT Curriculum Materials	Updating of lesson materials for school from existing materials.	Per set	2,000.00	o Up to three 1.5hr-meetings with school representatives to discuss how DT curriculum materials can be updated. o Collaborate with school representatives to update curriculum materials by sharing resources and provided feedback.
6	Designing of new DT Curriculum Materials	Includes: •Syllabus •Lesson Plans •Related resources	Per set	5,000.00	o Up to three 1.5hr-meetings with school representatives to discuss how new DT curriculum materials can be designed for the school. o Collaborate with school representatives to propose new curriculum materials by sharing resources and provided feedback.
7	Production of Standard Programme Materials	Includes: •Printing of lesson materials such as Worksheets / Posters / Charts	Per set	1,000.00	o One 1.5hr-meeting with school representatives to discuss and confirm production of materials. o Prepare for production and deliver the final materials for programme.
8	Internal Manpower Cost for Facilitation – Senior Speaker/ Facilitator	Includes: •Main facilitator for programmes •Main presenter for talks	Per facilitator per hour	250.00	
9	Internal Manpower Cost for Facilitation – Junior Speaker/ Facilitator	Includes: •Support roles for programmes	Per facilitator per hour	250.00	
10	External Manpower Cost for Facilitation – Senior Speaker/ Facilitator	Includes: •Main facilitator for programmes •Main presenter for talks	Per facilitator per hour	250.00	
11	External Manpower Cost for Facilitation – Junior Speaker/ Facilitator	Includes: •Support roles for programmes	Per facilitator per hour	250.00	
12	DT Project Mentoring	DT Mentor for specific projects	Per mentor per hour	250.00	
13	Audit report	External audit of actual expenditure by practitioner	Per report	2,000.00	Requirement by Dsg