



**NANYANG
TECHNOLOGICAL
UNIVERSITY**
SINGAPORE



The Centre for Teaching, Learning and Pedagogy



2020

2021

The Years of
**RESILIENCE
& RECOVERY**



Our **PASSION** is to cultivate an innovative, effective, and engaging educational culture which combines pedagogy, technology, innovation, interdisciplinary collaboration, research and scholarship of teaching and learning. We also aim to advance NTU teaching and learning goals, initiatives, and innovations.

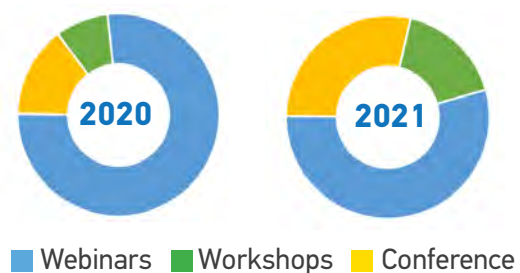
We carry out these objectives through

- Faculty induction and professional development programmes;
- Events, courses, workshops, consultations, grants & awards; and
- Educational projects and collaborations with both internal and external partners.

FACTS AT A GLANCE

2020		2021
10	WEBINARS	11
9	WORKSHOPS	22
1	CONFERENCES	1
1778	PARTICIPANTS	1731

Breakdown of Participants



DIRECTOR'S WELCOME MESSAGE

Welcome to NTU's Centre for Teaching, Learning & Pedagogy (CTLP) biannual retrospective, aptly titled "2020-2021 Years of RESILIENCE & RECOVERY". If the acronym seems unfamiliar, that may be because you previously knew us as TLPD (Teaching, Learning & Pedagogy Division). In July 2021, the Division was elevated to a Centre and became part of the newly formed Institute for Pedagogical Innovation, Research & Excellence (InsPIRE).

Being part of InsPIRE allows us to leverage the cross-disciplinary expertise of educators and researchers from across the University, to build more substantial synergies across pedagogy, technology, research and scholarship on teaching and learning. While this report principally looks back at our achievements over the last couple of years, I hope it also paints an exciting vision of our plans to support the future of NTU education.

I'm sure most of you are somewhat jaded from constantly reading, thinking and talking about the pandemic and its effect on all our lives. However, this topic is impossible to avoid in a retrospective, so let me get it out of the way first. In early 2020, when I took over leadership of the TLPD team, my hope was to broaden engagement with faculty (especially those who have never needed to engage us) and facilitate a ground-up process of building learning communities and interest groups. I had the belief, and still do, that teaching and learning both produce and thrive in a social environment. One

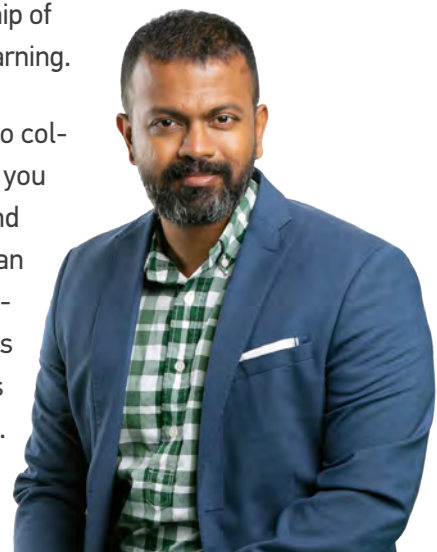
of my favourite things to do on the sidelines of a conference was to commiserate over (and sometimes solve) shared teaching challenges, which often transcend the disciplinary silos that define a University.

Of course, none of us could have predicted the rest of 2020 and 2021. In some ways, faculty who never needed us, suddenly did! Thus, we began creating an environment for organic discussions and building new learning communities which also required new platforms and lateral thinking. These past couple of years of learning, quickly adapting, making mistakes and learning from them, has made us stronger and more resilient.

This report highlights the milestones we've reached in academic development and key educational initiatives over the last two years. We also celebrate our new partnerships, both internal and external, as well as the contributions of the NTU community to the scholarship of teaching and learning.

I look forward to collaborating with you in the future, and hopefully, we can soon meet face-to-face, perhaps on the sidelines of a conference.

**Dr Preman
Rajalingam**
Director, CTLP



3

CLTP
TEAM

CTLP TEAM MEMBERS



1. Dr Preman Rajalingam
Director, CTLP

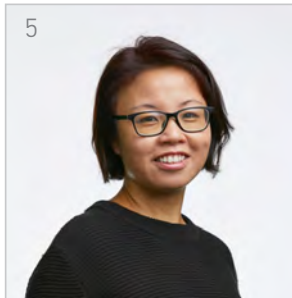
2. Mr Lim Fun Siong
Deputy Director

3. Mellissa Tawin
Deputy Director

4. Dr Sophia Tan
Senior Assistant Director

5. Ms Lim Li Yin
Senior Assistant Director

6. Ms Jeanette Choy
Senior Assistant Director



7. Mr Alvin Tay
Senior Assistant Director

8. Mr Yeong Jin-Yuan
Assistant Director



9. Ms Leong-Ong Gek Heok (June)
Senior Executive

10. Ms Tharshini
Assistant Manager

11. Ms Tay Hongjuan
Research Associate

CONTENTS

This report showcases the recent work, accomplishments, and range of services that the Centre for Teaching, Learning and Pedagogy (CTLP) offers to the NTU community, arranged in the following four categories:

<p>1. SUPPORTING UNIVERSITY STRATEGIC INITIATIVES</p> 	<p>NTU Strategic Plans & Educational goals</p> <ul style="list-style-type: none"> • The Outcomes-Based Teaching & Learning initiative • Supporting the NTU 2025 Strategic Plan • From TLPD to CTLP • The Launch of InsPIRE <p>Recognising Excellence & Good Teaching Practices</p> <ul style="list-style-type: none"> • The Nanyang Education Awards • The Teaching Excellence Academy • The John Cheung Social Media Awards
<p>2. DEVELOPING CURRENT AND FUTURE FACULTY</p> 	<p>Workshops & Webinars</p> <ul style="list-style-type: none"> • Transition to Online Webinar Series • Ongoing Workshops & Webinars • New Workshops <p>Conferences</p> <ul style="list-style-type: none"> • From Good to Great Teaching & Learning Conference <p>Programmes</p> <ul style="list-style-type: none"> • FULT • TAP
<p>3. FOSTERING INTERNAL AND EXTERNAL PARTNERSHIPS</p> 	<p>Internal Partnerships</p> <ul style="list-style-type: none"> • Micro-Learning Module • Course Feedback Survey Task Force • Continuing Education Offerings • Learning Spaces • Three-minute Thesis • Virtual Freshmen Orientation • Student Experience Survey <p>External Partnerships</p> <ul style="list-style-type: none"> • The National Technology Enhanced Learning Conference • Invitations to Speak • International Partnerships with Other Universities
<p>4. BUILDING A SCHOLARLY COMMUNITY</p> 	<p>Educational Research Endeavours</p> <ul style="list-style-type: none"> • EdeX Grant • Partnering with Faculty in their Research Journey • Publication and Dissemination of Findings <p>Scholarship of Teaching and Learning</p> <p>New & Improved Website for Online Resources</p> <p>Publications</p>



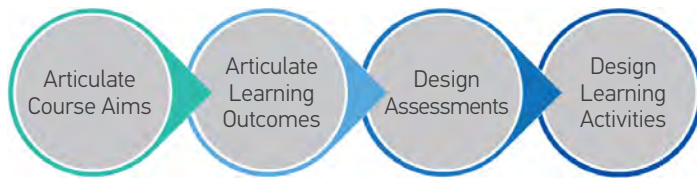
1. SUPPORTING UNIVERSITY STRATEGIC INITIATIVES

NTU STRATEGIC PLANS & EDUCATIONAL GOALS

THE OUTCOMES-BASED TEACHING & LEARNING INITIATIVE

The Outcomes-Based Teaching and Learning (OBTL) initiative was part of the NTU 2020 Strategic Plan. For this initiative, CTLP played a supportive and consultative role, working with faculty to implement the principles of OBTL to their curriculum. We held numerous workshops, provided direct consultations, and publish online resources. As a result, courses were constructively aligned in terms of intended learning outcomes, thus creating a more student-centred approach to teaching and assessments.

To see a compact guide on the principles of OBTL and its use in the design of NTU courses, please check out our Workday module entitled “Outcomes-Based Teaching and Learning: A Guide to Course Design”.



The Outcomes Based Approach



Percentage of Undergraduate Courses that have Implemented OBTL

SUPPORTING THE NTU 2025 STRATEGIC PLAN

Leveraging the success of the OBTL initiative, CTLP will once again play a pivotal role in implementing initiatives and supporting the NTU 2025 Strategic Plan.

The NTU 2025 Strategic Plan highlights three major goals for NTU:

1. Achieving uniformity of excellence in all activities;
2. Growing NTU’s national, regional and global impact; and
3. Deepening disciplinary strengths while nurturing greater interdisciplinary collaborations that span the entire spectrum of our core activities.



CTLP supports the University in carrying out these goals through:

1. Promoting evidence-based good teaching practices;
2. Helping faculty and staff design interdisciplinary core curriculums that emphasise digital literacy, teamwork, communication skills, and experiential learning; and
3. Setting new standards for rewarding and recognising faculty and staff for outstanding teaching and dedication to students' learning.

The University's ultimate objective is to provide a deeply transformative experience for our students, with greater breadth and depth of intellectual, social, and cultural nourishings aimed to equip students with the 3 C's — Cognitive Agility, Character and Competence — in a fast-paced, ever-evolving and globally-connected world.

How CTLP Supports These Initiatives

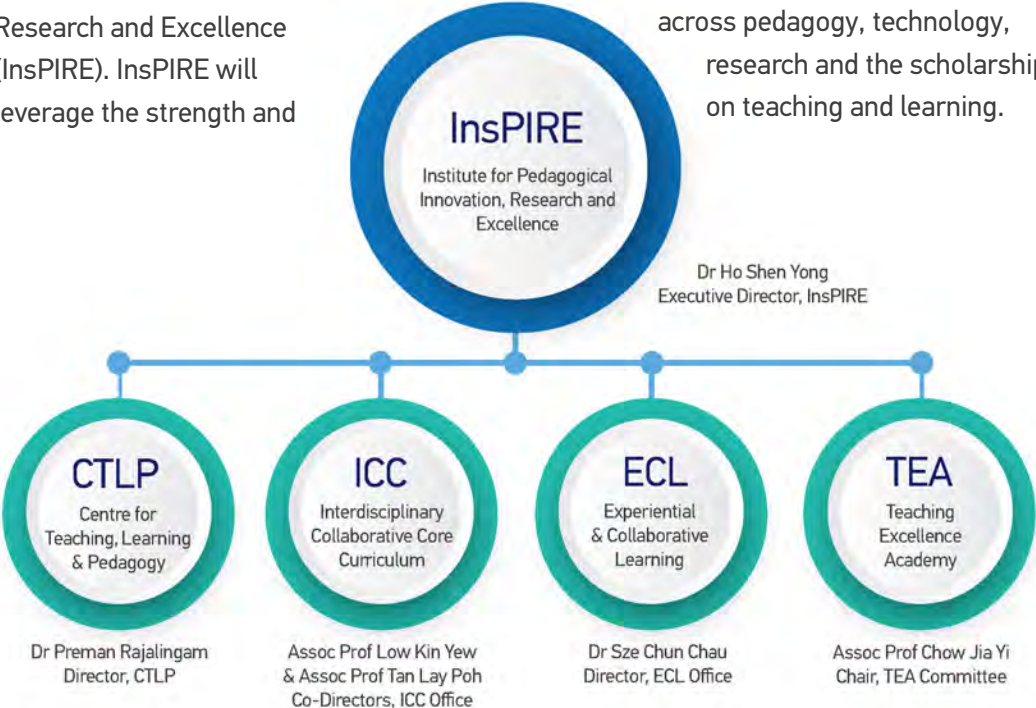
FROM DIVISION TO CENTRE

As our students, community, and everything around us continues to evolve, we realised we must also evolve. In 2021, the Teaching, Learning, and Pedagogy Division (TLPD) became the Centre for Teaching, Learning, and Pedagogy (CTLP) and with that, we've expanded our scope, outreach and responsibilities.

THE LAUNCH OF InsPIRE

We also became a part of the newly launched Institute for Pedagogical Innovation, Research and Excellence (InsPIRE). InsPIRE will leverage the strength and

expertise of colleagues from across the University to build stronger synergies across pedagogy, technology, research and the scholarship on teaching and learning.



Expanding Our Scope Under InsPIRE

Together with InsPIRE and the Experiential & Collaborative Learning (ECL) Office, we are currently assisting the University in identifying key graduate attributes and competencies, along with the opportunities and pathways needed to develop skills relating to these attributes and competencies. The grand vision is to leverage the new student management system to enable students to identify their own personal interest and career aspiration, plan their learning, and share their stories.



RECOGNISING EXCELLENCE & GOOD TEACHING PRACTICES

CTLTP actively reviews policies, criteria and procedures on teaching and learning-related awards. These include the Nanyang Education Awards and the John Chueng Social Media Awards.

THE NANYANG EDUCATION AWARDS

Presented annually by the President of NTU, the Nanyang Education Award (University) is the highest honour conferred by the University to faculty members in recognition of their dedication and passion in enriching the learning experiences of NTU undergraduate students and NIE Trainee Teachers.



The Nanyang Education Award (University) is the highest of three tiers: School, College, and University. NEA (School) recipients can be nominated for NEA (College); NEA (College) recipients can be nominated for NEA (University). All NEA recipients at the University and College level become Fellows of the Teaching Excellence Academy (TEA). Currently, the TEA comprises of more than 50 Fellows.

2020 NEA (University) Recipients



PRINCIPAL LECTURER
SZE CHUN CHAU (COS)



SENIOR LECTURER
MICHELLE SHAO XU
GUANG (COE)



ASST PROF
SREENIVASULU REDDY
MOGALI (LKCMED)

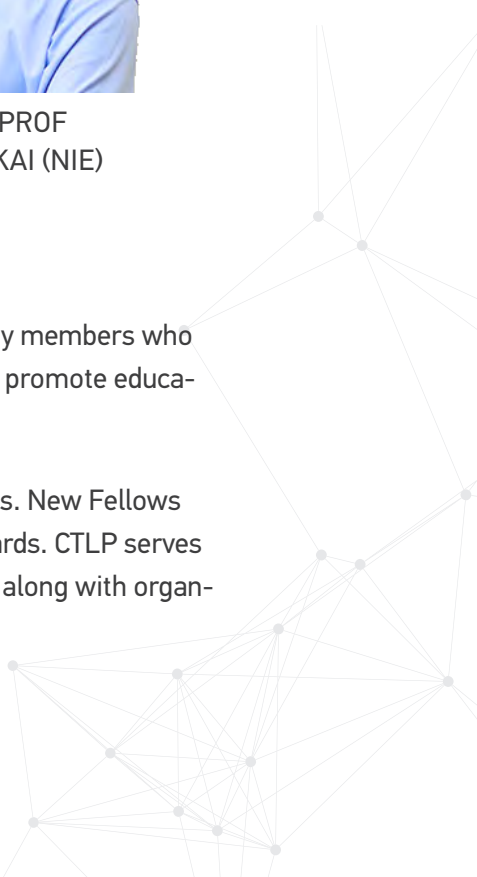


ASSOC PROF
YAN YAW KAI (NIE)

THE TEACHING EXCELLENCE ACADEMY (TEA)

The Teaching Excellence Academy (TEA) is a professional body of faculty members who make recommendations on educational issues, policies, strategies and promote educational innovation and collaboration at NTU.

The Academy is governed by an Executive Council elected by the Fellows. New Fellows are inducted each year from the winners of the Nanyang Education Awards. CTLP serves as the secretariat to the TEA, and administers many of TEA's functions, along with organising TEA events and executive meetings.





THE JOHN CHEUNG SOCIAL MEDIA AWARD

The John Cheung Social Media Award recognises the exemplary and innovative use of social media by faculty in their teaching practices. This \$1,000 cash award is given annually and is supported by the John Cheung Endowment Foundation for Social Media in Education.

Candidates for the award are nominated by the respective Schools / College. The judging panel is comprised of CTLP along with members of the TEA, the Centre for IT Services - Learning Technology and Digital Media (CITS-LTDM), and student representatives.





2020 AWARD RECIPIENTS

**ASSOC PROF GEORGIOS
CHRISTOPOULOS (NBS)**

For the use of social media to promote cognitive diversity, digital citizenship, relevance and engagement in the classroom.

DR JO-ANN NETTO-SHEK (NIE/ELL)

For using a collection of social media platforms to encourage students to engage with course content as active and critical thinkers and learners.

**ASST PROF VAHID ARYADOUST
(NIE/ELL)**

For using animations and videos via a YouTube Channel to extend learning and student engagement beyond the classroom.

ASSOC PROF KIMBERLY KLINE (SBS)

For using Twitter to engage students in current topics in microbial pathogenesis and to communicate biological ideas and concepts relevant in everyday life for the benefit of society.

DR DUZHIN FEDOR (SPMS)

For using WhatsApp to foster independent learners and teaching teamwork to improve student learning.

2021 AWARD RECIPIENTS

MS YANG MEI LING (NBS)

For using a range of online platforms and tools such as MS Team, Flipgrid, Zoom, Telegram, WhatsApp, WooClap and MS Stream, in re-designing the AB0602 pedagogy to promote community building, peer learning and engagement, asynchronous learning opportunities, and peer collaboration opportunities that will benefit students in their future workplace.

**ASST PROF HENG TANG TANG & ASSOC
PROF VICTOR CHEN (NIE)**

For using Facebook to enhance EDD Students' scholarly Identities, methods and communities by having students participate in an online community, leveraging on the principles of a community of learning and students' development in their scholarly methods and identities.

ASST PROF VICTOR LIM FEI (NIE)

For harnessing the affordances of social media platforms such as Facebook and Edmodo to create collaborative knowledge building and extending learning through collective sharing of feedback and creation of multi-modal artifacts.

DR GARY ROYDEN WATSON GREAVES (COS)

For adopting Twitch to broadcast lectures and Telegram channel to engage and connect with students by promoting a community of learning through interactions via forums, feedback and material sharing.



11

DEVELOPING
FACULTY

2. DEVELOPING CURRENT AND FUTURE FACULTY

To help develop our current and future educators, CTLP organises and delivers pedagogical webinars, workshops, and conferences. We also provide programmes and modules, one-on-one consultations, and publish online teaching resources for the greater NTU community.

WORKSHOPS & WEBINARS

TRANSITION TO ONLINE WEBINAR SERIES

As the COVID-19 pandemic disrupted the world, it created new challenges and opportunities for us. We quickly moved our in-person workshops to the online space and adapted our content to be relevant in the new normal.

Our first webinar series, which kicked off in May 2020, focused entirely on transitioning to online teaching and home-based learning. We invited special guests, who were already on the forefront of online teaching, to share their expertise and help ease the transition for those who were new to online teaching or reluctant to adopt this modality.

Augmenting your Student Engagement Online



Dr Peter Looker

Student construction of learning using the AVR Platform



Assoc Prof Wong Teck Yee

Technology and simulation in clinical teaching during a pandemic - the LKCMedicine experience



Asst Prof Sonny Rosenthal

The method and benefits of "live composite" video lectures

Facilitating Collaborative Online Learning

**Dr Fedor Duzhin**
Online Team-based Learning**Ms Yang Lishan**
Moving Large Group TBL Online: Face-to-face to 150 Faces in Thumbnails**Dr Sophia Tan**
Designing and Facilitating Collaborative Learning: A Webinar Teaching Experience

Helping Students Transition to Learning Online

**Dr Jason Lee**
Engaging Students in Active Learning**Dr Basman Elhadidi**
Moving Computational Fluid Dynamics from Physical Lectures to TEL Based Lectures**Dr Ng Kian Bee**
How to not forget what you learnt in a home based learning environment*The Transition to Online Webinar Series*

Synchronous & Asynchronous Teaching Online

**Dr Kumaran Rajaram**
Teaching Online – Can you Flip the Class**Dr Koh Cheng Boon**
From Emergency Remote Learning to Hybrid On-line Learning: Lessons Learned and Tips**Dr Christopher Hill**
Engaging Students and collaborators as they type

Large Classroom Teaching Online

**Dr Chow Wai Tuck**
Lessons Learned from Creating Online Lectures**Asst Prof Patrick Martin**
Large-class online teaching for an unrestricted elective: How I learned to stop worrying and love NTU Learn**Dr Huang Shell Ying**
Running a course completely online

ONGOING WORKSHOPS & WEBINARS

As the field of Education continues to rapidly evolve, there is a need for all faculty and staff to stay current on research-based best practices, emerging pedagogical paradigms and trends, as well as new educational technologies.

Throughout the last two years, we've hosted workshops and webinars on a variety of interesting and relevant topics, such as using **design thinking**, enhancing **student engagement**, evaluating your teaching philosophy, assessing **learning outcomes**, and fostering students' **future readiness** for the new workforce.

NEW WORKSHOPS

Our new workshops in 2020:

- Online Teaching: Getting Ready for the Next Semester
- Online Facilitation and Learning (Synchronous)
- Introduction to Asynchronous Learning
- Teaching and Learning in CML
- Outcomes-Based Teaching and Learning: A Guide to Course Design

Our new workshop in 2021:

- Develop a problem statement for a teaching and learning grant
- Writing an effective Teaching and Learning Grant
- Conceptualising Meaningful Inquiry into Teaching and Learning Studies*
(*customised workshop for EEE)

We also partnered with other internal organisations such as The Centre for IT Services (CITS), and external organisations such as Dyson Singapore, to explore topics like **systems thinking and mapping, video development and captioning, and integrating technology engagement tools** such as WooClap.

We also created new workshops, thus expanding our existing workshop offerings to cover additional topics.



The Design Thinking Webinar

FROM GOOD TO GREAT TEACHING AND LEARNING CONFERENCES

The NTU Annual Learning and Teaching Conference: from Good to Great (fG2G) is held annually between September and October. For both 2020 and 2021, the conferences were entirely virtual. Participants were also to join virtual workshops for a more hands-on approach to put into practice the ideas of the conference.



fG2G 2020

This conference focused on the transition to industry 4.0 and accelerating digital transformation, and what that means for higher education teaching and learning.

The key areas explored include:

- Integrated or multidisciplinary approaches to provide meaningful learning experiences.
- Teaching and assessment practices that enable learners to effectively draw on their skills and apply them at complex levels.
- Ways can we provide experience and opportunities that connect learning to professional applications.



fG2G 2021

This conference focused on delivering authentic teaching and learning practices in a highly digitised learning environment that places demands on the development of students' attributes and skills for the rapidly changing work environment.

The key areas explored include:

- The design of authentic learning curriculum and assessments.
- Enhancing the learning experience of students and engaging with industry in meaningful partnerships and teaching.
- Approaches in the development of skills and attributes in students from learning experiences.

PROGRAMMES

FOUNDATIONS IN UNIVERSITY LEARNING & TEACHING (FULT)

Our signature Foundations of University Learning and Teaching (FULT) programme provides a structured environment to prepare early-career faculty members for effective teaching and learning in NTU.



The FULT Assessment and Feedback Module

Phase 1: Core modules

Course design, teaching and learning facilitation, assessment, and managing the learning environment

Phase 2: Practicum

Getting hands on, with support from peer observations, feedback and engagements with the learning community.

Phase 3: Teaching portfolio

Assembling a meaningful portfolio for effective professional growth and teaching appraisals.

Re-designs & Improvements in 2020-2021

The programme was re-designed for online learning and teaching to ensure uninterrupted quality support for faculty as NTU navigated the new normal.

Year	FULT Phase 1	Phase 2
2020	35	50
2021	46	67



A Bespoke FULT Programme Developed for WMI

The learning experience was enhanced with the inclusion of interdisciplinary, collaborative, and experiential learning dimensions.

Bespoke versions were developed for more specialized learning contexts, as was the case for the Wealth Management Institute.

TEACHING ASSISTANT PROGRAMME (TAP)

All full-time PhD students who are assigned teaching duties are required to pass the Teaching Assistant Programme (Course HWG702 - University Teaching for Teaching Assistants). This programme develops their thinking about how effective learning occurs, as well as their confidence in facilitating student-centred learning.



University Teaching for Teaching Assistants Course

5 Core Modules

Requirement for PhD Qualifying Examinations

3 Elective Modules

Requirement to obtain the University Teaching for Teaching Assistants Certificate

Year	TAP Core	TAP Elective
2020	453	190
2021	287	123

A Special One-Week Run

In July 2021, CTLP ran a one-week compressed version of TAP for 29 CoHASS students.





3. FOSTERING INTERNAL AND EXTERNAL PARTNERSHIPS

INTERNAL PARTNERSHIPS

We are continually seeking to expand our outreach and to grow the teaching and learning community. Our aim is to build capacity and enrich the learning experience for students as well as faculty. The following are projects we've done in collaborations with internal partners over the last two years.

MICRO-LEARNING MODULE WITH NIE

We collaborated with the National Institute of Education (NIE) on a project led by the Centre for Professional and Continuing Education to develop a micro-learning course on "How to Design and Deliver Effective Online Learning" hosted on NTULearn+, an online authoring platform.

Through the course, faculty and those interested in developing effective online learning experiences are introduced to guiding principles and activities to help them design effective courses that increase student engagement and deepen student learning in online environments. The self-paced interactive nature of the platform offers accessible and flexible modular learning for busy faculty to better juggle professional development with their research and teaching commitments.

COURSE FEEDBACK SURVEY TASK-FORCE WITH UAM

Together with representatives from all the four Colleges and NIE, CTLP crafted a new course feedback survey to support the University in evaluating students' satisfaction on the quality in the design of the courses.

Our HOD Dr Preman Rajalingam, who chaired the committee, presented the pilot study on the course feedback survey at the University Academic Management meeting which endorse the use of the survey help Schools improve their curriculum design and implementation.

CONTINUING EDUCATION OFFERINGS WITH PaCE@NTU

As a member of the Realising Excellence for Instruction in NTU Education (REFINE) Committee, CTLP works with the Centre for Professional and Continuing Education (PaCE@NTU) to enhance the quality and

offerings of Continuing Education courses. The committee also is tasked with strengthening connections with industry stakeholders, as well as local and international participants.

LEARNING SPACES

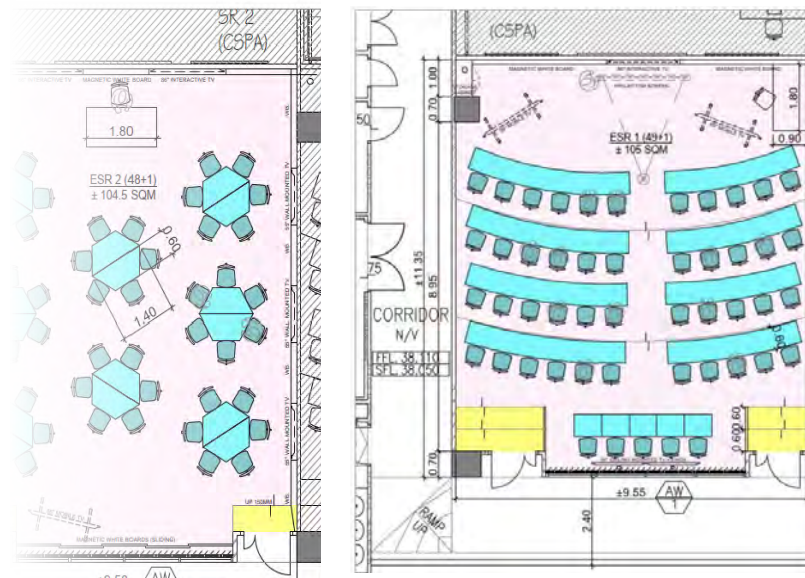
We continue to work closely with the Learning Technologies & Digital Media (LTDM) Team at the Centre for IT Services (CITS) and Office of Development & Facilities Management (ODFM) in the development of new learning spaces, providing both the pedagogical rationale for the design and practical support during the construction period.



A Classroom at The Arc - Learning Hub North

Some of our recent project include:

- ICC @EMB (Interdisciplinary Curriculum Core @Experimental Medicine Building)
- ABN/ABS (Academic North and South Buildings)
- NGLS (Next Generation Learning Spaces) at Academic Learning Commons 1 and the Learning Studio.



Design Proposals for a Classroom & Seminar Room

VIRTUAL FRESHMEN ORIENTATION VIDEO

Due to the Covid-19 pandemic, NTU's freshmen orientation programme was held online for both 2020 and 2021. Conducting a virtual orientation presented some new challenges, since miscommunications are easy to arise from the lack of social cues available in face-to-face communication.



Video to Kick Off the Virtual Freshmen Orientation

To create a welcoming online space for students, the Student Affairs Office consulted us to make an animated introduction video entitled "Think Before You Type: Appropriate Online Behaviour".

THREE-MINUTE THESIS (3MT) WORKSHOP & JUDGING PANEL

Three-minute thesis (3MT) is a competition where graduate students have just three minutes to present their thesis to an interdisciplinary audience and judges with just one slide and no props. Together with Student Affairs and the Graduate Student Association (GSA), CTLP supports 3MT each year through preparatory workshops for participants. Our HOD also participates as one of the judges for the finals.

In October 2020, NTU student Ms Luo Yifei won first place in the 3MT Asia Pacific Final Showcase, among eight students from across Australia, Oceania, Northeast and Southeast Asia.

“ This is a great achievement for GSA and the entire NTU community as it happens to be the first time for NTU to win the Asia Pacific competition. We have entered the Hall of Fame of the prestigious Asia Pacific 3MT. It also happens to be the first time for any Singaporean University to win the competition. Special thanks to Dr Preman and his team at CTLP for training our students to polish their skills. It paid off well!”

- Goli Haveesh,
Former NTU GSA VP-Academics

NTU student Ms Luo Yifei wins the 2020 3MT Asia Pacific Final Showcase

STUDENT EXPERIENCE SURVEY CONSULTATION

CTLP works closely with various Schools at NTU to review the findings reported in the 2021 Student Experience Survey (SES). Action plans are currently in place to support specific faculty members in improving their teaching practices either through one-to-one consultations or customised workshops on specific topics.

EXTERNAL PARTNERSHIPS

INVITATIONS TO SPEAK

Our Director, Dr Preman Rajalingam, is regularly invited to speak on various pedagogical topics at international conferences and workshops. These include the following:

- Team-Based Learning as a Strategy for Large Science Classes, Science Instructional Programme Support Group (IPSG) Symposium 2021, held by the Curriculum Planning and Development Division, MOE, Singapore in January 2021.
- Team-Based Learning in Large Classes: Lessons Learnt from Scaling, Sustaining and Covid-19, CTLE Seminar: Arousing Excitement: Learning Design and Active Learning, held by the University of Macau in February 2021.
- On Implementing a Team-Based Learning in a Medical Programme (a series of 3 workshops), Nova Medical School, held by the Universidade Nova De Lisboa, Portugal in March 2021.
- Scaling and Sustaining Digitally Enhanced Collaborative Learning across the University, Academic Summit 2021, held by PSB Academy in April 2021.
- The Future of Education: Helping Teachers Stay Relevant, Virtual Symposium series, held by Akadasia's FREEJOO, the Global Community for Educators in July 2021.
- Securing the Integrity and Delivery of Remote and Authentic Assessments, Turnitin Virtual Summit 2021, held by Turnitin in October 2021.



- Collaborative Learning and the Changing Landscape of Learning and Teaching, Tools for Remote Learning Webinar, held by Turnitin in November 2021.
- Setting Staff Up for Success: Tackling the Limitations of Technology-based Learning, New Strategies for University Success, held by THE Campus Live Asia in December 2021.

INTERNATIONAL PARTNERSHIPS WITH OTHER UNIVERSITIES

CTLP continues to embarked on efforts to collaborate with partners locally as well as internationally to build capacity and expertise in higher education teaching and learning.

Over the last two years, we've consulted with institutions across Asia and Africa, with the aim of raising higher education standards and to seek out new opportunities for NTU faculty, staff and students to work and learn from such partners with diverse backgrounds and experiences.



THE NATIONAL TECHNOLOGY ENHANCED LEARNING CONFERENCE

The National Technology Enhanced Learning (NTEL) Conference is organised bi-annually, in turn by each of the 6 autonomous universities in Singapore. Initiated by the Ministry of Education in 2015, this conference aims to inspire teaching and learning transformation through the adoption of technology-enhanced learning strategies in higher education.

On 27 - 28 October 2022, CTLP will be coordinating NTU's participation and organisation of this event, which will be led by SUTD this time round.



4. BUILDING A SCHOLARLY COMMUNITY

CTLP’s presence is actively felt throughout the scholarship process, from the inception of ideas to its rigorous exploration, and culminating in the public dissemination of the eventual findings.

EDUCATIONAL RESEARCH ENDEAVOURS

EdeX GRANT

CTLP initiates funding support to promote research exploration into teaching and learning. The Education Excellence (EdeX) Teaching and Learning Grant provides monetary support for faculty to engage in scholarly projects to improve teaching practices and student learning experiences. Projects may obtain funding of up to \$40,000. Since its inception in 2012, 134 projects across NTU have benefitted from the grant. These have resulted in new learning interventions deployed in classrooms, and innovative pedagogical approaches such as partnering with students to co-create curriculum.

ACADEMIC YEAR	GRANTS AWARDED
AY12/13	4
AY13/14	5
AY14/15	13
AY15/16	16
AY16/17	19
AY17/18	13
AY18/19	20
AY19/20	16
AY20/21	20
AY21/22	8+



Research Posters Supported by the EdeX Grant

The recent 2 years witnessed noteworthy thematic investigations into “Student Diversity, Inclusion and Wellness”, “Authentic Learning” as well as “Interdisciplinary Teaching”.

Participants also leverage on the EdeX grant as a ‘seed grant’ to pursue larger-scale grant, such as the Tertiary Research Fund offered by the Ministry of Education.

Funding aside, CTLP also runs a workshop on “Writing an Effective Teaching and Learning Grant” to support faculty to prepare impactful formal grant proposals, and to effectively articulate the process of conducting their own inquiry-based research.

PARTNERING WITH FACULTY IN THEIR RESEARCH JOURNEY

CTLP's academic developers actively collaborate with faculty members across NTU in various capacities – as co-applicants of research grants, co-investigators in teaching and learning inquiry projects or as co-supervisors of students' project work. Listed below are our collaborators and their research titles.

Assoc Prof
Low Kin Yew

Study on the Impact of
Outcomes-Based Teaching and
Learning at NTU

NBS

Dr Luciano Lao

Materials Engineering
Education Stakeholders
analysis

MSE

Assoc Prof
Rusli

Team Learning in
Laboratory Experiments

EEE

Wong Pei Wen

Participatory Design of Teaching
and Learning: Integrating
Perspectives between Industry,
Students and Instructor

WKWSC

Guillaume
Thibault

Improving student learning using
open-ended question assessment
with machine learning-driven
immediate feedback

SBS

Assoc Prof
Andy Khong

Assessing the Learning Outcomes of
Makerspaces in Terms of Creativity &
Innovation of Undergraduates

EEE

Dr Sreenivasulu Reddy Mogali,
Dr Preman Rajalingam,
Assoc Prof Tan Joo Seng

Reimagine Medicine and Engineering:
Stimulating collaborative creativity
using Team-Based Approach

LKCMED
CTLP
NBS

Assoc Prof
Teh Kah Chan

Engaging students as active
recipients of feedback with
technology-mediated feedback

EEE

Dr Anders Gustaffson and
Ms Nurul Anis Huda Bte
Mohd Yem

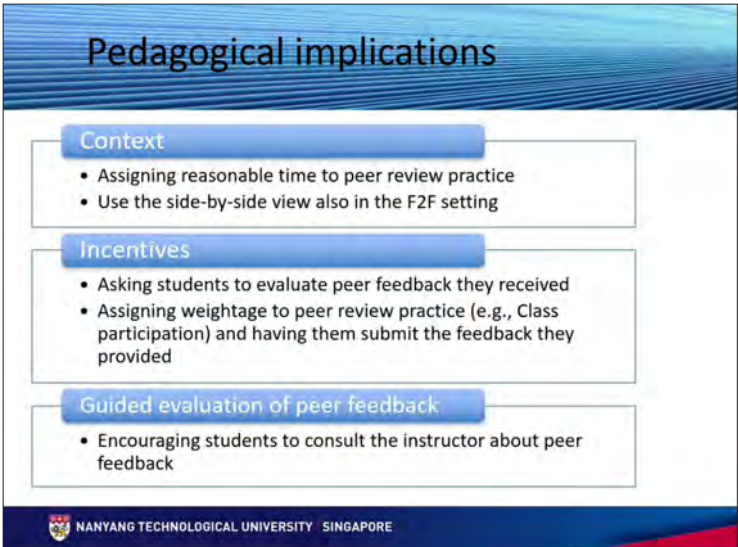
Different question formats and
quality of team discussion in
Team-Based Learning

SPMS

PUBLICATION AND DISSEMINATION OF FINDINGS

Findings on how peer evaluation contributed positively to students’ perception on the fairness in team assessment were presented at the University Academic Management meeting, courtesy of the project on “Institutional Research on the impact of teaching and learning policies and initiatives by Assoc Prof Patrick Williams (SSS) and Assoc Prof Tan Lay Poh (MSE).

In 2021, EdeX projects on novel pedagogical practices aimed at promoting effective collaborative learning amongst undergraduate students were featured as part of a webinar series by the Centre for Research and Development in Learning at the National Institute of Education (CRADLE). This series was entitled “Transitions and Transformations in University Teaching and Learning: Innovations in Collaborative Learning”.



EdeX Funded Projects Presented in a CRADLE Webinar Series

Developing collaborative creativity skills in a multidisciplinary team of students

Asst. Prof Sreenivasulu Reddy Mogali, PhD
Asst Professor and Head of Anatomy
Lee Kong Chian School of Medicine

What is collaborative creativity?

"social process that promotes the creative process in the form of partnerships collaborative in completing group tasks" - Miell and Littleton (2004)



Miell, Dorothy, & Littleton, Karen. (2004). *Collaborative creativity: contemporary perspectives* / edited by Dorothy Miell and Karen Littleton. London: Free Association Books.

EdeX Funded Projects Presented in a CRADLE Webinar Series



SCHOLARSHIP OF TEACHING AND LEARNING

The Scholarship of Teaching and Learning (SoTL) involves the systematic investigation by faculty of questions regarding their own teaching and their students' learning, and the public dissemination of the results of that investigation.

We have also created opportunities for faculty to share their SoTL projects through our webinars and conferences. These include the following sharings:

2020 SoTL SHARING

Asst Prof Sonny Rosenthal
Dr Christopher Hill (LCC)
Dr Kumaran Rajaram (NBS)
Dr Koh Cheng Boon
Dr Fedor Duzhin (NBS)
Yang Lishan (LKCMED)
Assoc Prof Chong Yidong
Asst Prof Guillaume Thibault

2021 SoTL SHARING

Assoc Prof Andy Khong (EEE)
Ms Patricia Lorenz (CML)
Dr Michelle Shao Xuguang (EEE)
Dr Teo Chee Chong (CEE)
Dr Catherine Peyrols Wu (NBS)
Asst Prof Sreenivasulu Reddy Mogali
(LKCMED)
Dr Hsieh Yi-Chin (LCC)



SoTL Symposium in 2019



NEW & IMPROVED WEBSITE FOR ONLINE RESOURCES

The entire NTU website was migrated to a new Content Management System (CMS) in April 2021. As a result, we revamped our website, making it more mobile-friendly, visually appealing, and easier to navigate.

We also expanded and updated our content, with more up-to-date resources on various teaching approaches and best pedagogical practices. Such topics include the growing need for interdisciplinary teaching and learning to address real-world issues and complex problems, how problem-based learning supports the development of critical thinking and collaborative competencies, the structured scalable approach of team-based learning in simulating real-world scenarios and the use of design thinking to as user-centric and solution-oriented approach to education.

How CTLP can help you
The role of NTU's Centre for Teaching, Learning & Pedagogy (CTLP), formerly called TLPD, is:

- To disseminate and support effective evidence-based learning and teaching.
- To encourage an innovative educational culture, and
- To help faculty and students to achieve learning outcomes and become future-ready.

CTLP carries this out through:

- Faculty induction and professional development programmes.
- Events, courses, workshops, consultations, grants & awards, and
- Educational projects and collaborations with partners.

For Students

- Student Transition & Orientation**
Get an edge in starting your university life and making the most out of your years with us.
- Learning Resources**
From course outlines to assessments, understand how NTU courses are designed to give you the best learning experiences.

For Faculty

- Teaching Resources**
Explore what's new, exciting, and trending in the field of Education.
- Courses & Workshops**
Get hands-on, practical strategies and ideas drawn from research-based best practices.
- Events & Outreach**
Tap into a strong local, regional, and international network of colleagues and PSL.
- Grants & Awards**
Learn what incentives are available to support or to recognise innovative and evidence-based learning.

Teaching Excellence Academy
Be part of this professional body of experts who make decisions and recommendations on educational issues, policies and strategies.

ABOUT CTLP **CONTACT US** **WHERE TO FIND US**

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PUBLICATIONS

With their expertise in education and pedagogy, CTLP academic developers are often involved in co-authoring journal articles. The following were all published in the last two years.

- Tan, S.H.S., Lim, F.S., Lee, J.W.Y & Ho, S.Y. (2020). Intended Learning Outcomes: Who are they intended for? In E. Heinrich and R. Bourke (Eds.), *Research and Development in Higher Education: Next generation, Higher Education: Challenges, Changes and Opportunities*, 42 (pp 105 – 115).
- Tan, S.H.S., & Thibault, G. (2021, October 26–29). Updating Team-Based Learning (TBL) with Machine Learning: Impact on Student Achievement, Learning, and Interaction [Paper Presentation]. ISSOTL 2021 virtual conference.
- Seet, A., Tan, E., & Rajalingam, P. (2022). Effect of Seating Arrangement on Class Engagement in Team-based Learning-A Quasi-Experimental Study. *Medical Science Educator*, 1-9.
- Ong, K.Y., Gan, A. S. P., Rajalingam, P., Tan N. C. K., & Tan, K. (2021). Is Virtual Team-Based Learning feasible and effective in teaching neurolocalisation?. *Canadian Journal of Neurological Sciences* 1-8.
- Yang, L., Jumat, R., Han, S. P., Ang, J., Rosby, L., Rajalingam, P., & Cleland, J. (2021). Maintaining engagement with efficiency: Facilitating large-group online TBL. *Medical Teacher*, 1-1.
- Millar, K. R., Reid, M. D., Rajalingam, P., Canning, C. A., Halse, O., Low-Ber, N., & Sam, A. H. (2021). Exploring the feasibility of using very short answer questions (VSAQs) in team-based learning (TBL). *The Clinical Teacher*, 18(4), 404-408.
- Hong, J. M., & Rajalingam, P. (2020). Geographic trends in Team-Based Learning (TBL) research and implementation in medical schools. *Health Professions Education*, 6(1), 47-60.
- Mogali, S. R., Chandrasekaran, R., Radzi, S., Kai, P. Z., Tan, G. J. S., Rajalingam, P., & Yee, Y. W. (2021). Investigating the effectiveness of three-dimensional printed anatomical models compared to plastinated human specimens in learning cardiac and neck anatomy: A randomized cross-over study. *Anatomical Sciences Education*, 2021 Aug 7.
- Yang, L., & Rajalingam, P. (2020). Are two teachers better than one? Team teaching in TBL. *Medical Science Educator*, 30(1), 643-647.
- Supraja, S.; Lim, F.S.; Tan, S.; Ho, S.Y.; Ng, B.K.; Khong, A.W.H. (in press). Factors Impacting Students' Creativity-related Self-efficacy in an Undergraduate Makerspace-based Course. *Proceedings of IEEE EduCon 2022*.

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Assoc Provost (Student Life)

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- Office of Human Resources
- Office of Finance
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- Nanyang Technological University Graduate Students' Association I (NTUGSA)
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