

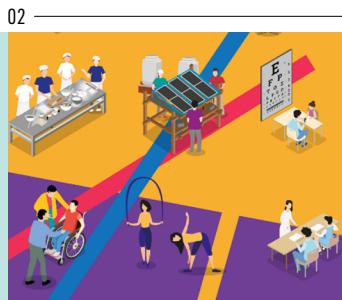
SLLO NEWSLETTER

JANUARY 2022

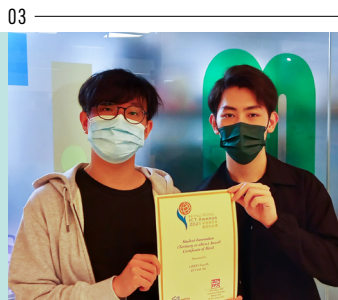
Highlights



World Youth Artificial Intelligence (A.I.) X Robotic Car Competition



A new grant from Chow Tai Fook Charity Foundation and Keswick Foundation for upscaling Service-Learning in Local Secondary Schools



Ten Questions: Interview with the winners of the Hong Kong ICT Awards 2021



PolyU's Service-Learning and Leadership Subjects win Gold Award at the QS Reimagine Education Awards 2021

01

World Youth Artificial Intelligence (A.I.) X Robotic Car Competition



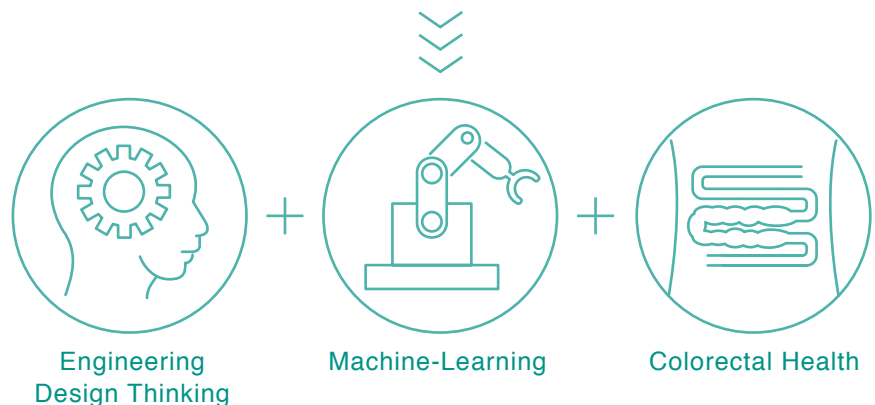
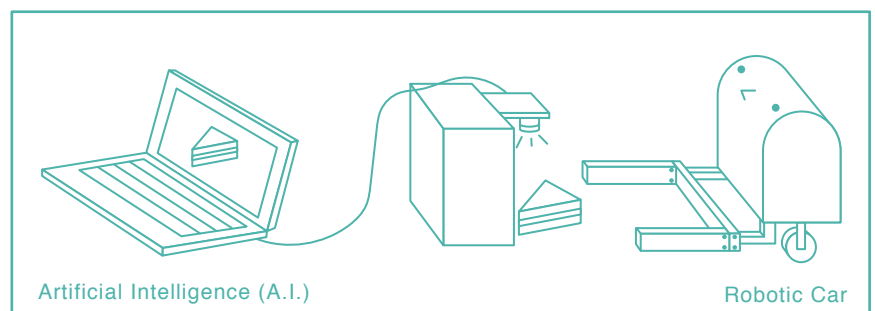
"Come on...turn right...turn left...we're almost there, almost there! Yeah!"

"It's a cake! Oh no, it shows ice-cream. Wait, it says cake for 79%!"



What could make a bunch of primary school students cheer for their classmates by yelling at a car while staring at a computer monitor with tight fists?

They were not watching the live broadcast of Formula One even though their sweaty faces and exciting gestures suggested so. They were taking part in the **World Youth Artificial Intelligence (A.I.) X Robotic Car Competition** – one of PolyU's latest service-learning (SL) initiatives that brought the concepts of engineering design thinking, machine-learning, and colorectal health into a meaningful intersection.

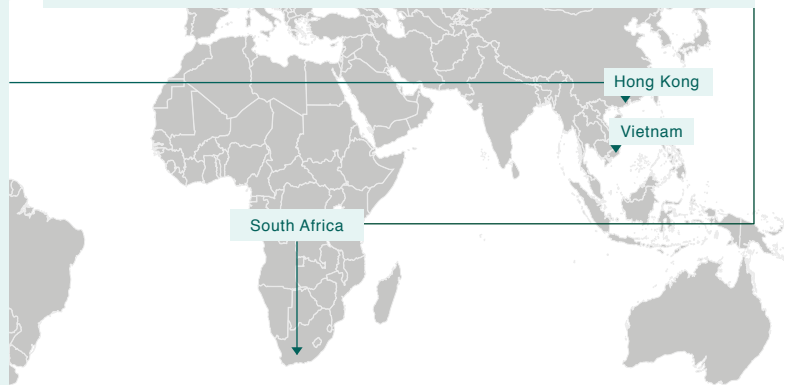




Hong Kong primary school students taking part in the World Youth Artificial Intelligence (A.I.) X Robotic Car Competition



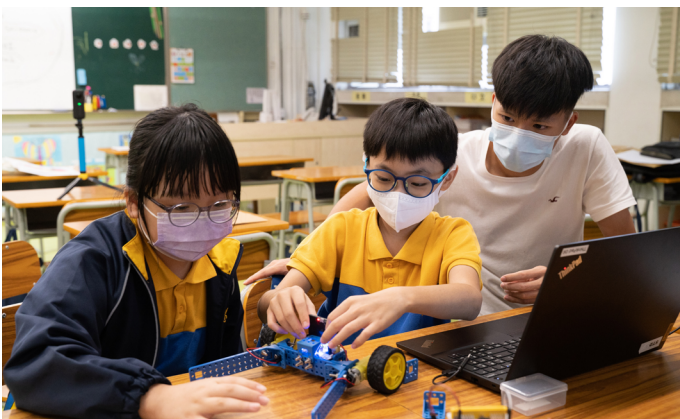
Learners from South Africa taking part in the same Competition under the support of The University of Pretoria Pre-University Academy. The Competition was being broadcasted to participating PolyU students via Zoom.



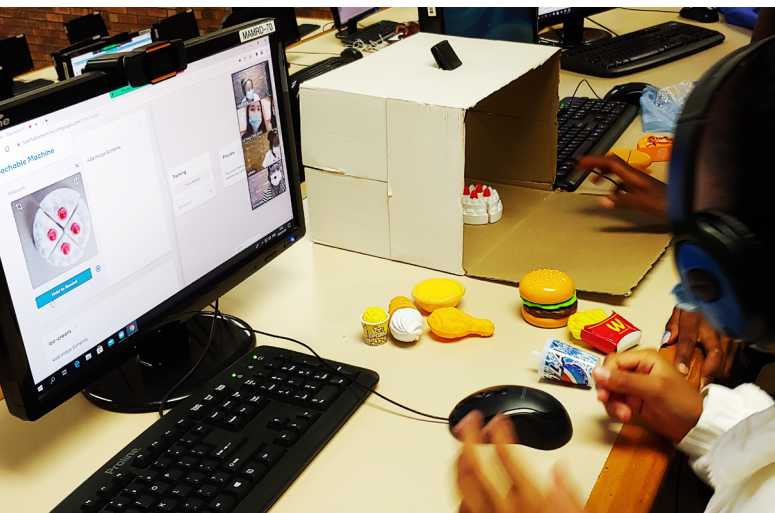
C o-developed by the Service-Learning and Leadership Office (SLLO), the Department of Biomedical Engineering, and the Department of Computing in AY2021/22, Semester 1 & 2, the Competition engages PolyU students enrolled in the two credit-bearing SL subjects – BME2S04 Reducing the Scientific Divide in Primary and Secondary Students through STEM Projects and COMP2S01 Technology Beyond Borders: Service Learning across Cultural, Ethnic and Community Lines – to deliver a workshop cum Competition to primary school students. Learners from each participating primary school were divided into two groups. In the workshop, PolyU students of the BME-stream and those of the COMP-stream first guided their learners to understand the concepts of electricity, motors, programming, and

A.I. object recognition respectively. In the process, the learners acquired these knowledge and skills through a hands-on preparation for the Competition themed on “food choices and cancer prevention”.

Specifically, the BME-teams set out to build a remote-controlled robotic car responsible for removing the unhealthy toy food from the colon-like race track. In parallel, the COMP-teams coded an A.I. programme that could identify the health value of the “food” being removed from mock-up colon automatically. In the final showdown of the Competition, the “robotics” team and the “A.I.” team (i.e. their BME and COMP student-coaches) worked together for the one big goal to save the colon from developing colorectal cancer.



Hong Kong primary school students building their robotic cars (left) and A.I. food scanner (right) for the Competition with their PolyU student-coaches in the workshop



Learners in South Africa building their robotic cars (left) and A.I. food scanner for the Competition with their PolyU student-coaches using Zoom.

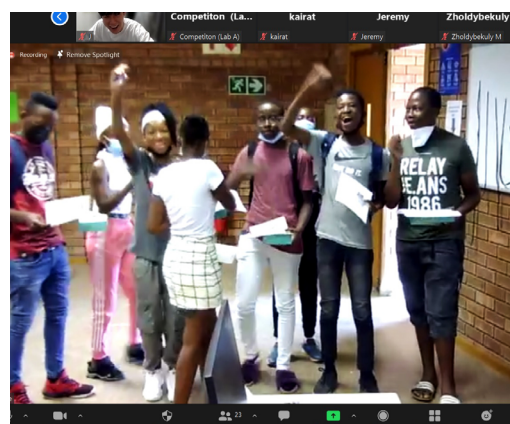
Altogether, 327 PolyU students and over 800 students coming from nine Hong Kong primary schools participated in the Competition. We are also delighted to have 100 learners from Vietnam and South Africa joining us via remote online services, thanks to the coordination of Pacific Links Foundation and The University of Pretoria Pre-University Academy respectively.

By the time you read this article, most of the institutions will have already completed their intra-school competition. We are looking forward to the final result of the inter-school competition which will be announced in February 2022. The teams which managed to remove the largest number of cancer-prone food items from the colon and have them correctly recognised by their A.I. programmes, the teams that built the best Micro:bit-powered robotic cars and that coded the best Scratch programme will all receive awards. You can check

out more details through our Competition's website, including the Leaderboard for inter-school competition being updated regularly:

<https://www.polyu.edu.hk/sllo/programmes-and-events-calendar/world-youth-artificial-intelligence-x-robotic-car-competition/#Challenge>

While the ever-changing Leaderboard doubtlessly reflects the amount of effort and creativity our youngsters have infused into the Competition, we, the organisers, are way more pleased to see how the intense Competition inspires all participants on the more important attributes of sportsmanship, trial-and-error spirit, and inter-generation communication. Seeing how the young learners shared their findings, successes (or even disappointments) with our PolyU student-coaches after each race and then returning for a second attempt with more confidence, more empathy for their peers, we know that we are on the right track: putting the service experience before the final result; service recipients before the final product.



Learners from Hong Kong and South Africa cheering for all the participants, peers and PolyU students, both online and offline, after the Competition



Some reflections from our PolyU students:

“Other than teaching South African students the knowledge of building the robotic car, we cherished the precious opportunities to talk with our students. Some casual chitchats could not only increase their interest in our service, but it could also help us acquainted with South African culture along with their history. Robot car building was the agenda for this subject, but it has also become a bridge for communication with our students who are a thousand miles away from us.”

— Student from School of Design

“The most impressive area of development that I was able to notice in our service recipients in the later parts of our workshop was their willingness to learn beyond the syllabus and genuine enthusiasm in STEM. For instance, students responded positively when I asked if they wanted to learn about radio wave communication though it was not a requirement for them to succeed in the Competition.”

— Student from Faculty of Engineering

“I think this experience really inspires and motivates me to conduct more services that can contribute to society in the future, as service delivery is really a good way to help others and to become a better version of ourselves. As a business student, I will be joining a company in the financial sector when I graduated. The company regularly holds campaigns to support next-generation workforces and also promote environmental sustainability. I believe I will volunteer in these campaigns.”

— Student from School of Accounting and Finance

“The service experience has made me realise my responsibilities as a global citizen: being more empathetic and caring for those I have never met. This newfound motivation can be utilized when I enter the aviation industry. I want to become a pilot and it is essential to be empathetic towards colleagues since the profession relies on effective communication and teamwork on every flight.”

— Student from Faculty of Engineering

“I really appreciated the effort of my learners to continuously improve their car design. They help test-driving the robotic car to enhance its performance on turning, speeding, and practicing the controls during the break. Finally, their hard work had proven their success. Our team have won the 2nd place in the competition. I was a lazy person that only meet the target. But after the service learning, I knew paying a close attention to minor details may lead to a higher quality of work. After graduated, I wish to become a high standard service provider in the hotel industry who is always able to put myself into the guests' shoes and exceed their expectation. And from this service, I know that analysing the needs and behaviors of my service recipients is the key.”

— Student from School of Hotel and Tourism Management

“I like children much more than I used to be. Before I meet the service recipients, sometimes I would think that children are very naughty and annoying. However, when I had more time with them, I found it could be fun playing with them when we became closer to each other. Knowing how to get along with the children, I hope that I could better cope with the pediatric patients that I will meet in the future. This echoes with the Chinese tradition: Love one's own children and then extend the same love to the children of others. (Maybe I could reconsider having a child in the future!)”

— Student from Faculty of Health and Social Science

02

A new grant from Chow Tai Fook Charity Foundation and Keswick Foundation for upscaling Service-Learning in Local Secondary Schools

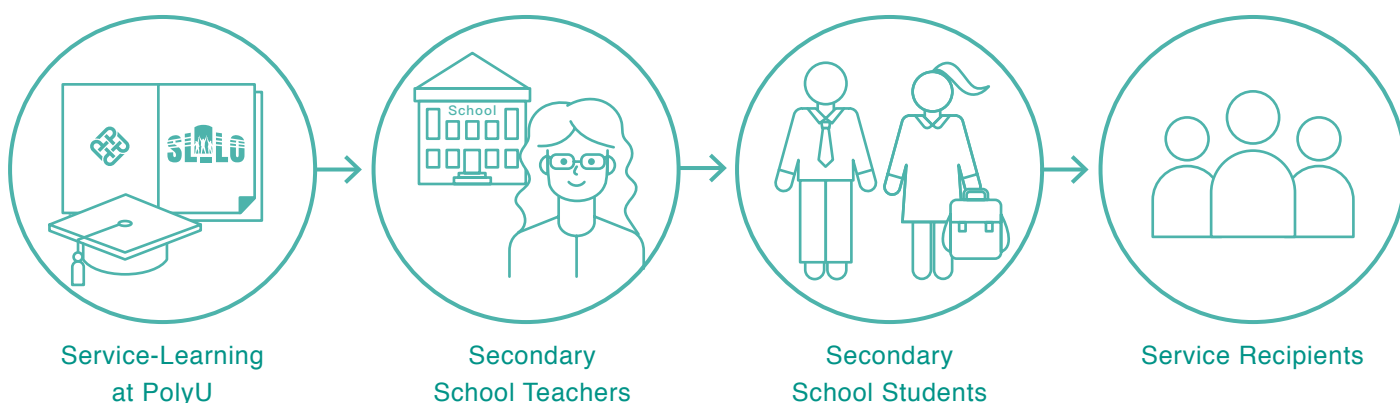
The Service-Learning and Leadership Office (SLLO), in collaboration with the Department of Computing and the Department of Applied Social Sciences, has successfully secured a project grant of HK\$8 million from Chow Tai Fook Charity Foundation and Keswick Foundation to support a new initiative on promoting impactful academic service-learning (SL) to secondary schools.

The project entitled, **“Capacity Building Scheme for Secondary School Teachers: Promoting Meaningful Social Engagement for Young People Through Service-Learning”**, is dedicated to promoting SL in secondary schools.



With a firm belief in the indispensable role played by teachers in driving quality education, this project aims to equip secondary school teachers with the essential attitude, knowledge, and skills to implement SL as a powerful pedagogy at their schools through the means of knowledge transfer. It also demonstrates PolyU's University Social Responsibility through contributing to nurturing responsible young citizens.

The project finds its root in the complex issues related to the education and well-being of youth in Hong Kong that have become increasingly evidence over the last decades. These include students failing to see the meaningful linkage between academic knowledge and real life; students pressurised by their exam-oriented school life; students feeling the depression and frustration brought by social conflicts and the COVID-19 pandemic. To this end, we wish to introduce SL to secondary school students to help them discover the meaning of study through applying their knowledge to serve the community in a constructive and emphatic manner.



The Capacity Building Scheme will empower teachers with a systematic professional training and development package on SL.

These include developing and sustaining community partnership, integrating academic topics into service, design, implementation and assessment. By the end of the training, teachers will be able to design and offer their own academic service-learning programmes and assess their impact on students' learning.

This project is expected to benefit 100+ secondary schools, 500+ teachers, 600+ students, and over 2000 service recipients.

100+

Secondary Schools

500+

Teachers

600+

Students

2000+

Service Recipients

The key deliverables are:

01

Pioneering two MOOCs to introduce academic SL concept and practical skills to all secondary school teachers and students.

02

Providing comprehensive professional training, site visits, and mentoring for school teachers to become pioneer SL educators at their schools.

03

Organising public seminars, workshops, SL field experience, and experience sharing sessions for secondary schools teachers.

04

Developing the first e-library with various tools, exemplars, and manuals about academic SL and community engagement for all secondary school teachers.

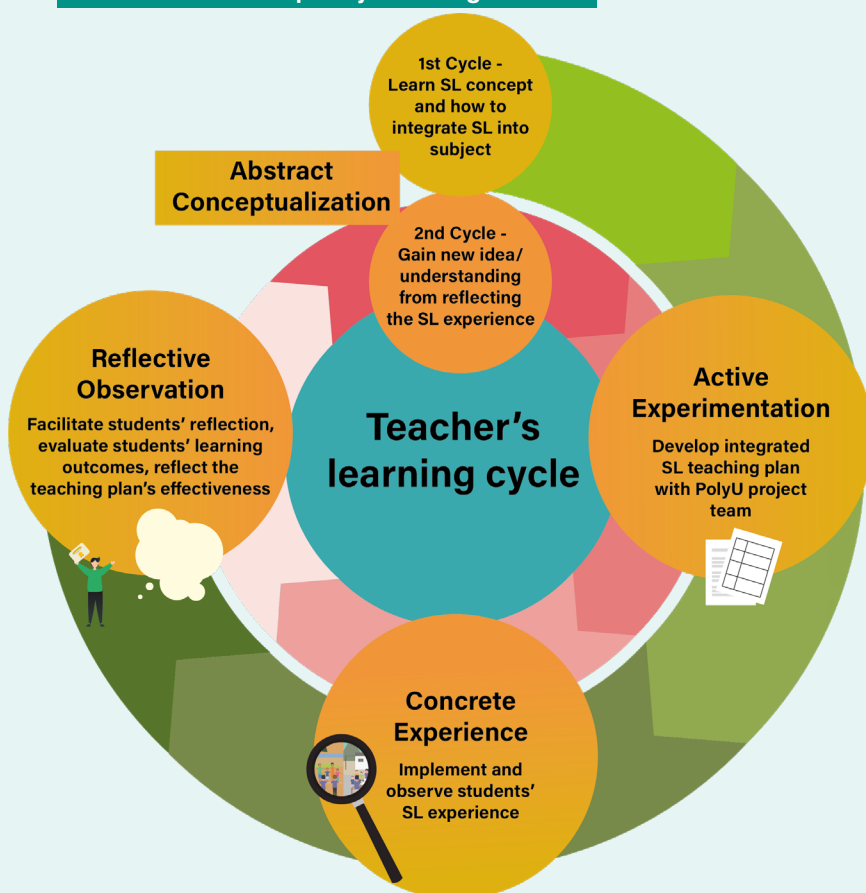
05

Launching the first Community of Practice (CoP) that promotes SL education for secondary schools in Hong Kong to facilitate sustainable professional development and peer support.

06

Conducting and presenting systematic evaluation of the outcomes of the training activities and experimental implementation of SL programmes.

A conceptual model on what and how school teachers will learn in the Capacity Building Scheme



The Scheme welcomes all secondary school teachers, teaching assistants, social workers and allied professionals who have responsibilities to teach students and/or coordinate service-related programmes in secondary schools.

Do keep track of the Scheme's promotion in the near future. We look forward to seeing you in the training!

周大福
CHOW TAI FOOK

周大福慈善基金
Chow Tai Fook Charity Foundation

KF

凱瑟克基金
Keswick Foundation Limited

03

Ten Questions

Interview with the winners of the Hong Kong ICT Awards 2021

Interviewees

Max Chun Ho CHER and Harry Chak Yiu LI, Department of Computing

Winners of the **Hong Kong ICT Awards 2021: Student Innovation Award** on the service-learning take of their award-winning Capstone Final Year Projects, the challenges they faced, and what's next on their journey of technological innovation and community engagement after graduation.



Max (right) and Harry (left) posing with their Award Certificate

01 Congratulations Max (M) and Harry (H)! Can you tell us something about yourself?

M: I've just graduated as a Computing major and I'm currently working as a Project Assistant at PolyU.

H: I've also graduated from the Department of Computing in 2021. I'm now working in a technology company. Study aside, I was a committee member of Campus YMCA of PolyU when I was an undergraduate.

02 Can you tell us something about your award-winning project?

Our project, **VR (Virtual Reality) Vocational Training System for People with Mental Disorder**, is a digital system that makes job training for people with mental challenges more practical and affordable. With the use of VR, motion capture and Artificial Intelligence (A.I.) Chatbot technology, we have created a virtual convenience store where users can practice delivering the everyday tasks of a store keeper, from tallying the products to checking out for customers in a simulated setting.

A picture collage of the training system in which users practice to be a convenience store keeper with VR, motion capture and A.I. technology.



03 That sounds very interesting! What was your inspiration?

Honestly, we didn't think much at the beginning. We simply wanted to develop a fun computer game with VR elements for our Final Year Projects. Things took a different turn when we read more about A.I., machine learnings and their application in Hong Kong as tools for vocational training as suggested by our supervisor, Dr Peter Ng.

In the research process, we discovered that one out of seven people in Hong Kong suffers from mental illness that could actually affect their ability to work for a living. While local schools of special education are standing at the forefront in training students with cognitive disabilities to be job-ready, many schools suffer from the high operation cost of running a simulated workplace on their campuses. In addition, the COVID-19 pandemic which had suspended face-to-face instruction had further deprived these students from the training opportunities. With these problems in mind, we started thinking about the possibilities of recreating the vocational training experience in a virtual setting.

04 What were the challenges you faced during the implementation of the project?

M: From a product design perspective, one of our biggest questions was **“how to create a vocational training system that effectively answers the needs of students with cognitive challenges?”**. Having learnt that our users tended to have short-term memory and have difficulties in making communicable sentences, we had to tackle specifically the question, **“how can we simplify the training content for our users while making sure it was practically educational at the same time?”** I guess this is where we stretched our knowledge and skills acquired from our Computing training!

H: Yes! On top of using the VR technology to replicate the physical environment of a convenience store; using motion capture technology to train users on product display; and using an A.I. Chatbot to replicate customer interactions in the virtual setting, we've also incorporated a voice assistant into the system to better support users in their cashier duties. Specifically, the voice assistant would remind users about the key points and key words in handling a variety of customer inquiry and check-out procedures so that the users could gradually pick up the vocabularies in handling the tasks bit by bit. If you asked me, one of the major challenges in designing the human-computer voice interaction for this part was, I had to imagine the many different ways my users would respond to the A.I. Chatbot across different scenarios and provide training references for the machine accordingly!

05 From your sharing, we could feel how excited and perhaps equally, frustrated the product development process could be! Did you get any support in overcoming these obstacles?

Both of us are grateful to have successfully applied for the Service-Learning Scholarship for this capstone/final year project in AY2020/21. The project grant allowed us to purchase 3D modelling software of good quality to create our virtual convenience store. The realistic details of our virtual 7-11 had definitely enhanced the user experience.

Thanks to the community network of our supervisor, Dr Ng, we were also able to invite clients from New Life Psychiatric Rehabilitation Association to test our product prototype and provide feedback for improvement, at the time when it was not possible for us to conduct the test at the schools of special education.



Harry conducting user test with clients from the New Life Psychiatric Rehabilitation Association to obtain feedback for their prototype.

06 Overall speaking, what did you learn from this project experience?

H: This project made me realised how technological innovation could be used to empower social minorities, such as helping organisations to get people with mental challenges prepared for the labour market.

M: Had I not participated in this project, I'd have never known how often the needs of social minorities were being overlooked. The chances to visit schools serving children with moderate mental retardation and talk to the teachers made me aware of how lucky I was to be raised in an environment with rich educational resources and support. I've secured a stronger interest in developing social innovation projects. Which I'm glad it's what I've been doing at PolyU since my graduation.

07 As far as we know, the Hong Kong ICT Awards: Student Innovation Award recognises outstanding information and communication technology (ICT) inventions and application among young people. What does the Award mean to you?

H: It's an annual competition that brings together ICT inventors of different social sectors and study levels to present their ideas. I think to students like us, it's a valuable opportunity to learn from our competitors and judges how not only to design our products well but also to pitch them right! I think my presentation skills have improved.

M: Similar to Harry, I see the competition as a platform for learning from the judges and other innovators. It was a pity that all the face-to-face pitching and networking sessions had been made online due to the pandemic. I envisage it would be a much cozier experience to exchange ideas with these people in person.

08 What's next after this award? Do you have any new directions in technological or social innovations?

We've some wild ideas from time to time! (Haha!) Maybe we could get together for some inventions after gaining more working experience.

09 From our conversation, both of you mentioned that the project experience had raised your awareness on empowering the under-resourced and underprivileged members of our society. Do you have any goals in services or community engagement after graduating from PolyU?

H: I'd like to push myself to keep learning after leaving the campus. Specifically, I'd keep myself informed about the difficulties faced by different groups of people in the society through paying attention to news and study reports despite my busy day job.

M: As a fresh graduate, I'm aware that we may lack the institutional support, financial power, and social network to develop technological or social innovations overnight. That being said, I would start with raising public awareness of the challenges faced by the marginalised members of our society such as people with mental illness and ethnic minorities through sharing what I know about them with friends and colleagues.

10 If you were asked to share some tips with fellow PolyU students who are thinking of opting for a Service-Learning Capstone/ Final Year Project, what would you say to them?

M: Don't be discouraged by the errors you made in the product development process. Trying is the ultimate spirit as every error contributes a bit to a better solution.

H: There'll be the time you feel the pressure and frustration of doing a project that puts the well-being of the underprivileged community at stake. Be brave in front of the pressure by knowing that it only reflects how much you care about them. Then, just as Max said, **keep on trying.**

04

PolyU's Service-Learning and Leadership Subjects win Gold Award at the QS Reimagine Education Awards 2021

Led by Prof. Daniel Shek, Associate Vice President (Undergraduate Programme), Li & Fung Professor in Service Leadership Education, and Chair Professor of Applied Social Sciences, the project “Leadership and Intrapersonal Development (LIPD) Programme” received the Gold Award in the Nurturing Wellbeing & Purpose category at the Quacquarelli Symonds (QS) Reimagine Education 2021.

With the reputation as the “Oscars” of education, the Reimagine Education Awards recognise innovative approaches that enhance students’ learning outcomes and employability.

It is an intense competition taking place over eight months, more than 1300 applicants from the globe, and five rounds of close expert scrutiny by over 300 international expert judges. We, in particular, are grateful to be honoured under “Nurturing Wellbeing and Purpose” – a category inaugurated in 2021 to reward projects that foster mental and/or physical wellbeing; and/or clarity of purpose among faculty, students, or other education stakeholders – before an audience of 4000 higher education and edtech leaders at the Reimagine Education Conference 2021.

PolyU's LIPD Programme

is a project that enables university students to pursue continual self-improvement and enhance their wellbeing through a suite of four subjects. Two of them are service-learning (SL) subjects, in which students from various majors are given the opportunities to integrate their subject knowledge with community service, then take part in guided reflection to consolidate their learnings.

One of the subjects is “Promotion of Children and Adolescent Development”

led by Dr. Zhu Xiaojin and Dr Yu Lu. It offers students an overview of the needs and challenges of children and adolescents living in disadvantaged circumstances. Upon acquiring the knowledge, the students are divided into small groups to design their own service projects to provide educational and/or supportive services such as summer camps, cultural activities, classes to children and adolescents with social and emotional problems, those with lower academic achievements and limited exposure, or those living in under-resourced environment in Hong Kong or mainland China.

Another subject is “Service Leadership through Serving Children and Families with Special Needs”

led by Dr Li Xiang.

It engages students to apply the knowledge and skills of being a good service leader, such as moral character and active listening, to help youths with special needs to better manage their emotions and nurture positive identities. The service recipients widely cover preschool children with mental retardation, autism and learning difficulties, children and adolescents with social and emotional problems, less-privileged secondary school students, youngsters with substance abuse and/or delinquent behavior in Hong Kong or mainland China.

There are also two non-SL subjects included in the Programme. They are “Tomorrow’s Leaders” which cultivates students’ appreciation of the importance of intrapersonal and interpersonal qualities in effective leadership, and “Service Leadership” which develops students understanding of the contemporary models of leadership with reference to the service sector, including their assertions, strengths and weaknesses.

Photo collage showing the services of "Promotion of Children and Adolescent Development"



Tung Wah Group of Hospitals
Kwok Yat Wai College



Buddhist Mau Fung Memorial College



Tung Wah Group of Hospitals C Y Ma Memorial College

PolyU students prepared a campus tour for KYW students and shared subject information with BMF students.

PolyU students held an English workshop for CY Ma junior students featuring drawing games.



Society of Boys' Centres Hui Chung Sing Memorial School



Society of Boys' Centres Hui Chung Sing Memorial School

This was the first Christmas Party held in HCS. One of the activities was writing the thank you card to teachers. PolyU students and HCS students created a Christmas Canvas with thank you card.

PolyU students were guiding the HCS students through a Mini 4WD car-making workshop. PolyU students provided emotional support when HCS students faced challenges in retrofitting and calculations.

Photo collage showing the services of "Service Leadership through Serving Children and Families with Special Needs"



Caritas Fanling Chan Chun Ha Secondary School



Lions College



Semple Memorial Secondary School

PolyU students assisted CFS students in enhancing their English presentation skills and preparing their English self-introduction scripts.

PolyU students conducted a PolyU visit for LC students and prepared several developmental activities.

To furnish S.3 SEMPLE students with more information about the elective subjects, PolyU students held a workshop and prepared a personality test and explanation for the students.



Chengdu Xishu Experimental Primary School



Chengdu Xishu Experimental Primary School



Chengdu Xishu Experimental Primary School

PolyU students prepared several English workshops with different themes for Chengdu students. They included sentence structure, grammar and vocabulary.

PolyU students introduced and demonstrated the 7-step hand washing to Chengdu students to strengthen their hand hygiene awareness.

PolyU students conducted Science lessons for Chengdu students to reinforce their fundamental science concepts.