香港教育大學
The Education University of Hong Kong

Innovating for All

Knowledge Transfer @EdUHK

Environment
Healthy living
Primary education
Accessible learning
Cognitive skills and senses

World-leading and Internationally Excellent Research @EdUHK

The Research Assessment Exercise assessed the performance of Hong Kong's University Grants Committee-funded universities

Education

[EdUHK's] overall profile gains particular strength from assessment of its Impact case studies

Psychology

[the environment is] conducive to producing research of internationally excellent quality with a well-articulated strategy for achievement

Political science
(including public policy & administration & international relations)

[…] impact case studies were judged to have outstanding impact

Music and performing arts

conducive to producing research of an internationally excellent quality, in terms of its vitality and sustainability

Earth sciences
(including oceanography, meteorology) and other physical sciences (including environmental science)

predominantly internationally excellent research outputs

Contents

Message from the President

Over the decades, The Education University of Hong Kong (EdUHK) and its predecessors have nurtured generations of professional, caring and committed educators, who have in turn left life-changing imprints on countless young minds.

Leveraging on our traditional stronghold of education, the University has evolved and expanded on various fronts more recently, especially in our strategic move to utilise our knowledge and expertise to achieve greater benefit for the school sector and the wider community. The driving force behind all our knowledge transfer initiatives is our belief that educators do not merely teach: they also constantly strive for educational innovation to enhance learning and teaching for students' benefit and development.

EdUHK has been adopting a multidisciplinary, theme-based and solution-based approach to promote knowledge transfer, which has received recognition and accolades, locally and globally. Credit must go to all project teams for their dedication and hard work in expanding the boundaries of knowledge and making a positive impact on education and beyond. We look forward to engaging and collaborating with stakeholders who share our vision in advancing knowledge transfer from inception to application.

Innovating for All features some of our latest knowledge transfer projects and their impact on users, be they teachers, parents, students, scientists or policymakers. I hope you enjoy reading this booklet.

Professor Stephen Cheung Yan-leung, SBS, JP,
Officier dans l'Ordre des Palmes Académiques
President
June 2021

Welcome from the Vice President (Research and Development)

Welcome to *Innovating for All!*

The Knowledge Transfer Sub-Office was established in 2016, shortly after the birth of EdUHK. Representing a new stage of development, it draws on collective talent at the University and connects our researchers and innovators with industry and society.

With this mandate, the Sub-Office has worked with project teams in turning innovative concepts into practical solutions, and has facilitated intellectual property rights protection. This new approach has also helped guide scholars' research and innovation in their pursuit to meet educational and societal needs. Since 2018, our innovations have won over 50 awards in prestigious innovation and invention contests across the world, including the ones in Geneva and Toronto.

Knowledge transfer activities at EdUHK have been steadily growing and diversifying; so have the sources of funding. In 2019/20, revenue generated from these activities amounted to HK$140 million.

Going forward, EdUHK will continue to encourage innovation while nurturing its own entrepreneurial culture, with particular focus on education and related disciplines in Hong Kong and beyond. The Education-plus approach means that, while maintaining and reinforcing its role as a leading centre of educational innovation, the University is also providing new solutions and ideas in fields such as environmental protection, audiology, artificial intelligence and linguistics.

In this booklet you will see some of the exciting projects EdUHK scholars have recently launched, but these are just a taster of what is in the pipeline. We would be happy to explore with potential partners any new projects or initiatives in line with our core mission.

Professor Lui Tai-lok, JP
Vice President (Research and Development)
June 2021


Background:
Objectives:
Methodology:
Results
Discussions

Long-term threat to sea life

A study has found that female adult fish eggs either did not develop normally or did not hatch because of low oxygen levels in the sea. The research team, led by principal investigator **Professor Rudolf Wu Shiu-sun, Advisor (Environmental Science) at EdUHK**, discovered for the first time that low oxygen levels, or hypoxia, not only impair reproduction in female fish, but can also cut the numbers of offspring in subsequent generations by up to 30%. This poses a long-term threat to the sustainability of natural fish populations around the world. "The results of this study show the effect on fish reproduction is worse than we originally thought," said Professor Wu.

Following their 2016 study published in *Nature Communications*, this new study was published in 2019, in *Environmental Science & Technology*, another top-five% ranked journal. The latter found that the hypoxia, which is largely caused by fertiliser running off agricultural land and dropping into water, affected male fish as well as female. It is an urgent issue for the world's sea and freshwater ecosystems, as over 400 coastal 'dead zones' (water with less than 2 mg/L of dissolved oxygen) have been identified worldwide. Knock-on effects include birth defects and complications in the reproduction of fish, lasting at least several generations. "Even offspring that has never been exposed to hypoxia will be affected," explained Professor Wu.

The research team identified how hypoxia can also affect female marine fish over multiple generations, causing major distortions in

> *Science may come third in policymaking after politics and economics, but science should inform policy and help come up with solutions*

ovarian development, leading to a significant reduction in hatching success. This poses a significant threat to natural fish populations around the globe. Professor Wu stated that, at this rate, it can be deduced that fish species would eventually become extinct after several generations.

The study's findings have drawn attention as far afield as Europe, prompting the European Commission to feature the study in its *Science for Environment Policy* newsletter, which serves to inform policymakers across the continent on environmental management. It also has implications for human health, as hypoxia also commonly occurs in humans (e.g. sleep apnoea and high-altitude sickness), and the reproductive systems of humans and fish are 90% similar.

The research team hope that this important finding helps experts and policymakers around the world monitor and improve oxygen levels in the sea. Recently, they created a sensor to measure oxygen levels continuously in the ocean, which can automatically send oxygen data and alarm signals from afar. They are applying for patents in China, Europe and the United States with a view to commercialising it for practical uses. "Science may come third in policymaking after politics and economics, but science should inform policy and help come up with solutions," said Professor Wu.

Professor Wu and his research team

Eco-concrete blocks

constructing buildings and roads from everyday waste

According to government statistics, an average of 15,637 tonnes – more than 1,000 double-decker buses' weight – of solid waste was disposed of in landfills each day in 2019.

A mean of almost 240 tonnes of this daily total was made up of unavoidable by-products from water and sewage treatment processes. Although a sludge treatment facility was built to alleviate the growing pressure faced by landfills, it can only process some of the sludge.

Dr Chris Tsang Yiu-fai from the Department of Science and Environmental Studies and his research team have come up with an ingenious way of solving this problem. They have been exploring the possibility of reusing and recycling the waste residues into eco-construction materials. This eases pressure on waste treatment facilities and reduces energy consumption.

First production trials of the new waterworks-sludge paving blocks

Dr Chris Tsang

Associate Professor
Department of Science and Environmental Studies

> *This method has a two-way benefit: it reduces the use of natural resources and upcycles metropolitan waste*

By using waste sludge and combustion by-products from water and wastewater treatment plants, as well as coal-fired power stations, they have produced eco-concrete paving blocks. Instead of sand, which is typically used in making concrete, they have added bottom ash, fly ash, waterworks sludge and sewage sludge. "This method has a two-way benefit: it reduces the use of natural resources and upcycles metropolitan waste," Dr Tsang explained.

The engineering performance, including compressive strength, of the eco-concrete blocks complies with the General Specification for Civil Engineering Works in Hong Kong and the toxicity characteristics meet both Hong Kong and United States standards. Not only that, the eco-concrete blocks outdo other eco-construction blocks for a number of reasons: pre-treatment, transportation and storage costs are lower; and supply and quality of these waste residues are stable.

At the 2020 International Innovation and Invention Competition in Taiwan, the project won Silver Medal; and the Silver Medal at the 2021 International Exhibition of Inventions of Geneva. As a pilot project supported by the Water Supplies Department (WSD), the eco-concrete blocks derived from waterworks sludge will be used to construct a stretch of road next to the buildings at two local schools, one NGO, as well as the WSD visitor centre.

The next step will be to develop a standard treatment for unavoidable by-products from drinking water purification and waste recycling processes, and collaborate with commercial partners to produce this inexpensive source of eco-construction materials at an industrial level.

Waterworks sludge collection and water sampling at Tai Po Water Treatment Works

Touch Rugby
a game for the whole community

Dr Gary Chow (left) and students playing touch rugby

Touch rugby is a rapidly emerging sport in Hong Kong. Part of its appeal is that it does not have the physicality of other forms of rugby, so can be played by anyone, regardless of body type.

Its popularity has created demand for teaching resources for all levels, prompting EdUHK's Department of Health and Physical Education to launch the **HSBC Try Rugby Programme: EdU Touch Resource Pack** in 2017, with the support of HSBC and the Hong Kong Rugby Union. In its first two years alone, the programme allowed more than 35,000 children to learn about rugby for the first time.

Given that many physical education (PE) teachers and rugby coaches still lack relevant experience in how to provide training based on scientific evidence, EdUHK established an online rugby teaching resource library, aimed at schools and communities alike, to enable secondary school PE teachers, club coaches and even members of the youth representative team to start out and further improve skill levels.

Pilot testing of adopting GPS trackers for match-play analysis in touch rugby

> *"We want to provide the community with the latest touch rugby knowledge and technology, resource sharing, and teaching"*

The programme met with such an overwhelming response that the EdUHK team created a basic technical teaching pack for elementary school rugby. This second stage of online teaching resources showcases evidence-based research and advanced techniques and competition applications for touch rugby. In response to the changes in the current learning model, the materials are largely in graphical format, accompanied by short video demonstrations, to provide useful information for different audiences.

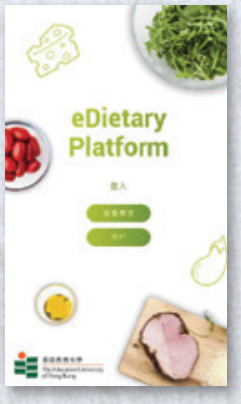
They cover all levels from beginner to experienced. "We want to provide the community with the latest touch rugby knowledge and technology, resource sharing, and teaching," said **Dr Gary Chow Chi-ching, Assistant Professor at the University's Department of Health and Physical Education**.

PLAY

The teaching pack has also been well received by teachers and coaches. "The filming technique is direct and clear. The teaching kit is extremely valuable and useful for all coaches and teachers who are eager to learn touch," said a rugby coach.

Whilst the programme can help the Hong Kong team compete at international level, it also represents an enjoyable way to help members of the community stay fit and healthy. "With this useful information, well-organised practice and competition, students are able to apply what they attained, continue to participate and enjoy it," a PE teacher said.

Healthy eating
there's an app for that!



The Hong Kong SAR Government's 2018-19 Health Behaviour Survey showed that around 96% of residents aged 15 or over consumed less than five portions of fruit and vegetables per day. Added to this, almost 10% of these people ate processed meat at least once a day, on average. The World Health Organisation states that an unhealthy diet and lack of physical activity are leading global risks to health, and its member states have agreed to halt the rise of diabetes and obesity in adults, teenagers, and of overweight children by 2025.

With this in mind, **Dr Louisa Chung Ming-yan** and her team have developed the **eDietary Platform**, an app for users to record their diet and monitor what they eat and drink. "To change eating habits, we can't merely deliver lectures on nutrition. We need a record of scientific facts," explained Dr Chung.

The eDietary Platform gives users a bespoke nutrition report

Users input their dietary record onto the app. Any food not already on the list can be added by simply uploading a photo. The app then gives users a bespoke nutrition report, taking into account personal details such as age, gender, height and weight.

The project team was awarded funding by the Food and Health Bureau under the Health Care Promotion Scheme. Through the feedback received, researchers found that using the eDietary app made younger adults more capable of matching food products to categories. Participants therefore understand how to reduce the risk of health problems and vulnerability to diseases and are encouraged to develop their own eating plan in terms of food and portion size change. In testing, the complete switch to healthy eating took 12 weeks.

As a start, the app has already been downloaded over 4,500 times to date, and its effectiveness was trialled in a study on how the use of such technology enhances the eating behaviour of young adults. "We formulated and tested the theory on eating behaviours when people monitor their diets online," said Dr Chung. People who have used the app have noted that it makes them realise the importance of enjoying healthy food. "It has encouraged me to develop the habit of recording my daily intake," said one. They suggested that the app could be used by young adults and children, as it helps youngsters learn about food classification, nutrients and quantities.

Dr Louisa Chung (right) and her research assistants with the eDietary Platform with which users monitor their diet

Dr Louisa Chung

Assistant Professor
Department of Health and Physical Education

Bringing the past to life

history has never been so animated!

Primary students catch a glimpse of Confucius's life in a short animation

Learning Chinese history is now even more fun for primary school children, thanks to a series of animated videos.

The **Animated Chinese History for Curious Minds** project is the work of EdUHK's Research Centre for Chinese Literature and Literary Culture. Sponsored by the Ning Po Residents Association, it was produced by the Modern Educational Research Society, Ltd.

and the Cantonese version was voiced-over by Commercial Radio actors.

Available in Cantonese, Putonghua and English, the series is designed to bring history to life in a lively and entertaining manner for children. It represents a move away from the traditional, information-heavy way of teaching the subject.

The Project team comprises scholars in Chinese history, culture and literature including (from left) Dr Hui Kwok-wai, Professor Si Chung-mou and Dr Fung Chi-wang

Rather than taking the traditional approach of focusing on dynastic cycles, scholars of the Department of Chinese Language Studies and the Department of Literature and Culture Studies have selected the life stories of 10 influential figures in Chinese history, spanning a wide range of eras and social strata. The project team researched the protagonists' lives and anecdotes to separate fact from legend, in the scriptwriting and storytelling of the animation.

They chose people who had a positive influence on society and, in some cases, a connection with Hong Kong. These figures are Confucius, Qu Yuan, Zhang Qian, Zhang Heng, Du Fu, Wen Tianxiang, Li Shizhen, Emperor Kang Xi, Sun Yat-sen and Cai Yuanpei. Apart from the videos, there are resources tailored for teachers, parents and schoolchildren.

Since its launch, this initiative has attracted over six million views. Teachers have observed that it has helped raise children's interest in Chinese history. "It makes me more interested in the subject. For example, I borrowed a history book after watching the animation," said one of the schoolchildren interviewed.

Learning Chinese with animation

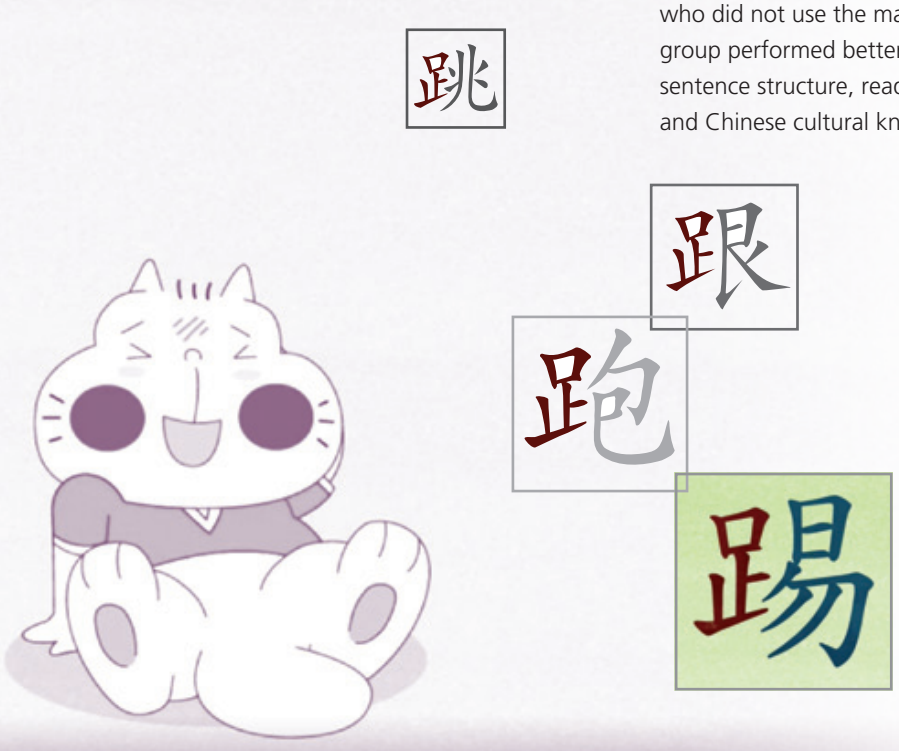
To pique children's interest in Chinese language and culture, the University has put together a range of multimedia teaching materials with animations for primary schools. The **Jockey Club from Words to Culture Programme: an Animated Way to Learn Chinese** project was launched in 2018 with the support from The Hong Kong Jockey Club Charities Trust.

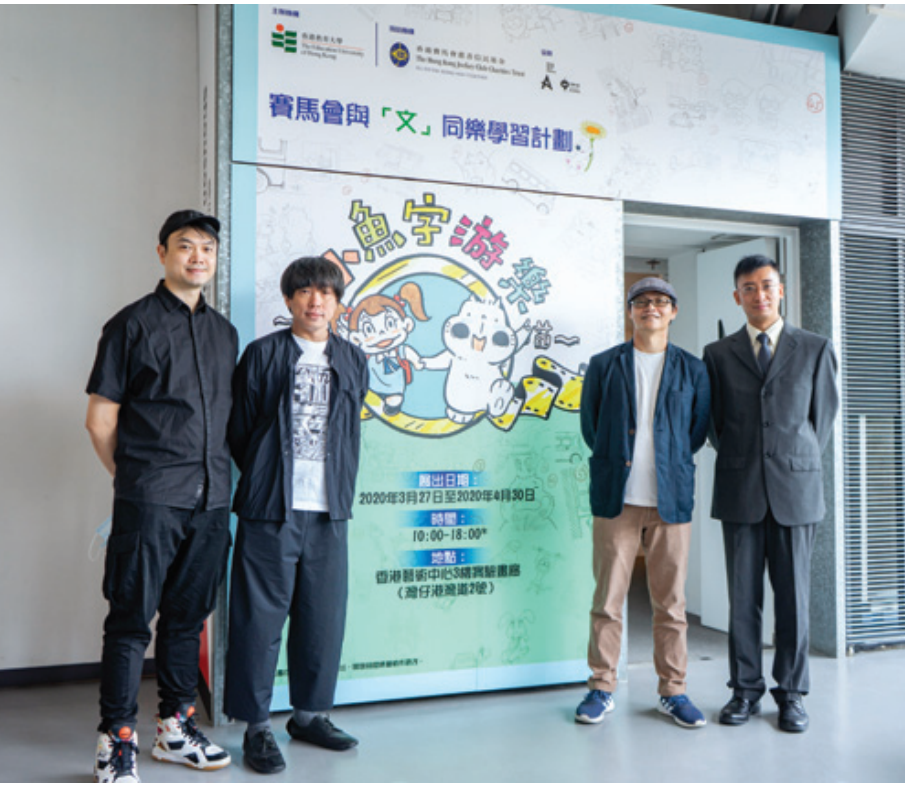
As part of the project, the University worked with famous local artist Chao Yat to create the animated series **Tiddler's Chinese Word Pool**. Each episode in the 24-part series opens with a Chinese base character (radical) and includes four characters and words in the story's plot.

The programme is led by EdUHK President, Professor Stephen Cheung Yan-leung, together with co-leaders Vice President (Academic) and Provost Professor John Lee Chi-kin; Professor Tong Ho-kin, former Dean of the Faculty of Humanities; Dr Tse Ka-ho of the Department of Chinese Language Studies; and Dr Fung Chi-wang of the Department of Literature and Cultural Studies.

The series is designed to help primary schools increase children's knowledge in Chinese language and culture develop moral values, in an interesting and lively way. Each episode is accompanied by a lesson plan and teaching materials and is available for free on the programme website.

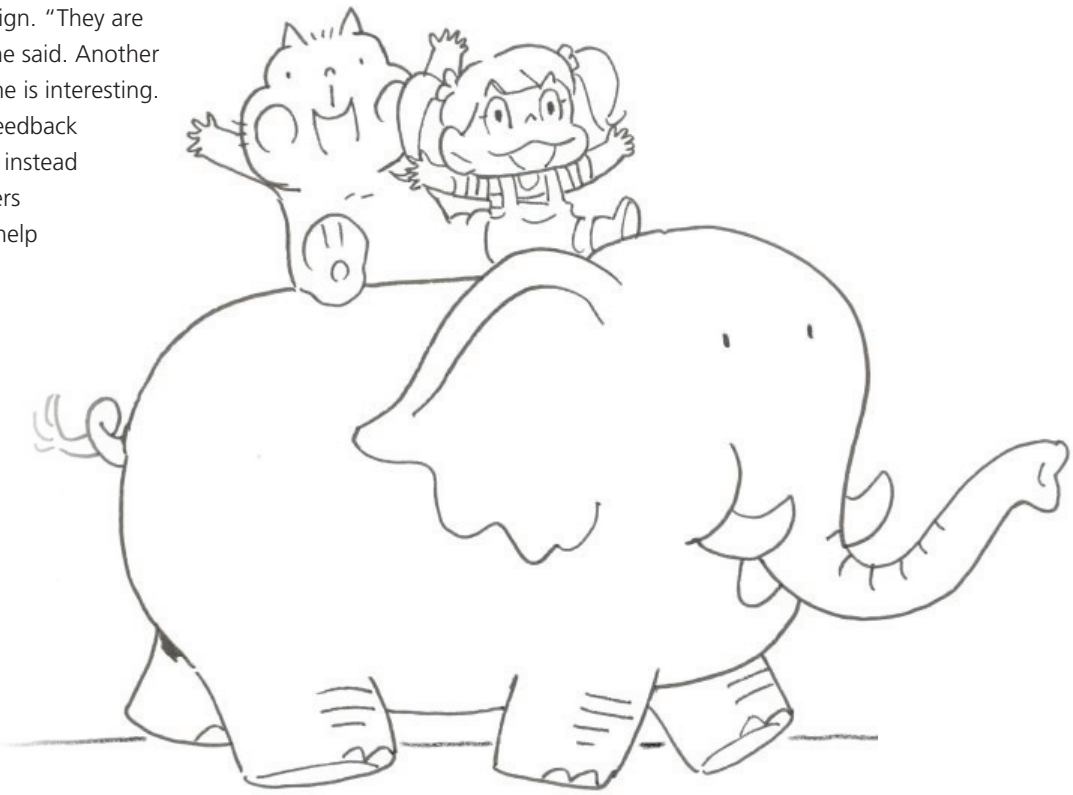
The 19 episodes which have been released so far have accumulated over 670,000 views. Furthermore, a study of more than 1,500 primary school children revealed that those who were taught using the teaching materials scored 11% higher on average than those who did not use the materials. The former group performed better in word recognition, sentence structure, reading comprehension, and Chinese cultural knowledge.





(From left) Mr Law Man-lok, animation producer, Mr Kong Kee, Director of Tiddler's Chinese Word Pool; Chao Yat (Mr Leung Chung-kei); and Dr Fung Chi-wang, Project co-leader

The resources are in line with the primary school curriculum which focuses on listening and speaking skills. Teachers using them have said that they are rich and complete in content and thoughtful in design. "They are very attractive to children," one said. Another teacher added, "The web game is interesting. Students can get immediate feedback when they answer incorrectly, instead of waiting until after all answers are answered. I believe it can help students learn."



Dr Leung teaches his son Skylar in using his award-winning Grid Notation innovation with the e-Orch app

Dr Leung Chi-hin
Assistant Professor
Department of Cultural and Creative Arts

e-Orch
a user-friendly way to make music

The conventional composer-performer-audience model requires students to spend a large amount of time learning complex musical notation and instrumental skills before enjoying the process of music-making. This makes music inaccessible for many, who therefore give up at an early age.

Having graduated in education at EdUHK and become a music educator, composer and entrepreneur, **Dr Leung Chi-hin** has spent many years finding ways to break down these barriers. "We are all born with musical ability. Classical music teaching discourages spontaneity," he added. His 'e-Orch' digital music project enables schoolchildren to create and perform music, as well as record and edit musical videos. There are downloadable apps, which encourage primary and secondary schoolchildren to work in groups. They can learn how to make a variation of a famous melody or an original composition inspired by famous composers, and record and edit videos of their performances, which can be shared live or posted on social media.

The project falls in line with the philosophy that schools shift from teacher-centred to student-centred music learning, through participation in integrated activities of creating, performing

and listening. The award-winning* Grid Notation system makes music score-reading easier than ever, and e-Orch gives users the ability to make, record and share music with just a tap on a tablet. The result is that children of all musical abilities and backgrounds can be involved immediately in making music. "It's about adapting music to the modern world," said Dr Leung.

Photo: TR Concept & Visual

Educators have found e-Orch highly useful. Tse Yan-wah, head of music in a primary school, said, "In the training process, students become passionate and devoted learners. Even though some of them have little musical literacy, students are empowered with the use of simple apps in ensemble training, bringing immense satisfaction to them." More than 20 schools – both primary and secondary are already participating in the project. "e-Orch greatly stimulates students' interest in music and motivates learners to actively participate in practising," said e-Orch conductor Helen Lau Hiu-lam. "My students enjoy playing on e-Orch as they have more opportunities to play various virtual instruments. I believe this greatly helps them to choose their favourite acoustic instrument to play in the future," explained primary school head of music Esther Lui Ching.

* *2018 Gold Medal winner iCAN, Toronto (Canada), and 2019 Bronze Medal winner at the 71st iENA in Nuremberg (Germany)*

e-Orch

3Es helps children's emotional growth

A vital part of a child's development is learning to regulate emotions and build relationships: often called 'socioemotional competence'. To encourage this life-long learning, the University, with the support of the Simon K. Y. Lee Foundation, has created the 3Es project. The project is in its sixth year and its name represents the goals of early prevention, early identification and early intervention, where local children encounter difficulties in reading and arithmetic (hard skills), and in managing emotions and behaviour (soft skills).

The University launched this evidence-based intervention programme in 2015 and it was initially operated in 24 kindergartens, benefiting some 1,400 children and their parents and teachers. **Professor Kevin Chung Kien-hoa**, **Dr Ian Lam Chun-bun** and the 3Es team conducted a study during the programme's four-year term to measure its effectiveness.

Based on both qualitative and quantitative data collected from the children, results showed that 3Es helped the children's cognitive control, emotional understanding, emotional expressiveness, empathy and other behaviours intended to help others. These are skills which experts consider crucial for subsistence and success in the 21st century.

The study was published in one top-five% and six top-10-15% ranked academic journals, and the team further expanded the reach of

> *With the right support, children from any background can have a better future*

Professor Kevin Chung

Chair Professor of Child Development and Special Education,
Department of Early Childhood Education,
Director of the Centre for Child and Family Science

its outcomes by developing several in-service teacher-training programmes. The scholars also shared their work in the form of newsletters, teaching aids and learning activities for parents and children. The learning materials can be downloaded through the 3Es website and social media platforms.

Following on from this success, the 3Es programme was extended in 2019 to reach kindergartens located in economically disadvantaged areas. The Education Bureau has since invited all kindergartens in Hong Kong to participate, using two formats. The first is school-based teacher training, provided by educational psychologists and school development officers. The second format comprises joint school workshops and sharing sessions, enabling kindergartens to learn from each other's experiences. Both will begin in September 2021 and will run for two years.

"With the right support, children from any background can have a better future," said project leader, Professor Chung. "We want to provide such support in the early years, together with parents and teachers," he added.

Early prevention
Early identification
Early intervention

Innovative ways to test hearing

EdUHK audiology experts have found improved ways to test the hearing of the young and elderly through technological innovation.

MAndarin spoken word-Picture IDentification test in noise-Adaptive, or **MAPID-A**, is an award-winning* computerised testing system which assesses young children's speech recognition in noisy environments. "It helps frontline professionals, including speech therapists, audiologists, special needs educators, educational and clinical psychologists, to assess the abilities of children with special educational needs in environments with different types and directions of noise," said **Dr Kevin Yuen Chi-pun, project leader and Director of EdUHK's Integrated Centre for Wellbeing**.

By using MAPID-A, three-year-old children can be reliably tested in just four minutes on average. An assessment tool with such a short testing time for young children has not previously been available in the Chinese-speaking communities and is very scarce globally. The system can be used clinically in hearing clinics, hospitals and schools to

* *International Invention Innovation Competition in Canada 2020 Gold Medal, Special Award presented by Toronto International Society of Innovation & Advanced Skills, Top 20 Best Invention; and International Innovation and Invention Competition Taiwan 2020 Gold Medal*

** *Bronze Award at the 2019 International Exhibition of Inventions of Geneva*

investigate young children who have concerns in listening; especially in noisy environments. MAPID-A can identify children at risk from subtle communication disorders and those who may have transient or permanent hearing impairments. For children who are found to have permanent hearing impairments and need to use hearing devices, the system can compare how they perform compared to their normal hearing peers, and discover if their current hearing device is giving optimal benefits.

The innovation is based on the concept of signal-to-noise ratio (SNR) between speech signals and interfering noise, such as engines, fans or multiple people speaking. "MAPID-A appears to be a promising clinical tool that, with its high sensitivity and test-retest reliability, helps clinicians quickly and more confidently evaluate young children's speech recognition in noisy environments," said Dafannas Tam Yiu-ting, clinical audiologist at Hong Kong Children's Hospital.

Dr Yuen and his team assessed a girl with a profound hearing impairment using different types of noise and from various directions. The girl's mother said MAPID-A was unique among the many hearing tests her daughter had experienced. "It is extremely important for us to understand her hearing situation in everyday life with noises. The whole test is very user-friendly. It allows young children to interact through games," the girl's mother explained.

Dr Anna Kam Chi-shan, Associate Professor of the Department of Special Education and Counselling has developed an award-winning** mobile app to help the elderly test their hearing at home, thus avoiding the cost and inconvenience of visiting a clinic. "The clinic testing machines are bulky, complicated, and must be operated by a medical professional. Most importantly, the test has to be performed in a soundproof booth. By using noise-cancelling headphones, this new test can be done in most quiet places. Our app also simulates background noise to examine speech recognition in difficult environments, so as to detect auditory processing difficulties which often reveal the very early stages of dementia," explained Dr Kam. The app has proven to be of great help, "I can't hear very well now that I'm older," said one user. "But it was costly and difficult for me to monitor my situation in the past. Now I can check any time I want."

Dr Kean Poon

Assistant Professor, Associate Head of Department of Special Education and Counselling

i-Maze
learn while you game

Children with attention deficit hyperactivity disorder (ADHD) or reading difficulties (RD) tend to struggle with working memory and literacy. To help overcome these obstacles, **Dr Kean Poon Kei-yan,** a registered educational psychologist, has developed **i-Maze** – the first-ever Chinese-character-focused gaming app for young children with special educational needs (SEN).

i-Maze is designed to integrate creative technology and play-based learning into special education, and improve working memory and academic-related abilities. Over a total of 25 days (with 50 game levels), players experience an immersive magical universe through the eyes of two heroes, as they venture to save a world at the brink of destruction by industrial pollution. The game's different levels alternate between two types of working memory task.

In one type of task, words with similar or the same phonemes or visual structures are shown to children. For each item in the sequence, they need to judge whether it matches those presented previously. For the card-pairing task, children must find the matching pairs of cards based on similar phonemes or visual structures. Each level gets progressively harder with more cards in each round.

One of the challenges which is part of the i-Maze gaming app

Shortly after i-Maze's launch in 2017, over a hundred primary school students aged seven to 10 with ADHD and/or RD signed up for the game. Preliminary results revealed significant improvement in their working memory, as well as literacy skills after the training.

"It is crucial to include fun and play elements in our education system, especially when guiding SEN children. This helps cultivate their interest and sustain their motivation in learning new things," said Dr Poon. "I am so excited to see that the data captured from the study shows that the app helps students with ADHD and dyslexia develop their attention levels via visual, audio and spatial training, and to learn effectively with innovative technology," she added.

Pre-service and in-service teachers have given positive feedback after using i-Maze in classes, saying the app is an efficient and constructive tool to facilitate daily teaching of students with SEN. Some said they liked the storyline and thought it could help their students with ADHD to stay focused.

Other teachers have asked for an English-language version of i-Maze to be developed. Dr Poon is working on this now and expects to launch it shortly. This will help generate more data for analysis, and further enhance the effectiveness of the app in learning and teaching for students with SEN.

EASE FUND

Education And Social Entrepreneurs Fund Scheme

Innovation with EASE

EASE is a seed funding scheme run by EdUHK to support students and alumni in starting up a sustainable venture relating to EdTech, educational innovation and social innovation. It began in 2018/19 as a competition open to students and alumni, offering HK$120,000 in seed capital to three winning projects.

In its 2019/20 iteration, the scheme evolved into a platform for students, alumni and University staff which, alongside seed funding to the winners, offered workshops, consultations and mentorships on entrepreneurship to candidates. The number of applicants doubled to 40, from which five winning projects received up to HK$150,000 each.

The 2019/20 programme received very positive feedback from the Youth Development Committee, which selected EdUHK as one of 16 NGOs to receive Youth Development Fund support. Consequently, awardees in the next two cohorts will receive up to HK$600,000 in seed funding over a three-year period to support their business in Hong Kong and the Greater Bay Area.

Professor Stephen Chow Cheuk-fai (second right), Director of Knowledge Transfer, and the Sub-Office team heads (from left): Dickson Yeung Shu-yuen, Lemon Kwan Hok-ming and Connie Fung Yuen-ping

Project LEARNT:
academic and financial support for underprivileged students

Co-founded by Dr Wilbert Law, Assistant Professor at the Department of Psychology, and alumnus Jack Wan, this start-up runs a social enterprise that makes use of the slow periods of a restaurant as a co-learning space. In addition to offering space for tutorials and other learning activities, they recruit qualified or prospective teachers as tutors to support students from low-income families. The team won EASE funding in 2018/19 and have since been awarded further financial support through Good Seed 2020 (supported by the Hong Kong SAR Government's Social Innovation and Entrepreneurship Development Fund).

Stardust Hall:
nurturing moral education through picture books

Founded by kindergarten teacher and alumna Steffie Lui, Stardust Hall launched the first series of storybooks 'Contagious Magic of Moral Education' after winning EASE funding in 2018/19. Unlike traditional, wordy content, the series focuses on original storylines and illustrations, providing opportunity to respond and discuss. Over 500 books have been sold to the public, and some schools have used the storybooks as teaching materials. Following positive feedback from teachers and parents, Stardust Hall is aiming to extend the moral book series to junior primary school children.

Lighten Dementia:
removing obstacles for people with dementia

Lighten Dementia is a social venture set up to meet the cognitive training needs of people with dementia and their caregivers, and address the limited public understanding of the condition. It does this through the design, development and manufacture of games for elderly people with dementia, focusing on six neurocognitive domains and physical functions.

The start-up was created by teacher and EdUHK alumna Christine Chan Ka-kei with a team of designers and healthcare professionals. It won EASE funding in 2019/20 and recently received a grant in the Hong Kong Federation of Youth Groups' Inno Impact Project competition.

Earth Melon Project:
parent-child drama concept game pack

The Earth Melon project is a parent-child game pack, which is composed of ideas from drama and education professionals. The game pack is designed to enable children to gradually acquire skills and positive attitudes through drama, and enjoy high quality parent-child time. The theme of the games is to promote the United Nations' Sustainability Development Goals and raise awareness on the climate crisis.

Apart from winning EASE funding in 2019/20, the team also entered the final round of the idea stage of Climate Action Recognition Scheme 2020/21.

EdUHK scholars among World's Top 2% Scientists

Stanford University's 2019 list of researchers in the world by citation impact

Name	Position	Field	Citation impact list
Professor Cheng Sheung-Tak	Chair Professor of Psychology and Gerontology, Department of Health and Physical Education	Geriatrics	Career-long & Single year
Dr Eddie Cheng Wai-lun	Assistant Professor, Department of Social Sciences	Building and Construction	Career-long & Single year
Professor Cheng Yin-cheong	Emeritus Professor (Education), Department of Education Policy and Leadership	Education	Career-long
Professor Stephen Cheung Yan-leung	Chair Professor of Public Policy, Department of Asian and Policy Studies	Finance	Career-long
Professor Chiu Ming Ming	Chair Professor of Analytics and Diversity, Department of Special Education and Counselling	Education	Career-long & Single year
Professor Chou Kee-lee	Chair Professor of Social Policy, Department of Asian and Policy Studies	Geriatrics	Career-long & Single year
Professor Kevin Chung Kien-hoa	Chair Professor of Child Development and Special Education, Department of Early Childhood Education	Education	Single year
Dr Jesus Alfonso D. Datu	Assistant Professor, Department of Special Education and Counselling	Social Psychology	Single year
Dr Victor Ho Kwok-pun	Assistant Professor, Department of Mathematics and Information Technology	General Mathematics	Single year
Professor Keith Ho Wing-kei	Professor, Department of Science and Environmental Studies	Physical Chemistry	Career-long & Single year
Professor Jim Chi-yung	Research Chair Professor of Geography and Environmental Science, Department of Social Sciences	Urban and Regional Planning	Career-long & Single year

Name	Position	Field	Citation impact list
Dr Ronnel B. King	Adjunct Associate Professor, Department of Curriculum and Instruction	Education	Career-long & Single year
Professor Kong Siu-cheung	Professor, Department of Mathematics and Information Technology	Education	Single year
Dr Li Wai-chin	Associate Professor, Department of Science and Environmental Studies	Environmental Sciences	Single year
Professor Lim Cher Ping	Chair Professor of Learning Technologies and Innovation, Department of Curriculum and Instruction	Education	Career-long
Professor Dennis M. McInerney	Honorary Professor, Department of Special Education and Counselling	Education	Career-long & Single year
Professor John Trent	Professor (Practice), Department of English Language Education	Education	Single year
Dr Tsang Yiu-fai	Associate Professor, Department of Science and Environmental Studies	Biotechnology	Single year
Professor Allan Walker	Adjunct Chair Professor of International Educational Leadership, Department of Education Policy and Leadership	Education	Career-long
Professor Wong Ming-hung	Advisor (Environmental Science), Department of Science and Environmental Studies	Environmental Sciences	Career-long & Single year
Professor Woo Chi-keung	Professor, Department of Asian and Policy Studies	Energy	Career-long & Single year
Professor Rudolf Wu Shiu-sun	Advisor (Environmental Science), Department of Science and Environmental Studies	Marine Biology and Hydrobiology	Career-long & Single year

(in alphabetical order, by surname)

International awards won by EdUHK projects 2020/21

International Invention Innovation Competition in Canada iCAN

Project title	Investigator(s)	Award(s)
Automatic Children Hearing and Listening in Noise Ability Screening System	Dr Anna Kam Chi-shan, Department of Special Education and Counselling	Best Woman Inventor Award, Silver Medal, Special Prize
Computerised Working Memory Training for Students with ADHD and RD	Dr Kean Poon Kei-yan, Department of Special Education and Counselling	Best Woman Inventor Award, Silver Medal, Special Prize
Environmental Pollution Control through Practices: from "Waste" to "Treatment"	Dr Chris Tsang Yiu-fai, Department of Science and Environmental Studies	Top 20 Best Invention Awards, Gold Medal, Special Prize
m-Orchestrate: a Mobile App for Teacher Orchestration in Collaborative Science Inquiry	Dr Song Yanjie and Mr Cao Jiaxin, Department of Mathematics and Information Technology	Silver Medal, Special Prize
Remote-controlled Digital Hydrometer	Professor Yeung Yau-yuen & Miss Leyla Liu Yan, Department of Science and Environmental Studies	Gold Medal, Special Prize
The MAndarin spoken word-Picture IDentification test in noise – Adaptive (MAPID-A)	Dr Kevin Yuen Chi-pun, Department of Special Education and Counselling	Top 20 Best Invention Awards, Gold Medal, Special Prize

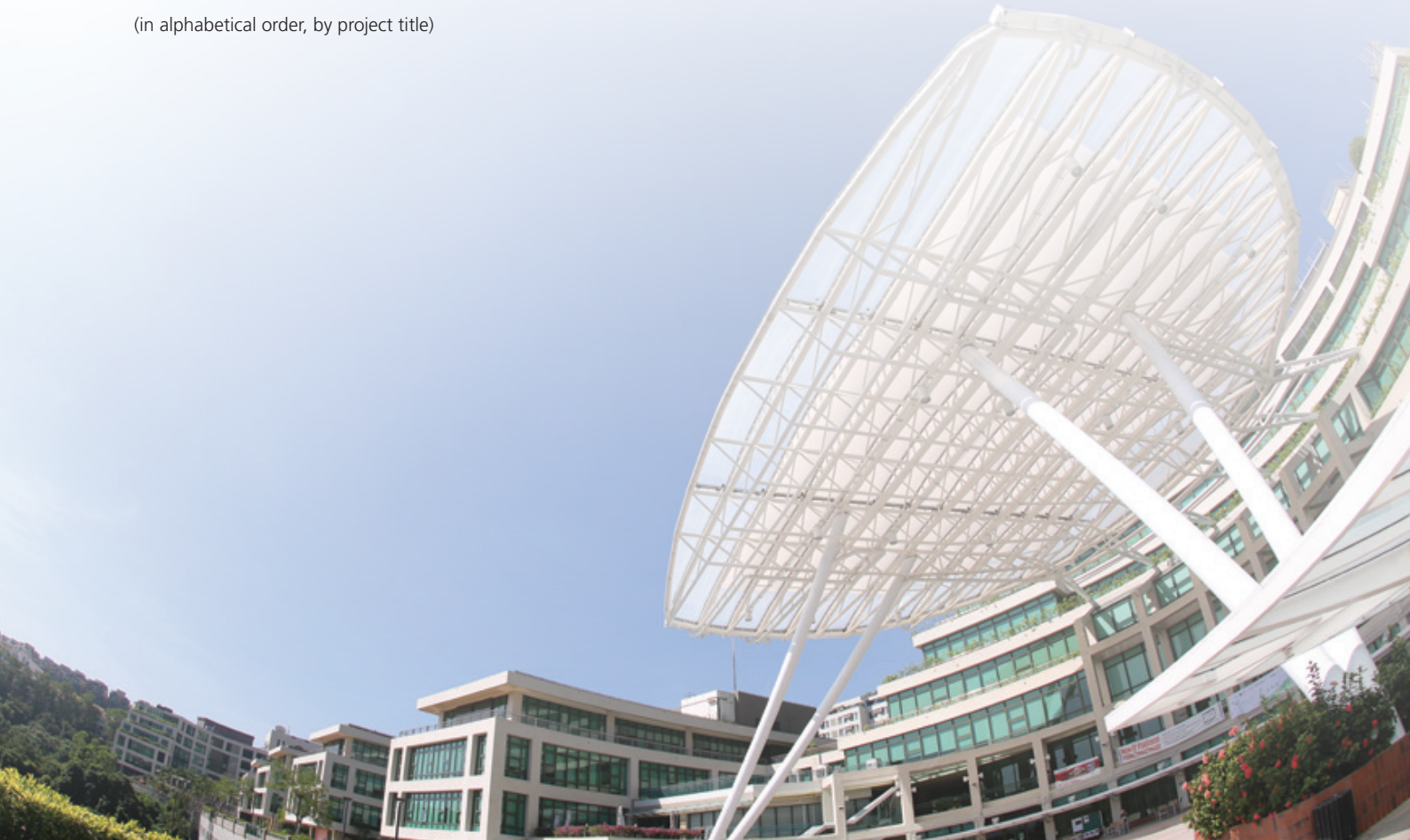
International Exhibition of Inventions, Geneva IEIG

Project title	Investigator(s)	Award
CanPro – Data-driven Cantonese Pronunciation Practice through Common Daily Expressions	Dr Andy Chin Chi-on, Department of Linguistics and Modern Language Studies	Silver Medal
Drug-Related Attentional Bias in Drug Abusers and Rehabilitated Drug Abusers	Professor Leung Chi-hung, Department of Special Education and Counselling; Mr Jacky Chao Chac-kei, Integrated Centre for Wellbeing	Silver Medal
Innovative Indoor Air Quality Monitoring and Education Kit	Dr Deng Wenjing, Department of Science and Environmental Studies	Silver Medal
Online Assessment System for Individual Scores (OASIS)	Professor Woo Chi-keung, Department of Asian and Policy Studies *Co-investigator:* Dr Henry So Chi-fuk, Department of Mathematics and Information Technology	Gold Medal
Portable Interactive Meditation Mirror	Dr Hung Keung, Department of Cultural and Creative Arts	Gold Medal
Tree Assessment for Life Education (TALE) Project	Professor Jim Chi-yung, Department of Social Sciences; Professor John Lee Chi-kin, Vice President (Academic) and Provost	Silver Medal
Utilisation of Waste Residues as Resources in Producing Sustainable Construction Materials	Dr Chris Tsang Yiu-fai & Mr Cheng Wai-nam, Department of Science and Environmental Studies	Silver Medal

International Innovation and Invention Competition, Taiwan IIIC

Project title	Investigator(s)	Award
An Emotion Recognition System Based on The Deep Neural Network	Dr Zou Di, Department of English Language Education *Co-investigator:* Professor Chou Kee-lee, Department of Asian and Policy Studies	Silver Medal
Eco-concrete Block Utilising Waste Sludge	Dr Chris Tsang Yiu-fai, Department of Science and Environmental Studies	Silver Medal
Online Assessment System for Individual Scores (OASIS)	Professor Woo Chi-keung, Department of Asian and Policy Studies *Co-investigator:* Dr Henry So Chi-fuk, Department of Mathematics and Information Technology	Gold Medal
Portable Interactive Meditation Mirror	Dr Hung Keung, Department of Cultural and Creative Arts	Gold Medal
The MAndarin spoken word-Picture IDentification test in noise – Adaptive (MAPID-A)	Dr Kevin Yuen Chi-pun, Department of Special Education and Counselling	Gold Medal
VocabGO – An Augmented Reality English Vocabulary Learning App	Dr Song Yanjie, Department of Mathematics and Information Technology *Co-investigators:* Dr Lai Yiu-chi, Dr Alpha Ling Man-ho & Mr Wu Kaiyi, Department of Mathematics and Information Technology	Gold Medal

(in alphabetical order, by project title)

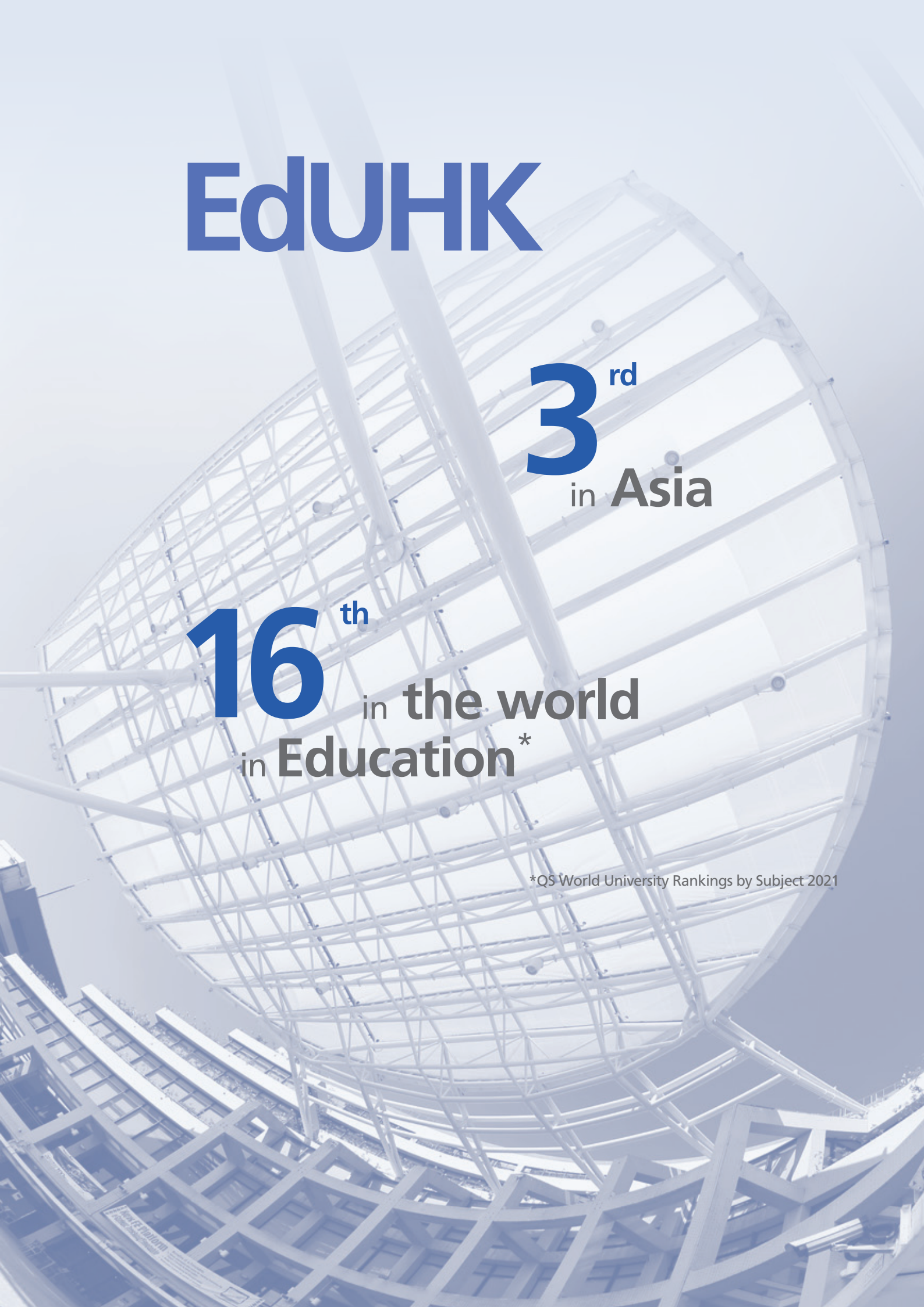


Enquiries may be directed to
Communications Office
The Education University of Hong Kong

10 Lo Ping Road, Tai Po,
New Territories, Hong Kong
Tel: (852) 2948 6050
Fax: (852) 2948 6046
Email: co@eduhk.hk

Website: www.eduhk.hk
Facebook: www.facebook.com/EdUHK.hk
Instagram: www.instagram.com/eduhk.hk

This booklet is printed on environmentally friendly and elemental chlorine free paper


EdUHK
3rd
in Asia
16th
in the world
in Education*
*QS World University Rankings by Subject 2021