SECTION

03

Strategic Initiatives on Data Usage and Support

Improving QA&E by Predicting At-risk Student Performance using Data Analytic Methods

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Predicting how students will perform over the course of their academic careers is a complex task that is of particular importance to EdUHK staff. The key to this is identifying which students are facing issues that negatively impact their academic performance. Problems must be identified early enough so that staff can resolve any issues before they develop into larger ongoing problems for individual students. To address such issues, our team is charged with the task of using large amounts of data collected by the University to enhance and improve students' learning. Our aim is to identify students at differing levels of achievement, including at-risk students and upper-end students. Using computer-mediated procedures and statistical algorithms, we can identify currently "at risk" students and impactful courses in a handful of academic programmes using by implementing Lasso (least absolute shrinkage and selection operator) regression modeling to predict GPAs at graduation and the optimisation of our at-risk cutoff for GPA predictions using the AUC (area under the curve). Cycles of training, testing, and evaluation of data across years of student cohorts allow us to assess the quality of our analysis, which is quite high.

At the programme-level, we use data from Years 1 and 2 to develop predictions of cumulative GPA results at both Year 3 and graduation to make early assessments of students' overall performance. "At risk" students are defined as those whose predicted Year 3 or graduating GPA falls below 2.50 (Third Class Honours). An analogous procedure is extended to the course level, which is carried out while a course is being taught. For course-level analysis, we predict students' final course grades according to their previous GPAs, grades from correlated courses, Moodle usage data, and marks on assessments from within the first half of the course. By Week 8, predictions of course grades are generated and passed onto the instructor. Here, we define "at risk" as earning a projected grade of C or below. For both

programme- and course-level work, we additionally examine variables selected by the lasso analysis that most strongly impact the outcome variable (cumulative GPA or final course grade) across cohorts and make note of any systematic patterns.

To make use of large data to enhance the quality of academic instruction and student learning, we must communicate with and coordinate between multiple units within the University. The Office of the Chief Information Officer (OCIO) staff assist us in obtaining and organising the data files that are necessary for our analysis on various courses and programmes. OCIO staff also help secure and anonymise data linked to student identities as well as serve as a liaison in cases where students' identities need to be revealed to academic staff. As part of the quality-assurance component of our project, we provide analysis results to the corresponding academic staff person in the form of a list of potentially at-risk students in need of extra support and a list of predictors in the relevant model, including a list of impactful courses or assignments. Our results are further communicated in consultation meetings and sending analysis reports to academic staff so that they have the necessary information and tools to plan and implement interventions for students in their programme or course. To date, we have completed the analysis for the current cohorts of 10 academic programmes across the three Faculties for the 2020-21 and 2021-22 Academic Years. Course-level analysis has been completed for four Semester 1 courses and for two Semester 2 courses in the 2022-23 Academic Year, and those results have been communicated to corresponding instructors.

A typical first step towards handling students who struggle academically is to send warning messages or hold one-on-one meetings. However, students may perceive such efforts to support as punitive and/or anxiety-inducing. To further help academic staff decide on remedial actions for supporting at-

risk students, we suggest to them some alternative support strategies, such as offering additional tutorials and arranging a peer tutoring with students who have previously achieved success in relevant courses. For an account of how our work has been applied towards intervention for a specific course, please refer to the article in this newsletter authored by Dr Joyce Kwan titled "Enhancing the Student Learning Outcomes of Potentially At-Risk Students in Psychology Courses through the Use of Data Analytics". In response to our analysis, instructors in five foundational Mathematics courses and three core Psychology courses have introduced tutorials led by peer tutors who have previously performed well in those courses. Preliminary analysis of the effect of intervention on students' grades in these courses suggests that peer-led tutorials have substantially improved performance among lower-end students.
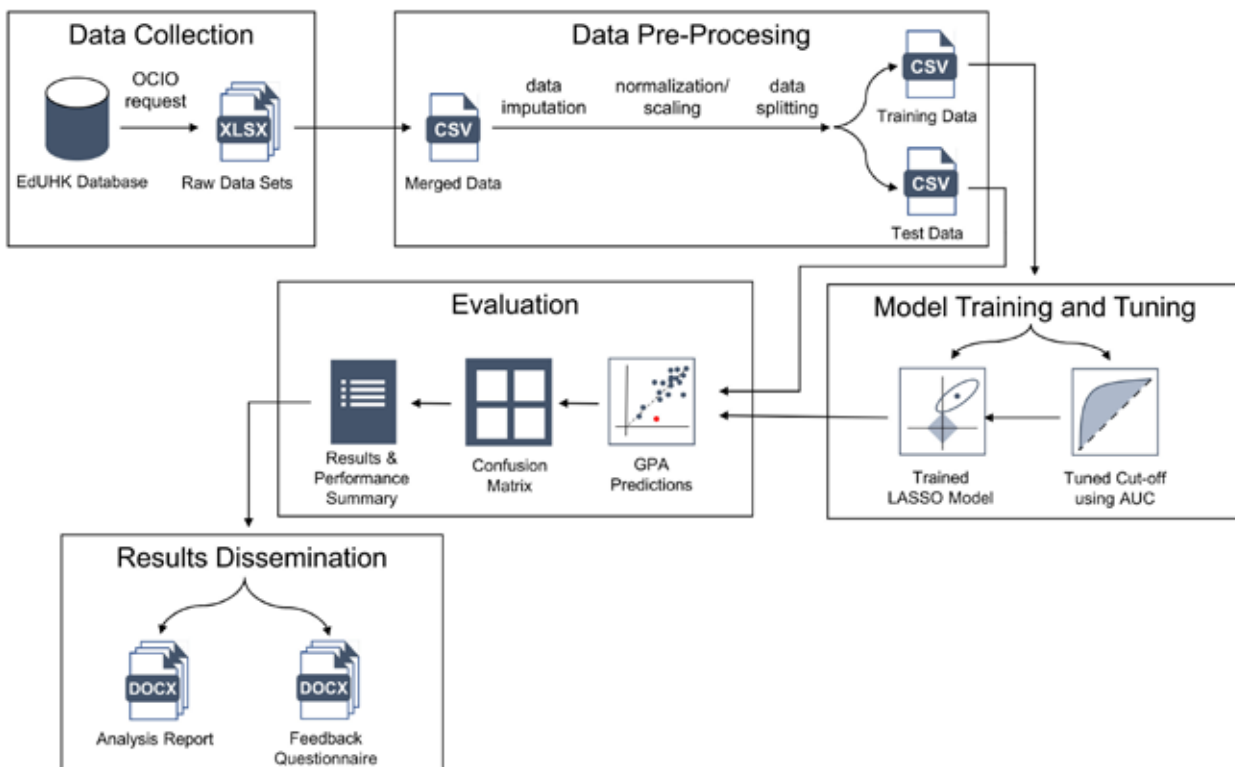
Overview of the overall workflow and research methodology for this project at both the programme and course levels.

Course Level Analysis Timeline
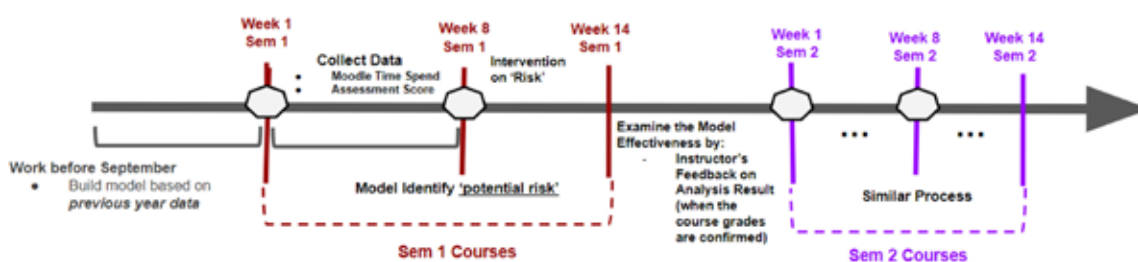
Workflow timeline for the course-level analysis over the course of Semesters 1 and 2 during the academic year.

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Enhancing the Student Learning Outcomes of Potentially at-Risk Students in Psychology Courses through the Use of Data Analytics

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As a course instructor, it is always challenging to provide additional support to the at-risk students in a course. One reason is that it is difficult to identify the at-risk students when the instructors have little information about students' performance in the course assessment. For example, in my statistics courses for the psychology students, the potentially at-risk students can generally be classified into three groups: (1) students with special needs; (2) students with a consistently low GPA; and (3) students with unstable performance in different courses. Whereas it is easier to keep track of the first two groups of these students, it is often more difficult for instructors to identify the third group based on their behaviours in the classroom. This is particularly true when it comes to the statistics course for the psychology students because some students who do well in other psychology courses may have difficulty in learning statistics due to their fear in numbers and statistics. The learning issues faced by this third group of potentially at-risk students usually can only be unveiled when instructors grade the individual assessment tasks such as quizzes and course essays and it is then too late to do any intervention to help the students. Data analytics can be particularly helpful to identify this group of potentially at-risk students as it can make predictions of students' final course grades by taking into account both in-course assessment results and the student profile data, which is usually inaccessible to the course instructors. In addition, it also helps instructors to find out the key indicators (such as grades in courses that are highly correlated with the current course) and diagnose the learning issues faced by the identified students. This empowers instructors to provide earlier intervention or support to enhance the learning outcome of the at-risk students.

With the support from the project team of the CRAC Project "Improving QA&E by Predicting Student Performance Using Data Analytics", course instructors of three psychology courses (PSY2001 Biological Psychology, PSY2008 Cognitive Psychology, and PSY3033 Statistical Methods in Psychology II) identified potentially at-risk students (predicted course grade = C or below) in the course by using data analytics. In each course-level analysis, the project team first used data collected from the previous cohort of students, including students' previous GPAs, previous course grades, and learning data such as Moodle activity data and course assessment results from the first seven weeks of the course to build a prediction model of students' final course grades and identify the key indicators of students' performance in the course by applying Lasso Regression.
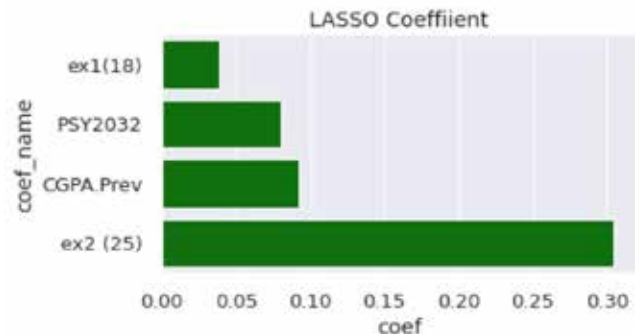
Enhancing the Student Learning Outcomes of Potentially at-Risk Students in Psychology Courses – 1:
Key indicators of students' performance in a course (e.g., PSY3033) were revealed through the use of data analytics.

Key indicators of students' performance in a course (e.g., PSY3033) were revealed through the use of data analytics.

At around the eighth teaching week, the team then used the data collected from the current cohort of students and used the prediction model to predict students' final course grades, and identified the potentially at-risk students. Based on course-level analysis results, course instructors took follow-up action and provided learning support such as individual consultations to the identified students when deemed necessary.

As a follow-up of the data analytics results, the three psychology course instructors have run a pilot peer tutoring scheme in the course using the funding support from the Specific Student Empowerment Work Scheme of the Student Affairs Office of EdUHK to provide additional learning support for the students. In the peer tutoring scheme, peer tutors who took the same course last year provided consultation sessions, led the study group, and also prepared learning tips for the students. Students who have joined the scheme reflected that the peer tutoring scheme was helpful to their learning. Students felt more comfortable to approach the peer tutors, as compared to the instructors. As the peer tutors might have experienced and shared the same questions and difficulties when they studied the course, students also said that the peer tutors could understand their questions better and could take their perspective when they explained the answers to them. In addition, student performance data (i.e., actual course grades) also provided support for the usage of data analytics and the effectiveness of the peer tutoring scheme. The percentage of students who got grade C or below was lower compared to last year, and the actual number of at-risk students was lower than the predicted number of potentially at-risk students.

Enhancing the Student Learning Outcomes of Potentially at-Risk Students in Psychology Courses – 2:
Enhancing the Student Learning Outcomes of Potentially at-Risk Students in Psychology Courses – 3:
Peer tutors met with students for the study group and consultation.

Despite the students' positive comments about the peer tutoring scheme, our three psychology course instructors shared similar concern in providing actual help for the potentially at-risk students. In fact, not all potentially at-risk students were willing to join the intervention, and students who participated in the consultation sessions and study group were usually those with high motivation in the class. Therefore, some potentially at-risk students might still miss out on the intervention. It is necessary to explore effective ways of encouraging these potentially at-risk students to join the intervention (e.g., peer tutoring) and ensure that these students receive the support they need.

Data analytics has shown promising results in helping instructors identify potentially at-risk students and provide early intervention. However, the accuracy of the prediction may vary across different courses. For example, the correlation between predicted scores and actual scores varied from 0.4 to 0.8 in the three psychology courses. In general, a mid-term assessment that can differentiate student learning outcomes will form an important indicator to improve the accuracy of the prediction model. In the future, course instructors may collaborate with the project team to design better assessment tasks and profiles that can provide more precise information about students' performance in their courses and can maximum the model performance in the course-level analysis. In addition, the project team may also consider automating the course-level analysis so that course instructors can employ this useful tool to support their teaching and learning activities.

Overall, data analytics provides a valuable tool to support student learning. However, there are still challenges to improving the accuracy of prediction and facilitating the use of data analytics by course instructors to enhance student learning outcomes. Ongoing effort is needed to increase the effectiveness of data analytics in predicting the potentially at-risk students.

Context-based Research for Promoting Blended and Online Teaching in the Humanities

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Twelve academic and teaching colleagues from five departments of the Faculty of Humanities joined the FHM HUMBOL project (*Humanities: Blended and Online Learning*) in order to develop and share a set of best practices for using online resources in teaching the humanities. Participants were challenged to develop their technology-enhanced teaching skills to a level consistent with the quality of the best online courses available at top universities in the world.

As a complement to the technical training offered by the LTTC and OCIO, the 12 project team members developed case studies of online teaching that situated the technical aspects of online teaching practices in the context of their respective humanities courses. This experience and the related research data and dissemination through seminars, workshops and online sharing provide accessible models of best practice for other academic colleagues teaching in the humanities. These models of best practice involved a wide variety of topics from across all the FHM departments, including life writing for creating classroom community (ELE), linguistic studies based on the PICRAT model (LML), virtual field trips for exploring Chinese culture (LCS), corpus-based learning of English phonetics (CLE) and learning Chinese poems through singing (CHL).

Data collection and analysis:

To evaluate the effectiveness of the online teaching practices adopted by the 12 project team members, over 400 students and teachers were invited to provide their feedback regarding their blended and/or online learning experience of their courses via written course reflection, pre- and post-course surveys and/or follow-up student interviews. Results showed that 1) a majority of students and teachers agreed that the online learning activities/materials were useful and 2) most students enjoyed the online learning activities, which in turn contributed to their motivation and more active participation in the blended and online learning/teaching content of the courses.

Project members collected specific data on their individual strategies used to integrate technology into their courses. In one example, for the course 'Introduction to Linguistics' (delivered by Dr WANG Lixun), 86.7% of the students agreed or strongly agreed that the online learning materials/activities (e.g., mini-MOOC, EdPuzzle, MOOC-style video lectures, Padlet) allowed them to interact with the learning content effectively, and 83.3% of the students agreed or strongly agreed that the online learning materials/activities (e.g., Flipgrid, Wikibook, online discussion forums) gave them good opportunities to interact with their peers. In addition, 96.7% (the highest percentage) of the students agreed or strongly agreed that the online quizzes in this course were helpful in self-assessing their understanding of the course content. At the same time, 83.3% of the students agreed or strongly agreed that the discussion forums in this course provided a platform for meaningful discussion about the course content, and 86.7% of students agreed or strongly agreed that the online learning materials/activities (e.g., Wikibook project, video recording of oral presentation, Flipgrid video sharing) gave them good opportunities to create their own content, which further enriched their learning. During the follow-up interviews, students gave positive comments on their online learning experiences, for example, "All apps were well suited for the learning activities"; "The whole learning experience was very smooth and natural"; "Our tutor always tried to give us a vibe that is fun, relaxing and chill in the class"; and "I would love to take more of Lixun's classes in the future."

To demonstrate how students managed to achieve the course intended learning outcomes successfully by engaging in innovative online learning activities, the following is an analysis of the Wikibook project implemented in the course 'Introduction to Linguistics': students worked in groups of four, and each group member contributed around 900 words to a chapter of a student-authored academic book titled 'Introduction to Linguistics' based on the topics introduced in the course. Peer editing among group members was required, and members in the same group received the same group grade. Chapters were posted online weekly, allowing for tutor and peer comments. Each group gave an oral presentation on their chapter to the whole class as well, and their peers and tutor commented on the oral presentation. The course combined face-to-face instruction with online collaboration, fostering academic writing improvement through peer commenting and peer editing. Students enjoyed the project, feeling proud of their co-authored book and benefiting from public scrutiny and peer feedback. This approach has transformed traditional essay writing and demonstrated the positive impact of technology on instruction and learning. Based on the Student Evaluation of Teaching (SET) data, some students reflected that 'The Wikibook project helps me to understand Linguistic concepts via peer teaching so that we can learn from others. 'The most useful aspect of this course was the wikibook project in which we were encouraged to have our own study in one of the domains in linguistics and share our study with others. After the study, I am now more confident to share my opinions and tend to study by myself'. 'It is amazing that our learning progress will be summarised in a wikibook written by our class only. I think that the approaches used in the course are really amazing and I love the course'. The External Examiner of the BA(Language Studies) & BEd(English Language) reviewed the sample scripts of this course, and was highly impressed by the instructional design and students' work, as she commented, 'this course contains innovative assessment design, with both collaborative wikibook projects and discussion on topics in the wikibooks, and individual essay tasks that are based on authentic scenarios and help students see how the linguistics theories can be employed to analyse linguistic phenomena in daily life and resolve issues from linguistic perspectives.' 'The collaborative projects are spread out throughout the semester to strengthen students' understanding of and expand their horizons on the relevant content, an arrangement that makes the assessment achievable and benefits students' ongoing learning as well. The marking rubrics of the collaborative projects is also well designed and can serve as a guide to enrich and deepen students' learning experience through researching and write-up.' 'Students' performances, as reflected in the samples, reflect students' grasp of the key concepts in the course and indicate the overall effectiveness of the course.'
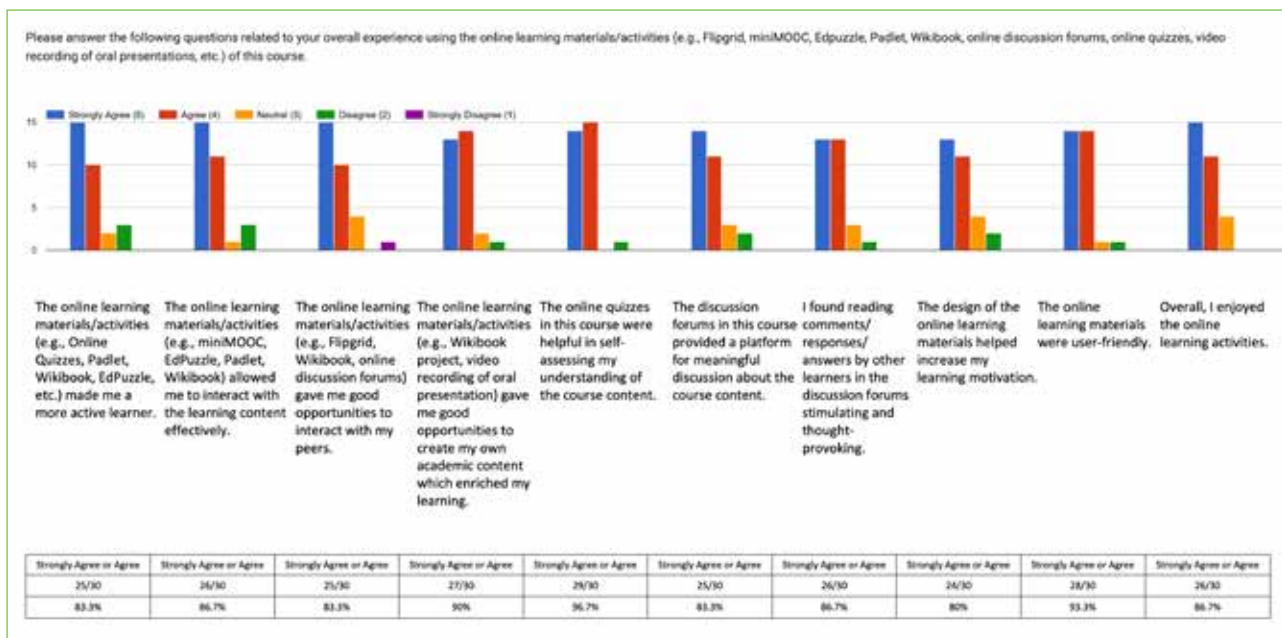
Image 1. Analysis of Dr WANG Lixun's "Introduction to Linguistics" Course Survey.

The project outcomes were disseminated in a series of project events, including nine seminars, one workshop and one poster conference. More than 300 university, secondary and primary teachers from Hong Kong, Indonesia, India and the Philippines participated in the project events. They were invited to complete surveys to provide their feedback regarding their experience of the project events and the models of best practice presented by the 12 project team members. Results indicated that most participants believed that the project events were informative, inspiring, well-organised, and worth attending.

Image 3. Dr Timothy TAYLOR's Poster Presentation.

The HUMBOL project website https://humbol.eduhk.hk/ will continue to serve higher education teachers in the humanities, from FHM and beyond, as a storehouse of innovative exemplars and experience of blended and online teaching. The website is replete with rich texts, images and videos of project members' experiences, most richly shared in the 17 posters and video-recorded sharing sessions from the Poster Conference. The models of best practices and feedback from teachers and students offer evidence of FHM colleagues rethinking their courses to better align with the 'new normal' of blended and online teaching approaches and providing their students with IT-enhanced courses to enhance students' access, interest, and understanding of the world.

The HUMBOL project website.

QR code for the HUMBOL project website.

The development and implementation of an innovative corpus-based language pedagogy (CBLP)

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Regarding foreign language learning, a main obstacle that many learners face is a lack of authentic data of the target language. A corpus is a large language database including huge quantities of authentic texts. Using corpus technology, teachers can help students to address some English learning difficulties by providing rich language resources and guiding students to explore language inductively and find answers to their own language queries. However, very few teachers have adopted corpus technology in their classroom teaching. To fill this gap, we created a new language pedagogy: corpus-based language pedagogy (CBLP) to help both pre-service and in-service English teachers develop their ability to teach with corpus technology and resources.

Since 2017, our corpus team has conducted 44 CBLP workshops and 16 seminars for more than 330 schools/universities and 3000 pre- and in-service teachers in Hong Kong, mainland China and over 80 countries/regions across Asia, Europe, North America, South America, Africa and Oceania. Our project has particularly made a significant impact on the students and teachers (more than 1000) from the GBA area by enhancing their corpus literacy and pedagogical skills to teach with corpora. Thanks to the use of online technology, 80% of these workshops and seminars were conducted online. We aim to help participants gain skills to work with corpora as well as the pedagogical skills to teach with corpora. We also created rich opportunities for them to work collaboratively to co-construct knowledge, reinforce their corpus technology and ability to design corpus-based learning materials and improve pedagogical skills to teach with corpora.

Data collection

We invited participants to evaluate our workshops and the evaluation statistics show that our workshop training has been very successful with overall consistent positive evaluation in the past five years. See Table 1 for details.

Table 1: Evaluation of workshops

Year	Workshop Mean (Max=4) N=2000	Qualitative feedback
2017-18	**3.32** / 4	"Corpus-based pedagogy promotes **inductive grammar** learning."
2018-19	**3.41** / 4	"The **abundance** of examples given in the corpus"
2019-20	**3.40** / 4	"This can help the learning process which is **interactive** and **enjoyable**"
2020-22	**3.68**	"Contextualised teaching of vocabulary enables students to learn **independently**"

To help the teachers and students reinforce their learning after our workshop training, we created a dedicated CAP website (https://corpus.eduhk.hk/cap/) with rich corpus resources and materials for them to independently explore these resources and enhance their learning. The Google analytics show that the visitors are from more than 85 countries/regions, including Japan, Korea, Turkey, Australia, the UK, Germany, Russia, the US, Brazil, Egypt, etc., with a mean of 590 visits per month. We invited the CAP users to evaluate the usefulness of the resources we created with an online evaluation embedded on the website. The results show that the users had a high rating (5.43 out of 6) on the usefulness of the CAP website. See Table 2 for details.

Table 2: Evaluation of the training resources on CAP

Mean (Max=6) N=180	Qualitative feedback
5.43	*"I like the Teacher-Training section **guiding me at every step** of the corpus-aided approach with valuable information, and the Teaching Activities section makes me much clearer about how to create corpus-based materials for my language class"*
	*"Offer us **practical solutions** to the difficulties in teaching students with different abilities"*
	*"The application of the corpus resources is the **main concern for front line teachers**"*

The evaluation statistics demonstrated the significant impact of our corpus-based language pedagogy (CBLP) on students' and teachers' learning of using corpus technology as both a learning tool and a teaching tool. Corpus-based teaching allows teachers to develop hands-on teaching activities that cater for students at different levels, enhances the learner-centred learning approach and has a positive impact on students' learning interests. For students, corpus-based learning encourages their inductive and discovery learning, increases their ability for independent language learning and helps raise their language awareness. Our workshops and training resources have received positive comments from both student and teacher participants, especially from the GBA area. The analysis of the comments reveals the following themes regarding the impact of our project on pre- and in-service teachers as well as their target students.

Developing students' corpus literacy

• Motivation to explore language use patterns with corpus

"*I learned to analyse words/sentences in context and discover language use patterns. My favorite activities are the hands-on corpus search and idea sharing.*" (postgraduate student from EdUHK)

• Enhancement of learner autonomy

"*The corpus tools greatly aroused my curiosity. I would make use of corpus tools to save time and improve learning efficiency, to work smarter instead of work harder.*" (undergraduate student from GBA area)

Providing professional training for per-service teachers

• Enhancement in corpus literacy

"*I have never come into contact with corpus tools before. The workshop materials and competition offered me a path to put theory into practice.*" (undergraduate student from GBA area)

• Collaborative learning

"*What impressed me most is receiving and giving comments on lesson designs by other teachers and the corpus team, which promotes teaching reflection and motivates us to make improvement and progress.*" (postgraduate student from GBA area)

• Benefiting from a variety of CBLP resources

"*The teaching videos and lesson plans on the CAP website provided me with lots of good ideas while designing my own teaching activities and exercises.*" (postgraduate student from mainland China)

Context-based Research for Promoting Blended and Online Teaching in the Humanities

Facilitating in-service teachers' professional development

• Enhancement in teaching experience

"*The series of corpus-based lectures offered by EdUHK are very inspiring.*" (a teacher from a middle school in Guangdong, GBA, China)

• Increased awareness of corpus applications in English learning and teaching

"*After this trial lesson, I think this method [corpus-based language pedagogy (CBLP)] can be used for the facilitation of English learning, in the context of university education.*" (a lecturer from the Hong Kong Polytechnic University)

Data usage and analysis

Survey. Our study involving 1000 participants shows that 90% of the pre- and in-service teacher participants improved their ability for working with corpus technology; about 80% of the student teachers believed that the use of corpus encourages their learning autonomy. After our workshop training, they (1) improved their competence and skills in conducting corpus searches, (2) enhanced their ability in analysing the searched language data, and (3) understood better the advantages of using corpus resources in language teaching.

Pre-and post-tests. Also, our study of over 300 students who experienced their teachers' corpus-based teaching shows a significant improvement between pre-test and post-test scores on content, pronunciation, and fluency. The effect size reached 1.40, suggesting that students made a large improvement in terms of content, pronunciation, and fluency in speaking.

Interview. Our analysis of more than 150 lesson designs submitted by pre-service and in-service teachers shows that over 90% of these lessons reached a score of 70 or higher (out of 100), demonstrating their good competence in designing CBLP lessons. About 70% are high-quality lessons which are ready for classroom teaching with minor modifications.

Further improvement of CBLP and publications

Based on our data analysis, we further improved our CBLP by proposing a two-step training framework of corpus technology for pre-and in-service teachers. In step 1, through face-to-face or online workshops, we focus on corpus literacy to help teachers and students develop corpus skills, e.g., how to conduct different corpus searches. In step 2, we focus on CBLP to help participants develop specific pedagogical skills for teaching with corpus technology through online collaborative learning (virtual learning) where they need to complete some collaborative tasks online. Finally, the participants could develop their competence in designing corpus-based teaching materials, and ideally, try out their corpus-based lessons in a real classroom. This two-step framework has been expounded and published in a research article in a high-ranking SSCI journal, *Computer Assisted Language Learning* (Impact Factor: 4.789). Two subsequent publications in two world-leading journals in language education show that CBLP can be applied effectively to enhance both pre-and in-service teachers' competence in teaching with corpus technology.

CBLP-1 (Project Team)

CBLP-2 (The project website)

CBLP-3 (Online workshop)

QR code for the CAP website which hosts the learning materials/ resources

Using data in the GE interdisciplinary domain: Promoting dialogues across disciplines

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General Education Office (GEO)

In the 21st century, the world in general, and the world of work in particular, have become more volatile, uncertain, complex, and ambiguous. A single skill set or one single area of expertise will not take our graduates too far. As knowledge has become more unbounded, innovation often happens at intersections of traditional disciplines (Holley, 2017). Consequently, the inclusion of an interdisciplinary element in higher education curricula has become more common, due to its conductivity in nurturing lifelong learning and the creative disposition that are essential to a student's future.

With this in mind, a programme titled General Education Interdisciplinary Courses (GEICs) was introduced in the General Education (GE) domain in 2019, as part of the 9 credit-point Breadth Course requirement. Under the current framework, GEICs focus on themes and issues that cut across disciplinary boundaries and promote dialogues across disciplines. Students are encouraged to apply multiple thinking skills to inquiry into real-life issues / problems and to integrate disciplinary concepts, perspectives, and constructs. [Photo 1]

The interdisciplinarity of GEICs was made possible through intensive collaboration among teaching staff from different faculties. Delivery of these courses was guided by co-planning, co-teaching, co-assessing and co-evaluating processes. Through teaching and learning GEICs, it is expected that the co-construction of knowledge and mutual learning of students and staff could be enhanced.

Throughout the pilot and implementation stages, the GEO has been acquiring data to enhance teaching and learning qualities for implementing GEICs. Complementing the conventional course evaluations of the University, a GEIC-specific survey, together with SET (Student Evaluation of Teaching) and staff-student consultative meetings, were administered to collect feedback from students to inform and improve learning and teaching qualities.
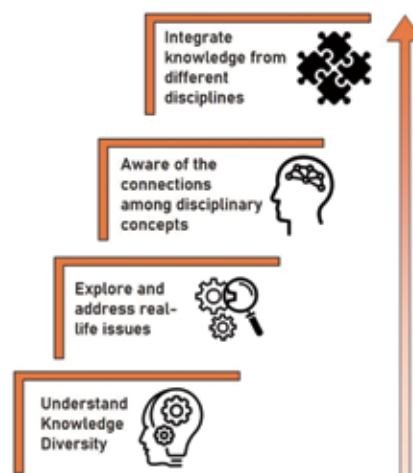

Photo 1. The GEIC domain

The SET data in recent years showed that students' responses to the teaching qualities of GEICs were very positive, with overall mean scores ranging from 3.2 to 3.4 (out of 4). To highlight a few commendations derived from the various above-mentioned feedback channels, students found that i) the courses were valuable in their intellectual

development and inspire them to think and learn; ii) the lecturers were enthusiastic in teaching; and iii) the courses were able to help them connect knowledge from multiple disciplines and develop thinking skills. Nevertheless, one major issue relating to the diversity of the students' academic/disciplinary backgrounds has been raised, as some found disadvantages in lacking certain intellectual/conceptual resources. Lecturers have been alerted to this matter for further quality enhancement. Remedial actions that have been taken after further deliberations include: i) use of concept mapping to show (inter-)disciplinary connectivity at the beginning stage of the courses; and ii) devotion of more effort to developing pedagogical devices and resources for catering to learners' diversity through co-planning and co-teaching.

Taking GEI4001 (STEM and its Application on Language Acquisition and Communication) as an example, students were asked to identify an issue in language acquisition and communication, suggest a solution with STEM approaches, and finally develop a mini web-game to tackle the issue. Samples of students' STEM applications can be found using the QR code below. These project outputs illustrated students' ability to integrate theories in language acquisition, communication, and information technology, and subsequently put them into practice. In an assessment task, students are required to complete the engineering design cycle, which involves creating an application designed to enhance language learning. One example, as shown in Photo 2, incorporates a role-playing element into its design. In this game, players assume the role of a warrior who engages in word solitaire to gather enough energy to battle an evil king. This approach psychologically motivates learners to acquire the Chinese language, which is often considered a laborious task.

Photo 2. An example of a language learning game from students taking GEI4001 (Hyperlink of the game: https://scratch.mit.edu/projects/514075147/; Chinese Example #7 The warrior fighting against the Evil King 勇者打魔王; Produced by HUNG Lok Ching, LEUNG Ching Yi, SIU Ming Sum Emily)

Student artifacts of GEI4001. A point to note while viewing the samples is that most applications are created by students without formal training in IT.

The students' application of interdisciplinary knowledge gained from the course is evident in their mastery of information technology skills (such as using Scratch to design a web-game), comprehension of young learners' common challenges in word formation, development of a more engaging method (a solitaire game) to learn Chinese, and their ability to accommodate diverse language learning needs (by designing different levels of challenges in the game).

In addition, lecturers' feedback obtained via focus group meetings have later been formalised into the Community of Practice (CoP) exercise [Photo 3] (which is normally held once a year). Through these academic and experiential exchanges, best practices in course delivery were identified, shared and discussed. For instance, the modes and methods of interdisciplinary integration through dialogues across disciplines (faculties) as well as the key issues in interdisciplinary assessments have been clarified and fine-tuned with the production of a set of course-specific power-point slides [Photo 4] (titled 'Making Interdisciplinary Connection at Course Level'). These pedagogical resources have been uploaded to the GEO website for staff's easy reference.

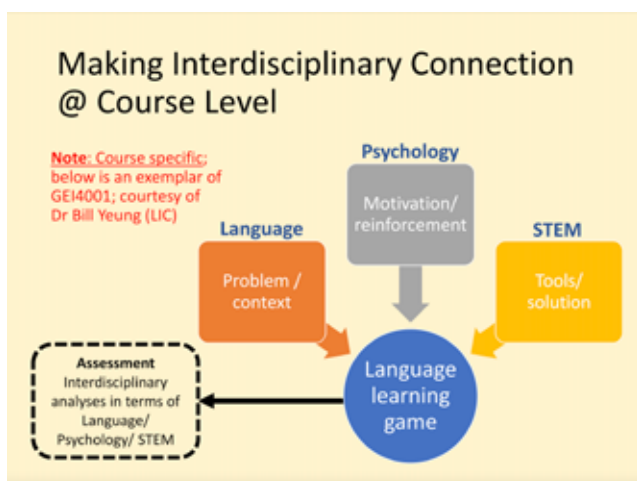Photo 3. GEIC online Community of Practice (CoP) meeting in June 2022

Photo 4. Briefing slide: Course-level integration of disciplines

The processes of development and delivery of the GEICs have also been documented in a handbook, which serves as an essential reference point to enhance the learning and teaching practices of interdisciplinary courses on an ongoing basis (ref:https://geo.web.eduhk.hk/upload/staff_doc/1669946694.pdf). In recent years, the contents of the handbook have been continuously updated through bandying ideas and sharing experiences among teaching faculties. To cite a few examples, the updated items include: i) the definitive roles of lecturers-in-charge and co-lecturers; ii) the refined workflows in the quality assurance mechanism; iii) the key concepts and guidelines of pedagogical devices specifically for interdisciplinary teaching and learning; iv) the co-teaching observation guide, and v) the updated and consensual procedures for co-evaluation with the instrument of Student Evaluation of Teaching (SET). All in all, GEO will keep on monitoring the quality of teaching and learning in the relatively new area of GEICs, with a view to making evidence-based and evidence-informed continuous improvement.

Reference:
Holley, K. (2017). Interdisciplinary curriculum and learning in higher education. *Oxford Research Encyclopedia of Education*. Retrieved from: http://education.oxfordre.com/view/10.1093/acrefore/9780190264093.001.0001/acrefore-9780190264093-e-138.

Learning through Reflection: the Power of the ePortfolio

Professor KONG Siu Cheung
Director

An ePortfolio is not only an electronic collection of artifacts of learning; but also, a powerful tool to enable students to reflect upon and demonstrate deeper learning by facilitating them to connect and make sense of their learning experiences. Since 2012, the LTTC has collaborated with multiple units in EdUHK to enhance the implementation of ePortfolios and equip students with skills in developing ePortfolios to document and reflect on their learning experiences.

One of the achievements of the implementation of ePortfolios for reflective learning is measured by the indicator of the number of programmes adopting their use. The percentage of programmes with students completing ePortfolios for reflective learning is shown in Figure 1. Findings over the past five years show a significant achievement of this indicator, with a significant increase in the number of programmes using ePortfolios for reflective learning, from 52.6% in 2017/18 to 85.7% in 2021/22.
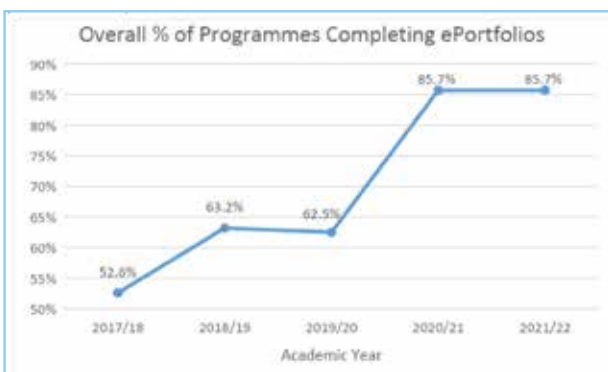

Figure 1. Achievement of the indicator of the number of programmes adopting ePortfolios for reflective learning over the past five academic years

Quantitative and qualitative studies in a university-level project conducted by Faculties and Offices revealed that reflective learning was achieved at an enhanced level of GILO attainment with the use of ePortfolios, thanks to the efforts made in programmes that incorporated designated GILOs into their curriculum, from adjusting assessments to conducting workshops. For example, a total of
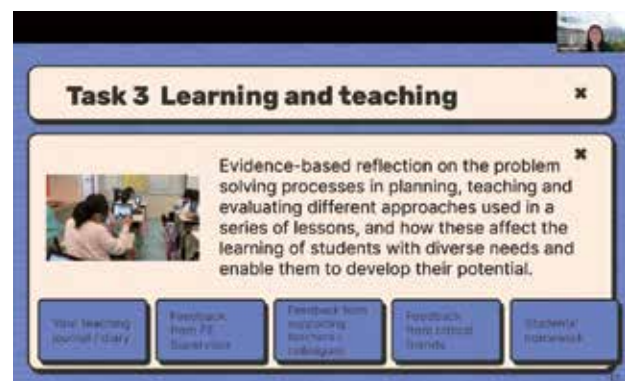
Figure 2. A promotional poster for the SPFEO ePortfolio workshop/ Online workshop on Field Experience (FE) ePortfolios conducted by Ms Chan Ka Yin Clairine

38 course-specific enhancement workshops were organised in 2021/22 to enhance GILOs in learning through ePortfolios.

Student focus group meetings and interviews were arranged to collect student's feedback about their ePortfolio experiences. Most student interviewees indicated that they were in favor of the integration of ePortfolios in their courses for enhancing their reflective learning and felt well supported by different types of resources in constructing their ePortfolios.

Ms CHEUK Fung Kei, an interviewed student from Bachelor of Education (Honours) (Chinese Language) [BEd(CL)], said "I was glad to receive feedback from my teacher during the process of

ePortfolio-making, it motivated me to constantly review my ePortfolio reflections and enhanced my reflective skills." When asked about how her teacher's feedback helped improve her GILOs, she added, "his guidance provided clearer direction on how and what to reflect on regarding my experiences with critical thinking skills." This shows that guidance and feedback from teachers could be a valuable resource to enhance students' GILOs when it comes to reflective learning.

Not only were efforts made within programmes, but the LTTC also collaborated with the SPFEO to co-organise the "FE Supervision Appreciation Scheme – Award for Excellent FE Supervision" every semester since 2019/20, with the aim to acknowledge the contribution of FE supervisors in supporting students in their teaching practices and to promote reflective learning through good FE ePortfolios. Over the past 6 semesters, it is encouraging to see over 70 nominations with students expressing how grateful they were to have support from supervisors and thus were able to perform well in their Block Practices (BP) and to write good refections in their ePortfolios. Since 2019, 61 supervisors have been awarded under this Scheme.

Ms WANG Yulin, a Year 5 student who is studying for a BA (Honours) in Language Studies and BEd (Honours) (English Language) [BA(Lang Studies) & BEd(EL)], nominated her supervisors in the Scheme. She shared how her ePortfolio took a pivotal role in forming her reflections on her learnings during BP, "the ePortfolio is a very practical tool for me, to help me reflect systematically, to organise all my scattered reflections or separate lessons into a coherent reflective essay based on the whole BP process." Not only did her ePortfolio help her improve her teaching during BP, but it also helped Ms Wang develop a better and holistic sense of herself as a future teacher, "It also helped me figure out my goal in my future development and that is how to become a qualified teacher who can cater to students' different needs under the new normal of the online/ blended mode of teaching!"

The Student ePortfolio Award, another highlighted and featured event related to ePortfolio use, has been organised by LTTC and co-organised by GAO, GEO, SAO and SPFEO since 2017/18, with the objectives to promote the use of ePortfolios at EdUHK, and to engage students to reflect upon their own learning with ePortfolios. Every year, we receive over 100 submissions with students' outstanding work that include in-depth reflections on learning experiences with supporting learning artifacts.

During the Learning and Teaching @ EdUHK Festival 2021, Mr LO Chi Hong Andrew, the outstanding awardee of the Student ePortfolio Award 2020/21, who studied for a Bachelor of Arts (Honours) in Liberal Studies Education [BA(LSE)], gave useful and practical tips to his fellow schoolmates by sharing his valuable experiences of making an ePortfolio, "It is always a good idea if you integrate your learning experience with GILOs to make quality reflections." He also encouraged students to develop a habit of reflecting on every meaningful experience in order to make ePortfolio-writing easier, "Reflections can even happen in trivial things!"

EdUHK did not just stop there after seeing improvements in the use of ePortfolios. Multiple parties continued to implement a set of coordinated strategies to work out a well-designed pathway for students' attainment in GILOs through ePortfolio usage in different curriculum components. We worked together to collect and address feedback from both students and teachers. For example, knowing that beginner students sometimes struggle with ways of integrating ePortfolio reflective writing with GILOs, faculties put effort into developing online self-help resources and conducting course-specific enhancement workshops on enhancing designated GILOs in learning to cater for their needs.

Nevertheless, various deliverables were produced to support and sustain the use of ePortfolios. These deliverables include online learning materials, user guides, enhanced courses and rubrics, training workshops, and repositories. Three sharing sessions were also held to exchange teaching experiences on using ePortfolios for students' reflective learning.

If we refer to the results of the "Survey on Students' Awareness and Perception of ePortfolios" that is conducted by the LTTC annually, it is interesting to observe that students with learning goals tended to agree more with the questions asking whether they are clear about the purpose of building an ePortfolio and whether the ePortfolio helped them reflect on their learning. We continue to look forward to the positive and powerful impacts brought by ePortfolios in EdUHK!

Strategic data use to enhance reflective learning through ePortfolios

Professor LEE Fung King Jackie
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Department of Linguistics and Modern Language Studies (LML)

E-Portfolios allow students to document, monitor and manage their learning processes and outcomes. To further sustain the development of ePortfolios at programme and course levels for reflective learning guided by the Generic Intended Learning Outcomes (GILOs), the Faculty of Humanities joined the CRAC project 'University Enhancement of ePortfolios for Reflective Learning Phase II' in May 2020. The project seeks to enhance students' reflective learning and follow up with students of low-level attainment, with a specific focus on facilitating students' attainment of Problem-Solving Skills (GILO1), Critical Thinking Skills (GILO2) and/or Written Communication Skills (GILO4b). Three FHM undergraduate programmes joined the project, with the participation of seven course instructors and 211 students from five major core courses. Some ePortfolio samples can be found at: https://sites.google.com/view/crac-eportfolios/home or by using the QR code.

Before the commencement of each course, the course instructor and the project team worked together on the course review in order to incorporate the ePortfolio into the course assessment and the related components in the learning and teaching activities. A wide range of support measures, including the provision of hands-on workshops, ePortfolio guidelines, course-specific ePortfolio templates and step guides for Sway and Google Sites, is offered to support students in the construction of ePortfolios.

In order to evaluate students' attainment of the target GILOs and understand their learning experiences, both quantitative and qualitative data were collected through various means, including pre-and post-course online questionnaire surveys, student and course instructor interviews, as well as evaluation of learners' performance as shown in their ePortfolios.

The data obtained revealed that both students and course instructors valued the integration of the ePortfolio for reflective learning and the development of the target GILOs. The percentage of students who achieved Level 3 (Mastering) or above in the target GILOs ranged from 82% to 100% in the five participating courses.

Three courses joined the second implementation in 2021/22. Considering the previous cohorts' performance, the feedback gathered, as well as course instructors' own reflections, the three courses were reviewed and changes were made with the aim of further enhancing student learning. For example, ePortfolio samples were provided to help students build better ePortfolios. Instructional videos on ePortfolio production were developed for students' self-access in order to avoid disrupting the normal teaching schedule and to foster students' autonomous learning. Further, consultation sessions and continuous feedback were provided by instructors to provide timely support to students. More peer discussions were also conducted for students to improve communication skills and to nurture critical but constructive attitudes towards various academic arguments and debates. Very pleasingly, these course changes have resulted in positive learning outcomes. Compared with 2020/21, a much higher percentage of students attained Level 4 (Outstanding) in the two target GILOs in each course in 2021/22, as shown in the table below:

Percentage of students achieving Level 4 (Outstanding)

	GILO1 Problem-Solving Skills		GILO 2 Critical Thinking Skills		GILO 4b Written Communication Skills	
	2020/21	2021/22	2020/21	2021/22	2020/21	2021/22
CHI3712	21%	38%	16%	38%	NA	NA
CHI3725	20%	44%	13%	56%	NA	NA
HIS4014	NA	NA	37%	100%	20%	94%

The following are some comments made by students and course instructors:

"E-Portfolio construction was a continuous process of problem solving as I had to deal with different problems during the construction process." (a student of CHI3712 Cantonese and Hong Kong Local Culture)

"Compared with traditional assignments, ePortfolios allowed me to better organise my thoughts and learning. The online platform provided blocks for me to organise my learning experiences and add multimedia artefacts as digital evidence of my learning." (a student of LIT3016 Selected Readings in Literary Classics)

"The ePortfolio enabled me to identify my weaknesses and reflect on how I could improve in the future. During the process of ePortfolio construction, I found difficulties in collecting relevant artefacts as I had not been active enough in class. This reminded me of the need to engage more actively in my study." (a student of ENG2336 Intercultural Communication)

"With the integration of ePortfolios in the course, students now have more chances to reflect on their learning experiences. Upon completion of each in-class activity, students are required to fill out a self-assessment form and write a reflection on the specified topics. This allows students and instructors to easily trace what problems the students faced and how they overcame the difficulties in the learning process." (Dr JIN Mengyao, Course Instructor of CHI3725 Chinese Language Teaching and Literary of Information Technology)

"The ePortfolio gave students a chance to take a holistic look at what they had accomplished in the course. It was a great way for students and the instructor to trace and reflect on how their learning and thinking progressed." (Dr Jason PETRULIS, Course Instructor of HIS4014 International Cooperation after World War II)

Demonstration of problem solving skills in a student's ePortfolio (CHI3725 Chinese Language Teaching and Literary of Information Technology)
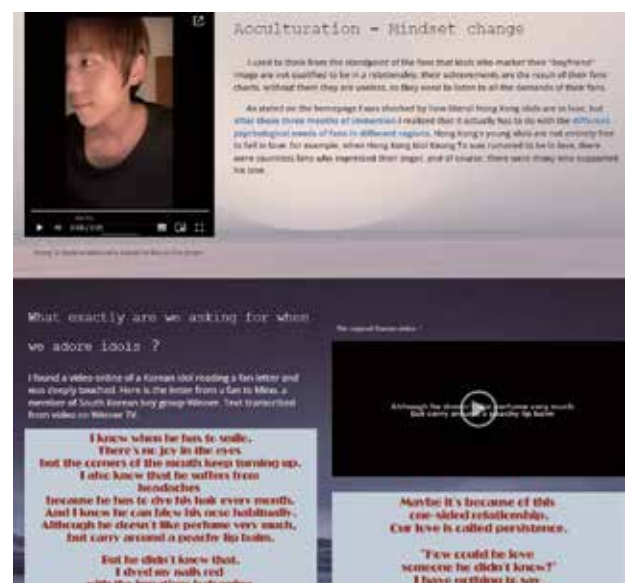
Demonstration of reflective learning and critical thinking skills in a student's ePortfolio
(ENG2336 Intercultural Communication)

Journey Reimagined: Using Learning Analytics on Moodle LMS to Inform Pedagogical Decisions

Professor KONG Siu Cheung
Director

Nowadays Learning Management Systems (LMS) have become more and more widely used for course management. Learning analytics (LA) can be effective in assisting academic and teaching staff to better identify and interpret students' learning behaviour and progression in LMS, thus facilitating data-driven decision-making for pedagogical adjustments and encouraging student engagement. Since 2021/22, the LTTC has been engaging academic and teaching staff in using various LA tools on Moodle. The 14 sessions of LA seminars and workshops so far have attracted 260 participants.

"Behaviour Analytics" is a plug-in that extracts sequential access patterns of students based on activity logs regarding learning materials on Moodle. It can then cluster students into groups based on their activity pattern to identify common behaviours, allowing teachers to visualise students' usage of materials posted on Moodle and identify when and how to help students. "Discussion Forum Participation" is another tool that presents the amount of contribution from each student, group and the entire class in a Moodle Discussion Forum and Glossary over time. This tool allows teachers to examine students' activeness and performance in the discussion forum. The third tool is "BookRoll". This enables students to highlight useful phrases and add notes when reading. It also captures students' reading activities, like reading frequency, and speed, as well as the locations and number of highlights marked in the materials (Fig. 3). These records allow teachers to identify common questions students have and encourage further discussions between teachers and students. The fourth tool is "IntelliBoard Reports", which shows the activity data stored in Moodle in tables for easy visualisation. Through this tool, teachers can access various types of information such as how often students access Moodle, and whether they have been inactive recently.

Dr JIN Mengyao, a Lecturer from the Department of Chinese Language Studies (CHL), used "BookRoll" to monitor students' reading behavior and keep track of their progress in her course, Selected Readings in Classical Chinese. She used BookRoll to distribute all the course materials, including the course outline, assessment requirements, assignment samples and selected readings. Students were asked to read corresponding

Figure 1. Checking the engagement of students in IntelliBoard Reports
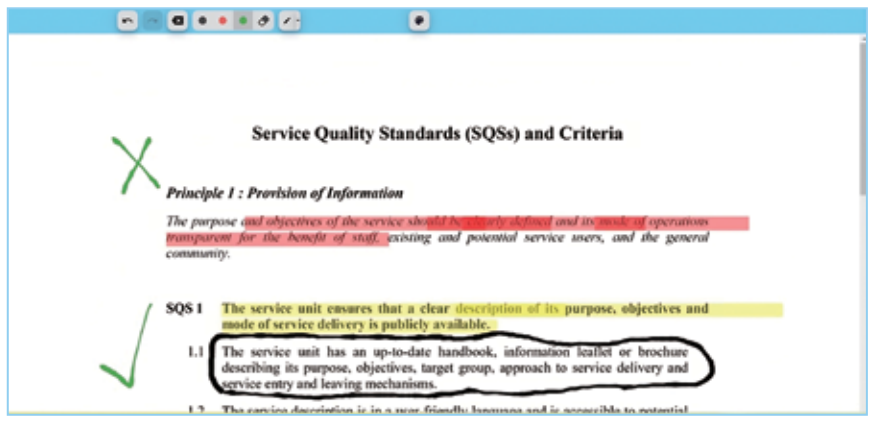

Figure 2. Students can use markers and drawings to take notes on the references in BookRoll
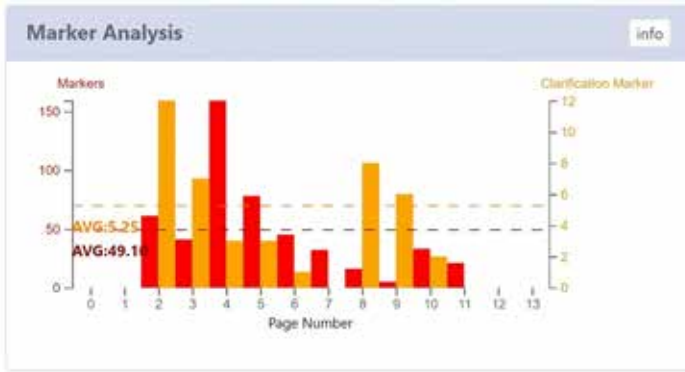
Figure 3. Each student's distribution of highlights on the references is shown in BookRoll

materials beforehand, thus allowing more in-depth discussions in the class. Students' reading activities summarised in BookRoll enabled Dr JIN to design quizzes accordingly, targeting at content that needed more attention from the students. She would also intentionally ask students with low activeness in BookRoll more questions to ensure they keep up with the class. With the use of BookRoll, Dr JIN could not only design high-impact learning activities, but also promote self-regulated learning among students.

Students also found LA helpful in their learning. Students mentioned that their self-regulated learning has been promoted through reading and making comments in BookRoll. A student of Dr JIN added, "BookRoll allows me to read the assigned selected readings conveniently by gathering them together. I could then study in a more focused and self-regulated manner after class".

Dr LAM Sin Manw Sophia, Assistant Professor from CHL, used "Behaviour Analytics" to examine students' learning engagement and process in her course, Theory and Practice of Classroom Language. She would check whether students had accessed the teaching materials she uploaded to the course. The more Dr LAM learnt about the

types of files accessed by students, the more she realised how students learnt throughout the course. "I became more aware of the quality and relevance of the learning resources by understanding how the students access the course materials through behaviour analytics.". She discovered that the supplementary readings she provided on Moodle were not accessed by most students, not even the diligent ones. Upon evaluation, she affirmed the importance of those readings and went through them with students during the class to emphasise their importance to the course. Students, thus, would not miss any useful resources that were valuable to their learning under Dr LAM's intervention prompted by the data analysis in "Behaviour Analytics". By scrutinising the students' learning footprint through the Moodle resources, she could better arrange the learning materials and make relevant pedagogical changes. She also observed that materials that would be discussed in class had more clicks. Therefore, teachers can design related in-class activities to increase students' interest in accessing the materials.

Learning analytics is inherently connected to machine learning of artificial intelligence (AI), as they are using data to extract meaningful information. Behaviour Analytics, for example, makes use of the unsupervised learning algorithm of K-means clustering to group students with similar activity patterns together, without explicit input from the teachers regarding how the grouping should be performed. Recognising such a connection, the LTTC has also endeavored to enhance the artificial intelligence literacy among the academic/ teaching staff by providing workshops on machine learning. It is hoped that, by gaining a general understanding of AI concepts, teachers can have more confidence in using learning analytics and interpreting the results generated by these tools.
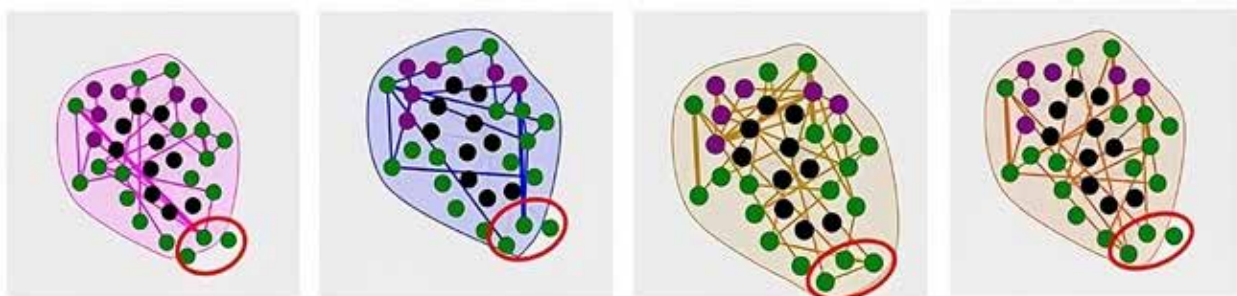

Figure 4. Behaviour Analytics allowed easy visualisation of supplementary materials seldom accessed by students (as indicated by the red circles).

Using the BookRoll Analytical Tool to Activate students' participation under a Hybrid-Mode Learning Environment

Dr ZHAO Yanmin
Post-doctoral Fellow

In an online learning environment, teachers provide their students with the instructions needed for them to succeed while remaining independent. The BookRoll system was applied to my courses EDS6008 and EDS6009 to assist students' learning processes, which provides learner analytics in tracking students' thinking processes. BookRoll provides an interface for students to read and reflect on materials uploaded throughout the whole first semester of 2022/23 while students' reading logs are recorded and visualised in their learning process.

Taking the example of students' reading marker analysis, the bar chart below gives the count of yellow and red markers written on each page. The yellow and red dotted lines give the average number of markers in the content across all pages in the required reading material. It also can provide a list of the content of the highlighted keywords by clicking on the bar through the analytical system, which helps me easily conduct hybrid or online classes and further track students' learning. For example, students' note-taking through the Marker list demonstrated their reflective learning process and their thoughts while reading the related literature and also showed their understanding of the content of the required readings. I analysed the markers and discussed the particular page with the most markers in the next class or checked whether a particular marker needs an update and further clarification or further discussion with extra activities.

On the other hand, the analytical tool gives a list of markers in a tabular format corresponding to each page with the name of the student who wrote notes or reflections. I can download the list as a CSV file. This bar chart below gives the count of the memos written on each page in the required reading. The dotted line gives the average number of memos of the class in the content across its pages. For example, the memo list showed students' deep reflections on their learning process, which also helps build on and strengthen their understanding of the concepts learnt through face-to-face classes. By analysing the content of the memo, I can decide what to discuss in the next class. Alternatively, I can also give specific memo activities for students to activate their reflective skills and then analyse those activities for supporting their follow-up learning.
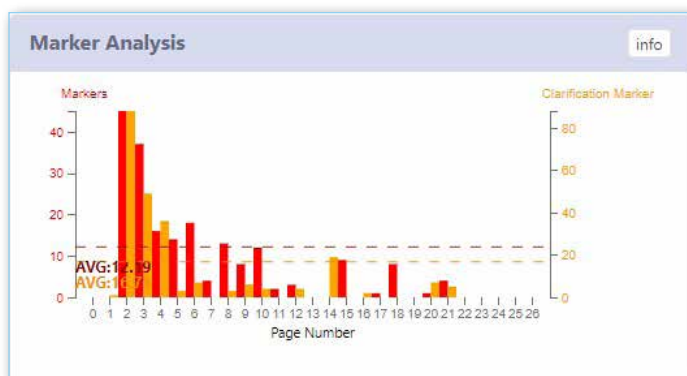
Figure 1 An example of students' markers written on each page in a required reading material

Figure 2 An example of a student's Marker list in the required reading literature
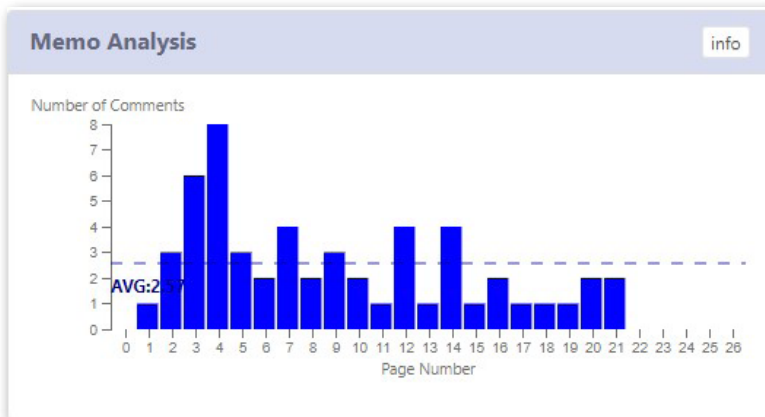
Figure 3 An example of analysing students' memo reflections in a required reading
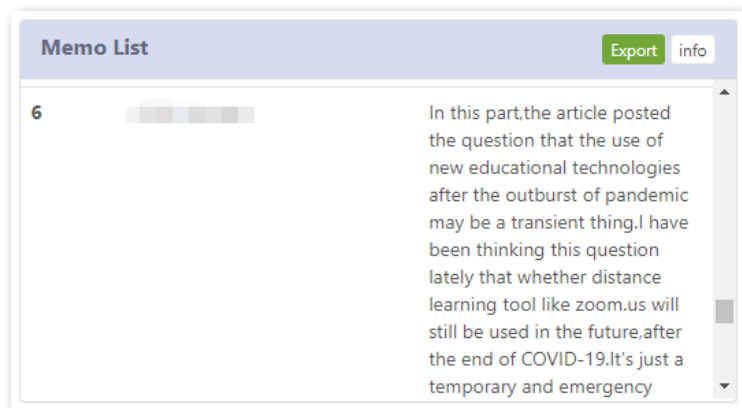
Figure 4 An example of a student's memo reflections through reading the literature

By summarising students' reading activities and regulatory learning behaviours through the analytics dashboard, I found that the BookRoll readings can sustain students' engagement in reflection and feedback in online scenario-based learning activities.

It also helps me proactively improve instructor-learner interaction in a technology-enabled pedagogy and adopt a multiplicity of activities with the integration of external learning tools into the classroom context.

Analysing Taught Master Students' Learning Engagement through Various Online Activities

Dr ZHAO Yanmin
Post-doctoral Fellow

The online or hybrid teaching and learning mode has posed a challenge in developing students' competencies in reflections through online activities. Instructors often have little information about how students read the literature such as journal articles, books, and reports, for example, the type of learning activities they participated in, the content or concepts they read most, and the parts bookmarked or memoed for reflections.

Figure 1 K-means clustering of students' online learning activities

Taking the core course of EDS6008 in the first semester of 2022/23 as an example, it was observed that students in general followed the order of the presented materials on Moodle. The clustering technique was applied, and three clusters were found based on the distribution of student's activities on the Behaviour Analytics plugin as shown below in Figure 1. It was found that two "outliers", i.e., the students had fewer activities through Moodle learning activities due to the withdrawal of the course at the beginning of the semester. The students were also clustered into 3 or 4 groups based on their learning behaviours on joining different activities. For each group, I tried to identify resources commonly accessed by the students as well as identify a typical student from that group. For example, I can figure out that students made frequent use of learning tools, e.g., BookRoll for reading, Journal for reflection postings, and Discussion Forum for sharing ideas. These online activities encouraged students to participate asynchronously, which enables them to reflect more on what they have learnt while also working on their written communication skills. Collaborative activities such as Discussion Forums can help keep group behaviours and discussions professional as students can write something they would not feel comfortable saying in person.

Based on the analysis of students' learning participation, I think they are quite eager to use the resources posted on Moodle. As the students were clustered into different groups, slight differences can be seen in their emphasis: e.g., some students focused slightly more on a particular session, while some put more effort into the beginning part of the course. In the mid-term semester application of the indicated online learning activities, I used a one-minute-paper survey for their comments and feedback on their engaging experiences and learned whether these activity ideas build interactivity into lectures, invigorate discussion sections, and create dynamic learning experiences. Some feedback from students given below indicates both negative points such as the bugs with using a specific tool and some positive impacts on their learning reflections. For example, peer feedback for engaging them in course-related activities is critical to their success academically – from less formal interaction in the course. Therefore, varying activities can be an effective way to reduce fatigue and make learning more engaging for students online.

Figure 2 An example of students' comments on online learning activities

Using Evidence-based Programme Evaluations to Improve the Learning Experiences of Students

Dr CHEUNG Sum Kwing Sam
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Department of Early Childhood Education (ECE)

Conducting evidence-based programme evaluations can help obtain an objective picture of what and how students have learnt. This contribution features the good practices of the full-time Bachelor of Education (Honours) (Early Childhood Education) [BEd(ECE)] programme concerning how to make use of data to improve the learning experiences of students.

In terms of data collection, the Programme Team emphasise 3Ms: (1) multiple parties (e.g., students, lecturers, graduates, potential employers, and scholars from other universities); (2) multiple time points (at the beginning, middle and end of the academic year); (3) multiple methods (e.g., surveys, focus groups). When analysing data, three dimensions of the programme are evaluated: (1) whether the programme is built upon students' past experience; (2) whether the programme can meet students' current learning needs; and (3) whether the programme can equip students with knowledge and skills required for their future careers (including in the fields of academia, early childhood education, and other related professions). Finally, in the stage of data usage, the good practices can be characterised with the acronym "USE": (1) utilisation of resources (e.g., by collaborating with different parties in the university and community; (2) student-centredness (i.e., helping students develop individual niches); (3) effective communication (e.g., explaining to students the rationale underlying the measures taken).

Over the years, there have been many successful stories of how the Programme Team responds to the learning needs of students in a timely and effective manner. Herein, students' learning needs includes but is not limited to those expressed by students during staff-student consultative meetings held in the first half of each semester, revealed by the results of year-end programme evaluation surveys completed by students, raised by course coordinators during programme evaluation meetings, mentioned by graduates during focus group meetings, as well as suggested by potential employers and scholars from other universities during periodic programme reviews. For example, as revealed by programme evaluation surveys and a focus group meeting with graduates, there is a demand to enhance students' knowledge and skills of how to collaborate with parents and colleagues. Therefore, an experienced principal has been invited to conduct a workshop to share with students the art of communicating with different types of families, school leaders, co-workers and supporting staff in early childhood education settings. Through case studies, group discussions and role-playing, students gain more confidence in working with different stakeholders. Besides, as noticed from staff-student consultative meetings and programme evaluation surveys, students like to know about more resources for supporting the learning and development of young children. An online platform has thus been created by the Programme Team to share with students different useful online and community resources in the field of early childhood education (e.g., links to booklets published by the Education Bureau and websites of projects funded by The Hong Kong Jockey Club). The feedback from students is very positive. About 98.6% of respondents of the evaluation survey think that the online platform can enhance their understanding of the current issues in the field of early childhood education. All respondents perceive the online platform as useful for their professional development and believe that it can help them better prepare for their field experience and future teaching. Meanwhile, in response to students' indication of the importance of peer support for their first field experience in a staff-student consultative meeting, a peer mentoring scheme has been introduced. Senior-year students are recruited to serve as peer mentors and share tips with junior-year students on how to prepare and do well in field experience. The scheme is a great success, with peer mentees

Using Evidence-based Programme Evaluations – 1: A workshop on Circle Painting organised under the Student Learning Grant

Using Evidence-based Programme Evaluations – 2: A workshop on Pastel Nagomi Art organised under the Student Learning Grant

showing fewer worries about their first field experience and peer mentors having the opportunity to reflect on what they have learnt during their own field experience. Besides, in view of the fact that students want to have more opportunities to practise the skills of interacting with children, in the recent two academic years, the Programme Team has worked closely with The Hong Kong Institute for Promotion of Chinese Culture and supervises students to conduct storytelling activities about traditional Chinese virtues for children at different kindergartens in Hong Kong. According to the evaluation survey, all respondents gained more confidence in working with young children after joining the storytelling activities, and 80% of the respondents even strongly agreed that the storytelling activities can enhance their understanding of how to design developmentally and educationally appropriate activities for young children. Last but not least, as learnt from staff-student consultative meetings, there are some topics in early childhood education that certain students are enthusiastic about and want to further their knowledge of. Therefore, over the past four years, the Programme Leader has provided guidance and support to 11 groups of students to apply for the Student Learning Grant of the Faculty of Education and Human Development and organised about 30 activities relating to their areas of interest (e.g., Educare for infants and toddlers, and early visual

arts education). This not only enhances students' knowledge in early childhood education but also boosts their leadership and management skills, as well as their ability to locate useful resources in the community.

LI Ka Wing Rachel, a BEd (ECE) programme graduate appreciates that there is a close communication between the Programme Team and students. On the one hand, there are many channels for students to express their learning needs. On the other hand, the Programme Team would organise a wide range of activities based on student voices, and make use of programme assemblies and staff-student consultative meetings to help students understand how different learning activities can help develop individual niches. In particular, she enjoys the experience of applying for the Student Learning Grant, as she can organise activities to deepen her knowledge in her interest areas.

To conclude, conducting evidence-based programme evaluations provides a good way to understand students' current learning progress and further learning needs. As a result, the Programme Team can organise activities that better fit the needs of students, and students can better be prepared for their own future pathways.

Getting Prepared for Artificial Intelligence-Enabled Generative Tools in Higher Education

Professor KONG Siu Cheung
Director

The release of ChatGPT and other artificial intelligence (AI)-enabled generative tools has rapidly generated a huge impact around the world, and the higher education sector is no exception. ChatGPT, which is based on a large language model trained with deep learning techniques, demonstrates strong capabilities in generating human-like textual responses. Via ChatGPT and other AI-enabled generative tools, users can converse with a computer in a way that feels like talking to a real person and acquire opinions instantly. Due to the recent advent of these AI-enabled generative tools, scholars, educators and practitioners have started to re-think the position of these tools in higher education. EdUHK has also implemented a series of approaches to respond to the situation: organising staff professional development activities (e.g., seminars and workshops), releasing pedagogical guidelines on using these AI-enabled generative tools to facilitate or encourage stakeholders to embrace new technology in education.

Understanding what AI-enabled generative tools are, and gaining experience of using them are crucial steps for developing proper strategies to incorporate them into education. In this regard, EdUHK responded swiftly and developed the workshop "Getting in Touch with ChatGPT-like Artificial Intelligence-Enabled Generative Tools: Implications for Teaching in Higher Education". Apart from introducing what ChatGPT is, the workshop comprises live demonstration, hands-on sessions and discussion sessions. With demonstration and hands-on experience, the workshop aims at equipping EdUHK staff with a better understanding of ChatGPT, thus initiating discussions on how it will influence learning and teaching. In March 2023, 4 sessions of the workshop were organised. Feedback collected from participants indicates their agreement that the workshop enhances their knowledge about ChatGPT-like AI-enabled generative tools and motivates them to consider the incorporation of these tools into their teaching and learning.
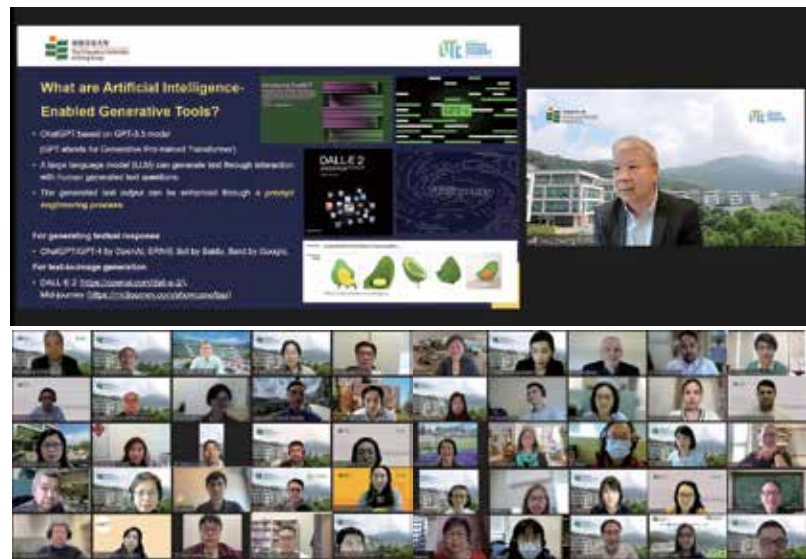
EdUHK organised staff professional development workshops regarding ChatGPT-like AI-enabled generative tools

Having been equipped with an understanding of the mechanisms behind AI-enabled generative tools, EdUHK colleagues were in a better position to reflect on guidelines about using these tools in education. There was also a strong interest in gaining familiarity with the tools available for detecting AI-generated texts. In this connection, two workshops entitled "Interim Guideline on Teaching, Learning and Assessment Involving Text and/or Image Generated from Artificial Intelligence-Enabled Generative Tools" and "Demonstration of tools for detecting AI-generated text" were organised in March 2023. The two events were attended by around 120 colleagues, who were glad to have these timely activities.

It would also be beneficial for EdUHK staff to know more about the perspectives of other countries regarding the use of AI-enabled generative tools in education. Professor LOOI Chee Kit, therefore, was invited to give the seminar "Navigating the Future

of Education with ChatGPT: Perspectives from Singapore" in March 2023. Participants indicated that the seminar showed them how to best harness the potential of AI generative tools in education as well as inspiring them to reflect on their current and / or future practices of teaching and learning.

The seminar "Navigating the Future of Education with ChatGPT: Perspectives from Singapore" by Professor LOOI Chee Kit

To encourage stakeholders to embrace new technology in education, EdUHK released a set of pedagogical approaches on the use of AI-enabled generative tools in late March 2023. The 6-P pedagogy, proposed by Prof KONG Siu Cheung and Prof John LEE, aims at facilitating teachers and students to adopt AI-enabled generative tools productively so as to support teaching and learning as well as assessment activities:

- Plan: Plan the content and structure of the writing to effectively respond to an issue, research question or problem. This corresponds to the forethought stage of self-regulated learning, where students set goals and plan their way forward;

- Prompt: Generate questions for inquiry and prompts using text-based generative AI tools, which provide resources for thought, discussion and further exploration;

- Preview: Ensure the output from the tools is previewed, checked for accuracy and screened for discrepancies. Students should think critically when examining the tools' output, supplement the output with additional knowledge and information, search for other supporting literature, and provide alternative views or arguments;

- Produce: Produce the written content by synthesising information from the tools and other academic resources, together with the individual views and personal insights of the students;

- Peer Review: Polish the article with peers and ensure that the content and supporting references are reasonable;

- Portfolio Tracking: Integrate students' reflections on the writing and learning processes and the formulation of strategies into future writing and learning tasks.

EdUHK released a set of pedagogical approaches on the use of AI-enabled generative tools to facilitate stakeholders embracing new technology in education.

The proposed 6-P pedagogical approach has been disseminated through various channels. It is hoped that the workshops, the seminar, and the 6-P pedagogical approach can foster better understanding about the strengths and constraints of AI among colleagues and students, while empowering them to make responsible and effective use of these technologies for future education.

Promoting Innovations in Teaching and Learning with the Use of AI

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Faculty of Liberal Arts and Social Sciences (FLASS)

Since the launch of the project entitled "Promoting AI Literacy and Effective Use of AI in Education" in mid-2020, the FLASS has provided direct support to academic and teaching staff in designing and implementing AI-powered pedagogies to encourage innovative teaching practices and enhance students' learning experiences. The potentials of AI (e.g., AI as a content generator, AI as an evaluation tool, and AI as a learning support platform) have been capitalised on within an educational context by different departments in the FLASS as a means of promoting innovations in teaching and learning. Data have been collected from students to either suggest ways for improvement in learning outcomes or offer insights into the effectiveness of using AI in education. In general, students generally reflected that their experiences with AI-based tools were positive. They found the tools to be interactive and engaging, which could help them stay motivated and focused during their learning process. Moreover, the instant feedback provided by AI-based tools enabled them to assess their level of understanding and identify possible areas for improvement. On the other hand, the data collected suggest that it is crucial to ensure the transparency and explainability of AI-based tools, especially in content generation and performance evaluation. This is vital because students need to understand how AI generates its recommendations and feedback. Moreover, the data reveal the importance of balancing the use of AI and human expertise in teaching and learning. While AI can offer many benefits, it is essential to avoid excessive dependence on AI and to maintain a human touch in education.

The Department of Cultural and Creative Arts (CCA) has utilised various mobile apps with AI capabilities to support e-learning in music creation. Students reflected that they found these apps to be an innovative and engaging way to learn music. The app Ecrett Music, for instance, has been employed for automatic song generation based on user inputs such as scene, mood and genre. Students were able to build their musicianship and creativity through developing aural awareness and musical understanding with the app. Additionally, two other

Automatic creation of royal-free music using Ecrett Music

Scan the QR code to download Ecrett Music app

Learning pitch using Singscope

Scan the QR code to download Singscope app

mobile apps, namely Singscope and Metronome, have been used to facilitate students in learning pitch and rhythm skills. They found that these apps were useful for monitoring and improving the accuracy of their pitch and rhythm performance through practices with the apps. The data-driven nature of these apps enabled students to analyse their performance and evaluate their progress independently out of class, providing a good way to cater for students' learning diversity. However, students also highlighted the limitations of these AI-based apps. For example, some students pointed out that the AI-generated music produced by Ecrett Music lacked the originality and authenticity of human-generated music. They acknowledged that the app is helpful in developing basic musicianship skills, but they also noted that it cannot replace the creativity and emotional expression of human music

Scan the QR code to watch the video demonstrating automatic transcription of instructions

Recording voice digitally using a wireless microphone.

Scan the QR code to access Cantonese speech-to-text recognition service provided by Subanana

Automatic transcription of voice into text using Subanana

Scan the QR code to view the demonstration of the smart home setting

A smart home setting with a weather station and intelligent air-conditioning system.
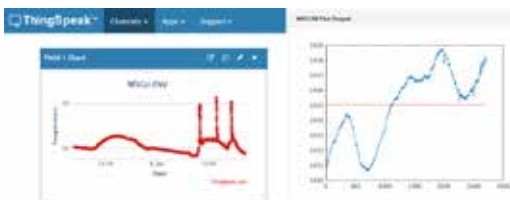
Scan the QR code to access ThingSpeak

Data visualisation using ThingSpeak and MATLAB.

composition. Additionally, some students reported that the apps like Singscope and Metronome did not provide enough guidance on how to improve their skills. In order to enhance the effectiveness of the AI-based apps, the instructor has implemented measures such as providing additional human support and learning resources to students.

The Department of Health and Physical Education (HPE) has applied speech-to-text recognition technology to help preservice teachers develop their awareness of their usage of different types of verbal instruction and feedback in micro-teaching. During the micro-teaching session, preservice teachers were asked to wear a wireless microphone connected to a transmitter for recording their voices digitally. The digital voice files were then uploaded to a speech-to-text recognition system, namely Subanana, for automatic transcription into text. Under the guidance of the instructor, the transcribed texts were analysed and coded by preservice teachers. By evaluating their types of instruction and feedback during micro-teaching, preservice teachers were able to review their teaching performance and identify areas for improvement and strengths. However, some students reported that the speech-to-text recognition system was not always accurate, leading to incorrect transcriptions and misinterpretation of their instructions and feedback. They suggested that the system needed further development and refinement to ensure reliable and accurate transcription. To address this issue, the instructor has offered training and support to students on how to verify and correct any inaccuracies in the transcriptions. By doing so, the effectiveness and reliability of the system can be improved to better promote self-reflection and self-awareness in their teaching practices.

The Department of Mathematics and Information Technology (MIT) has integrated the Internet of Things (IoT) with AI to equip students with the ability to design IoT-based solutions for the purpose of analytics. To investigate scientific problems in daily life, students were guided to collect live environmental data, such as temperature and humidity, using IoT devices like M5GO and sensors. The live data was then aggregated, visualised and analysed by an IoT analytic platform called ThingSpeak. Students could write their own MATLAB code on the platform to perform further online processing and analysis of the data for environmental monitoring and smart home control. It is through this kind of hands-on activity that students can acquire the skills which are important for them to make sense of a vast amount of data for action planning. Many students found the integration of IoT and AI to be a valuable experience, as it provided them with hands-on opportunities to collect and analyse real-time data. They were particularly excited about the opportunity to design and execute their own MATLAB code on the IoT platform to perform further online processing and analysis of the data. By doing so, they were able to gain a deeper understanding of data analytics. However, some students found it challenging to design their own MATLAB code, while others found the IoT devices and the analytic platform difficult to set up and configure. In view of these limitations, the instructor has provided additional support and resources to assist students in developing their coding skills and troubleshooting technical issues. The instructor has also encouraged peer learning and collaboration, where students could work together in groups to share their knowledge and help one another with coding and platform setup.

A Spanish learning game developed by students.

A Chinese vocabulary learning game developed by students.

Scan the QR code to run the Spanish learning game

Scan the QR code to run the Chinese vocabulary learning game.

The Department of Science and Environmental Studies (SES) has introduced the principles of AI and its latest developments in language learning to students enrolled on a general education interdisciplinary course. The course included hands-on practice in using a deep neural network to automatically perform various tasks, such as automatic text generation, automatic image and speech recognition. In addition, students were provided with the opportunity to design and develop their own digital game on language learning using a blocky programming environment called App Inventor. They were also asked to apply their understanding of AI to the game design and integrate various AI-powered functionalities, such as speech-to-text and image recognition to make the game more engaging for players. The AI-enabled learning experiences provided in the course allowed students to better understand how to use cutting-edge technology to support language acquisition and communication. By designing their own games and integrating AI functionalities, students could gain a deeper understanding of the potential benefits and limitations of AI in language learning. Reflections from students revealed that they found the hands-on practice engaging and challenging, which helped them to develop essential skills such as problem-solving, critical thinking and creativity. Some students, however, found it difficult to grasp the technical aspects of the course. To address this issue, the instructor has offered additional resources such as video tutorials, code snippets and more examples to help struggling students. In this way, a more inclusive and supportive learning environment would be created to benefit students of all levels from the AI-enabled learning experiences. The overall impact of the course was positive, as it helped students to recognise the potential of AI-powered language learning tools and their role in facilitating effective communication in a globalised world.

In the project, survey data have been collected from participating students to explore their views on the effectiveness of using AI in education. Students were asked to rate their agreement towards statements about the perceived ease of use and perceived usefulness of AI tools to support their learning on a five-point Likert scale (*5 = strongly agree, 1 = strongly disagree*). The mean ratings are 3.53 and 3.80 for perceived ease of use and perceived usefulness, respectively. The overall evaluation results suggest that students tend to be positive towards the effectiveness of using AI tools to facilitate their learning. The positive evaluation results have encouraged instructors to continue integrating AI tools into teaching to improve student learning in the future. To further enhance the effectiveness of AI in education, the instructors gather and analyse survey data from students to identify potential areas of improvement. For example, they investigate which particular AI tools students find most useful and convenient to use and devise more effective ways of integrating them into the curriculum. This will ensure the continual enhancement of AI's use in education.

Leveraging Virtual Learning Spaces and Artificial Intelligence (AI) to Promote Effective Assessment for Learning and Co-Construction of Knowledge in the New Normal

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The COVID-19 pandemic brought learning and teaching to an era of the new normal where the mode of course delivery moved between face-to-face (F2F), online, and hybrid depending on the societal and pandemic situations during the semester. The changing modes of course delivery was challenging to both teachers and students. On one hand, eliciting student responses and engaging students in formative assessment tasks may call for pedagogical change in the new normal. On the other hand, social distancing made it difficult for students to be behaviourally and emotionally engaged in class, which eventually affected their grasp of the course content and learning outcomes. In this article, I will introduce an AI-based e-learning package that was developed based on course-specific feedback from students and colleagues in the course teaching team. It provides self-directed formative learning opportunities to students in an ES core course, TLS3055 *Effective Teaching and Positive Classroom Learning Environment*, which all BEd students take in Year 2 before having any field experience. I will also outline how I used the AI-based e-Learning package and some online interactive and collaborative tools to create adaptable virtual learning spaces that can encourage students to co-construct knowledge in groups and be more engaged in the assessment for learning process regardless of the modes of course delivery. This article does not only showcase technology-enhanced solutions to pedagogical challenges and students' learning needs that were informed by authentic feedback, but it also offers feasible ideas for empowering students to co-construct knowledge as a learning community in virtual learning spaces.

The ES Core course, TLS3055 *Effective Teaching and Positive Classroom Learning Environment*, is a foundation course on classroom management and effective teaching strategies. It has been offered to all Year 2 students from the full-time Bachelor of Education programme every year. One of the course assessment tasks requires students to design a lesson plan and write an essay to justify the choice of teaching strategies used in their lesson plan. This is often challenging to students as it is usually their first attempt to design a lesson plan. From the basic structure of a lesson plan, to deciding on the learning objectives and estimating the time needed for each segment, everything about designing a lesson plan generally has to be taught from scratch. As the course co-ordinator of this course, feedback from colleagues was solicited in course team meetings and informal professional dialogues with regards to any learning challenges to students and pedagogical challenges to course instructors. Verbal feedback from students and observations of their performance in formative assessment tasks in class were also gathered to identify the key issues to tackle for quality enhancement.

In terms of student learning, students commonly faced difficulties in grasping two important concepts when designing a lesson plan: 1) the need for alignment between the learning objectives and instructional design, e.g., the group activities they designed in the lesson plan were often unrelated to the lesson objectives or were insufficient for achieving them; and 2) the need for teachers' scaffolding in different parts of the lesson instead of spending most of the lesson time on cooperative learning activities with little or no time spared for giving feedback and consolidating the knowledge and skills learnt. Course instructors noted that feedback and reminders related to the need for alignment and scaffolding have been given and reiterated repetitively in this course every year as students continued to turn to their instructors for similar queries across the semester. Against this background, it is imperative to identify alternative ways to help students learn to design an effective lesson plan and take on a more proactive role in their learning.

Hence, with the support of a CRAC project, "Harnessing Online Technologies for Quality Access to Education and Lifelong Learning: Innovations@

FEHD and the Next Level" led by Prof John LEE, Prof LIM Cher Ping, and Prof Sylvia TANG, an AI chatbot-based e-learning package entitled "Lesson Plan Draft eBuilder" was developed in Semester 2 of 2019/2020 and was implemented in Semester 1 of 2020/2021 to help address the above-mentioned challenges. The e-learning package includes an AI chatbot that walks students through the key components of designing a lesson plan with reflective guiding questions for students to check and reflect on the appropriateness of their ideas in different parts of their draft lesson plan. These guiding questions were developed based on our recollection of the common mistakes that students commonly made in the previous cohorts. Figure 1 shows an example of how the AI chatbot asks a guiding question based on a student's response.
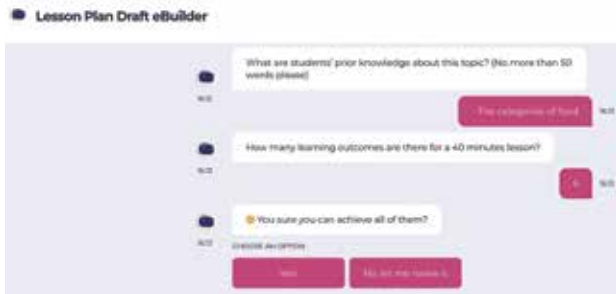

Figure 1. Example of a guiding question.

Formative feedback will be more effective for students' learning when it is timely and self-relevant. In this connection, the AI chatbot can serve the purpose. Asking timely self-checking questions can also help students build their metacognitive skills, which will be helpful for their subsequent attempts at designing a lesson plan. Besides timely feedback, the AI chatbot also provides definitions and examples for concepts that were problematic to our previous cohorts of students based on our professional observation. For instance, students always tended to write lesson objectives that point to the specific task that students were expected to complete rather than the knowledge and skills that students were expected to acquire from the proposed lesson. In this e-learning package, students will sometimes be offered an option of "I don't understand", with which they can clarify the relevant concepts with concrete examples to facilitate their understanding where needed to cater to individual students' learning needs. Figure 2 shows an example of when the "I don't understand" option would appear, and Figure 3 shows an example of how the AI chatbot explains the difference between learning outcomes and learning tasks to a student based on the student's previous response.

Figure 2. The "I don't understand" option.
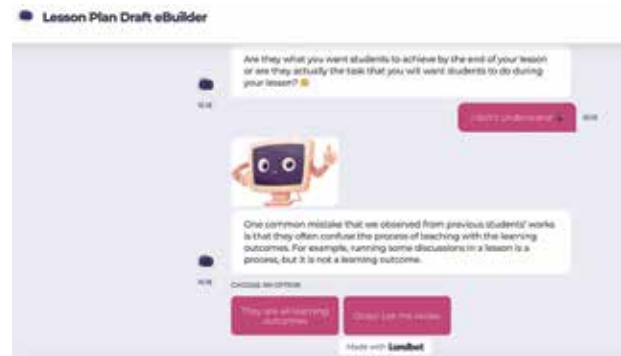
Figure 3. Example of an explanation provided by the AI chatbot.

The Pedagogy

To ensure effective use of this AI chatbot-based e-learning package, I intentionally exposed my students to productive failure to arouse students' learning motivation, followed by a series of self-developed formative assessment to promote students' engagement, scaffold their learning and monitor their learning progress. Productive failure takes place when students are engaged in solving problems that they have not learnt about (Kapur, 2008). Such a failing experience before learning about the subject knowledge and skills could enable students to notice the limitations of their prior knowledge and skills, thereby enhancing their learning motivation and engagement (e.g., Belenky & Nokes-Malach, 2012; Kapur, 2016).

In my classes, I first assigned students with a group task that required them to design a lesson plan on Google Docs based on a self-selected topic. The instruction given was simple and the only material provided to students were four possible templates of a lesson plan. They were told that none of the lesson plan templates was perfect and were asked to adapt the format and components to be included based on what they thought were essential to a lesson plan. Since none of them had ever written a lesson plan and many of them had not even seen a real lesson plan before, students always encountered lots of difficulties and queries emerged as they worked on the group task.

Figure 4. Students' first attempt at designing a lesson plan.

Upon encountering the challenges and setbacks, theories and strategies pertinent to designing lesson plans were introduced in the subsequent lessons. During the process, formative assessment tasks were designed on Padlet to allow students to showcase their group's ideas while co-constructing learning materials for the entire class as I used their work on Padlet as part of my teaching materials in class. Figure 4 shows the Padlet task on designing a lesson plan and Figure 5 shows an example of a formative assessment task.

Figure 5. Example of a formative assessment task on learning objectives and lead-in.

The series of formative assessment tasks supplemented the regular lessons to monitor students' learning progress as they learned to design different parts of a lesson plan. Students were also asked to revisit and revise their initial lesson plan on Google Docs during the learning process. The AI chatbot-based e-learning package was then assigned to students to help them finalise the first draft lesson plan before meeting the course instructor, myself in this case, for consultation meetings regarding the aforementioned assignment that required them to design a lesson plan as an important material for the written analysis and justifications in their essays. In general, students expressed that the use of the e-learning package had helped them identify some mistakes and clarify some concepts that they were uncertain about. Students were also more able than students in the previous cohorts to remind themselves of the need to check the validity of their lesson objectives, and the alignments between the objectives and content of the lesson plan. The formative assessment tasks on Padlet and Google Docs could also help them build their lesson plans step by step while pushing them to work on their group assignment more systematically. From the course instructors'

perspective, the e-learning package could effectively address lots of basic queries from students, allowing them to spend time on more advanced questions during the consultation meetings.

Taken together, this article has underscored how AI technology and online interactive and collaborative tools can be used to expand students' virtual learning spaces and empower students to co-construct knowledge with and for each other, while taking on a leading role in their own learning. Such use of technology can be applicable across modes of course delivery in the new normal to enrich students' learning experience and promote their engagement.

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Fostering Global Perspectives in Early Childhood Education via Collaborative Online International Learning (COIL) Activities

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While developing global perspectives is an important learning outcome for EdUHK graduates, students from the Department of Early Childhood Education (ECE) used to indicate that their global learning experiences were between average to satisfactory. For example, scores for the part-time PGDE programme had been falling over the three years since such data was first collected (Table 1). To raise the level of global perspectives among ECE students, funding was obtained from the ECE Department in August 2021 to start the project "*Fostering Global Perspectives in Early Childhood Education via Collaborative Online International Learning (COIL) Activities*".

The project has run for four semesters (Semester 1 and 2 in AY2021/22 and Semester 1 and 2 in AY2022/23). Fifteen ECE department members have participated thus far, many of them on multiple semesters. The typical data produced included emails, meeting notes, Zoom recordings, survey forms on students' satisfaction, and post-collaboration website articles. The most critical data to evaluate students' experience has been collected via post-activity surveys. This data collected included students' ratings of the COIL activity, alongside open-ended responses on what they liked about the activity and how it could be improved. Data collected across all collaborations showed that having more global elements in courses was positively perceived by ECE students, who appreciated interacting with students from other cultures to learn about life and education in other parts of the world.

	Mean GILO Score of Evaluation on Global Perspectives for ECE Department									
	HD(ECE)		BEd(ECE)					FT PGDE (ECE)	PT PGDE(ECE)	
	Year 1	Year 2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 1	Year 2
2018/19	3.48	3.68	3.59	3.72	3.88	3.71	3.88	3.60	3.94	4.04
2019/20	3.54	3.56	3.70	3.70	3.89	3.87	4.20	2.89	3.81	3.94
2020/21	3.81	3.79	3.81	3.64	3.88	4.09	4.00	3.67	3.55	3.84

For the mean scores, 5=very satisfied, 4=satisfied, 3=neutral, 2=dissatisfied, 1=very dissatisfied

This project aims to support the ECE department in implementing COIL activities with overseas teaching partners, as part of students' regular coursework. The activities implemented range from mini-projects where ECE students and their overseas counterparts met on multiple occasions to converse and co-create collaborative outputs or products, to guest lectures where an overseas expert was invited to share about their culture and education in their specific context or country. The only requirement was to collaborate with an overseas collaborator through online technologies to complete at least one COIL activity to enhance the global mindedness of students.

Fostering Global Perspectives in Early Childhood Education – 1: Example of post-collaboration COIL activity feedback form

Let's see two examples of how such survey data were used to improve subsequent iterations of COIL activities. One of the COIL collaborations involved Dr Eugene LAU and Dr Susan CHAPMAN (from Queensland University of Technology, Australia). The activity involved

Hong Kong students creating visual art pieces and passing them to Australian students who performed a music, dance or drama performance in response. In Semester 1, 2021/22, 7 out of 20 ECE students had given feedback that they hoped to interact more with Australian students (i.e., "Increase opportunities to communicate with Australian students", "Have a virtual session with the QUT students" and "It would be great if we can talk to them over Zoom"). Taking this data into consideration, in the subsequent run of the activity in Semester 1, 2022/23, the two lecturers also asked students not only to produce art pieces, but also to record a video introducing themselves and explaining their art pieces and performances. Hong Kong students provided feedback that these video recordings were helpful for understanding their Australian partners better.

The second example focuses on the COIL collaboration between between Dr Yanling ZHOU Yanling and Dr Yali ZHAO (Georgia State University, United States). Their activity involved Hong Kong students and United States students responding to three tasks by posting videos and commenting on one another's videos. In Semester 1, 2021/22, students who completed the survey had commented on the time needed to create the videos (e.g., "It was good, but it really takes my time," "I have the chance to learn from others, but it took time for me to finish," and "The workload is too much."). The consensus was that while the activity was beneficial, it took too much additional time. Hence, in the second run of the collaboration in Semester 1 of 2022/23, the lecturers decided that the videos would be part of students' course assessment, unlike previously, where it was an additional activity that was not assessed. In this way, informed by the data, the lecturers made modifications to the assessment structure of the course to reduce the overall workload for students.

The above two examples show how student data collected after an activity can be used to help lecturers refine their COIL activities for the following year. Besides this, **post-collaboration website articles** (www.eduhk.hk/ece/en/engagement.php?s=recent_focus) were also published on the ECE website and shared on social media to inspire more colleagues to incorporate similar virtual exchanges into their coursework. We also produced a **COIL project video** (video link: www.youtube.com/watch?v=9fmUZn_zWgQ) to share good practices online. This sharing of secondary data brought us new opportunities. For example, colleagues from the **United Kingdom (UK)** (www.eduhk.hk/ece/en/engagement.php?id=95), **Mexico** (www.eduhk.hk/ece/en/engagement.php?id=90) and **Kazakhstan** (www.eduhk.hk/ece/en/highlights.php?id=7522) came across our work and approached us to become our COIL collaborators. We were also invited to the DLTC/CLTC Chairs meeting to share how the ECE Department uses COIL to foster students' global perspectives. This led other Departments, such as Curriculum and Instruction, to also begin their own COIL initiatives.

Fostering Global Perspectives in Early Childhood Education – 2

From left: Ms Zhadyra DARIBAYEVA, Ms Sofie CHUA (ECE), Dr Alfredo BAUTISTA (ECE), and Dr Artem ZADOROZHNNY (ELE). Dr Aizhan MAKASHEVA and Ms Zhadyra DARIBAYEVA from Korkyt Ata Kyzylorda University in Kazakhstan read our post-collaboration website articles and contacted us for a campus visit to learn about our COIL project on October 25, 2022.

Promoting a dynamic pedagogical model of asynchronous and synchronous virtual teaching and learning (AS-VTL) to enrich students' virtual learning experiences

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Introduction

Traditionally courses at the FHM rely heavily on the interpretation of texts (literature, histories and linguistics), presentations, teacher-student interactions and peer feedback. When it comes to distance or hybrid learning, we found it important to create asynchronous online environments that promote in-depth thinking, learning and interaction, as well as synchronous communication that is effective and efficient and enhances community building. In order to reinforce these qualities, we proposed a dynamic pedagogical model that synthesises and balances the asynchronous and synchronous VTL (AS-VTL). The deliverables include a series of innovative virtual learning resources, implementation of the AS-VTL pedagogical model in a range of FHM courses and the establishment of a community of practice (CoP).

Example: Unity VR game for IELTS Speaking Practice

We developed the IELTS speaking practice to prepare students for future studies or employment. Many students are unfamiliar with the exam structure. The FHM VTL team collaborated with the Centre for Language in Education (ASLLC) and developed a Unity VR IELTS Speaking Practice, in which students are immersed in a virtual classroom with a virtual examiner to interact with them using a Meta Quest 2 headset. The three-part Speaking practice is 11-14 minutes long. At the end, students were provided audio recordings, which they could share with a consultant at the ASLLC to gain further improvement.

Image 1. Virtual Reality IELTS Speaking Practice Session

Example 2: Interactive E-book for Classical Literature

Interactive teaching and learning are particularly important when Children's literature is adopted in the pedagogy. Hence, we developed an animated E-book for LIT4057. Through HTML web design, curated backgrounds and contexts are presented to allow interpretation of texts alongside authors' biographies and create a new reading experience. At the end, students would be asked to complete an EdApp summative assessment, which enables teachers to assess students' grasp of relevant information and make adjustments for subsequent teaching. Two other members of our project were inspired to develop similar e-learning packages using HTML as well.

Image 2. Interactive E-book for Classical Literature (LIT4057)

Data collection

Online evaluation from staff and student participants of e-learning package implementation was our major quantitative research. The question sets were developed from a generic evaluation questionnaire from the Project Work Group on Virtual Teaching and Learning to study students' engagement and promotion of self-regulated, self-directed, or self-paced learning. Project-specific items were also added to evaluate the effectiveness of the activities

and students' interactive and reflective learning. Data was collected through 2 sets of Google Form questionnaires, completed by 20 teaching staff and over 500 students involved throughout four rounds of implementation.

Qualitative studies were also conducted to better understand students' engagement and attainment in different aspects of learning. The method was to conduct 30-minute follow-up interviews over Zoom with staff members and student participants who have experienced the packages.

Data analysis

Positive feedback was received,. With both teachers and students agreeing that constructive learning and self-regulated learning could be promoted through the VTL activities as these two learning modes received the highest mean score of 4.0 (out of 5) among the four learning modes (the other two learning modes are reflective learning and interactive learning). In this way, students could produce outputs that contain ideas that go beyond the information presented to them and they could plan and monitor their learning on their own in the absence of an instructor. One student agreed that the virtual learning activities enable his attainment in self-regulated learning as he wrote in the online evaluation form that "I can adjust the time and pace of learning with those learning tasks, allowing me to take those tasks several times for revision." Another student interviewee said, "I can do my self-learning by watching the video again and going through the questions again." A student who is learning Putonghua stated, "I now develop a habit of taking more initiative in learning Putonghua. For example, I will watch and listen to more Putonghua programmes to enhance my language skills in Putonghua."

Teacher interviewees expressed that students could achieve learning outcomes through the VTL activities and that the technical/infrastructural support for conducting the activities was sufficient. They also pointed out that the project team had made many efforts to help resolve their technical problems. One of the teacher interviewees said, "I would like to thank the project team who have been very helpful and supportive."

Students agreed in the questionnaires that they would apply the knowledge/skills gained from the activities in their future teaching. This is confirmed by the student interviewees as well. In addition, students agreed that their learning performance had been improved through participating in the VTL activities. This also conforms to the interviewees' opinions. One of them stated, "If feasible, I will implement a similar teaching method for future students because this method is more interesting and allows students to learn in a virtual environment on their own. It's more meaningful for students to explore their own knowledge than for the teachers to read and explain the meaning of the content." The student interviewees agreed that the e-learning packages were more interesting and engaging than a presentation-driven way of teaching because videos, animations, short quizzes, etc. could be embedded into a learning package and they could study the packages anywhere and anytime. A student interviewee reported, "Using an e-book is different from the traditional way of learning. Firstly, we can learn at our own pace. It's especially good for those who are weak in classical Chinese. Secondly, the animations and sound effects can provide us with an immersive environment of ancient battlefields in China." A student who used an interactive e-book for Classical Chinese said, "I can make use of my spare time to read the e-book attentively. The animations included in the e-book help me have a better understanding of the text." Most students who had taken part in the IELTS Speaking Practice gave very positive feedback on this activity, with one commenting, "I can experience the IELTS speaking test in a virtual environment in which I can practise my speaking skills while letting me have a reflection on my weaknesses in English speaking so that improvements can be made." Another participant thought the IELTS Speaking Practice opened up a new way of learning. Other comments on the IELTS Speaking Practice in the online evaluation form are:

"I feel more confident in the IELTS speaking test." "I can be familiar with the format of the IELTS speaking test." "It can give me an idea of how to practise my English speaking and it reduces my anxiety because I now know how the test will be conducted." "It provides a more personalised space to practise." "It is my first-time using AI and it's really interesting."

Based on the data collected and the data analysis, the way forward involves continued emphasis on virtual teaching and learning (VTL) activities that promote constructive and self-regulated learning. To further improve the learning experience, educators should continue to develop engaging e-learning packages that include multimedia elements such as videos, animations, and quizzes. This will make the learning process more interactive and accessible, allowing students to study at their own pace and in their preferred environment. Moreover, the success of the IELTS Speaking Practice highlights the potential for integrating artificial intelligence (AI) and virtual environments into language learning, helping students become more familiar with test formats and reducing their anxiety. This approach can be expanded to other subject areas, making the learning experience more personalised and interesting for students.

Project deliverable: Publication

An article titled 'A systematic review of mobile-based synchronous and asynchronous language teaching and learning' has been accepted by the International Journal of Mobile Learning and Organisation (IJMLO). The systematic review extracted data and concepts from published studies on the topic of AS-VTL, then analysed, described and summarised interpretations to help provide a conceptual framework for the research.

Project deliverable: Knowledge Transfer website

The project knowledge transfer website (https://vtl.eduhk.hk/) has been developed to share the e-learning packages for effective AS-VTL, showcase good practices of it, and foster communication between professionals and practitioners. Teachers and students can visit our website to receive the latest updates on project development. The project website serves as a means to enhance the sustainability of the project outcomes and facilitate the establishment of a Community of Practice on asynchronous and synchronous virtual teaching and learning.
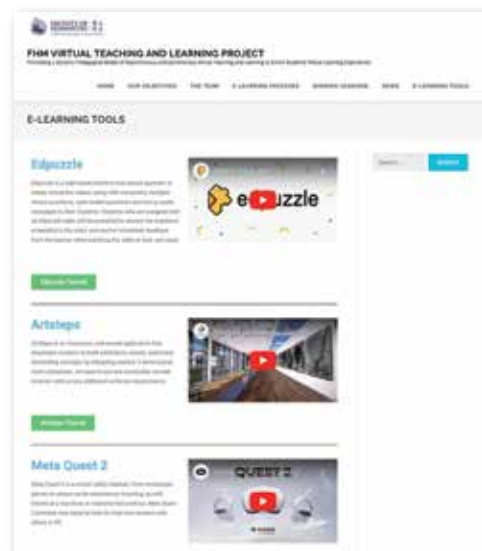

Image 3. VTL Project Knowledge Transfer Website

Image 4. QR code for the e-learning packages

360° Virtual Tours for Learning the Chinese History of Religion and Society — Reflection and Way Forward

Dr CHOY Yat Ling, Elaine
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The teaching and learning of history is not only about reading and sitting in lecture theatres. Going out to experience historical sites first-hand is also essential. However, in face of the Covid-19 restriction policies, physical visits to religious sites were rendered impossible, leading to an emerging need for an alternative way of site-visiting. By participating in a virtual teaching and learning (VTL) project (i.e., *Promoting a dynamic pedagogical model of asynchronous and synchronous virtual teaching and learning to enrich students' virtual learning experiences*), I was able to reflect on the use of technology in teaching and learning, and realised that virtual tours could also facilitate students' achievement of learning objectives.

Virtual tours can create a learning experience immune to the limitations imposed by the Covid-19 restriction policies. Conventionally, the first step is always about classroom learning and discussion, through which students learn about the rudiments of history. Once a basic understanding is developed, students should then be allowed to go out into the field to engage with historical sites. During the pandemic situation, where social distancing policies were in place, virtual tours were an alternative way out. Students in my class were able to dive into the virtual realm of religious sites in Hong Kong, with the company of some relevant reading materials, videos, and close-up photos. They were able to travel around the religious sites in Hong Kong, such as the Che Kung Temple and the Tsing Shan Monastery, gaining a beyond-the-physical experience uninfluenced by concern over geographical and time limitations.

However, some may argue that a virtual field trip may not benefit students as much as an on-site learning tour. In my experience, I have seen students walking around aimlessly during a usual field trip, clearly unaware of the important objects of the site. Some of them may be curious about a religious ornament but

may find it difficult to get an answer promptly before they forget the object that piqued their interest. This is where virtual tours can help — regardless of physical limitations, the greatest advantage of virtual reality is that information can be made available with just one click. When virtually wandering around the Che Kung Temple, a student can move the cursor around to check things out, ensuring nothing important is missed, and be guided to explore inconspicuous places that are easily missed during on-site visits.

The positive outcomes of virtual field trips are supported by students' feedback collected through a survey. The results show that the majority of the respondents agreed that the virtual learning experience could improve their learning performance (the average score for the question was 4.4/5). Over 91% of the respondents agreed that the virtual tour had helped them develop a more profound understanding of various religious ornaments and symbols. Over 94% of the respondents considered that the outcomes of the project could benefit their future learning. Students mentioned that the learning packages enhanced their curiosity, increased their interaction and deepened their impressions of Chinese religious history. In the process, they explored these sites according to their chosen progress. They were able to observe and gain a lot of knowledge as these packages are explained through texts, videos and pictures.

Students' feedback also provides insight into the future developments of virtual field trips. Firstly, ritual practices and traditions could be incorporated into virtual tours in the form of mini-games. For example, a virtual tour to the Che Kung Temple could re-create the processes of kau chim (shaking a container full of fortune sticks in front of an altar), windmill spinning for good fortune, and even the whole Che Kung Festival, which would greatly raise the level of interactiveness. Annual public events associated

with the site could be added to inform students of Hong Kong's cultural traditions and their underlying significance. An example drawn by a student is the kau chim tradition that takes place every year at the Che Kung Temple, with a suggestion about including the fortune sticks from previous years and their corresponding messages about the future of Hong Kong. Another student considered virtual tours as a good replacement for on-site visits and remarked that it would have been better if the experience were both visual and auditory, with background noise and music from the real environment. The team enriched the packages with the above suggestions. I used the revised packages for another course. The students expressed that they experienced the richness of Chinese culture and atmosphere in different religious sites. In addition, students' learning outcomes are enhanced through the interactive combination of knowledge and experience.

Students' positive feedback indicates that virtual field trips are acceptable and that there was a latent demand for an enhanced experience. Also, virtual tours should be considered as a supplement rather than a replacement, as students' learning should not stop right at the end of an on-site visit. Virtual tours could create a more self-directed learning experience, allowing students to revisit a site without concern over time and other external factors. The future of the teaching and learning of history could be a hybrid of the physical and the virtual.

Ching Shan Monastery 360°virtual tour layout

Ching Shan Monastery
360°virtual tour QR code

Sha Tin Che Kung Temple 360°virtual tour layout

Sha Tin Che Kung Temple virtual tour layout with different points of interest (text, close up photos, video link and google form link)

Sha Tin Che Kung Temple
360°virtual tour QR code

Promotion and Integration of Virtual Teaching and Learning in Field Experience

Dr KAM Wai Keung Kevin
Director

Block Practice (BP) is a sustained period during which student teachers plan and teach in local schools. Student teachers can gain mastery over practical teaching skills by working at attachment schools for 4-12 consecutive weeks. In order to adapt traditional in-class teaching to the "New Normal in Education", the Education University of Hong Kong (EdUHK) encouraged students to apply diverse modes in their learning and teaching, which consists of the simulated mode, virtual mode and authentic mode of classroom teaching.

To further support students to teach in the virtual mode, the SPFEO has taken the initiative in implementing a two-year project "Promotion and Integration of Virtual Teaching and Learning in Field Experience", starting from Semester 1 of 2021/22. The project aims to promote the integration of Virtual Teaching and Learning (VTL) into BP, strengthen students' ability to adopt VTL pedagogy into BP, and to enhance the connection among local primary and secondary schools, in-service and pre-service teachers by sharing good practices in VTL.

Mr CHIU Ka Chun (assistant principal of Baptist (Sha Tin Wai) Lui Ming Choi Primary School) introduced using AR & VR technology for stargazing and space travel.

Mr MUI Chi Man (principal of Ju Ching Chu Secondary School (Yuen Long)) introduced the effective use of apps in iPad, such as Keynote & iMovie for virtual teaching.

Exemplary Teaching Videos

The SPFEO has liaised with excellent in-service teachers of primary and secondary schools, including awardees of the Innovative Teaching Award, for producing exemplary teaching videos on the effective use of VTL with an aim to share local schools' VTL experience with EdUHK students. During the academic year of 2021/22, concerted efforts were made by the SPFEO team, and professional filming crews visited the speakers to produce the exemplary teaching videos with them. These seasoned teachers shared their valuable front-line practical experience in conducting virtual teaching. EdUHK students are strongly recommended to grab the chance to learn more about how virtual teaching is being implemented in the local school context through these videos. The videos are now available on the SPFEO's VTL Resources Depository.

Excellent e-Teaching Student Award

Apart from exemplary teaching videos, the SPFEO has also offered the Excellent e-Teaching Student Award to recognise, encourage, and reward students' self-produced exemplary e-teaching (microteaching and virtual teaching) and their contributions to the development and delivery of exceptional online teaching and learning. The Award is open to all full-time and part-time students of sub-degree, Bachelor of Education (BEd) and Postgraduate Diploma in Education (PGDE) programmes. Each awarded student receives a HK$2,000 bookshop coupon and a certificate of recognition to complement their innovation and e-teaching skills. Since its establishment, fifty students have been awarded and their video outputs are included in the VTL Resources Depository. The Award scheme not only

Ms YUEN Wing Shan, BA(LS) & BEd(EL), one of the recipients of the "Excellent e-Teaching Student Award", thought that it's good to recognise students' efforts in organising the Award.

Three Awardees of "Excellent e-Teaching Student Award", took a photo with Dr HUI King Fai Sammy, the Chairman of the Selection Panel. Ms TIN Yi Yi (second right), BEd(ECE), remarked that the certificate helps future employers to recognise students' e-teaching skills. Ms LI Kai Man (second left), BA(CAC) & BEd(MU), believed that the Award could motivate students' e-teaching performance, and that the certificate is useful for job-seeking.

motivates students to produce excellent e-teaching videos but also collects outstanding e-teaching videos to provide a reference source for junior students and to strengthen their ability to adopt VTL pedagogy into their BP.

VTL Practice Seminars

In the academic year of 2022/2023, three VTL Practice Seminars were organised under the hybrid mode to further promote VTL in BP at EdUHK. Seasoned in-service teachers and experts in the field of VTL were invited to share with students and colleagues about using the VTL in practice in the local school context and the latest trends in VTL in the local and international community. The themes included "Effective Use of VTL to Promote Pupils' Engagement and Interaction in BP", "The Use of VTL to Support the Achievement of FE Intended Learning Outcomes (FEILOs) and the Graduate Attributes of Professional Excellence, Ethical Responsibility and Innovation (PEER&I)", and "Assessment Strategies

for VTL in BP". Awardees of the Innovative Teaching Award, Excellent Supporting Teaching Award, and Excellent e-teaching Student Award were also invited to share their VTL practical experience in the local school context in the Practice Seminars. 179 participants joined the VTL Practice Seminars in total. 43% of whom completed an evaluation form. The evaluation results indicated that:

1 98.8% of the respondents agreed or strongly agreed that the seminar stimulated their interest in learning or even addressed their learning needs.

2 100% of the respondents believed that their teaching and learning performance has been enhanced through participating in the VTL Practice Seminar.

3 100% of the respondents indicated that they will apply the knowledge/skills gained from the VTL Practice Seminars.

Dr LAM Hak Chung Patrick, the Principal of Lutheran Academy, shared outstanding VTL ideas with our students in the 1st VTL Practice Seminar.

Professor LEE Chi-Kin John, Former Vice President (Academic) and Provost announced the opening of the 1st VTL Practice Seminar.

Mr CHEUNG Yung Pong Langton, Professional Consultant of SPFEO, shared his views on using VTL to support the achievement of FEILOs and PEER&I in the 2nd VTL Practice Seminar.

Mr WONG Kin Wai Albert (Left), Association of I.T. Leaders in Education, shared his practical experience in local primary schools in implementing VTL in the 2nd Practice Seminar.

Prof. KONG Siu Cheung, Research Chair Professor of E-Learning and Digital Competency, shared the topic of the "pedagogical use of technological tools: now and in future" in the 3rd Practice Seminar.

VTL Resources Depository

In October 2022, the VTL Resources Depository, along with other related training materials, were promoted to all EdUHK BEd and PGDE students for their reference. The Depository serves as a one-stop-shop platform for accessing:

1 Exemplary Teaching Videos

2 Award-winning Teaching Videos from Excellent e-Teaching Students Awards

3 Video Recordings of the VTL Practice Seminars

Quantitative feedback was collected to evaluate the effectiveness of the Depository:

1 Over 85% of the respondents believed that the VTL Resources Depository could promote constructive, interactive, reflective, self-regulated, self-paced, and self-directed learning.

2 Over 83% of the respondents agreed that the learning tools/platform adopted were easy to learn and use.

3 Over 94% of the respondents indicated that they will apply the knowledge/skills gained from the Depository.

Though most of the feedback was positive, a suggestion was received to ask for covering more subjects. In the future, more and more VTL videos and examples covering various subjects will be uploaded to the VTL Resources Depository to enrich its content. The VTL Resources Depository is expected to promote students' self-regulated, self-directed, self-paced learning. Students and colleagues are strongly recommended to explore the valuable teaching examples and experiences in the VTL Resources Depository. Scanning the QR code below will direct you to the VTL Resources Depository. Don't miss it!

The front page of the VTL Resources Depository (mobile version)

For more stories and information about the VTL Resources Depository, please scan QR code.

e-Orch Innovative Music Project

Dr LEUNG Chi Hin
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Department of Cultural and Creative Arts (CCA)

The "e-Orch Innovative Music Project", is a series of music education and art promotion of knowledge-transfer (KT) events held over the past years, including software development, teaching and learning activities, publications, music performances, and public participation. The project developed the "AI Music Accompaniment (AMA)", namely THE GRID, to generate a 3-part accompaniment for a given melody in a classical or pop music style. It adopts the Hidden Markov Model (HMM) statistical model to capture hidden information from observable sequential symbols (i.e. musical notes).

Based on the Musical Instrument Digital Interface (MIDI) data of 3,000 lead sheets and transcriptions from diverse musical genres such as classical, folk, rock, and jazz to pop, AI Music Accompaniment (AMA) employs the Hidden Markov Model statistical model to produce the most appropriate chord progression for a particular tune. It will create interaction between the musical notes in the horizontal (i.e. melody) and vertical (i.e. chord) dimensions and their sequences (i.e. next chord). Teachers use the function to lead to any e-Orch performance with a short time of score preparation. This is an example of how large data can help AI music accompaniment generators improve.

The system can offer more individualised musical accompaniments with appropriate compositions from a larger spectrum of musical genres. We can enhance the precision and utility of the system for both music education and creation by carrying out further expansion and improvement of the dataset and incorporating user feedback.

A survey and Semi-structured interviews were conducted to collect and investigate the factors affecting the motivation of in-service teachers to develop e-Orch in their schools. The PI learned from the experiences of the teachers and further polished the apps for the needs of the teachers. Feedback from the teachers:

TSE Yan Wah
Music Panel of Po Leung Kuk Dr Jimmy Wong Chi-Ho (Tin Sum Valley) Primary School

Established for more than one year, our school's e-Orch has engaged students in music performance and creation with the use of iPad apps, while providing them with ample opportunities for performance and creating a favourable environment for life-long learning in music. 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. e-Orch aims to cultivate team spirit through collaboration and, most importantly, engage students in joyful musical experiences.

LEUNG Ching Hei Alan
e-Orch Conductor

Through practising in ensemble and orchestra settings, e-Orch encourages students to learn to play different kinds of virtual instruments. In the process, students not only have fun with music but also become familiar with Chinese and Western classic repertoires and acquire eye-opening experiences in the exploration of digital music.

Apart from the ensemble sessions, e-Orch provides students with a holistic training experience with an emphasis on cultivating creativity. During practice, students will take the role of sound engineers, creating their own music and enjoying illuminating experiences through improvised performances. Meanwhile, students are motivated to explore the possibilities of digital music and traditional instruments while engaging in co-creation in music.

LAU Hiu Lam Helen
e-Orch Conductor

e-Orch aims at providing students with a music learning platform, engaging them in individual or group performance and music creation with the use of music apps on a tablet. In this way, students share the opportunities to explore various sounds of acoustic and electronic instruments and different sound effects impressively generated through music apps, whether or not they have learned or owned physical instruments. e-Orch greatly stimulates students' interest in music and motivates learners to actively participate in practice. The lessons will take place in a music ensemble and orchestra setting to cultivate students' proficiency in musicianship and team spirit.

Student response/reflection after using the e-Orch app and Grid Notation

NG Tsz Ching

The Grid Notation is a straightforward and easy-to-grasp notation system. Once students understand the fundamental principles of time signatures in the system, they are able to play music with ease, even in an ensemble setting. It was a relief to have a visual tool that allowed students to focus on interpreting the music and expressing themselves.

NG Hei-man Hailey

Different from other applications, the newly launched e-Orch app allows students to play music easily as the setting inside is simple for one to learn. Besides, the built-in Grid Notation allows students to understand the concept of beats and rhythms quickly. Solfège replacing music notes can effectively help students know what notes they have to play.

e-Orch app

Students performing their original composition

e-Orch Performance in Tsuen Wan Town Hall Exhibition Gallery

Performing the theme of the *Phantom of the Opera* with Pipa soloist Mavis Lam

Assessment as and for learning: Developing pre-service teacher's noticing ability by collaborative feedback through the use of an online video analysis tool

Dr LEE Hoi Man Sarah
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Learning to notice has long been advocated to help pre-service teachers make pedagogical decisions amid classroom instruction. Research indicated that pre-service teachers had difficulty in noticing own teaching for enhancing classroom interaction (van Es & Sherin, 2002). Video becomes a useful tool to facilitate such noticing for reflective teaching. Recent work has studied the use of video analysis tools (VAT) to develop an ability to notice and interpret classroom practice. Yet, the above-mentioned studies focused on the effect of using VAT without considering what and how the feedback of the course instructor could promote the development of noticing ability in pre-service teachers during their assessment for learning. Moreover, when pre-service teachers take part in peer assessment, the effect of this mode, i.e. assessment as learning, on the enhancement of noticing remains unknown. In light of these, this Teaching Development Grants (TDG) project attempts to investigate the use of VAT in giving feedback by peers (i.e. assessment as learning) and instructors (i.e. assessment for learning) for scaffolding student's noticing ability. In particular, teachers' own teaching videos will be adopted since this could afford the teacher's critical reflection (Zhang et al., 2011).

At the beginning of this project in early November 2020, a training session was run to allow pre-service teachers to become familiar with using an online video platform, called the "Video-based Learning Community" (VBLC), a VAT developed by the EdUHK. Afterwards, the pre-service teachers recorded and uploaded their first teaching video, as well as sharing what they noticed on the VBLC platform (pre-test).

Later on, two different workshops about learning noticing ability were conducted in late November 2020. The pre-service teachers then recorded and uploaded another teaching video for Cycle 1 in Noticing Round 1. They practised noticing with writing their comments about what they noticed when they viewed their own teaching videos. These pre-service teachers also used the segment function on the VBLC platform to highlight the parts of their teaching videos that were discussed in their comments. Individual feedback about noticing abilities were given by the instructor after the pre-service teachers conducted their own noticing in their videos. Further noticing (i.e., Cycle 2 in Noticing Round 1) was completed by the pre-service teachers based on the feedback of the instructor given in Cycle 1.

In Noticing Round 2, the pre-service teachers uploaded and noticed their new teaching videos as well as receiving comments from the instructor, just like Round 1. In addition, they were expected to comment on the noticing abilities of at least one peer. In other words, participants received comments from both peers and an instructor. Their self-reflections written on the VBLC platform were all assessed to gain insight into their noticing abilities.

A comparison of noticing abilities was made for students who had submitted at least two teaching videos during the pre-workshop stage (pre-test), Noticing Round 1 and/or Noticing Round 2 (post-test). 31 pre-service teachers joined the assessment and 62% of them demonstrated improvement in noticing abilities. In addition, participants showing improvement could apply what had been learnt in the two workshops, in terms of the theoretical framework of noticing. For example, they not only noticed own teaching but also student thinking. That is, they no longer just focused on "teaching performance" but further shifted to how students learned.

A survey and semi-structured interviews were adopted at the end of the project to identify effective practices in assessment of fostering pre-service teacher's ability to notice. Based on the survey,

92% agreed or strongly agreed that feedback on their work helped to achieve the learning outcome, i.e., noticing. Moreover, 88.5% agreed or strongly agreed that the activities encouraged teacher and peer dialogue around learning. This implied that the use of VAT for such dialogues was very effective to facilitate peer, as well as instructor, feedback for acquiring noticing ability.

In the interviews, the pre-service teachers were invited to express the effective practices experienced in the project. For assessment as learning, peer feedback helped them to highlight their weakness. For example, their peers could pinpoint weaknesses which they themselves might not be aware. On the other hand, the pre-service teachers highlighted the effective practices in assessment for learning, in which the instructor or the feedback given demonstrated the following features:

- roles as facilitator,
- deeper reflection,
- seeking student-centered evidence,
- stimulating with reflective questions,
- precise and concise.

In addition, the pre-service teachers mentioned that the use of VAT helped them become more open-minded to receive comments from others. Furthermore, they shared that when they commented others' weaknesses, they would also reflect on whether they showed the same weakness. Evidently, the use of VAT benefited student learning in different ways.

A sharing session for EdUHK colleagues and students was conducted to disseminate the data collected and introduce the use of technology for supporting the assessment of microteaching as well as the learning of noticing for assessing microteaching.
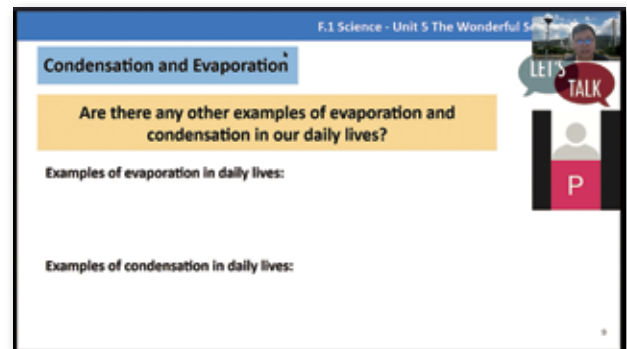

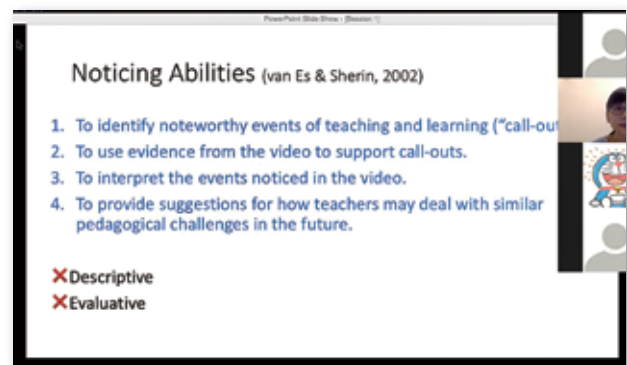Photo 1: Pre-service teachers videotaped their own teaching video.

Photo 2: Two workshops were conducted via zoom.

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Self-paced Response-adaptive Instructional Design for Non-face-to-face learning and teaching with Hands-on Components

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The project aims to (i) identify problems encountered by learners in courses with hands-on components during non-face-to-face learning, (ii) identify mechanism and explore platforms which enable online learning of hands-on skills in a self-paced manner adaptive to learners' responses, and (iii) establish a generic framework and identify good practices of instructional design for non-face-to-face course delivery with hands-on components.

Due to the outbreak of COVID-19, all courses, regardless of their nature, at the EdUHK were delivered online, and courses involving hands-on components such as science experiments, STEM activities, handcrafts and coding faced tremendous challenges. In this project, we have explored various platforms and tools, and introduced three different approaches to facilitate the instruction of self-paced response-adaptive online learning of hands-on components. These include:

1. A virtual reality (VR) laboratory made with interactive elements – one physics module and two modules about lab safety were made; the purpose of these online VR modules is to allow users to achieve self-paced and self-controlled online exploration of laboratories, which is also interactive and responsive to the users' actions. An example is shown in Fig. 1.

2. Portable experimental sensors with videos filled with instructions for take-home experiments - we have explored the use of portable experimental sensors distributed these to students in an
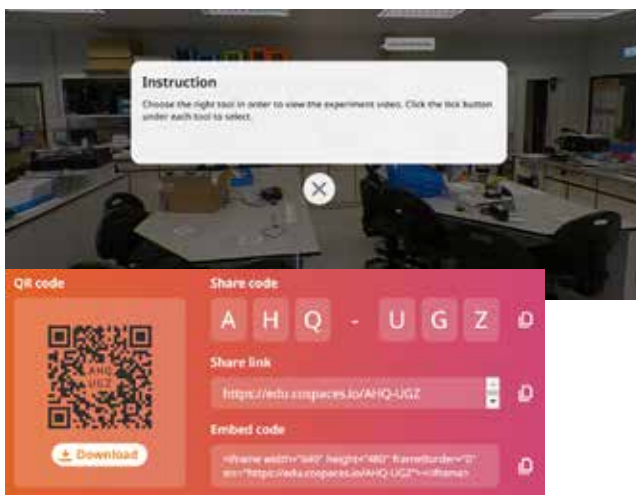

Figure 1 The self-paced response-adaptive VR virtual lab module on a simple physics experiment.

advanced Chemistry course for them to conduct take-home advanced science experiments. To facilitate students to conduct experiments at home using these sensors, we developed two videos for the two chemistry experiments using these experiments, and all the experimental steps are shown clearly with subtitles.

3. Self-paced video adaptive to users' response - we video-taped a module which involved the assembling and coding of STEM educational kits, and adopted a specific platform to allow users to select the errors they encountered when they come to a specific stage of the activity for a video on the solution correcting the corresponding error.

Students' feedback:

Student survey:

Students conducted pre-survey before and post-survey after they experienced online hands-on module. The survey is a questionnaire constructed with 19 questions to reveal the problems and differences with the hands-on experience in face-to-face and online courses as perceived by students and has been used for the trial runs of different online hands-on modules developed in the project.

60 students from various courses completed the surveys. The survey data were analysed and feedback was given to course lecturers and the designers of the online hands-on modules such that they can consider modifications on the module according to the survey results. For instance, in one of the modules, survey results comparing the pre- and post-survey suggested that the online hands-on components in the course are usually interesting, interactive and accessible. In another module with online hands-on components, after students experienced our developed online hands-on modules, the survey results showed that more students thought that the online hands-on components were interesting, interactive, accessible, easy to be learnt and could be learnt at their own pace. These results

suggest that the developed modules can achieve the objective to enable online learning of hands-on skills in a self-paced manner.

Survey for dissemination seminar participants:

The project organised a dissemination seminar, and 17 participants completed the evaluation survey with 11 questions, and 70% - 94% of them agreed or strongly agreed that the seminar improved their understanding of different aspects of online hands-on lessons such as lesson preparation and the application of teaching resources.

Survey for work seminar participants:

The project organised a dissemination seminar, and 12 participants completed the evaluation survey with 11 questions, and again, 83% - 100% of them agreed or strongly agreed that the seminar improved their understanding of different aspects of online hands-on lessons.

Photo 1: Lego eko

Photo 2: Physics experiment

Innovative Exploration of Virtual Teaching and Learning of Science Experiments

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The project has led to 8 modules of virtual science experiments using different approaches, implemented in courses in physics, biology, general education and professional training courses for in-service teachers. A summary of the 8 modules and the corresponding number of students benefitting are listed as follows:

| Instructors and Courses	Modules	Benefited students
SCP2015 "Electricity and Energy"	(1) – (4) Virtual physics experiments on electric circuits (1) Virtual physics experiments on heat capacity	26
GEH1050 "Understanding Human Creation and STEM Through TOYs"	(2) Virtual STEM activities on micro:bit with pressure sensors	18
SCB3004 "Human Anatomy and Physiology" HCS3064 "Healthy Living"	(3) Virtual biology experiment on heart dissection	90
SCG5019 "Effective Integration of Scientific Inquiry"	(4) Virtual physics experiment on mirages	12
	Total:	146

(6)
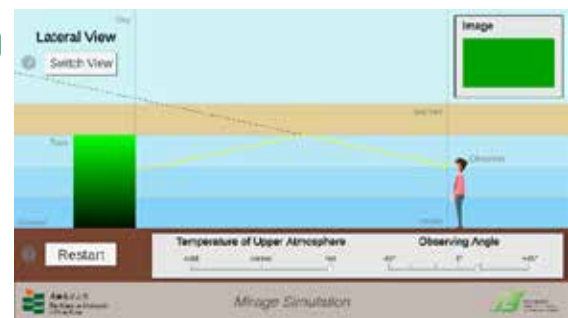

(7)

(8)

(1)-(4)
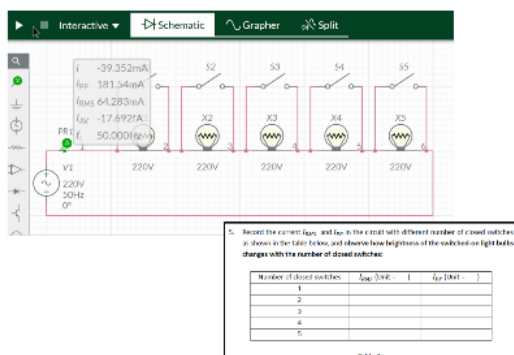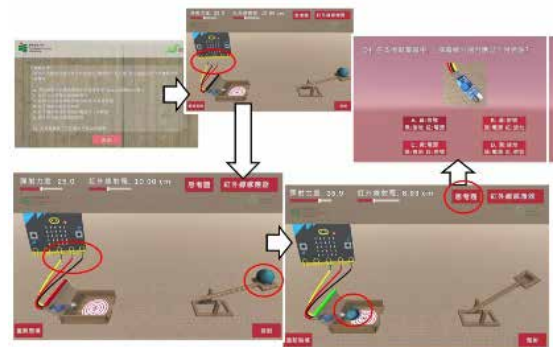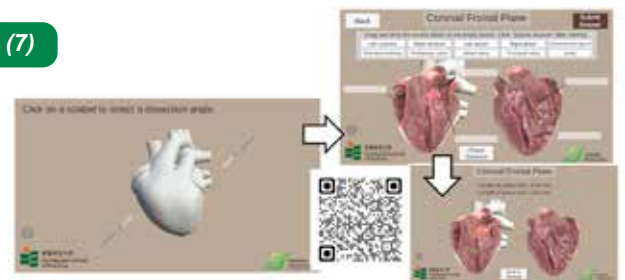
Figure1 Virtual circuit (1-4), micro:bit (6), heart dissection (7), and mirage (8) experiments

Students' feedback:

Student survey:

Students participated in a survey and focus group interview after they had experienced online experimental modules developed in the project. For instance, a focus group discussion with two of the students from the course SCP2015 was arranged on 15 July 2022 to collect their feedback on the simulated experimental modules and their feedback was very positive and is summarised in the following:

- Both students reflected that it was interesting to play with both sets of simulated experiments.

- Since real experimental materials were not wasted in the simulations, they could re-try and repeat the experiments many times for investigation without concerns over wasting resources.

- Some aspects of the experiments were very realistic, for instance, the glowing of the light bulbs as the voltage increases, the breaking of the Tungsten wire in the light bulb in the first set of experiments on the circuit, as well as the various experimental procedures in the second set of experiments such as boiling the water, pouring materials from one container to another, etc.

- Given the pandemic situation, simulated experiments seemed to be a good choice as it allowed students to conduct hands-on experiments; such real experiments would be difficult at home since the materials involved are impractical to distribute to students (e.g. chemicals involved in the second set of experiments).

- In terms of learning, the students reflected that they would prefer simulated experiments to watching experimental videos since they have the room for exploration and learn-by-doing when they conduct simulated experiments.

- The simulation platforms for both sets of experiments work on both computers and tablet computers, and even on mobile phones, which is a benefit as some students may only have a tablet computer.

Nevertheless, there were some potential issues and suggestions:

- The workload of using simulated experiments may seem heavier compared to only watching experimental videos, as students actually have to attempt the experiments even though they are simulated.

- In the first set of experiments, in addition to the simpler circuits, more advanced circuits could be explored using the simulated platforms.

This feedback will be used to improve the online experimental modules for SCP2015 in the 2022/23 cohort. To better facilitate students in using these virtual experimental modules, more guidance and demonstrations are given to students.

The project started in March 2021 and completed in June 2023.
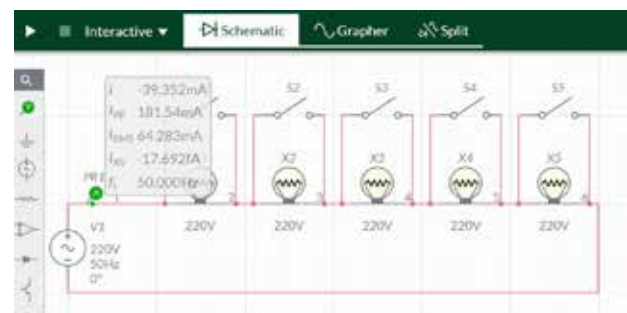

Photo 1: Catapult moment

Photo 2: Multisim live

A joint MOOC platform for supporting teaching and learning in the SES Department – the Inception Phase

Professor TSANG Po Keung Eric
Professor (Practice)
Department of Science and Environmental Studies (SES)

Dr LEE Hoi Man Sarah
Senior Lecturer II
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The pandemic crisis has impacted multifarious global sectors including education. Subsequently, universities have been forced to seek urgent solutions to reconfigure conventional education programmes for distance learning. Implementation of various safety measures including social distancing and restrictions on mass gatherings limited face-to-face class teaching, resulting in a shift to online modes of teaching. In this project, we propose to leverage the potential offered by digital technologies to establish a joint MOOC platform to offer online lessons to our students and foster collaboration on teaching and learning among SES colleagues. This initiative will bring about an opportunity to enhance the traditional education system and prepare it for potential future emergencies.

The objectives of this projects are:

- to provide support for academic/teaching staff to enhance online learning and teaching and facilitate collaboration among SES colleagues;
- to develop and adopt innovative pedagogies for enhancing the e-learning and self-learning experience of students;
- to offer and advance quality of teaching for SES's online lessons, and
- to demonstrate excellence in online education for different subject areas of SES.

The following table shows the learning content of our MOOC. It is expected that both pre-service and in-service teachers can be equipped with knowledge, skills and/or attitudes for their teaching in science classrooms.

Lesson	Topic
1	Introduction and misconceptions about science
2	Physical phenomena in daily life
3	Electrochemistry: batteries and fuel cells
4	Human body system and healthy living
5	Air Quality
6	Eco-garden
7	Ocean
8	Astronomy
9	Flipped classrooms in science learning
10	Tools for constructive teaching with ICT
11	Scientific modelling in the classroom
12	Managing epistemic uncertainty in whole-class discussion

Various learning activities are embedded in each lesson, subject to the nature of the topic and learning content. For example, self-reflection is infused into the lesson related to pedagogy, whereas online experimental simulation is infused into the lesson related to subject knowledge. Assessment items such as worksheets and quizzes are also included to facilitate the self-monitoring and review of learners.

During the interim stage, we sought comments from an external reviewer with related expertise and conducted a student survey with 26 pre-service teachers studying BEd-Science. The external reviewer, Dr LAGUNZAD, Catherine Genevieve B., Assistant Professor from Ateneo de Manila University, whose research interests are biodiversity conservation and biology education, expressed positive comments on our MOOC, such as recognising the many well-designed activities to measure content knowledge and gauge the ability of students to apply what has been learned. In the student survey, the mean

scores of most items covering the course intended learning outcomes, structure and organisation, as well as content, are above 4 in a 5-point scale (i.e., between "agree" and "strongly agree"). Meanwhile the respective weaknesses, especially associated with digital technology's limitations in education, such as the use of discussion forums for interaction, were highlighted, which represent areas for further improvement. The team will follow up and revise the teaching platform. An advanced phase of the project will be pursued after review.

As a whole, the development and implementation of our MOOC platform aims at promoting the use of technology in creative teaching and learning, as well as continuously advocating self-directed learning. A fully operational pilot MOOC platform will be launched by the end of the inception phase (September 2023). Innovative teaching and learning tools (e.g., virtual field trips and software) will be integrated into the platform.

Photo 1: SES colleagues videotaped MOOC teaching.
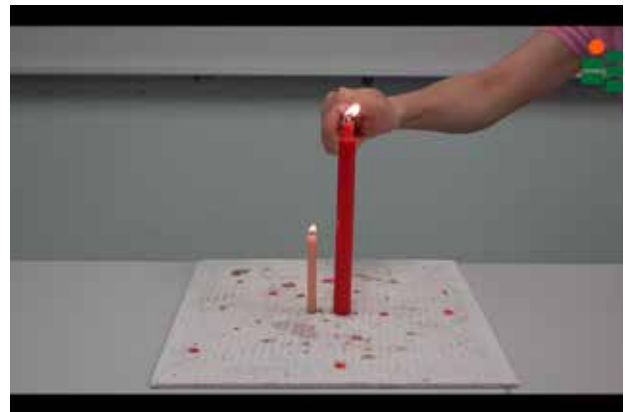
Photo 2: Demonstration is a part of our MOOC video.

Going beyond the Classroom: The Virtual Research Training Hub

Dr LEE Kwai Sang
Associate Professor
EdD Programme Director

A key initiative of the Graduate School has been helping research students to improve their essential generic skills so that they can be successful, not only in their doctoral careers, but also in their future employment. Thus, the Graduate School is developing a virtual research training hub with four modules. Crucial to this brand-new platform is self-paced e-learning. The modules have incorporated a considerable amount of interactive elements including, but not limited to, videos, multiple-choice questions, audio notes, and audio tracks. While the virtual hub aims to make the best use of the technicalities of the virtual platform, novel interactive elements such as open-ended quiz questions, references to other online academic materials, and useful web materials are integrated into the teaching packages.

The first two modules, titled "Conceptualizing Research" and the "Ph.D. Student/Candidate – Supervisor Relationship", have now been used among research postgraduate students, for example, module two as shown in the picture below, how to maintain a good relationship with a supervisor, is a challenge that every research postgraduate student has. The module evolves from theory to practice. After introducing what the purposes are and the nature of different types of supervisor-supervisee relationships, it provides practical suggestions for students to try out in real life.

Research students are encouraged to work in group settings, wherein they can benefit from the personal experience of peers, share differing viewpoints, and
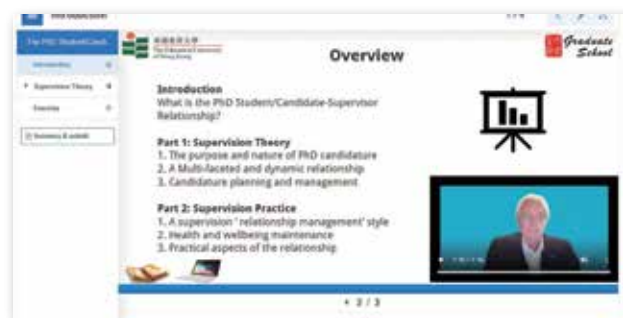

Figure 2 An example of the students' learning page from module 2 in the learning hub

take on different roles. Students, divided into groups, can use the discussion forum to share experiences, and find and offer an answer to doubts and curiosities. This helps students to build up a virtual community among research postgraduate students. To achieve this, the teaching materials are designed in a way that allows students to join discussion panels so that they can share their perspectives with other students online. By clicking the H5P link, students will be diverted to Padlet, where they can start to post or review and respond to what others have posted. For each new concept, expert support offers guidance and assistance to students via short video recordings. Since some of the concepts are very complicated, the expert has illustrated them in tables or graphs. Students can click to enlarge the theory or figure to look into the detail of the concept as shown in the picture below.

Students are also able to articulate what they have learned, and an effective eLearning assessment strategy is in place that tests authentic

Figure 3 An example of students' learning activities in module 3 of the learning hub

knowledge. After completing each module, there is a page that reports their usage record, including the score that students obtain after completing the exercises within the module, interaction progress, reading progress, etc. This allows students to assess their performance in each module.

A pilot test was done by inviting nine student participants to complete the module. The survey "Evaluation on the Virtual Teaching and Learning Activities" was distributed to the participants. All items obtained an average score over 3 (i.e. on a Likert scale from strongly disagree = 1 to strongly agree = 4). Participants also provided written comments on the trial package and our technical team revised and improved the package based on these comments. Another pilot test was also arranged for the second module and 14 participants were invited to complete the test. Unlike the first pilot test, which relied on external software to open the module, the second pilot test was done on the EdUHK Moodle platform,

which was used for launching the official version. Therefore, student participants could test the module on a platform they are technically familiar with. Written comments from participants show that they faced fewer technical problems in completing this module and they positively evaluated the new features in the module. All items in the "Evaluation on the Virtual Teaching and Learning Activities" survey obtained an average score of over 3.

Other modules covering topics such as research inspiration, presentation skills, academic writing skills, and writing skills for grant applications are now under development. Designed by renowned local and overseas scholars, these modules are featured with pre-recorded videos, interactive thinking exercises and quizzes, virtual discussion boards, and hyperlinks to external e-resources. More features of virtual learning will be rolled out in the upcoming academic year.

Improving the Research Postgraduate experience through feedback and implementation

Dr John PATKIN
Academic Writing Tutor

Fig 1. Students provide feedback to staff in a consultation.

A series of focus groups with Research Postgraduate (RPg) Students was held throughout the current academic year to review the current study climate and consider suggestions for change. The Staff-Student Consultative Committee Meetings (SSCM) comprised students from all Graduate School research programmes – Ph.D., EdD, and MPhil. SSCMs are led by a senior member of the Graduate School but strongly emphasise the importance of student input. The most recent round of meetings held in November 2022 focused on the academic climate, the peer mentoring system and student-led events and activities. In one meeting, a student's request that core courses be broken into smaller chunks was received positively by the chairperson. The chair also welcomed students wanting more opportunities to share their research progress with peers. Meetings are conducted in the same language as the programme's medium of instruction. The findings show that RPg students take a strategic review of their interactions with the university and their peers.

As RPg students begin their academic careers, they look beyond the mandatory research courses that are designed to lay the foundations for their theses. They are cognizant of the changing research landscape and want to have the knowledge and skills that will help them after graduation. Some focus group participants suggested that the number of research methods workshops be increased so that students have more time to explore a particular area. These suggestions have been welcomed. The GS is working with various stakeholders to review the length and depth of research methods workshops.

The growth in the number of GS candidates and graduates has created a need for networking and professional development and a possible solution. Newer RPg candidates expressed a desire to network with more senior students and graduates to get feedback and guidance. Junior RPg students felt networking activities would build stronger bonds and possibly lead to collaboration in research and publishing. The GS is encouraging candidates to
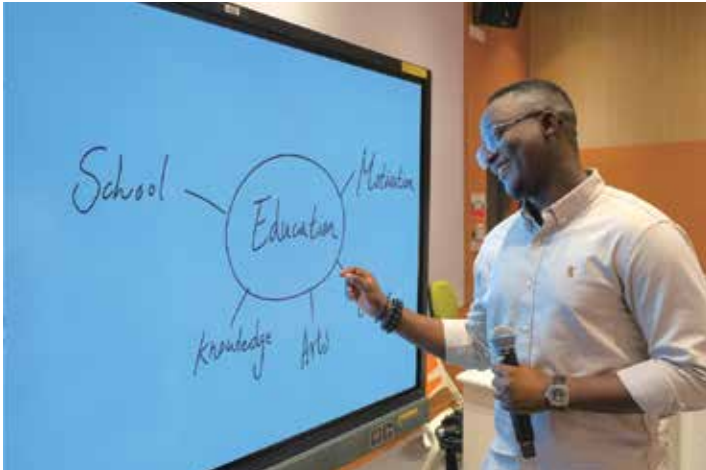
Fig 2. Students network by sharing their research topics.

use the Virtual Research Training Hub and is also considering establishing specific student research groups.

Focus group participants also raised issues related to relationships with supervisors, contacting course lecturers and the use of university resources for research. The facilitator recognised the importance of student-mentor relationships and the need to provide more information about facilities in the induction process. The GS will work with students and their supervisors to build and maintain fruitful relationships built on clear communication. The GS will continue to support candidates when conducting research on campus or in the field.

Through reviewing the responses and suggestions made by students, the GS is planning to launch a series of video-recorded materials as an integral part of research training and other theme-based workshops to provide practical strategies for improving students' research and learning experience. In the coming semester, student-led recreational activities will be organised in response to students' comments on non-academic-related activities.

Regular Staff-Student Consultative Committee Meetings provide an opportunity for students to voice their concerns. They have led to a refinement of compulsory courses, student/supervisor relationships, and an improved feedback mechanism. While the comments and feedback may not be representative of all students, the meetings play an important role in ensuring students are receiving enough support for their programmes. The recommendations stemming from the consultations are considered alongside feedback from other channels such as emails and one-on-one meetings.

The Continual Improvement of Synchronised and Asynchronised Learning Platforms for Postgraduate Students

Dr John PATKIN
Academic Writing Tutor

Online learning experiences from the last few years have enabled a shift from novel to expected models for Graduate School students. As more than half of enrolled Research Postgraduate (RPg) students originate from countries and regions other than Hong Kong, synchronised and asynchronised learning platforms have become part of the landscape. RPg students can access the EdUHK's online learning platforms from anywhere in the world at any time. Such convenience ensures students working in the field will continue to have access to valuable resources and support. The Hub has been designed to closely mirror the on-campus experience, but the GS is constantly improving the platform to meet changes in technology and individual student needs.

An umbrella platform, the UGC-funded Virtual Research Training Hub (the Hub), is central to the delivery of online learning for RPg students, especially those beginning their candidature. The aim of the Hub is to help RPg students improve their essential generic skills through self-paced e-learning. Videos are combined with a wide range of interactive content in an asynchronous mode of learning and teaching to provide flexibility for both educators and learners.

The first two modules have already benefited 85 doctoral students (33 RPg students and 52 EdD students) who started to take the modules in semester 1 of 2022/23. The full implementation of the Virtual Research Training Hub with four module packages will be ready for students in the academic year of 2023/24. The modules have been curated and delivered by renowned academics who have an intimate understanding of the needs of RPg students at EdUHK. The former head of the University's
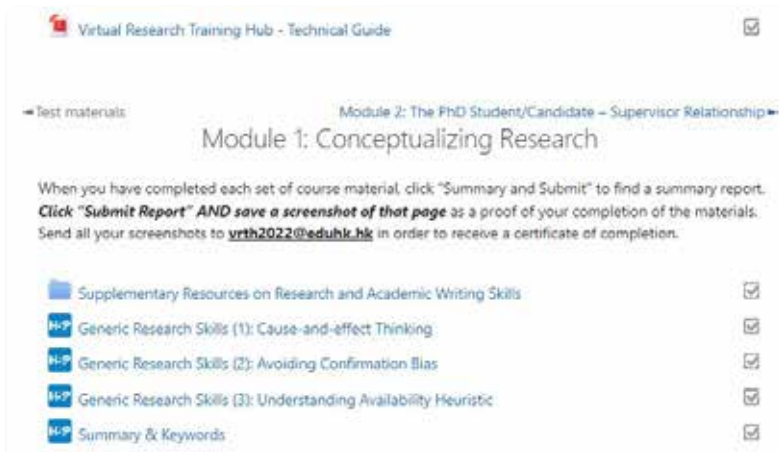

Figure 4 an example module in the virtual training hub

Department of English Language Education, Professor Paul STAPLETON, drew on his decades of experience for the module on Conceptualizing Research. The second module on the relationship between supervisors and doctoral students has been presented by Professor Joe GRAFFAM of Deakin University. Another EdUHK alumnus, Emeritus Professor CHENG Yin Cheong will share his academic experiences in "My research journey with a creative mind". A writing skills presentation will be offered by Professor Susan CARTER of Auckland University.

Students have provided rich feedback detailing the strengths of the Hub and areas for improvement. Overall, users seem to praise the platform's content and depth of resources. One student noted that "it delivers hyperlinks to connect with relevant academic resources throughout the self-learning process so that individuals can efficiently navigate and absorb the course's additional knowledge

Figure 5 an example quiz of cause-and-effect thinking

while strengthening students' learning motivation." Another commented that "the lecturers were direct and understandable, and the notes next to the video were very clear." This feedback suggests that the hub meets learning requirements while providing additional challenges and support for students who wish to explore more about a topic. Areas for improvement have focused on instructions, design and layout. One student mentioned that "the layout of the lesson was a little bit confusing at first... easy to miss some sessions when I first start the course." The GS has responded to this issue by improving the overall interface and improving instructions. The GS will continue to review the Hub to ensure it remains as current and responsive.

The GS is also working with the Library to deliver a series of internationally-recognised academic skills courses to RPg students. Epigeum and SAGE online courses complement face-to-face classes with a series of self-paced workshops that provide essential knowledge and skills in areas such as ethics, critical thinking, avoiding plagiarism, research design, data collection, data management and statistics to name a few. One of the aims of the initiative is to help students polish articles submitted for publication. The online courses have received positive feedback from students and lecturers.

It is hoped that platforms such as the Hub and the Epigeum and SAGE online courses will offer more support to RPg students in their doctoral journey and future employment. The GS will continue to explore new and emerging tools that can enhance the learning experiences of RPg students.

Online Teaching and Learning and its Impact on Students

Miss SAQIB Hadia
Year 4 (2023/24) student
Bachelor of Education (Honours) (English Language) BEd(EL)

During the recent pandemic, many from traditional modes of teaching and learning to online platforms, and in light of the rising trend for online education, EdUHK has responded with many of its own learning technologies.

In comparison with face-to-face teaching and learning, some would consider the virtual mode less interactive and stimulating. Despite having an array of 'interactive' games and online applications like Kahoot! and Padlet, many have expressed the lack of actual interaction between students. The games and applications facilitate teacher-to-student interaction but neglect student-to-student communication and real time discussion. Interactions in a physical classroom tend to be more active since the physical presence of a teacher encourages student participation, yet since online learning slightly diminishes the authority of the teacher, students are less likely to speak up. If they wish to contribute to the discussion during class time, most students prefer to leave their suggestions in the chat box. Although a certain number of responses are made compulsory by professors, the 'interactions' usually prove fruitless.

To address this issue, teachers and professors have elected to use online resources to encourage participation and interaction between teachers and students, and also between students themselves, through the use of numerous other online tools that have become popular means of teaching and learning over the years. The application of e-learning packages and e-resources such as Moodle, EdPuzzle and miniMOOC, as well as Flipgrid, Perusall and Wikibook projects as coursework, has had a huge impact on students' learning styles. Asynchronous learning modes introduced through EdPuzzle video lectures and miniMOOC have allowed students to watch the lecture videos while periodically answering

small questions, making it more fun and interactive, at the same time ensuring attendance is earned. The function of allowing students to revisit the lecture videos on some platforms makes topic discussion with classmates easier and more convenient. On average, I spent about 5 hours of each course on Moodle and other online activities used to facilitate learning, with part of the hours spent on making contributions to online forum discussions (one post each week) for individual courses. FE courses in particular require students to spend more time on Flipgrid, averaging 4 hours each semester (including posting, watching/ reading classmates' posts, and responding to classmates' posts two to three times a semester).

Online modes of learning have enabled students to do revision more easily, particularly when they are required to spend a few minutes completing after-class tasks on e-resources like Perusall, where they are required to give at least 1-2 reactions or responses to course materials and miniMOOC. Projects like Wikibook may occupy a lot of time and energy but the results are fruitful and may lead to perhaps a preferred way of learning. Allowing students most of the course time to discuss and analyse a chapter of the course material and then rephrasing it to write another chapter according to their understanding of the topic, has certainly helped students consolidate their learning, especially when the final product is made accessible to the public to read. More personal and customised use of interfaces such as Perusall allows users to understand the feelings and thoughts of other readers by virtually animating the facial reactions and cues of readers and prompting elaboration and communication through the use of popular emojis and emoticons.

Despite the benefits of online learning, many students found it difficult to adjust to the challenges

Microteaching exercise during face-to-face mode
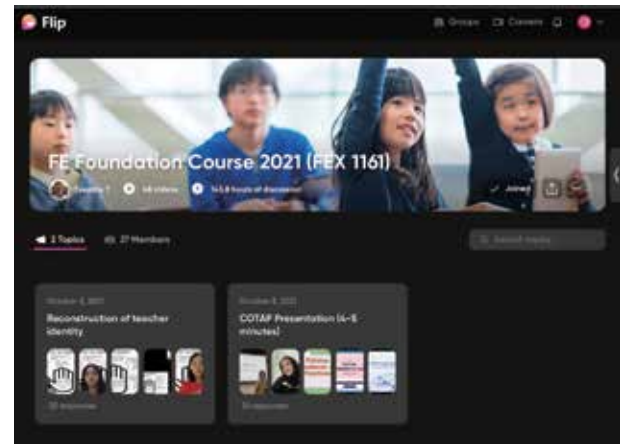
Flipgrid discussions during online learning and teaching mode

brought by online learning during the pandemic. Remote learning allowed students to learn conveniently from home but also made students like me find it difficult to concentrate on a screen without the physical presence of a teacher. Most students, especially Hongkongers, have been accustomed to learning in a fixed environment such as a classroom filled with other classmates and an authority figure which allows them to get into the mindset of learning. Staying at home to attend lectures and tutorials without the physical presence of an authority figure allowed many students such as me to lose focus, which subsequently led to a decline in grades. Also, starting the first year of university online undoubtedly made it difficult to make new friends or form study groups. The circumstances made me, who was used to study groups, struggle with studying individually. It led to a lot of challenges like procrastination due to the lack of encouragement from fellow classmates. To overcome this, I utilised planner and deadline alarms to keep myself on top of the assigned school work such as course readings and weekly discussion forum contributions. Applications such as Notion allowed me to take notes in class in a more fun and organised way so that I was able to retain my attention in online classes and not let my focus drift away. Using an interactive and customizable note-taking application allowed me to stay focused during the lessons. Although the measures I took were not as effective as having a study group, it

certainly helped a lot in remaining steadfast during coursework.

While online teaching has become prominent now, it is essential to keep in mind that not everyone is a seasoned user of all platforms It is vital to make online learning and teaching student-friendly. By having guidelines to explain the use and function of newly introduced applications in the classrooms, everyone can be on the same page during the course activities. Moreover, even though there is already a variety of tool packages that incorporate excellent teaching philosophies, it is advisable to make the interfaces more fun, colorful, creative and stimulating to make asynchronous learning more enjoyable.

Although the face-to-face mode of teaching and learning will has resumed, it would be best to retain the benefits of online teaching and learning. Instead of returning 100% to the physical classrooms, it might be more fitting to incorporate online learning. By keeping information-based activities such as lectures on more stimulating platforms like EdPuzzle, the presence of sleeping students can be avoided in lecture halls. In fact, in-person consolidation of course material, on top of supplementary e-learning packages, would allow more real-time interaction among students themselves and with professors, resulting in heightened productivity in the classroom.

Learning and Research Experiences through Virtual Collaborative Supervision

Mr MEN Ze
Ph.D. Candidate

Figure 1 My experience of attending international research seminars

The 3-year epidemic created significant challenges for research and learning, forcing our classes to go from offline to online, and making it impossible to maintain constant face-to-face communication with our supervisors. To address this, my supervisor and I set up multiple timed and themed meetings to discuss our research progress.

When it comes to learning, the online classes actually posed a big challenge for me in the beginning. As for research, I did not have a very detailed research topic or idea. My supervisor invited a research group from East China Normal University to co-host a group meeting. The frequency of our group meetings was once a week, each lasting about an hour. These sessions were very helpful to us because as fresh PhD students we learn what the top journals are writing about and we also understand what issues the top academics are focusing on, which provides us with a lot of inspiration. Through these group meetings and interactions with professors and other doctoral fellows, I made great progress in identifying my own research topic. Interactive sharing and discussions really helped us break out of our information cocoons and also encouraged me to attend some international research seminars to share my research ideas. My research topic was inspired by a study that took place in business organisations and I found the research gap for my study. Later in the process of collecting data, it was difficult to find participants in schools because the participants I was focusing on were in low-power roles. The network built up in the group meeting helped me. The professor from East China Normal helped me contact the head of the Shanghai Teacher Training Center, who in turn helped me contact research participants who fit the requirements very well, making my research data complete.

We arranged several online meetings to discuss how to solve my research problem and get it right and then move on to the rest of my work. When the research proposal was almost complete, my supervisor suggested a meeting with my associate supervisors and asked me to report back on my current writing ideas, progress, and content. At this meeting, my associate supervisors gave me a lot of valuable advice. I also made revisions based on these suggestions and eventually defended my PhD candidature successfully. My experience is that it is important to be proactive in communicating with your supervisors when you encounter problems. The form and length of communication can be varied, but the ultimate goal is to solve the problem. It is also a good idea to invite a wider range of professionals to discuss the subject to ensure that you are on the right track and progressing smoothly.

FEHD Office for Equity, Diversity and Inclusion (FEHD-O-EDI)

Dr BHOWMIK Miron Kumar
Assistant Professor
Department of Education Policy and Leadership (EPL) and EDI Specialist

The Faculty of Education and Human Development at The Education University of Hong Kong (EdUHK) set up its Office for Equity, Diversity and Inclusion (FEHD-O-EDI) in 2018. The initiative welcomes and recognises diversity among students and staff, and is committed to celebrating the range of benefits and strengths they bring to the Faculty. This is part of the FEHD's mission to support staff and students to strive for quality outcomes in learning, teaching and research, and to engage meaningfully with the range of communities it serves.

Extensive consultation meetings were carried out with more than 60 students from Diploma through Doctoral degree programmes and from across the Faculties and Departments in order to understand the challenges students from diverse ethnic backgrounds face in EdUHK. The students shared their detailed experiences, expressed concerns on various issues and suggested support services they need. In order to understand the issues and challenges, we categorised the data in two major areas including: (i) academic related and (ii) personal, emotional, social and cultural related.

The academic related issues and challenges involved: difficulties in understanding Chinese language based instructions and classroom activities; lack of culturally relevant learning resources and inadequate support from teachers; delayed feedback on assessment; excessive workload; and less opportunities to engage in co-curricular activities. On the personal, emotional, social and cultural related front the issues and challenges included: no halal food provision on campus; inadequate prayer facilities; costly and inconvenient transportation; negatively affected physical and emotional wellbeing due to experiences of discrimination, stress, feeling of alienation and less sleep; and financial difficulties.

The bottom-up approach mentioned above has shaped the service delivery of the FEHD-O-EDI for students from all Faculties. First, a direct support service for students from diverse ethnic backgrounds via face-to-face and/or WhatsApp/e-mail/phone for various academic, personal, emotional, social and cultural matters was established. A safe space was set up where students can come and talk freely about any issues and challenges they face. This was aimed at helping them to deal with both academic and non-academic issues. To date, more than 40 students have been supported. All the students shared that they found the service helpful. One student remarked, "I am happy that the Faculty has dedicated someone we can talk to, and that he is willing to listen to us without any judgement". Another student said, "It is great to have someone to talk about our challenges and expectations."

Second, in order to celebrate the diversity on campus a flagship event entitled 'Halal Lunch Meeting' was held on two occasions. More than 75 students and a number of staff attended the lunch meetings. Much enthusiasm was seen among the students as evidenced by the fact that an event evaluation revealed 90% of the participants expressed satisfaction and requested the more frequent arrangement of similar meetings. One student remarked: "This is the first time I have attended this type of programme. I'm happy to come here and to have met people who care about me." Another student said, "It was really great fun for not only having a halal lunch together but also to have the opportunity to meet many students like me."

Third, three wellbeing workshops entitled "Managing stress in intercultural contexts: Practical ways to promote well-being", "Managing stress in the face of the pandemic: Practical ways to promote well-being in intercultural contexts", and "Managing stress in intercultural contexts: Practical ways to promote

FEHD Office for Equity – 1: The briefing session helped students learn about FEHD measures to support equity, diversity and inclusion.

FEHD Office for Equity – 2: FEHD celebrated equity, diversity and inclusion initiative with halal lunch

well-being" were delivered. The objectives were to raise mental health awareness and equip students with knowledge and coping skills in the face of stress in an intercultural context and more recently in the face of the pandemic and beyond. A total of 84 students attended these workshops. They found the workshops very relevant and useful. One student remarked, "Now I understand why I feel stress. Thanks for teaching us how to practically deal with stress." Another student said, "This is one of the best workshops I have ever attended. Thanks for organising."

Fourth, FEHD-O-EDI also delivered 11 guest lectures on ethnic minorities in Hong Kong, upon invitation by colleagues in different courses. The objective was to help students understand the experiences of ethnic minorities in Hong Kong with a specific focus on educational issues and challenges faced by them, as well as various factors affecting ethnic minority students' educational outcomes. This is very important for the students as majority of these are in the pre-service teacher education programme

and will be joining the teaching force in Hong Kong upon their graduation.

In order to let students know about all these different support services mentioned above, the FEHD-O-EDI conducted five briefing sessions, which were attended by 115 new intake students. Over 90% of the participants expressed satisfaction about the event as revealed by an event evaluation. The participants also opined that they found the sessions informative. One student remarked, "it is great to know that ethnic minorities are welcomed, and support services are available for us." In addition to continuing existing support services to students, the FEHD-O-EDI will extend its services to staff in the current phase. It will apply the intersectionality approach where the markers such as gender, race/ethnicity, nationality and sexual orientation and their interactions will be considered. Among other things, a number of workshops and seminars will be organised to sensitise staff about the equity, diversity, and inclusion concerns in workplaces.

"Journey to West Kowloon" exhibition project

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"Journey to West Kowloon" (JTWK) was a community-based art project supported by the Hong Kong Tourism Board (HKTB). The Department of Cultural and Creative Arts (CCA) of EdUHK was responsible for its creation, production, management, and dissemination. JTWK ran as a one-year project from July 2021 to June 2022.

The purpose of JTWK was to engage young artists, community organisations, and the education sector (primary and secondary schools) in a range of art-related activities that would positively impact the local culture and the "Neighbourhoods" of West Kowloon, Yau Ma Tei, and Jordan. The project featured a focus on promoting community cohesion and preserving the local culture of Hong Kong. It deepened the understanding of the neighborhoods by revitalizing the forgotten local arts and cultures of the selected areas and promoting the vibrancy and cultural brand of Hong Kong to international visitors through the resulting artworks in the exhibition.

From late October to December 2021, more than 400 students from three community centers and 16 schools (primary and secondary) participated in the community-based art workshops. 12 CCA students acted as the teachers in holding 11 community and 43 school art workshops in four art forms: bead puzzle collage, neon light, mosaic, and cyanotype over the two months (see table 1). As a result, the participating students created over 200 artworks for the final exhibition.

An 18-day exhibition of more than 250 artworks was held at West Kowloon Cultural District Art Pavilion from May 31 to June 17, 2022. While the exhibition was on view, public workshops and live music performances were held over weekends. Altogether, over 5,500 visitors ended up enjoying the exhibition, on average of about 150 visitors on weekdays, and weekends were more crowded, with an average of about 600 visitors. Public docent tours were held twice daily in Cantonese, and English and Mandarin

CCA Staff and Students Artists at the Exhibition Opening Ceremony

docent sessions were scheduled for the weekends. 35 docents were given throughout the exhibition, with about 160 visitors participating.

Six workshops were held to strengthen the public's connection with the three districts over each weekend of the exhibition. 58 participants attended the six workshops, and it was observed that most of them were under 18 and accompanied by parents. The project team conducted an evaluation after each workshop. 90% of the participants agreed that the satisfaction level of the workshop was high, and that the teachers' performance and the arrangement of the workshop was excellent. Furthermore, over 85% of them would recommend it to friends. This encouraging participant feedback was well received, such as "Very good, and the instructors are so kind and patient. I will support your workshop forever!" "Very special experience for kids." etc. There was only one suggestion, and this was for for an extended time for the workshop. Collectively, the participants were appreciative, engaged, and enjoyed the six workshops.

At the weekends, ten impressive live performances from five ensemble groups with over 80 student musicians were scheduled: A Chinese Orchestra, Western Chamber Music Ensemble, Lacov, Music Innovation, Design Lab (music.lab), and Handbell Ensemble. Each group performed two repeated programmes at weekends during the exhibition period. Practically the same as the public workshops, evaluation was conducted after each performance and constructive feedback was received from the

Part of the Artworks Showcased on 1/F, Arts Pavilion, West Kowloon Cultural District

EdUHK Lacov Performance

EdUHK Western Chamber Music Ensemble Performance

audience. The ten live performances gathered audiences of more than 1,100 people. Over 60% of the audience were aged 18 – 34, teenagers and young adults. Lacov (30.7%) was the most viewed performance, followed by the Handbell Ensemble (27.6%). The top three reasons for attending the performances were "Themes," "Attractive Publicity," and "Friends'/family Recommendation". Over 80% of the audience gave a score of 8+ in recommending the performances to friends. Over 90% of audiences showed high satisfaction and enjoyed the performances, "The songs sound great. Nice pick." "Super fantastic," etc.

The JTWK project has successfully contributed to the community-based practice of youth art projects. Positive efforts have also been made to expand approaches within the arts and education sector, while greater support would be needed for further project development. The student artists' reflection below has shown the project to be beneficial to a number of stakeholders, from the arts to education and the community.

- Groups of talented artists working on the same theme also gave me a strong sense of connecting with the community. We all hold the same ultimate purpose to promote the significance of these few districts through art. In short, this engagement enabled me to understand my community more deeply.

- This exhibition has inspired and taught me much as a curator, becoming a more mature artist, learner, and listener. Through this project, I became familiar with the progress of generating ideas through research, visits and figuring out how to reflect the thought on the image. Moreover, I gained many excellent ideas during this period and learned to take others' suggestions to improve my work. I learned a lot. This project, to me, is just like Thomas Fuller said: "He that travels far knows much."

- The most intuitive point is that I understand Hong Kong better. As a road nerd, I can wander around Yau Ma Tei, Jordan, and West Kowloon without relying on Google maps. More importantly, I discovered the human side of Hong Kong.

By any means, the project has achieved hard outcomes in artistic creation, exhibition curation, and musical performances, as well as soft outcomes such as increased youth self-identification, dialogue, and understanding of traditional arts and culture in Hong Kong, which is of particular benefit when working with young people. As the West Kowloon Cultural District served as the venue support for this community-based art project, the CCA is looking forward to having more cooperation with WKCD on different criteria and forms of collaboration.

Experiential Learning and Achievements Transcript (ELAT)

Leadership and Service Learning Section of SAO

Introduction

The Experiential Learning and Achievements Transcript (ELAT) is an online system to record students' achievement and involvement in experiential learning activities. Student participation in non-credit bearing experiential learning activities offered by faculties/departments/offices/units of the University will be recorded in the ELAT Category B. 4 activity types are:

1. Citizenship and Civic Engagement
2. Careers and Professional Development
3. Global and Cultural Enrichment
4. Personal Effectiveness

The following criteria have been set for activities that comply with ELAT records, including

- Non-credit bearing activity; and
- No monetary reward from the activity (such as iWork or other allowance); and
- The participation in activity is on a voluntary basis.

Data Collection

The data are collected via activity organisation units of EdUHK (faculties/departments/offices/units). All the data are submitted by the designated staff of activity organisation units through the ELAT online system. The data also involves student data, which are extracted from the banner system.

To ensure that the accuracy of student information, the student data are extracted from the banner system.

Data Governance

The Departmental Administrator (DA) who was nominated by the HoD supervises the ELAT data submission of his / her respective faculty/department/office/unit. The DA reserves the right to approve and endorse the data submitted by the Activity Administrators (AA) from his/her respective faculty/department/office/unit.

The AA is a designated staff member who can submit the activity data and student records to the ELAT system. The activity data and student records are submitted by the AAs of the faculties/departments/offices/units of the University.

After all the submissions of activity data and student records, the Super-administrator (SA), a person who liaises with the OCIO for system maintenance and development, will do the final checking of the data and release all the completed data. The SA is nominated by the Director of the SAO (DSA).

Implementation of ELAT Category B data submission is monitored by the SAO. The relevant mechanisms and procedures in collection of ELAT Category B data are overseen by the SAC.

Data Quality

For the activity data and student participation record, it is submitted by the AAs of the faculties/departments/offices/units of the University. All the data submission will be supervised by the DA who served as a representative to coordinate the ELAT data submission of his / her respective faculty/department/office/unit. DA reserves the right to approve and endorse the data submitted by the AAs of his/her respective faculty/department/office/unit. After all the submission of activity data and student record, SA, a person who develops and maintains the ELAT system, will do the final checking of the data information, including the duration of activity and any mistakes in spelling. The data will be released after final checking.

The data cannot be modified after release. If AAs would like to edit the data after it is released, they

need to submit an "Information System Service Request" form to the SA and inform the DA of the faculty/department/office/unit.

Data Usage and Analysis

The data provides an official record of students' involvement in experiential learning activities in the University so that students can keep track of their own experiential learning experiences, as well as make appropriate plans for personal and professional development. Students can apply for an official transcript which serves as a recognition of students' experiential learning participation during their period of study and a supporting document for applications for awards and scholarships, further studies and employment.

As a practice, the ELAT Category B data is collected and input into the database all year round. The data are transferred to the AMIS automatically from the ELAT database. At the end of academic year, the statistics report will be generated from the AMIS for the SMC and SAC to review and provide information for the strategic planning of non-formal learning activities. Other departments can retrieve their departmental statistics of student participation in non-credit bearing experiential learning activities through the AMIS.

The data are also used for the UKPI 1.1: participation rate of undergraduate students joining experiential learning activities. An annual ELAT report will be submitted to the SMC and SAC. The report provides the number of activities, number of participants, actual number of students involved, number of activity participation hours and average participation hours per student in 4 activity types of ELAT Category B. The UKPI and statistics report would provide insights for the University and the faculties/ departments/ offices/ units to review student participation in 4 kinds of activities and to plan non-formal activities for the next year.

Experience and Sharing

In 2020-21, due to the development of the COVID-19 epidemic, no overseas exchange tours were organised, and the ELAT statistics on Global and Cultural Enrichment dropped significantly, in terms of number of activities, number of participants, number of activity participation hours and average participation hours per student.

To cultivate students' cross-cultural awareness in both global and local contexts, the first "Student Conference 2021: A World Without Barriers" was held online from January to March 2021 with 5 series of pre-conference activities. This online conference was designed to encourage students to explore and share on global topics as well as engaging in grassroots community activities. Overall, the conference engaged 616 participants and 1603 followers on the social media platform.

Way Forward

From August 2021 to December 2022, the ELAT system underwent revamping. The upgraded ELAT system was launched in September 2022 with major enhancements in ELAT Category B-Student participation in non-credit bearing experiential learning activities, including a more user-friendly interface, functional design and simplified data submission procedures. Also, a One-stop Management Platform was launched in January 2023, integrating activity registration, student activity enrollment, and attendance capture.

Since September 2022, a total of 176 administrators from 56 departments and over 10,000 students have benefited from the revamp. Staff are encouraged to use the one-stop platform in order to provide students with a more convenient method of enrolling in activities and taking attendance. The enhanced interface provides easy viewing of all activity information, including the latest activity enrollment information and participation records, which facilitates students' campus life planning.

Strategic usage of Graduate Employment Survey (GES) data for non-formal learning and experiences

Career Development Service (CDS) of SAO

The Graduate Employment Survey (GES) is part of the research providing useful findings for curriculum development at EdUHK. It is conducted annually with the purpose of gaining a deeper understanding of the full-time graduates' employment status and their job search process. The data are reported mainly on IKPI 1.3 the Graduate Employment Rate, PM 1.1(a) Undergraduate satisfaction with the quality and value gained from their teaching and learning experience and PM 1.1(b) Undergraduate satisfaction with their overall learning environment.

Data Collection and Analysis

In recent years, GES statistics indicate that an increasing number of graduates have committed to working in other locations besides Hong Kong, e.g. the GBA, and in industries other than education (from 3.7% to 7.8% in teacher education programmes, and from 34.9% to 40% in complementary programmes between 2020 and 2021). The Career Development Service (CDS) of the SAO is dedicated to strengthening partnerships and collaborations with local and overseas parties, such as alumni associations and professional bodies, and building and maintaining close relationship with graduating students, particularly in the GBA area.

Furthermore, the number of graduates (UGC UG) from complementary programmes maintained a slightly higher proportion in pursuing their first career in the Education field as reflected in recent GES statistics. This, along with an increased number of students from Senior Year Entry programmes (SYE) with diverse disciplines joining EdUHK, mean it is expected that career interests will be more diverging and thus the CDS is offering diversified training to facilitate the graduates' job search process, covering both education and non-education fields. For such needs, more programmes are organised by the CDS to support students' career development. The

"Experiential Subject Learning in Secondary School Training Programme and other customised career training are some of the examples.

Strategic Initiatives on Data Usage and Support

It is observed that the average scores of undergraduates' satisfaction in both "quality and value which they have gained from their teaching and learning experience" and "overall learning environment" have increased from 3.66 to 3.73 (+1.91%) and 3.70 to 3.71 (+0.27%) respectively (out of the highest score of 5.00) in 2020 and 2021 data, reflecting the high calibre of the EdUHK learning environment and teaching quality.
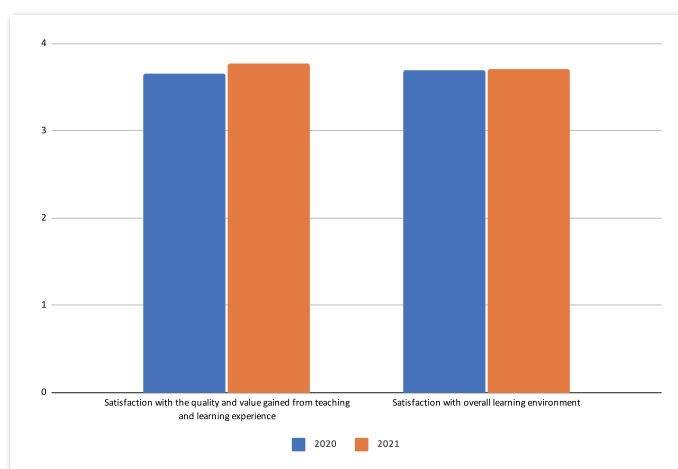

Figure 1: The Average Scores of "Undergraduate Satisfaction with the Quality and Value Which They Have Gained from Their Teaching and Learning Experience" and "Overall Learning Environment" between 2020 and 2021

Data from the GES in recent years indicates that more graduates would like to use EdUHK's free online job search portal - Ed Job Plus and the EdUHK Intranet to search for job openings during the job-search process, with an increase of 0.72%, from 6.67% to 7.39% when comparing 2020 and 2021 data.

Snapshots of the "Experiential Subject Learning in Secondary School Training Programme"

On top of that, the CDS formulated and organised tailored career training based on the response to recent government policies that pose an impact on the employment of teacher education graduates. These training activities include organising a Flag Raising Training Course and launching the Basic Law and National Security Law Training platforms Two sessions of the Flag Raising Training Course arranged by the SAO have been successfully held since June 2022, with 45 students becoming well-equipped in essential flag raising skills and practices. Multiple platforms for the "Basic Law and National Security Law Training" have been launched since late-December 2021 to support students succeeding in the mandatory Basic Law and National Security Law tests. As of 31 December 2022, the click rates on Padlet, one of the most commonly accessed resource platforms, have reached over 3,000.

Experience and Sharing

Observing a steady growth in graduates securing a position in secondary schools (an increase of around 15% across 2019 to 2021 for the UGC UG graduates who worked in the education field), the CDS organised the "Experiential Subject Learning in Secondary School Training Programme" in the Summer of

2021, with the support of The Graduate Association of Colleges of Education and five secondary schools, to offer opportunities for EdUHK students to conduct learning activities across different subjects in order to strengthen their competitiveness. Thirty-three EdUHK students gained hands-on experience in organising innovative and interactive activities related to Chinese language, English language, Mathematics, STEM and Integrated Science, for more than 500 secondary school students. These EdUHK students shared that the programme enabled them to "improve communication skills and learn how to get along with students" and "understand the relationship between student activities and life-wide learning" while some mentioned the programme offered the opportunity for them to "learn more about school operations" and "learn more about the procedures for organising learning activities"

The Flag Raising Training Course was also one of many timely responses to the latest government announcement on the Flag-raising Ceremony requirements in schools. From the interviews with the participants, one of the reasons for them to join was to enhance their competitiveness in the job market through this certificated training course on top of

Snapshots of the Practices of the Flag Raising Training Course

their formal learning. They also expressed that they were asked about this non-formal learning in their job interviews, and this skillset empowered them to secure their current job. Some of these graduates are now committed to the flag-raising team in their schools. Students are also recommended to undertake such training courses to equip themselves before graduation, instead of after-work training, from the feedback of previous participants.

The study of the job choice trend in the GES guides the direction of upcoming EdUHK Career Fairs (ECF), such as inviting more employers from government or NGOs for career booth exhibits as these are the most popular choices for graduates who studied programmes other than education. Likewise, the data on ECF attendance and participation data facilitates training formulation, such as providing individual job-hunting support to graduates at post-ECF events.

Snapshots of the Practices of the Flag Raising Training Course

One of the Key Performance Indicators on Internationalisation – UG students' non-local learning experience

Secretariat
International and Greater China Affairs Committee

With a view to strengthening the governance of publicly-funded universities in Hong Kong, reinforcing the autonomous status of the universities by allowing them to articulate their individual missions, visons and strategic goals, as well as providing assurance of universities' commitment to continuous quality improvement, since the 2019/20 to 2021/22 triennium, the University Grants Committee (UGC) and eight publicly-funded universities agreed on a set of Sector-wide Performance Measures (PM) and Institution-specific Key Performance Indicators under five activity domains[1] of the University Accountability Agreement (UAA) for the higher education sector. Among them, a specific PM under "Activity Domain 4: Enhanced Internationalisation" was devised to measure the students' non-local learning experience of a university: "PM 4.3: Percentage of Hong Kong undergraduate students with non-local university-approved formal or experiential learning experience". Each UGC-funded university has to report its PM 4.3 data annually via the UGC's Common Data Collection Format (CDCF) platform, categorising the non-local learning experience of students into seven types[2] in accordance with the nature.

Well before the commencement of the UAA, the University was committed to enhancing students' regional and international learning experiences and had set a goal to allow every full-time undergraduate student to undertake at least one international or regional experience during the course of their studies. As such, the Global Learning Enhancement Fund (the then International and Regional Learning Enhancement Fund) has been made available since January 2013 to provide financial support to full-time undergraduate students to facilitate their participation in approved non-local

Figure 1: Participation in Student Exchange Programmes

learning activities. Furthermore, the University's International and Greater China Affairs Committee (IGCAC), a driving force for change in different areas of internationalisation, advocates Faculties, Departments and academic support units to cultivate students' global perspective through non-local learning programmes.

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1   (1) Quality of the student experience of teaching and learning; (2) Quality of research performance and of the research postgraduate experience; (3) Knowledge transfer and wider engagement; (4) Enhanced internationalisation; and (5) Financial health and institutional sustainability

2   (1) Exchange; (2) Visiting; (3) Internships; (4) Study/field trip; (5) Experiential learning experience; (6) International events including conference, completion, forum; and (7) Others

Figure 2: Data Analysis – PM 4.3, by Programme Levels

Figure 4: PM 4.3 – Comparison Table with other UGC-funded Universities

Figure 3: Data Analysis – PM 4.3, by Academic Programme/ Year of Study

All faculties, departments and offices are requested to submit the relevant data under their custody for the compilation of EdUHK's yearly performance indicators on internationalisation for the UAA. The activity organising units are required to provide details of the student participation records via the designated template, which includes the data of students' personal particulars, type of activity, location of destination, and whether it is a GBA activity. After data collection and consolidation, an analysis report with figures and a detailed breakdown of the participation percentages in terms of programme levels, academic programmes, and year of studies is presented to the IGCAC for consideration and monitoring the progress. A comparison table with the data of other UGC-funded universities is provided as a benchmark.

With the figures and analysis report, the IGCAC reviews and gauges the non-local learning activities offered by the University. At the IGCAC meeting, there are thorough discussions on the trends of the PM, variety of activities provided to students, participation of students in the different types of activities, performance of individual study programmes, as well as the pattern and frequency of student participation, for identifying any gaps and issues on the implementation of such internationalisation initiatives. When all areas are fully addressed, observations and recommendations are provided to respective faculties for quality assurance and enhancements.

Students' non-local learning experience is regarded as one of the most important components of internationalisation. PM 4.3 is a vital indicator for the Faculties/ Departments/ Offices to evaluate the implementation and achievement in the area, and also to facilitate them in making improvement and enhancement in their own strategies and the future development of internationalisation activities.

The PHD Inventory: Promoting Whole-person Development for Taught Postgraduates

Professor LO Sing-Kai
Associate Vice President (Internationalisation) and Former Dean of GS

Intending to improve taught postgraduate students' learning experience and quality, the Graduate School has developed the Postgraduate Holistic Development (PHD) Inventory to track the whole-person development status of taught postgraduate students at the EdUHK. A survey was distributed to taught postgraduate students to understand their level of competence in 15 domains of whole-person development in the academic year of 2021/22.

A total of 300 taught postgraduate students responded to the survey, the respondents ranged from 20 to 63 years old, with an average age of 26. The majority of the respondents were female (84%), full-time students (88%), and coming from mainland China (74%). Also, most of them had full-time work experience (62%). A descriptive analysis was done to examine our data. The results reveal that (table 1), among the 15 domains related to whole-person development, the respondents had the highest scores in the areas of humbleness, ethical commitment, and appreciation of beauty. On the other hand, they had the lowest scores in the areas of resilience, self-management behaviour, and intellectual capacity.

By comparing respondents of different categories, it was found that respondents with full-time work experience tended to have a higher mean score than those with no work experience in the domains of intellectual capacity, problem-solving skills,

self-management behaviour, civic responsibility, resilience, and self-esteem. Besides, respondents aged above 25, had a higher mean score in terms of intellectual capacity and resilience. Multiple regression was also conducted to identify the cause(s) for the differences in scores. It was found that, after controlling the age factor, significant gender differences can be observed in the domains of global awareness, civic responsibility, and appreciation of beauty.

While the current practice is a cross-sectional analysis, the questionnaire could be adopted in a similar future setting to trace and review the whole-person development of taught postgraduate students on an ongoing basis. This successful experience of data collection has prompted a repeat of the exercise through annual data collection in future academic years. By collecting the status and changes of the whole-person development scores of taught postgraduate students, the Graduate School is expected to obtain useful longitudinal data for the SAO and other taught postgraduate programmes to design appropriate co-curricular activities that can help to enhance the learning outcomes of our taught postgraduate students.

The project also found that overall EdUHK postgraduate students have a significantly higher psychosocial well-being than undergraduate students in terms of interpersonal relationships,
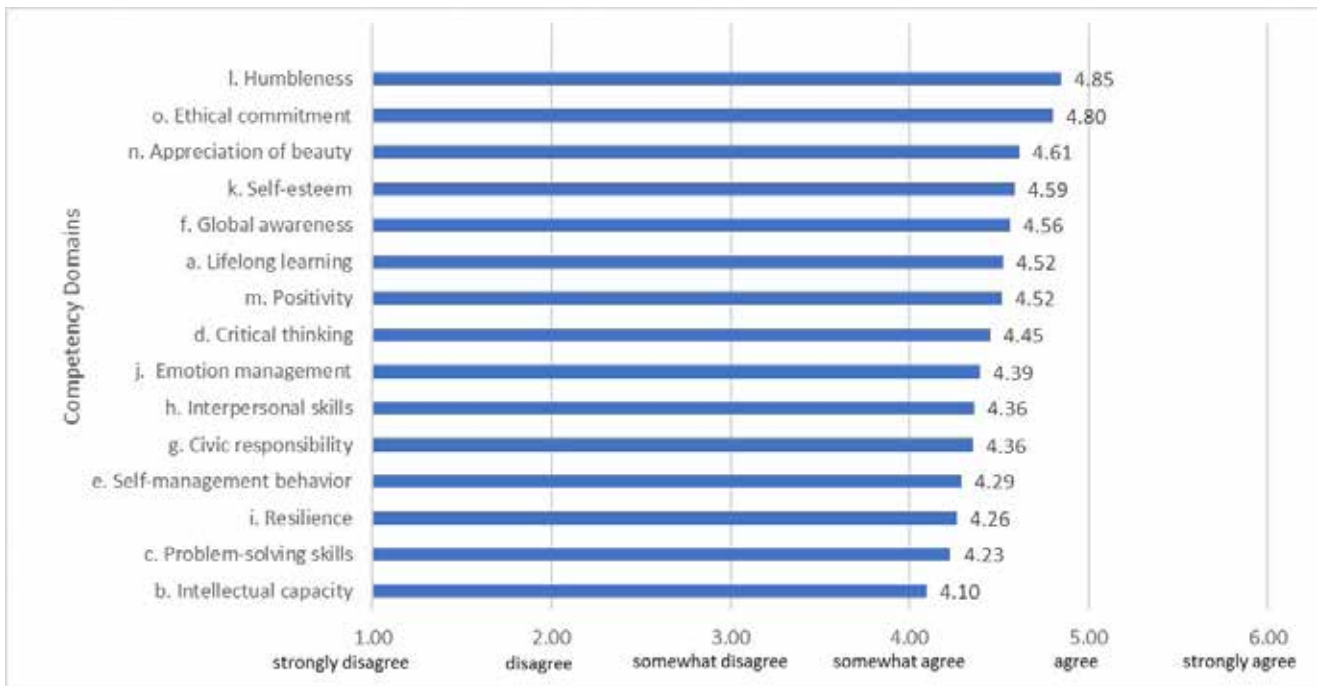
Table 1. The average scores across the 15 domains

stress management, and spiritual growth. In other words, postgraduate students can maintain stronger interpersonal relationships, manage stress more effectively, and experience greater spiritual growth than undergraduates. Although there are differences in terms of educational level, there are no significant gender differences in the survey scoring. Both males and females had a similar level of psychosocial well-being. The above findings contribute to the existing research on students' health-promoting lifestyle and draws attention to the crux of cross-cultural comparative study in promoting the psychosocial well-being of university students.