



Symposium on Learning Analytics in Asia

Program

23 May 2019



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學



Communities
of Practice



ENGLISH LANGUAGE CENTRE

Educational
Development
Centre



Department of Computing
電子計算學系

Welcome Message



Professor Chetwyn Chan
Associate Vice President
(Learning and Teaching)
The Hong Kong Polytechnic University

It is with great pleasure that I welcome you to the “Symposium of Learning Analytics in Asia” at The Hong Kong Polytechnic University organized by the Community of Practice (CoP) on Conducting Learning Analytics to Inform Teaching and Learning. This event is co-organized by the university’s English Language Centre, and supported by the Educational Development Centre and Department of Computing.

With the emergence of learning analytics, this Symposium is an excellent opportunity for sharing good practice and explore opportunities for applying learning analytics in higher education. More importantly, the use of learning analytics for enhancing our students’ learning experience has been highlighted in the university’s new strategic plan. This Symposium is very timely for PolyU and it also serves as a platform for scholars, practitioners, and frontline teachers in Asian institutions to connect with each other and seek further collaboration opportunities.

As the organizer of this Symposium, this Community of Practice strives to build up a community to explore the use of learning analytics for the enhancement of teaching effectiveness. In the last two years, a total of 19 workshops and seminars have been organized with local and overseas experts / practitioners, attracting more than 360 PolyU and non-PolyU participants. There are altogether five communities of practice at PolyU all of which are dedicated to enhancing learning and teaching. So I would strongly encourage you to stay connected with our [CoP](#)!

I sincerely hope that all participants in today’s symposium, including our virtual attendees, find the experience fruitful and thought provoking and I look forward to seeing great strides forward in the use of learning analytics for enhancing teaching and learning in Asia.

Acknowledgements

The organizing committee would like to thank the following honourable guests for joining the symposium.

Officiating Guest

Prof. Chetwyn CHAN

Associate Vice President (Learning and Teaching)

The Hong Kong Polytechnic University

Heads of the Organizer and Supporting Organizations

Organizer

Dr. Bruce MORRISON, Director, English Language Centre, The Hong Kong Polytechnic University

Supporting Organizations

Dr. Julia CHEN, Director, Educational Development Centre, The Hong Kong Polytechnic University

Prof. LI Qing, Head, Department of Computing, The Hong Kong Polytechnic University

Keynote Speakers

Prof. Hiroaki OGATA

Graduate School of Informatics, Kyoto University

Prof. Shane DAWSON

Director of the Teaching Innovation Unit and Professor of Learning Analytics,
University of South Australia

Invited Panel Members (in reverse alphabetical order)

Prof. Eric TSUI, The Hong Kong Polytechnic University

Prof. KONG Siu Cheung, The Education University of Hong Kong

Prof. Irwin KING, The Chinese University of Hong Kong

Programme

Click the links below to read the respective abstract.

Time	Events	
09:00	Opening Ceremony	
09:15	Panel Discussion	
10:30	Tea Break	
11:00	<u>Keynote Speech - Prof. Hiroaki Ogata</u>	
11:45	Lunch	
13:00	<u>Keynote Speech - Prof. Shane Dawson</u>	
	Breakout Sessions	
	BC 402	BC 404
13:45	<u>Learning Data in Campus-Wide Lecture-Recording System for Institutional Level Analytics</u> Lam, P., Lo, J., Lau, C.K.M., & Chan, C.H.	<u>Enhancing Student Learning Outcomes with Data-driven Program Review</u> Kwong, T., Hafiz, M., Lam, K., & Chan, I.
14:15	<u>How Does Participation in MOOC Discussion Forum Affect Achievement - an Analysis of Students' Social Presence and Achievement Emotions in Relation to Their Completion Status</u> Zou, W., Li, C., & Li, J.	<u>Using Learning Analytics for Program Review</u> Armatas, C., & Spratt, C.
14:45	<u>Exploring Support Needed in Programs in a University through Analysis of Admission Scores</u> Hodgson, P., Cheung, W. L. S., & Lee, L. F. J.	<u>Getting Connected: Society for Learning Analytics Research (SoLAR)</u> Prof. Hiroaki Ogata
15:15	Tea Break	
15:30	Dialogue with the Experts	
	Closing Ceremony	
16:30	End of Symposium	

Online Interactions

<https://yoteachapp.com/Symposium%20on%20Learning%20Analytics%20in%20Asia> (PIN: 7646-0137)

Questions for Invited Guests

https://padlet.com/dennis_foung_polyu/laasia

Keynote Speech I- Prof. Hiroaki Ogata



Prof. Hiroaki Ogata

Graduate School of Informatics
Kyoto University

Title

Towards Evidence-Driven Education through Learning Analytics

Abstract

The multi-disciplinary research approach of Learning Analytics (LA) has provided methods to understand learning logs collected during varied teaching-learning activities and potentially enrich such experiences. While LA platforms gather and analyse the data, there is a lack of specific design framework to capture evidences from the technology-enhanced teaching-learning practices. This talk will explain how technology can help to extract evidence of effective teaching-learning practices by applying the knowledge base of LA and developing novel techniques. This talk will propose the Learning Evidence Analytics Framework (LEAF) and draw a research road-map of evidence-driven education system. Teachers can refine their instructional practices, learners can enhance learning experiences and researchers can study the dynamics of the teaching-learning process with it.

Bio

Hiroaki Ogata is a Professor at the Academic Center for Computing and Media Studies, and the Graduate School of Informatics, Kyoto University, and an associate member of Science Council of Japan. His research includes Computer Supported Ubiquitous and Mobile Learning, CSCL, CALL, and Learning Analytics. He has published more than 300 peer-reviewed papers including SSCI Journals and international conferences. He has received several Best Paper Awards and gave keynote lectures in several countries. He is an associate editor of IEEE Transactions on Learning Technologies, RPTL and IJMLO, and also an editorial board member of IJCSCL, IJAIED, and JLA. He is an EC member of SOLAR and APSCE societies.

[\[TOP\]](#)

Keynote Speech II- Prof. Shane Dawson



Prof. Shane Dawson

Director of the Teaching Innovation Unit and
Professor of Learning Analytics,
University of South Australia

Title

Embracing Complexity to Enable Learning analytics Adoption

Abstract

The digital revolution has vastly impacted how industries such as publishing, banking, travel, media, communications, and retail operate. It is well anticipated that this trend for digital disruption will continue into the future and expand across all sectors. Education is no exception. The adoption of learning technologies, personal and mobile devices provides for new modes of education delivery and increased opportunities for formal and informal collaborations. As such there is a parallel rise in research associated with learning analytics, data mining, and learning sciences. Learning analytics in particular has had strong resonance in the education sector (including teachers, students, policy-makers and administrators). The field has been frequently touted as a potential “game changer” for education for its capacity to provide new insights into student learning progress.

While there is much promise and numerous significant advancements in learning analytics the hyperbole is not necessarily aligned to the reality of large-scale adoption. The extraction and merging of student data as well as algorithmic development, sensemaking combined with the diversity of teaching approaches creates a complex system. This presentation outlines the field of learning analytics from the early research into the provision of predictive models to the development of personalized and adaptive learning. The presentation highlights the need for adopting complexity thinking to facilitate analytics adoption.

Bio

Professor Shane Dawson is the Director of the Teaching Innovation Unit and Professor of Learning Analytics at the University of South Australia. Shane's research focuses on the use of social network analysis and learner ICT interaction data to inform and benchmark teaching and learning quality. Shane is a founding executive member of the Society for Learning Analytics Research and past program and conference chair of the International Learning Analytics and Knowledge conference. He is a co-developer of numerous open source software including the Online Video Annotations for Learning (OVAL) and SNAPP a social network visualization tool designed for teaching staff to better understand, identify and evaluate student learning, engagement, academic performance and creative capacity.

Breakout Session

1:45 – 2:15 pm

Room BC 402

Title Learning Data in Campus-Wide Lecture-Recording System for Institutional Level Analytics

Speakers Paul Lam, Judy Lo, Carmen K. M. Lau and Chi Him Chan
The Chinese University of Hong Kong

Abstract

Learning Analytics can be regarded as a “data-intensive approach to education research” and has the “goal of enhancing education practice” (Baker & Inventado, 2014, p. 62). This new trend of study has great potential as learners leave behind all kinds of records about how and how well they learn on various platforms, including the dedicated learning management systems and the generic content delivery services such as YouTube, that support the learning processes. The mining of the big data leads to new understanding of learning particularly in areas such as classification of learners (D’Mello et al. 2010; Beal et al. 2006) and prediction of performance and behavior (Corbett & Anderson, 1995; Pavlik et al. 2009). To date, much of the focus in Learning Analytics is from the perspective of teachers and students. In this presentation, we would like to shed light on the use of data from the angle of the whole institution.

Panopto, a lecture-recording system that supports video management and streaming services, has been used in our university for 1.5 years and the usage has been well recorded in the server. This study demonstrates how the analysis of the data can benefit the university from an institutional level. We made use of data such as the growth of video production and usage, the patterns of students’ accessing the resources, and the differences between videos captured from lecture recording software and videos prepared by other means. The data facilitate planning of institutional support, such as the forecast provision of appropriate bandwidth and storage, and the desirability to extend the service to support student video as assignment.

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Breakout Session

1:45 – 2:15 pm

Room BC 404

Title Enhancing Student Learning Outcomes with Data-driven Program Review

Speakers Theresa Kwong, Muhammad Hafiz, Katie Lam and Isaac Chan
Centre for Holistic Teaching and Learning, Hong Kong Baptist University

Abstract

Learning analytics provides scope to address concerns related to a wide range of teaching and learning areas. These areas include retention and student success; the development of personalized learning pathways; and student support. Since 2012, HKBU has launched the Evidence Collection Initiative (ECI) for program review/assessment which comprises of two elements: 1) Program Outcomes Assessment, and 2) Standardized Tests. In addition, the team is trying out a Microsoft Excel-based tool called Program Review Tool (PRT) which is a new tool recently developed by a cross-institutional project partner. The PRT facilitates data extraction and visualization for analysis of student performance across their university career. In this presentation, the purpose and implementation of ECI at HKBU will be introduced together with the utilization of the PRT. The result shows that the learning analytics could be used to assist current students to develop better learning strategies or learning path for their study. After this session, the audience will be able to explain the significance of learning analytics in improving student learning.

Title How Does Participation in MOOC Discussion Forum Affect Achievement - an Analysis of Students' Social Presence and Achievement Emotions in Relation to Their Completion Status

Speakers ¹Wenting Zou, ¹Chenglu Li and ²Jie Li
¹The University of Texas at Austin
²The University of Hong Kong

Abstract

Low course completion rates have been a common problem across different MOOCs. Previous studies showed that the socio-emotional factor plays an important role in learners' engagement and performance in MOOCs. Although many studies have investigated students' social behaviors and expressed emotions in MOOC discussion forums, the coarse-grained classification of social behaviors and emotions provide limited implications for instructional design in MOOCs to retain learners and help them succeed. In this study, we intend to thoroughly and systematically explore the socio-emotional aspect of MOOC learners in relation to their completion status. To achieve this goal, we use machine learning to automatically classify forum posts into different categories of social presence and achievement emotions, and examine the correlations between these socio-emotional factors and learners' completion rate. By mining fine-grained text data, we will provide empirical evidence on the impact of socio-emotional factors on learners' achievement, and offer useful insights for instructional practice in MOOCs to retain and engage learners.

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Breakout Session

2:15 – 2:45 pm

Room BC 404

Title Using Learning Analytics for Program Review

Speakers Christine Armatas and Christine Spratt
The Hong Kong Polytechnic University

Abstract

In this session, results from a large, cross-institutional project will be used to help participants understand how learning analytics (LA) can be applied to program review and the benefits of this approach. Case-studies from program reviews already conducted will be used to illustrate the LA approach adopted for the project. Participants will analyze and discuss these results and how to translate them into actions that can improve the program. At the end of the session, interested participants will be able to access Excel-based tools developed as part of the project to conduct program reviews using this approach themselves.

Breakout Session

2:45 – 3:15 pm

Room BC 402

Title Exploring Support Needed in Programs in a University through Analysis of Admission Scores

Speakers Paula Hodgson, Wai Ling Sonia Cheung and Lai Fong Jesse Lee
The Chinese University of Hong Kong

Abstract

Admission scores for universities in Hong Kong vary from program to program because they may want to attract different potential students to enroll. Nevertheless, there is much information in admission scores when students eventually choose a university. Each year, universities can see results in the form of the upper, median and low quartiles of the best five subjects, with maximum score 35 and the four core subjects (Chinese, English, mathematics and liberal studies), with the best two elective subjects carrying a full score 42 across all programs. While there are programs that attract the best candidates, some programs require more resources to support students because there are students scoring just 20 in the best five subjects and 23 in the core subjects with the best two elective subjects. Analysis can identify the need for support in programs within faculties. When comparing admission scores for two consecutive years, scores in the quartiles for the two categories can be compared to observe whether programs have attracted more potential students, or vice versa. However, some programs may assign heavier weighting to specific subjects in the admission process when specific scholastic characteristics are needed in a program, such as applied mathematics in science, engineering and some business disciplines. This means that students need additional support if they have not taken the subject in high school. Similarly, students may not have taken biology, chemistry or physics in high school and are expected to meet the foundation level when taking on university programs.

Organizing Committee

Chair: Dr Dennis Fong

Deputy Chairs: Dr Christine Armatas and Dr Vincent Ng

Team Member: Dr Marshall Yin

Advisors: Dr Bruce Morrison and Mr Adam Forrester

Organizers



Supporting Centre/ Department

