

Learning Analytics in SUSS: Vision, Action, Implementation, Translation and Collaboration

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Universities invest substantial resources into supporting learners to enhance their academic success. As universities become more inclusive and accessible, the range of learner ability increases, making learner-support more critical. For the Singapore University of Social Sciences (SUSS), an added impetus stems from large enrolment of adult learners. These include learners who balance family, work and study, and learners who left formal study for several years. For many, the learner-support is a critical component of their learning experience and academic success.

SUSS's learner-support is implemented primarily by academic units interacting with the learners. This is facilitated by the Business Intelligence & Analytics (BI&A) department and Teaching & Learning Centre (TLC). BI&A implements learning analytics projects and dashboards to deploy the analytics findings, while TLC translates the findings to enhance learner support. This data-driven support facilitates "personalised learning" for effective teaching and learning experiences. Adopting top-down strategies and bottom-up initiatives, the SUSS learning analytics eco-system comes together to provide support that enhances the learners' learning and academic success. The panel discussion of 4 presentations will share how stakeholders collaborate to increase academic success. The significance of this session is the institutional-wide application and implementation, which is unique in the current educational landscape.

Keywords: learning analytics, teaching and learning support, institutional analytics

Presentation 1 - Analytics Vision for SUSS

With advancing technology and digitalisation, and the increasing use of blended and online learning, there are massive volumes of data being generated and collected at increasing speed and in greater variety. These data are not useful unless they can be transformed into information to provide insights and support decision making. In August 2016, SUSS embarked on a strategic initiative to promote a data-driven and evidence-based decision-making culture by building up the analytics capability of its faculty and staff. A great part of this initiative revolves around providing better learning support to students to create a positive learning experience and conducive learning environment. This collaborative effort involves the Business Intelligence & Analytics (BI&A) department [to generate insights], the Teaching and Learning Centre (TLC) [to propose potential interventions] and Schools [to interact with students to provide learning support].

Presentation 2 - From Vision to Action

The Business Intelligence & Analytics (BI&A) department was set up in August 2016 to spearhead SUSS' strategic analytics initiative. Firstly, a data warehouse is built to store institutional data and provide appropriate data for reporting as well as analytics projects. Secondly, training programmes are developed and conducted for SUSS faculty and staff to build up the University's analytics capability. Thirdly, analytics and dashboard projects are undertaken to provide insights for decision making. Fourthly, platforms are provided to share and deploy analytics findings and models (e.g., seminars and roll-out events). Moving ahead, BI&A will serve as an institutional group that provides assistance and advice to facilitate decentralised analytics. Also, analytics applications will extend to other areas such as finance and human resources. Without doubt, SUSS will encounter challenges along the way but there are also valuable benefits that can be harvested.

Presentation 3 - From Analytics to Teaching and Learning Insights

The analysis of data collected about the learners and from the interaction of learners with educational and information technology is able to provide insights for advancing our understanding of the learning process. Drawing meaningful insights from the analysis requires an understanding of the relationship among technology functionality, observed interactions behaviours and educational theory. A key challenge posed by learning analytics in SUSS is the conceptual bridging and understanding between the technical and pedagogical domains. This presentation will share the SUSS Student Learning Journey, an integrated view of the learners' data, to provide a framework for making sense of diverse sets of student data. The associated data sets, the range of analytical tools and models for analysis on the success and outcomes of learners experience are applied on projects that are related primarily to student learning. The presentation will conclude by discussing the collaborations with the Schools using visualisation methods and tools to make sense of the analysis and to translate the findings into learning interventions.

Presentation 4 – From Insights to Interventions

The Teaching and Learning Centre (TLC) was formed to enhance the quality of teaching, and to support students towards academic success. Broadly, learning support is conceived and implemented on four planes. First, to ensure support is extended to students early in their academic journey. Often, these learning supports are online and flexible, extended to students even before the start of the semester. Second, to focus on key academic competencies that are either an area of need or have proven to enhance students' academic performance. Students are made aware of these competencies in the form of advisories, or they can choose to participate in enrichment workshops to further develop those competencies. Third, to personalise learning support viz one-on-one coaching. Learning support service provided in the form of individual coaching has been found to be a successful approach in retaining adult learners in higher education, and achieving greater academic success. Students have also expressed gratitude to the coaches who are not only their partners in learning, but also mentors and friends. Last but not least, in tandem with the implementation of learning support, there is the ongoing evaluation of the efficacy of the learning support. This is necessary not only in the spirit of continuous improvement to ensure that the interventions are working, but ultimately, for students to experience a meaningful and fruitful learning journey.

Biographies of Panel Members

Cheong Hee Kiat	Professor Cheong Hee Kiat is Founding President of Singapore University of Social Sciences (SUSS), formerly known as SIM University. He joined the academia in Nanyang Technological University in 1986, and held various academic and administrative appointments including Deputy President and Dean. He has served on the boards of several tertiary education institutions, statutory boards and public committees. He has also been active in university accreditation and academic audits in Singapore and internationally. He is currently a member of the NIE Council, the Singapore Engineering Accreditation Board and chairs the BCA Academy Advisory Panel.
Koh Hian Chye	Dr Koh Hian Chye is the Director of the Business Intelligence & Analytics department, which is responsible for the implementation of learning analytics in the University, among initiatives. He has more than thirty years of experience in data analysis and data mining, having served as a statistical/data mining consultant to SMEs, statutory boards, government agencies and large organisations. He has published in international journals and presented at international conferences in various areas of analytics.
Sylvia Chong	Dr Sylvia Chong is an Associate Professor with the Business Intelligence & Analytics department. She oversees the analytics projects in BI&A. Her research interests are interdisciplinary in nature and include both substantive and methodological approaches in areas of education.
Lim Wei Ying, Rebekah	Dr Lim Wei Ying Rebekah is currently Associate Professor and Director of the Teaching & Learning Centre at the Singapore University of Social Sciences (SUSS). She leads the Centre in areas of academic development of lecturers, academic support for learners, and Scholarship of Teaching & Learning. Her research interests and publication are in areas of professional identities, teacher learning and technology-enabled pedagogy.

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