RGC Ref. No.:

UGC/IIDS16/H01/15

(please insert ref. above)

RESEARCH GRANTS COUNCIL
COMPETITIVE RESEARCH FUNDING SCHEMES FOR
THE LOCAL SELF-FINANCING DEGREE SECTOR

INTER-INSTITUTIONAL DEVELOPMENT SCHEME (IIDS)

Completion Report
(for completed projects only)

| **Submission Deadlines:** | 1. The unspent balance, if applicable, and auditor's report: within **six** months of the approved project completion date. |
| | 2. Completion report: within **12** months of the approved project completion date. |

Part A: The Project and Investigator(s)

1. Project Title

Learning Analytics and Higher Education Development: Towards a Research Agenda

2. Investigator(s) And Academic Department(s) / Unit(s) Involved

Research Team	Name / Post	Unit / Department / Institution
Principal Investigator	Dr LI Kam-cheong / Director	University Research Centre, The Open University of Hong Kong
Co-Investigator	Professor POON Chung-keung / Director / Professor and Dean	Research Office / School of Computing and Information Sciences, Caritas Institute of Higher Education
Co-Investigator	Dr NG Peggy Mei-lan / Senior Lecturer	School of Professional Education and Executive Development, The Hong Kong Polytechnic University
Co-Investigator	Dr WONG Billy Tak-ming / Research Coordinator	University Research Centre, The Open University of Hong Kong

3. Project Duration

	Original	Revised	Date of RGC / Institution Approval *(must be quoted)*
Project Start Date	1 January 2016	1 January 2016	28 December 2016 (see Appendix I)
Project Completion Date	31 December 2016	31 March 2017	
Duration *(in month)*	12 months	15 months	
Deadline for Submission of Completion Report	31 December 2017	31 March 2018	

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Part B: The Final Report

5. Collaboration With Other Self-Financing Degree-Awarding Institutions

Collaborating Self-Financing Institution	% of Participation	Distinctive Element(s) that the Institution is Responsible for the Project
The Open University of Hong Kong	90%	• Oversaw the overall project planning and ongoing development • Proposed and liaised with speakers • Hosted and managed the series of events • Provided logistic support to the events • Developed webpages for promotion of the events • Provided registration services • Prepared reports for the project
Caritas Institute of Higher Education (CIHE)	5%	• Promoted the events and encouraged academics in CIHE to participate in them • Made logistic arrangements for the venue of a workshop
School of Professional Education and Executive Development (SPEED), The Hong Kong Polytechnic University	5%	• Promoted the events and encouraged academics in SPEED to participate in them

6. Project Objectives

6.1 Objectives as per original application

The aim of this project was to enhance local academics' capability in research on learning analytics. The objectives of the project were:

1. to keep abreast of the latest developments in learning analytics;

2. to identify the opportunities and challenges brought forth by learning analytics;

3. to identify future research directions, promising research topics and common pitfalls in this domain of research practice;

4. to utilize learning analytics in their research work; and

5. to conduct in-depth studies, both theoretical and empirical, in related research areas.

6.2   Revised objectives

No changes were made to the objectives.

6.3   Realisation of the objectives
(Maximum 1 page; please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)

The seminars, workshops and research clinics were designed and implemented according to the project objectives (see section 6.1).

Implementation of the seminars, workshops and research clinics

Topics: The topics of the events were chosen to address the project objectives, as follows.

Seminars

1. The Latest Developments in Learning Analytics
2. The Technology of Learning Analytics
3. Learning Analytics from Readiness to Implementation

Workshops

1. Learning Analytics for the Social Media Age: Studying Online Interaction using Social Network Analysis
2. Systemic Implementation of Learning Analytics in Higher Education: Challenges and Directions
3. Analyzing Social Media and Learning Through Content and Social Network Analysis: A Faceted Methodological Approach

The events covered the latest developments in learning analytics, its opportunities and challenges, potential research topics and directions, and the application of learning analytics in research. (Full abstracts of the seminars and workshops are in Appendix III.)

Speakers: As reported in Section 6.6, the speakers/facilitators for the seminars, workshops and research clinics were all experts in the relevant areas.

Participants: There were over 200 participants in the seminars, workshops and research clinics. They included academics, research staff and students from more than 20 local and overseas institutions. A total of 11 research clinic were held, in which the participants discussed their research ideas or proposals related to learning analytics with experienced researchers in the field.

In addition, three seminars and three workshops were video-recorded with the speakers' permission. The videos and relevant event materials were made available and can be accessed on the project webpage at:
http://www.ouhk.edu.hk/wcsprd/Satellite?pagename=OUHK/tcSingPage&c=C_URC&cid=138 5179317646&lang=eng

Academics from other institutions and the general public can freely access the videos and event materials.

Evaluation: Evaluations were conducted for all the seminars, workshops and research clinics, which showed that they were very well received by the participants. The participants showed a high satisfaction level in various aspects, including the relevance of content, usefulness for research, the quality of the materials, and the speakers' knowledge of the topics. Therefore, the events were highly effective in enriching the participants' knowledge and research skills in learning analytics. (Details of the evaluation results are in Appendix VI.)

6.4   Summary of objectives addressed to date

Objectives	Addressed *(please tick)*	Percentage Achieved *(please estimate)*
1. To keep abreast of the latest developments in learning analytics	✓	100%
2. To identify the opportunities and challenges brought forth by learning analytics	✓	100%
3. To identify future research directions, promising research topics and common pitfalls in this domain of research practice	✓	100%
4. To utilize learning analytics in their research work	✓	100%
5. To conduct in-depth studies, both theoretical and empirical, in related research areas	✓	100%

6.5   Project progress

The original project period was from 1 January 2016 to 31 December 2016. A three-month extension of the project period was approved by the RGC on 15 December 2016 (see Appendix I). The revised project period was from 1 January 2016 to 31 March 2017.

Original Implementation Schedule	Revised Implementation Schedule (Date of RGC's Approval)	Updated Progress
January 2016 • Confirmation of seminar speakers and workshop facilitators • Promotion and publicity work • Recruitment of support staff	No revision was made to the implementation schedule.	N.A.

January 2016 • Seminar on the "Latest Developments in Learning Analytics" • Research Clinics	No revision was made to the implementation schedule.	N.A.
April 2016 • Seminar on the "Technology of Learning Analytics" • Research Clinics	No revision was made to the implementation schedule.	N.A.
July 2016 • Workshop on "Learning Analytics for the Social Media Age: Studying Online Interaction using Social Network Analysis"	No revision was made to the implementation schedule.	N.A.
October 2016 • Seminar on "Learning Analytics from Readiness to Implementation" • Research Clinics	No revision was made to the implementation schedule.	N.A.
November 2016 • Workshop on "Analyzing Social Media and Learning Through Content and Social Network Analysis: A Faceted Methodological Approach"	28 December 2016 (see Appendix I)	The original implementation schedule was revised because of the speaker's availability, and the workshop was held in February 2017.
December 2016 • Compilation of the final report	31 August 2016 (see Appendix II) 28 December 2016 (see Appendix I)	One additional workshop on "Systemic Implementation of Learning Analytics in Higher Education: Challenges and Directions" was approved by RGC in August 2017 and the workshop was held in December 2017. The original implementation schedule was revised and the project completion date was extended to 31 March 2017. The final report was compiled and submitted to RGC within 12 months from the approved project completion date.

6.6   Speaker(s)

Title / Name (Surname in Capital Letters)	Post / Institution	Title / Topic of Presentation / Course	Previous Research Links with Hong Kong Institutions (Nature and Date (Month / Year))
Prof. Dragan GAŠEVIĆ	Professor and Chair, Moray House School of Education and School of Informatics, University of Edinburgh	Latest Developments in Learning Analytics; Systemic Implementation of Learning Analytics in Higher Education: Challenges and Directions	Programme Committee of 2008 IEEE World Congress on Computational Intelligence, hosted by the Chinese University of Hong Kong (June 2008).
Prof. Shane DAWSON	Deputy Director, the Learning and Teaching Unit, University of South Australia	The Technology of Learning Analytics	N.A.
Dr Anatoliy GRUZD	Associate Professor, Ted Rogers School of Management, Ryerson University	Learning Analytics for the Social Media Age: Studying Online Interaction using Social Network Analysis; Analyzing Social Media and Learning Through Content and Social Network Analysis: A Faceted Methodological Approach	Invited to give talks at the University of Hong Kong • Seminar on Research at the Social Media Lab (April 2014) • Seminar on Learning Analytics in the Age of Social Media (May 2014) • Workshop on Automated Discovery and Visualization of Formal and Informal Learning Networks from Social Media (May 2014).
Dr Matthew D. PISTILLI	Director of Assessment and Research, Division of Student Affairs, Iowa State University	Learning Analytics from Readiness to Implementation	N.A.

6.7 Please provide details of the activities organized, including the theme / objectives of the activities, targeted participants, attendance, analysis of participants, e.g. country of origin, research background, etc., evaluation forms of the activities and a summary of the participants' evaluation. Photos of the activities are preferred.

Please refer to the appendices as follows:

Appendix	Description
III	Summary of the events
IV	List of participants
V	Samples of evaluation forms used in the events
VI	Evaluation summary of the events
VII	Photos of the events

7. Research-Related Outcome

7.1 Potential for development into research proposal and the proposed course of action
(Maximum half a page)

The project served to enhance the capability of academics in conducting research on learning analytics. The seminars and workshops covered the knowledge and skills for learning analytics research, such as the latest developments, analytical tools and the implementation of learning analytics, so that the participants became more capable of conducting learning analytics research independently and identifying potential research topics in their own disciplines. The research clinics gave academics further opportunities to gain insights on their own research projects.

As shown in the evaluation feedback, the participants indicated that the events helped them to conduct research studies in learning analytics, as well as to implement learning analytics in their teaching. A number of specific topics were suggested by the participants for the organization of future events (see Section 7.3 for details).

7.2 Research collaboration achieved
(Please give details on the achievement and its relevant impact)

The seminars, workshops and research clinics gathered academics from various institutions who were interested in conducting research studies on learning analytics. The academics had opportunities to meet with each other for academic exchanges, and seek advice from the speakers on their individual research ideas and studies. The project therefore facilitated collaboration on learning analytics among academics from various institutions and disciplines. For example, one of the speakers, Prof. Dragan Gašević, was appointed as a Distinguished Professor of The Open University of Hong Kong to further support the research capacity development of the institution in learning analytics and collaborate with the institution's academics in learning analytics research.

7.3 Any new development and/or challenging research topic(s) has / have been identified and any new initiative(s) for future research has / have been inspired.

Participants who attended one or more events in the project suggested specific topics for future events. The topics included:

Analytical methods

- Analytical methods and tools for learning analytics
- Content analysis of online data
- Data clustering
- Educational data mining
- Learner modelling
- Learning analytics models
- Predictive modelling
- Social network analysis
- Tools available for mining suitable data for learning analytics

Learning analytics research in higher education institutions

- Analysis of learning approaches in relation to online discussion patterns, and quality of knowledge construction/epistemic growth as impacted by online learning
- Learning analytics and dashboard
- Learning analytics derived from Learning Management Systems
- Social network analysis in community groups
- Steps in setting up learning analytics in an institution
- Visualization problems for large data sets

8. **The Layman's Summary**
   (Describe <u>in layman's language</u> the nature, significance and value of the research activities, in no more than 200 words)

In this project, a series of seminars, workshops and research clinics were organized for enhancing the knowledge and skills of academics in local institutions in learning analytics. For each seminar and workshop, an expert in the field was invited as a speaker for a specific topic related to learning analytics, covering its latest developments, technology, useful databases and analytical tools, and implementation in higher education. The research clinics provided opportunities for participants to seek advice on their learning analytics research from the experts. The events were jointly organized by the Open University of Hong Kong, Caritas Institute of Higher Education and the School of Professional Education and Executive Development, The Hong Kong Polytechnic University. They were open to all academics and students in the tertiary sector in Hong Kong and the general public, and attracted over 200 attendees from more than 20 institutions. The evaluation results showed that the events were successful in enhancing participants' research skills in learning analytics, and promoting the application of learning analytics in research and teaching in the local self-financing degree sector. The project also facilitated research collaboration between the participants and the experts in learning analytics.

Part C: Research Output

9. **Recognized Conference(s) Paper(s) Related To This Project Was / Were Delivered** *(As Applicable)*
   (Please attach a copy of each conference abstract)

Month / Year / Place	Title	Conference Name	Submitted to RGC *(indicate the year ending of the relevant progress report)*	Attached to this Report *(Yes or No)*	Acknowledged the Support of RGC *(Yes or No)*
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

10. **Research Personnel Trained** *(As Applicable)*

    Please refer to Appendix IV for the names and institutions of the participants in the events.

11. **Other Impact** *(As Applicable)*
    (e.g. prizes, collaboration with other research institutions, technology transfer, etc.)

    Through the events, academics from local institutions were able to meet with experts in learning analytics from various countries, including the United Kingdom, Australia, Canada and the United States, and gain insights into applying learning analytics in their teaching and research studies. The project thus facilitated local higher education institutions in implement learning analytics. For example, one of the speakers, Prof. Dragan Gašević, was appointed as a Distinguished Professor of The Open University of Hong Kong to support the university in further strengthening its capacity in research and practices of learning analytics.

12. **Public Access Of Completion Report**
    (Please specify the information, if any, that cannot be provided for public access and give the reasons.)

Information that Cannot Be Provided for Public Access	Reasons
N.A.	N.A.

RESEARCH GRANTS COUNCIL
COMPETITIVE RESEARCH FUNDING SCHEMES FOR
THE LOCAL SELF-FINANCING DEGREE SECTOR

INTER-INSTITUTIONAL DEVELOPMENT SCHEME (IIDS)

<u>Completion Report - Attachment</u>
(for completed projects only)

RGC Ref. No.:	UGC/IIDS16/H01/15
Principal Investigator:	Dr LI Kam-cheong, Director of Research The Open University of Hong Kong
Project Title:	Learning Analytics and Higher Education Development: Towards a Research Agenda

<u>Statistics on Research Outputs</u>

	Peer-reviewed Journal Publications	Conference Papers	Scholarly Books, Monographs and Chapters	Patents Awarded	Other Research Outputs (Please specify)
No. of outputs arising directly from this research project [or conference]	N.A.	N.A.	N.A.	N.A.	Three seminars and three workshops