



Wong, Shirley Chiu-Wing; Yuen, Johnny

## The InfoLit Project (2015-18): a collaboration among eight university libraries in Hong Kong

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Leibniz-Gemeinschaft

## Alexander Botte - Paul Libbrecht - Marc Rittberger (eds)

# Learning Information Literacy Across the Globe

Frankfurt am Main, May 10th 2019



Information literacy (IL) as a learning process



Cultural diversity of information literacy





Digital learning resources for IL (e.g. MOOCs, scenarios, OERs)



Information-literacy in connection to other literacy concepts



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( presentation, movie recording)

## The InfoLit Project (2015-18): A collaboration among eight university libraries in Hong Kong

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Abstract. The InfoLit Project (2015-2018) is an eight-university collaboration project funded by the University Grant Committee Hong Kong to promote awareness and facilitate teaching and learning of information literacy (IL) for analytical, creative, and wise use of information. Vital blocks of this project complement each other and form an "identify, design, collaborate & embed" project scope that addresses not only the production but also the integration of learning objects created by this project to address and fit into a wide range of teaching and learning goals and contexts. These blocks are, first, investigate and build a knowledge base of students' IL educational needs through qualitative and quantitative research; second, design and assemble InfoLit for U MOOC and related courseware packages derived from it which are embeddable into university teaching and learning activities; and third, enhancing librarian-faculty collaboration on designing and embedding relevant IL course components into courses.

Keywords: Information Literacy, MOOC, Informed Learning.

#### 1 Introduction

Information literacy education is a catalyst to transform the information society of to-day into the learning society of tomorrow (Bruce, 2008). It is also pivotal to academic achievement and lifelong employability of students. While it is an international trend to integrate information literacy education into the university curriculum, it is not a standard practice in Hong Kong yet. Under this context, undergraduates' understanding of information literacy varies a lot, leading to potential inefficiencies in teaching, learning, or research. For example, many students default 'research' (an intellectual activity) with 'search' (in an operational sense), unable to pinpoint views and arguments most relevant to their work from the sea of information, or lack critical competence and mindset to pursue more compelling research works.

#### 2 Developing a Knowledge Base of Students' Information Literacy

Two studies, namely 1) IL educational needs study and 2) RRSA-HK survey study were conducted to investigate and understand the information literacy educational needs of undergraduates in Hong Kong. Findings of the two studies were studied in-depth by project staff and librarians to justify the curriculum design of InfoLit for U MOOC.

The students' information literacy (IL) education needs study (IL Needs Study) is a cross-sectional case-study designed to investigate IL-related beliefs and behavior of Hong Kong undergraduates studying different domains. Each of the eight participating university designs a discipline-specific information task (Table 1) and recruits twelve undergraduates to participate in this study. All 96 two-hours sessions were completed in early December 2015.

Table 1. Subject domain and goal of IL task taken up by participating universities

Discipline	Designer	<b>Role of Student</b>	Goal of information task
Arts & Humanities	Lingnan University	Staff of a local textbook publisher	To prepare a proposal for education resources pack to illustrate the aspects of the Japanese Occupation of Hong Kong and propose relevant resources.
Business & Economics	The Hong Kong Polytechnic University	Marketing director	To write an analytical report to identify the country that has the most significant mar- ket potential and develop a marketing strategy to gener- ate the most profit.
Education	The Education University of Hong Kong	School teacher	To design a lesson plan for General Education module to address the cyberbullying.
Engineering	Hong Kong University of Science and Technology	Engineer of a consulting firm	To write a proposal for the HKSAR government to provide an innovative engineering solution to reduce air pollution emissions and carbon intensity in Hong Kong.

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Health Sciences	The University of Hong Kong	Health care worker	To write an article for a magazine to illustrate the possible sources of lead poisoning and the effect of elevated blood lead levels on child development.
Law	City University of Hong Kong	Trainee solicitor	To write a report listing the options which are open to the parties to resolve the dispute.
Science	Hong Kong Baptist University	Advisor to the Commissioner of Hong Kong's In- novation and Technology Com- mission	To write an analytical report to identify: a) The potential benefits and risks of nano- technology and b) Potential innovations in nanotechnol- ogy that will be particularly beneficial to Hong Kong so- ciety.
Social Sciences	The Chinese University of Hong Kong	Consultant of a think tank in Hong Kong	To prepare an analytical report to explain the property market and wealth gap situation in the past decade and suggest two factors that can help to improve the situation in Hong Kong.

RRSA-HK survey study (Research Readiness Self-Assessment (RRSA-HK) is a standardized fixed-choice information literacy survey adopted and localized from the original Research Readiness Self-Assessment (RRSA) instrument (Ivanitskaya, 2004). Among the six aspects of IL measured, three belong to IL knowledge (obtaining information, evaluating information, understanding plagiarism) while three belong to IL-related beliefs (browsing the Internet, library and research experience, and perceived research skill). RRSA-HK was administered to 3,200 local undergraduates in two rounds of data collection in two rounds of data collection (first round in September 2016, second round from March to June 2018). Stratified sampling was conducted to ensure the sample reflects the proportion of the population of students studying different key learning areas.

#### 2.1 Students' IL At-Work and Self-Understanding

The findings of the IL needs study strongly suggest that students' IL-related beliefs guide their information search behavior. First, the findings draw an interesting overview of students' IL knowledge and self-belief according to their 1) self-rating participants gave themselves on their performance at the IL needs task, and 2) actual score

they obtained from the IL needs task. By doing so, participant's performance data could be grouped into four types for conceptualization and ease of discussion (Table 2). To explain, both type A and type C students believe their performance at the IL needs task was good, however, only type C students' performance obtained a high score according to a rubric developed from the AAC&U's information literacy value rubric. In contrast, both type B and type D students gave low self-ratings on their performance. However, only type B students' performance was not desirable in the study.

Table 2. Types of student categories conceptualized from the IL educational needs study

## **Type A students (over-estimated themselves)**

High self-rating (7-10) on performance, but the quality of output of the IL needs task is in fact not good according to the rubrics (e.g. 0-5 total score, incomplete draft or copy-&-pasted from the task outline provided).

### Type C students (honest reflection)

High (7-10) self-rating on performance, and quality of output of Q1 of the IL needs task is good according to the rubrics (e.g. 6-12 total score, with elaborated draft outline of report that show intentions and efforts in exploring related issues, working through the content, and/or synthesizing arguments).

#### **Type B students (honest reflection)**

Low (1-3) or medium (4-6) self-rating on performance, and quality of output of Q1 of the IL needs task is not good according to the rubrics (e.g. 0-5 total score, incomplete draft or copy-&-pasted from the task outline provided).

#### **Type D students (humble ones)**

Low (1-3) or medium (4-6) self-rating on performance, but the quality of output of Q1 is in fact good according to the rubrics (e.g. 6-12 total score, with elaborated draft outline of report that show intentions and efforts in exploring related issues, working through the content, and/or synthesizing arguments).

In summary, such conceptualization and grouping of findings helped the project to reach the MOOC design insight that other than introducing operational or procedural information skills, a large part of effort should be devoted to addressing students' motivation to transform their IL-related beliefs and conceptions (e.g., type A students). While facilitation for type B students is rather straight forward, type C and D students should focus on helping these students to identify areas for further enrichment.

#### 2.2 HK Students' Strengths and Weaknesses in IL

Findings from RRSA-HK, a large-scale survey study, provides in-depth insights into the strengths and weaknesses of IL among our students, thus guides the design of the InfoLit for U MOOC. Table 3 presents the mean overall and aspect scores of the two rounds of RRSA-HK survey. All mean scores from the 2018 dataset are higher than the

2016 dataset. Among the three aspects of IL surveyed, students in both sets of data had performed less successfully in evaluating information.

**Table 3.** The mean overall and aspect scores of the RRSA-HK.

	Max	Da-		Score	Me-	Mean		
IL Competence	Score	taset	N	Range	dian	Score	Score*	S.D.
Overall II	80	2016	1557	17-79	51	50.8	63.5	11.5
(Sum Of All 3)	80	2018	1445	22-79	55	53.5	66.9	11.9
Obtaining In-	30	2016	1557	9-30	20	20.1	67.0	3.9
formation	30	2018	1445	7-29	22	21.5	71.7	3.8
Evaluating In-	33	2016	1557	0-33	20	19.5	59.1	7.6
formation	33	2018	1445	0-33	20	20.2	61.2	7.7
Understanding	17	2016	1557	0-17	11	11.3	66.4	3.6
Plagiarism	17	2018	1445	1-17	12	11.7	68.8	3.7

<sup>\*</sup> Mean score/Max score

Individual question items from the RRSA-HK provide insights into the kind of facilitation that Hong Kong students need (Table 4). For example, in evaluating information, Hong Kong students are relatively weak in summarizing the intention and critical messages from information they found. Also, they have problems in telling the credibility of information.

Table 4. Student's difficulties identified from RRSA-HK (selected).

#### Ability to obtain information

- Understanding the terminologies
- Identifying scholarly documents
- Differentiate primary and secondary information
- Generating complete citation

#### Ability to evaluate information

- Summarize key messages and purpose of information
- Tell the credibility of information

#### Understanding plagiarism

- Identifying cases of copyright violation
- The proper way of citation and direct copying
- Situations where citation are needed

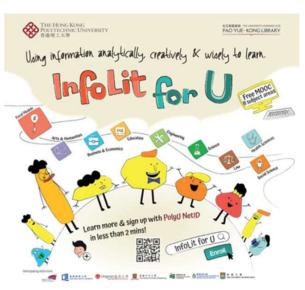
#### **3** The InfoLit for U MOOC

<u>InfoLit for U MOOC</u> is the main focus of the "build" part of this project, which is free and open to all learners around the world. The MOOC and related project were shortlisted for Hybrid Learning Awards by the Steering Committee of the Quacquarelli Symonds QS Reimagine Education 2018 Awards.

The design of modules of the IL courseware is based on the Association of College & Research Libraries (ACRL) Framework for Information Literacy for Higher Education (2015) to address students' IL-related weaknesses identified in the IL Educational Needs study and RRSA-HK survey study. Professor Christine Bruce's (2008) frames for informed learning, including personal relevance, competency, and learning to learn, guide the instructional design of each module.

In InfoLit for U MOOC, information literacy (IL) is not only defined as library skills and practices. Instead, a broader definition of IL is presented to learners as an interaction of three inter-related aspects, namely 1) IL related values & beliefs, 2) IL related skills & practices, and 3) Context of task problem.

The focal and the eight disciplinary modules of this MOOC are designed to help learners to become analytical, wise, and creative information user at university and professional challenges after graduation. The nine



modules of this MOOC challenge common misconceptions reinforce IL competence transferrable between disciplines, through an engaging learning experience.

#### 3.1 Focal Module

In the focal module "Not only search skills: What is InfoLit for U study & career?", learners learn how to use information for university-level inquiry works through five sections. Furthermore, learners learn the essentials of university-level inquiry in each of these modules through the five anchoring animations (Table 5) and interactive learning activities.

**Table 5.** Subsections of the focal module and title of its focal animation.

	<b>Subsections of Focal Module</b>	Focal Animation
1	Think & plan the "Info Needs" of your research	At University, Learning = Inquiry
2	Don't find answers: Search for ideas to develop ideas	The Amazing Journey of Information
3	Not just filter: Evaluate ideas to form new ideas	The Information Checkpoint

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4	Never list them: Connect ideas to create your own idea	The New Ideas Constructors
5	Stay hungry: Join & learn from communities	Learning Never Ends

#### 3.2 Discipline Modules

The eight discipline-related elective modules, each designed by our participating university respectively, dive deeper into the journey and help learners find, evaluate, and create high-quality outputs for tasks.

In each of the discipline modules, learners will face a task scenario typical to the discipline (Table 6). Sub-sections of these modules were designed to guide learners to go through different stages of research (e.g., develop a framework, find, evaluate, create). Discipline-specific IL and research tips were introduced through different kinds of learning objects (e.g., animated clips, infographics, library guides, questions, and so on) to learners. By the end of each module, learners will do an assessment task to check their understanding, followed by formative feedbacks for further developments.

**Table 6.** Information scenario of each discipline module.

<b>Discipline Module</b>	Scenario	<b>Designed by</b>
Arts & Humanities	Design an exhibition on the impact of Hong Kong cinemas and local culture	Lingnan University (LU)
Business & Economics	Prepare a business proposal	The Hong Kong Polytechnic University (PolyU)
Education	Lesson plan design sce- nario	The Education University of Hong Kong (EdUHK)
Engineering	An engineering innovation assignment	The Hong Kong University of Science and Technology (HKUST)
Health Sciences	Works related to a legal assignment	The University of Hong Kong (HKU)
Law	A community health project	City University of Hong Kong (CityU)
Science	Updating general chemistry laboratory manual	Hong Kong Baptist University (HKBU)
Social Sciences	Prepare a special report on elderly issues & social pro- tection system in Asian countries	The Chinese University of Hong Kong (CUHK)

#### 3.3 Insights gained since official launch

<u>InfoLit for U MOOC</u> was officially launched in February 2018. It is hosted on KEEP (<u>Knowledge & Education Exchange Platform</u>), a Chinese University of Hong Kong operated Open edX platform. As at the end of December 2018, InfoLit for U MOOC has recorded more than 4,500 headcounts of users, of which more than 3,000 accessed through LTI (Learning Tools Interoperability) links embedded in learning management systems of participating institutions by course instructors into their course(s). The pages of the nine modules were accessed more than 23,000 times in 2018.

Through analyzing participatory statistics of InfoLit for U MOOC, we learned more about students' needs (for example video loading statistics, see Fig. 1). Videos in InfoLit for U MOOC were loaded more than 22,000 times in total, of which the top 50 videos loaded by learners have accounted for 75% of all video loadings. Among the top 50 videos loaded by learners, most of these talk about learning at university in general (32%), followed by videos created for disciplinary IL content (19%). The previously mentioned InfoLit for U focal animations and videos that talk about informed learners came third (16%) and forth (15%) of top video loadings. Future projects of MOOC or learning guide creation may use these as user needs and design reference.

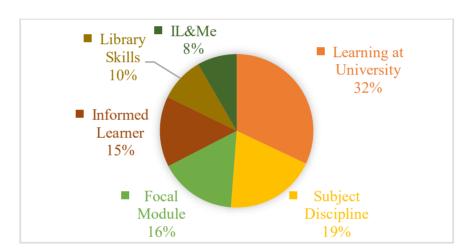


Fig. 1. Types of animations or videos loaded by learners in InfoLit for U in 2018

MOOC page loading statistics also inform students' learning behavior. Peaks of page loadings can be observed near the end of the semesters, i.e., May and June of 2nd semester of the 17-18 academic year, and November of 1st semester of the 18-19 academic year. Promotion or awareness raising campaign could use this insight to devise more effective plans as well.

#### 4 Promoting & Enhancing Librarian-Faculty Collaboration

The "collaborate and embed" block of this project consists of two parts, namely the capacity building program, and the course enhancement funds.

The capacity building program (coordinated by the HKUST library) was conducted by Ms. Lisa Janicke Hinchliffe, Professor, and Coordinator for Information Literacy Services and Instruction, the University of Illinois at Urbana-Champaign, in 2016. The

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goal of the series of workshops was to facilitate collaborative partnerships between librarians and faculty members. Designing learning activities and assignments that facilitate students to learn IL is another important goal. Forty professional librarians (five from each participating institution) learn not only from Ms. Hinchilffe but also from fellow librarians at other institutions who face similar yet different situations in facilitating the enhancement of information literacy. Key concepts covered include the community of practice; expert/novice mindset; organizational cultures in higher education; collaboration and partnership; informed learning; information literacy; logic models; instructional design; curricular structures; program planning and evaluation; assignments and assessments; rubrics; innovation adoption; and communication for advocacy.

Course enhancement fund is another critical piece of this project. Five small funds (approx. 1,500 euro) were available at each participating institution for faculty members and librarians to co-design and incorporate IL pedagogical components into the curriculum of different courses and programs. Bruce (1997) seven faces of information literacy framework was adopted to inspire and evaluate the designs of course enhancement projects (Table 7). In summary, the 40 course-enhancement projects funded have benefited more than 5,200 undergraduates in a broad spectrum of disciplines at the eight participating institutions.

**Table 7.** The seven aspects of information literacy enhancement outcomes in course enhancement fund projects

Aspect & Outcom	mes Details	No. of projects addressed
1. Information Technology	My students developed awareness on latest developments in the course/subject/field of study using contemporary technologies.	21/40
2. Information sources	My students learned how to access different types of information sources on topics related to course/subject/field of study.	28/40
3. Information Process	My students explored and articulated their personally preferred information processes and approaches relevant to the course/subject/field of study.	19/40
4. Information Control	My students have created better learning outputs through controlled & managed use of course/subject/field of study related information.	21/40
5. Information Use (critical analysis)	My students have become more critical and selective towards using information to expand their knowledge base in previously unfamiliar area.	21/40

6. Information Use (Intuition)	My students have become more familiar in using information to construct new course/subject related knowledge, perspectives, and insights, etc.	21/40
7. Information Use (Value)	My students have developed awareness and capacity on using information to benefit others.	12/40

#### 5 Conclusion: Enhanced Collaboration & Knowledge Transfer

Through the IL project (2015-18), the eight participating universities had achieved a deeper level of collaboration. Research design, research data from all eight participating institutions, MOOC content, animations, and videos, as well as designs and experience from course enhancements projects, are shared among the participating institutions.

It is also encouraging that even though the project has ended, each participating library devised plans to sustain the initiatives in ways that address the needs of teaching and learning in their specific contexts. Learning objects and pedagogical innovations of the InfoLit for U MOOC, and those from our 40 Course Enhancement Funds, will continue to facilitate student learning in future. The experience gained through this project will enhance and inspire further librarian- faculty collaborations as well.

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