

# Relating library user education to business students' information needs and learning practices: a comparative study

Library user  
education

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Received 5 December 2019  
Revised 24 January 2020  
8 June 2020  
9 June 2020  
Accepted 9 June 2020

## Abstract

**Purpose** – The paper aims to investigate current library instruction programs to help business students make better use of library resources and improve their information. However, students' information acquisition ability, library usage and their perception toward library user education are inevitably changing along with the rapidly evolving information landscape as well as the socio-cultural environment driven by information technologies.

**Design/methodology/approach** – For this study, 90 business students from three different majors at the Faculty of Business and Economics, the University of Hong Kong were invited to participate in the online survey for comparison.

**Findings** – The findings of this study suggest that the subjects, in general, recognized the importance of library user instruction. However, when the subjects encountered difficulties in information searching, they preferred to use search engines (such as Google) and seek help from their classmates.

**Practical implications** – The results of this study show that there were distinctive differences in library usage and views toward library instruction among students of three different majors. This study sheds light on the feasible actions of academic libraries to enhance library user instruction services and improve the IL skills among business students.

**Originality/value** – Although there is much research about the library instruction of academic libraries, scant research focuses on library usage and views toward library instruction of business students, especially on the comparison among different business majors.

**Keywords** Information literacy, Library instruction, Needs assessment, Business students

**Paper type** Research paper

## Introduction

The convenience brought by the Internet has revolutionized students' and teachers' ways of studying, teaching, and information collecting. . . All these new changes brought about through new digital technologies have created new and unprecedented pressures for libraries for the reason that librarians are seriously concerned about the under-utilization of library services and resources, especially in the academic environment. Hence, there is a great need for new methods and tools for evaluating the importance and values of academic libraries from different perspectives (Allard *et al.*, 2019).

The authors would like to express their sincere gratitude to Qianxiu Liu, who worked on the original version of the questionnaire with us, and Kit-man Chan (Business Subject Librarian at the University of Hong Kong), who kindly provided useful information about the target student groups – their library usage patterns, in relations to the range of library services provided by the University of Hong Kong Libraries.



Reference Services Review  
Vol. 48 No. 4, 2020  
pp. 537-558  
© Emerald Publishing Limited  
0090-7324  
DOI 10.1108/RSR-12-2019-0084

As the ability to discover and analyze information is a crucial skill for working and studying in the business field, information literacy (IL) skills have become a prerequisite for business students as well as their future lives as business professionals (Klusek and Bornstein, 2006). Academic libraries can help students develop IL skills through effective library instruction (Li *et al.*, 2007). Because of convenience and ubiquitous availability, especially with mobile devices, many students have turned to internet search instead of libraries as their first source of information (Ko *et al.*, 2015; Wai *et al.*, 2018). Students tend to neglect the quality and specialized academic resources provided by university libraries, which bring new challenges to library instruction for academic libraries (Li *et al.*, 2007). Therefore, exploring the current relations between library usage and students' views toward library user education (LUE) becomes vital for improving the IL skills of business students:

Measuring the attitudes and perceptions toward the university library, and its user education programs are considered an effective way to develop new approaches, and doing so can allow librarians to continue improving upon existing library services (Allard *et al.*, 2019).

According to Ogunmodede and Emeahara (2010), the essence of LUE is to equip library users with adequate knowledge and skills to use library resources effectively, efficiently and independently. They also observed that in the current digital environment, library resources are so complex that an average library user may not be able to effectively use them without the assistance or guidance of LUE librarians.

The terms "library instruction," "library user education" and "bibliographic instruction" are often used interchangeably. They are defined as the teaching of using library access tools, such as library catalogs, abstracts and other library reference resources to help users search for relevant information (Su, 2014). To implement library instructions effectively, programs should be tailored to individual students' needs in different fields according to their understanding of essential reference materials (Liu *et al.*, 2018; Allard *et al.*, 2019). Besides the administrative support and the professional competence of librarians, the choice in the form of library instruction program and the convenience of library facilities are also factors affecting library instruction (Aseery, 2001). Thus, libraries should try to understand the effectiveness of library instruction implementation for business students by exploring their views.

The Faculty of Business and Economics at the University of Hong Kong (HKU) plays a leading role in the business and education sectors of Greater China and the Asia-Pacific region, with much innovative education and research. HKU's Master of Business Administration program has been ranked first in Asia for eight consecutive years since 2010. The curriculum of the Faculty of Business and Economics has been specifically designed by business experts. It combines the advantages of six academic fields, including Accounting and Law, Finance, Marketing, Economics, Innovation and Information Management and Management and Strategy. It attracts top business students worldwide and cultivates top talents to meet the challenges and opportunities brought by the rapid development of the Greater China region and its integration to the global economy, given Hong Kong's position as an international financial center. Further, HKU is a member of Universitas 21 (a consortium of leading global universities [1]) and iSchool (a consortium of leading global library schools [2]). Therefore, this study selects the students of the Faculty of Business and Economics at HKU as the research target, which is of certain representativeness and significance.

The study aims to investigate the diversity of library usage and perceptions toward library instruction of business students by comparing three different majors of the HKU Faculty of Business and Economics. According to the analysis results, we also suggest some improvement measures of library services to enhance the business students' IL

skills. Although there is much research about library instruction in academic libraries (Reynolds *et al.*, 2017), scant research focuses on library usage and views toward library instruction of business students, especially on the comparison among different business majors. Therefore, this study aims to fill in this research gap.

## Literature review

### *Information literacy and business*

Chu (2012) stated that IL was first proposed by the Information Industry Association in the 1970s to train and improve the skill set of working individuals for the application of information resources to their work. The importance of IL was later recognized by the Association of College and Research Libraries (ACRL), a division of the American Library Association (ALA). ACRL (2000) defines IL as “the set of abilities enabling individuals to recognize when information is needed and to locate, evaluate, and use effectively the needed information.” Thus, IL is a primary topic of library instruction, which is often course-related or course-integrated in academic libraries (Reitz, 2004). Numerous definitions with different emphases appeared over the past decades, but most of them still follow the core concepts of the Association of College and Research Libraries (2000). According to Bawden (2001), IL shares a similar definition with the terms “library literacy,” “media literacy” and “computer literacy,” which all concern “critical thinking” in assessing information gained from different perspectives, i.e. library, media and computer. Lau and Chan (2020) argued that critical thinking is the ability to think clearly and rationally about what to do or what to believe, while someone with critical thinking skills can do the following:

- understand the logical connections between ideas;
- identify, construct and evaluate arguments;
- detect inconsistencies and common mistakes in reasoning;
- solve problems systematically;
- identify the relevance and importance of ideas; and
- reflect on the justification of one’s own beliefs and values.

In a knowledge-based economy, training in IL to enable students with the ability of critical thinking in assessing information is crucial, as it can contribute toward ensuring a high quality, intellectual and productive workforce in the future (Chu, 2012). Evidence of an increased emphasis on IL in the workplace comes from surveys of business leaders, corporate studies of the strategic value of information and observational studies of IL in the workplace (Katz *et al.*, 2010; Kirk, 2004; Kuhlthau and Tama, 2001). Katz *et al.* (2010) conducted a case study at a comprehensive university located in East Los Angeles to investigate the relationship between IL and business writing, in which 166 university juniors and seniors completed a business communications course. The results reveal that students’ IL, regardless of language known best, is highly correlated to their business writing performance, which indicates that IL is a distinct set of skills to enhance business communication practice. Thus, Katz *et al.* (2010) argued that a similar usage for corporate training might help companies use their training budgets on business communications more effectively by identifying employees with a greater need for IL instruction.

### *Business information literacy*

Business students are a unique group because their research habits and the information they seek are specific to their field of study (Bauer, 2018). Business students are often impatient

information consumers, and business courses are designed to emphasize technological proficiency and decision timeliness, which often causes business students to prefer to seek more accessible and convenient electronic resources to support their research (Atkinson and Figueroa, 1997). However, Conley and Gil (2011) emphasize that business professionals need to have the necessary IL skills because their study and work environment require more complex thinking and communication (Klusek and Bornstein, 2006).

The integration of IL skills into the business curriculum is a growing concern in colleges of business and in the academic libraries that serve them because the concept of using IL skills in the marketplace is beginning to be acknowledged by industry and colleges (Wu and Kendall, 2006). On the other hand, business communication instruction and practice tend to view the acquisition of technological skills as distinct from critical thinking. In contrast, IL may be seen as a business communication curricular objective, incorporating critical thinking, writing and technology into more effective classroom instruction (Katz *et al.*, 2010). This approach of integrating IL and business communication could provide researchers, teachers and practitioners with a model for strengthening core communication practices in anticipation of workplace performance.

In the current globalized economy, it is crucial to examine the expectation of students' business IL skills from the business domain in general. Cooney (2005) argues that business IL (BIL) helps business students know when information is needed and have the ability to use it effectively. Based on a study on the relationship between students' IL and the hospitality and tourism curriculum, a specialized area in business studies, Sigala and Baum (2003) suggest that business students need to be adaptable, flexible and effective workers. Besides, students need to be competent in not only evolving business practices but also knowledgeable in cultural and social domains. Further, Katz *et al.* (2010) emphasize that college's IL learning objectives should also help improve a student's lifelong learning ability to better cope with an ever-changing business environment.

IL and business education have been working together for nearly 20 years, and critical thinking has been identified as one of the BIL's key enablers (Stonebraker *et al.*, 2017). In a longitudinal study that explores key attributes and methods of developing BIL for users from different backgrounds, Fiegen (2011) identified critical thinking and evaluation as a "preferred technique" among business librarians. On the other hand, using conceptual business models that are already familiar to students, such as various business and marketing models as well as critical theory in ethical conceptual models, could undoubtedly help familiar with BIL more effectively (Fiegen, 2011).

#### *Exploring ways of improving business information literacy*

Katz *et al.* (2010) argued that more and more empirical evidence including surveys of business leaders (National Center on Education and the Economy, 2007; Workforce Readiness Project, 2006), corporate studies of the strategic value of IL (Kirton and Barham, 2005; Wu and Kendall, 2006), widely cited anecdotal reports and observational studies of IL in the workplace (Kirk, 2004; Kuhlthau and Tama, 2001) shows an increased emphasis on Information, Communication and Technology (ICT) in the workplace. Using a mixed-method studying 413 French Canadian future teachers enrolled at four universities located in Quebec, Canada, Simard and Karsenti (2016) evaluate how teachers use ICT to develop students' IL skill based on a conceptual model developed based on Boubée and Tricot (2010)'s IL model. Their findings indicate that students' ICT competencies required to access online content, process it, apply it and share it are one of the key drivers to improve their IL capability. By using ICT, teachers can help improve students' IL skills by filling their disciplinary and cultural knowledge gaps in which disciplinary knowledge includes

business knowledge. On the other hand, ICT helps strengthen their ability to their overall information research process. Besides, based on a case study conducted at Massey University in New Zealand, [Pastula \(2010\)](#) argued that ICT is a key to enhance the IL skills of distance learning students. The result reveals that ICT can be used to both encourage participation and assist them in acquiring the same IL skills on campus down the path of lifelong learning. This also challenges librarians to continually improve their ability to transfer knowledge through this online medium effectively.

Today, library information itself has become more digitized. With the widespread of the internet and smartphone usage ([Ko et al., 2015](#); [Wai et al., 2018](#)), information databases, electronic journals and e-books have become mainstream facilities in libraries. As a result, students have an increasing preference for retrieving and accessing digitized material from electronic resources of libraries. Moreover, [Chen et al. \(2011\)](#) argued that even though current university students are more familiar with ICT than ever before, they still require library instructions to improve IL. The [US Department of Education \(2009\)](#) suggests that the library should combine problem-solving techniques with ICT in their instructions to help promote students' critical and analytical thinking in teaching students' IL skills.

Last but not least, IL of K-12 students who reach a university-level learning environment based on the new National School Library Standards of the American Associate of School Libraries (AASL) stress the importance of extending IL skills to collaborative working environments. Recent research has revealed that current K-12 students often cannot apply knowledge to real-world contexts or work with people from diverse backgrounds ([Gerrity, 2018](#); [Diekema et al., 2019](#)). The new AASL National School Library Standards emphasize the importance of developing IL abilities to establish connections with other learners, build on their prior knowledge and create new knowledge. Therefore, developing students' IL skills in a collaborative approach aiming at knowledge creation should be the general objective of designing library instruction programs.

#### *Rational of this study and research questions*

Although many studies on LUE of academic libraries focus on library instruction services, scant studies were conducted on library instruction of business students to explore the needs of different majors. Therefore, this study contributes to filling the research gap, and our main research questions are as follows:

- RQ1.* What are the similarities and differences in library usage of business students among different majors?
- RQ2.* What are the similarities and differences in views toward library instruction of business students among different majors?
- RQ3.* To what extent do these business students attach importance to library usage and library instruction?

#### **Methodology and data collection**

For this study, an online questionnaire was designed to investigate the student respondents' views toward LUE programs. Students invited to take part in this survey study represented three different majors of the Faculty of Business and Economics at HKU, namely, Information Systems (IS), Accounting and Finance (Acc. and Fin.) and Economic and Finance (Econ. and Fin.). The questionnaire comprised 12 questions, which were adapted from prior studies ([Liu et al., 2016](#); [Allard et al., 2019](#)) and required less than 10 minutes to

complete. The online questionnaires were distributed through batch email and other online social media platforms and online collaborative learning groups (e.g. Facebook, WhatsApp, WeChat, etc.) set up by the students at the Faculty of Business and Economics at HKU. A total number of 90 responses were collected from all three student groups (i.e. 30 responses received from each academic major). The data collection period was from May to July 2018. All student respondents took part in this questionnaire survey on a voluntary basis. Despite these limitations, these data could still provide a reliable basis for data analysis. The data were analyzed using the statistical tools of Microsoft Excel and SPSS.

## Data analysis

### *Demographic characteristics*

A total number of 90 responses were collected for this questionnaire survey, representing three different majors from the Faculty of Business and Economics at HKU, namely, Information Systems (IS), Accounting and Finance (Acc. and Fin.) and Economics and Finance (Econ. and Fin.). Regarding the demographic characteristics of the student respondents, 30 responses were collected from each major. The ratio between male and female respondents is 1:1 (Table 1).

### *Information-seeking behaviors among respondents*

The second part of the questionnaire was set out to examine student respondents' information-seeking behaviors and to what extent they depended on the university library services when facing difficulties in finding materials for their research and assignments. The survey results (Table 2) indicate that there were no significant differences in the information-seeking behaviors among the three student groups ( $p > 0.05$  in a  $\chi^2$  test). More than half (62.2%) of the total student respondents would turn to Google or Google Scholar as their immediate solution. Meanwhile, 25.6% of the total student respondents preferred to ask their classmates for help when facing similar difficulty. For student respondents who preferred to ask help from classmates, a majority of them were Economics and Finance majors. It is also interesting to note that out of all 90 respondents in total, only 3 respondents (3.3%) would choose to consult their university librarians, whereas 2 respondents (2.2%) said they would give up completely.

Demographics	Economics and finance	Accounting and finance	Information systems	Overall	<i>p</i> -value
<i>Gender</i>					
Female	16 (53.3%)	14 (46.7%)	15 (50.0%)	45 (50.0%)	0.875 <sup>ns</sup>
Male	14 (46.7%)	16 (53.3%)	15 (50.0%)	45 (50.0%)	
Total	30	30	30	90	
<i>Level of study</i>					
Freshman	17 (56.7%)	13 (43.3%)	8 (26.7%)	38 (42.2%)	0.232 <sup>ns</sup>
Sophomore	5 (16.7%)	9 (30.0%)	8 (26.7%)	22 (24.4%)	
Junior	3 (10.0%)	3 (10.0%)	8 (26.7%)	14 (15.6%)	
Senior	5 (16.7%)	5 (16.7%)	6 (20%)	16 (17.8%)	
Total	30	30	30	90	

Notes: ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 1.**  
Student respondents' demographic characteristics and gender ratio

### *Views toward the perceived importance of library user education programs*

By consulting with the HKU Business Subject Librarian, we summarized a series of LUE services provided by the HKU Libraries for business students, and we asked the business students to consider the importance of these services provided by the library. The Kruskal–Wallis test results (Table 3) showed that there were significant differences on the importance ratings of “General library courses (e.g. Endnote Workshop),” “Subject-specific library courses (catered for specific business courses),” “Library orientation (e.g. library tour and hands-on practice on business e-resources)” and “Online information literacy instruction (e.g. how to cite properly)” among the three majors ( $p < 0.01$ ). The total average score of business students in Information Systems is 3.71, which was the lowest among the three majors. The students majoring in Information Systems participated less in library instruction than the other two majors’ students.

### *Reasons why respondents did not participate in library user education programs*

The Kruskal–Wallis test results (Table 4) showed that there were significant differences in the reasons why business students did not participate in library instruction programs among the three majors ( $p < 0.01$ ), especially in the following four reasons: “I don’t think they are useful for me at all,” “The topics/format of the user education programs look very boring,” “I am not well informed by the details of the user education programs” and “I don’t know why” ( $p < 0.05$ ). The students majoring in Information Systems showed a more neutral attitude toward these four reasons than the other two majors’ students. However, at the overall level, all business students maintained somewhat disagree or neutral attitudes toward these negative reasons, which showed that most of them would like to participate in LUE activities.

### *Effectiveness of library user education program promotion strategies*

The next question explored the business students’ views toward the effectiveness of the promotion channels of library instruction. The Kruskal–Wallis test results (Table 5) showed that there were significant differences in the effectiveness ratings of “email announcements to all students” and “Making announcements on the homepage of social media of the University Library” among the three majors ( $p < 0.05$ ). The students majoring in Information Systems considered email announcements less effective than the other two majors’ students. Meanwhile, the average score of students majoring in Accounting and Finance on “Making announcements on the homepage of social media of the University Library” was 2.90, far lower than the other two majors, and they considered that this

Action taken	Economics and finance	Accounting and finance	Information systems	Overall	<i>p</i> -value
<i>Ask classmates for help</i>	13	5	5	23 (25.6%)	0.143 <sup>ns</sup>
Ask tutors for help	1	1	1	3 (3.3%)	
Ask professors for help	0	2	0	2 (2.2%)	
Ask university librarian for help	2	0	1	3 (3.3%)	
Ask public librarian for help	0	1	0	1 (1.1%)	
<i>Via Google</i>	13	21	22	56 (62.2%)	
Give up completely	1	0	1	2 (2.2%)	
Total	30	30	30	90	

**Notes:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$

**Table 2.**  
Action taken when business students are unable to find materials for their research or assignments

**Table 3.**  
Student respondents'  
perceived importance  
toward LUE  
programs

Perceived importance of LUE programs	Economics and finance	Accounting and finance	Information systems	Overall	p-value
General library courses (e.g. Endnote Workshop)	3.97	4.27	3.50	3.91	0.001 ***
Subject-specific library courses (catered for specific business courses)	4.73	4.43	3.73	4.30	0.000 ***
Library orientation (e.g. library tour and hands-on practice on business e-resources)	4.53	4.23	3.67	4.14	0.000 ***
Database training and seminars (e.g. database demonstrations or talks delivered by vendors)	4.17	4.13	3.97	4.09	0.463 ns
Online information literacy instruction (e.g. how to cite properly)	3.83	4.47	4.13	4.14	0.009 **
eLearning Trainings and Workshops	3.77	3.77	3.43	3.66	0.101 ns
Research consultation services (e.g. give advice on effective information research pertaining to your research project)	3.77	4.00	3.60	3.79	0.101 ns
Virtual reference services (ask a Librarian)	3.67	3.70	3.63	3.67	0.846 ns
Total average	4.05	4.13	3.71	3.96	0.003 **

**Notes:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = not important at all, 2 = not so important, 3 = neutral, 4 = a little important, and 5 = very important)



Reasons for not participating in LUE programs	Economics and Finance	Accounting and Finance	Information systems	Overall	p-value
I do not think they are useful for me at all	1.17	1.77	2.53	1.82	0.000***
I am interested in, but I do not know when these user education programs are conducted	2.70	2.40	2.83	2.64	0.099 <sup>ns</sup>
I want to go, but they always clash with my class schedule	2.50	2.37	2.70	2.52	0.065 <sup>ns</sup>
The topics/format of the user education programs look very boring	3.07	2.43	3.27	2.92	0.000***
I am not well informed by the details of the user education programs	2.90	2.80	3.40	3.03	0.007**
I do not know why	2.50	3.00	3.03	2.84	0.028*
Total average	2.47	2.46	2.96	2.63	0.000***

**Notes:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neutral, 4 = agree, and 5 = strongly agree)

**Table 4.**  
Reasons why business students do not participate in LUE programs

**Table 5.**  
Perceived effectiveness of promotion channels among business students

Perceived effectiveness of promotion channels	Economics and finance	Accounting and finance	Information systems	Overall	<i>p</i> -value
Email announcements to all students	3.90	3.93	3.40	3.74	0.002**
Making announcements on the homepage of the University Library website	2.60	2.43	2.53	2.52	0.758 <sup>ns</sup>
Making announcements on the homepage of social media (e.g. Facebook, Instagram, Twitter, etc.) of the University Library	3.40	2.90	3.50	3.27	0.043*
University Library puts up posters throughout the entire campus	3.93	3.77	3.80	3.83	0.634 <sup>ns</sup>
University Library asks the professors to encourage the students to attend	3.27	3.57	3.53	3.46	0.414 <sup>ns</sup>
Total average	3.42	3.32	3.35	3.36	0.818 <sup>ns</sup>

**Note:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = not effective at all, 2 = not so effective, 3 = neutral, 4 = a little effective, and 5 = very effective)

promotion way not so effective. At the overall level, business students maintained a neutral attitude toward the existing promotion ways of the university library.

#### *Perceived effectiveness of incentives used for attracting students to participate in library user education*

Question 5 of the questionnaire investigated the business students' views toward the effectiveness of the incentives of participating in library instruction. The Kruskal–Wallis test results (Table 6) showed that there were significant differences among the three majors ( $p < 0.01$ ) on the effectiveness ratings of “Students will be given Cash Coupons after attending the library workshops,” “Students can take voluntary tests after attending the library workshops – students who get the highest scores will be awarded gifts” and “Students can earn credits after attending the workshops.” The students majoring in Information Systems considered these three incentive ways less effective than the other two majors' students. At the overall level, business students considered these incentive ways quite effective.

#### *Views toward professional competence of library user education librarians*

Next, we explored the student respondents' ratings toward the professional competence of LUE librarians (Table 7). The Kruskal–Wallis test results suggested that in comparison to the Information Systems majors, the Economics and Finance and Accounting and Finance students gave significantly higher rating toward LUE librarians' professional competence in almost all aspects, except “Boring” (reversed) and “They always know what I need, even though I am not good at expressing myself” (insignificant).

#### *Satisfaction toward overall contents and quality of library user education programs*

Regarding the level of satisfaction toward the overall contents and quality of LUE, the Kruskal–Wallis test results (Table 8) showed significant differences between the three student groups. Generally speaking, Information Systems majors were less satisfied with the overall contents and quality of LUE services, when compared with the other two student groups. Given the relevance between the overall contents of LUE and students' research and assignments, the Economics and Finance majors gave a 3.5 rating score, which was the lowest among the three student groups. At the same time, the Economic and Finance majors gave a relatively high (4.00) rating score to express their strong belief that (i) the overall contents of LUE were clear and easy to follow and (ii) library orientation was helpful in terms of building a positive image of about the University Library and its services among the students.

#### *Ratings toward perceived importance of library user education services*

Last but not least, we explored the business students' views toward the importance of library instruction. The Kruskal–Wallis test results (Table 9) showed that there were significant differences among the three majors ( $p < 0.05$ ) on the importance rating of “Library user education is one of the important parts of students' overall learning in the university” and “The user education programs should be mandatory for students by the faculty.” The students majoring in Economic and Finance agreed more that library instruction was one of the important parts of business students' overall learning in the university than the other two majors' students, and they disagreed more that the library instruction programs should be mandatory for students by the faculty than the other two majors' students.

**Table 6.**  
Perceived effectiveness of incentives for participating in library instruction among business students

Perceived effectiveness of incentives	Economics and finance	Accounting and finance	Information systems	Overall	p-value
Students will be given Cash Coupons after attending the library workshops	4.67	4.60	3.73	4.33	0.000***
Students can take voluntary tests after attending the library workshops - students who get the highest scores will be awarded gifts (e.g., iPod or iPad)	4.47	4.23	3.30	4.00	0.000***
Students can earn credits (like other academic courses) after attending the workshops	4.77	4.57	4.20	4.51	0.001***
Professors invite the subject librarians to teach library workshops, on the classrooms in person instead of waiting for the students to join	3.77	3.77	3.47	3.67	0.187 <sup>ns</sup>
Professors compel the students to attend the workshops	3.27	3.30	3.50	3.36	0.332 <sup>ns</sup>
Total average	4.19	4.09	3.64	3.97	0.000***

**Notes:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = not so effective, 2 = not effective, 3 = neutral, 4 = a little effective, and 5 = very effective)

Table 7.

Business students' views toward the subject librarians and user education librarians

Views toward librarians	Economics and finance	Accounting and finance	Information systems	Overall	p-value
Friendly	4.57	4.57	3.83	4.32	0.000 ***
Creative	4.03	4.00	3.33	3.79	0.000 ***
Patient	4.47	4.47	3.73	4.22	0.000 ***
Intellectual	4.17	4.20	3.47	3.94	0.000 ***
Helpful	4.40	4.40	3.83	4.21	0.000 ***
Professional	4.33	4.40	3.77	4.17	0.000 ***
Service-oriented	3.93	4.17	3.40	3.83	0.000 ***
Efficient at work	4.23	4.33	3.67	4.08	0.000 ***
They always know what I need, even though I am not good at expressing myself	3.43	3.70	3.23	3.46	0.075 <sup>ns</sup>
Boring	2.90	2.73	3.23	2.96	0.017 *
Total average	4.05	4.10	3.55	3.90	0.000 ***

**Notes:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = not at all, 2 = not so well, 3 = neutral, 4 = a little good, and 5 = very well)

## Discussion

To improve LUE services for business students, together with the service gaps in students' (as users) expectations, it is necessary for libraries to understand these students' information needs, library usage patterns, and most importantly, their perceptions toward the overall LUE services. The undergraduate students who participated in this survey represented three different academic programs under the Business and Economics Faculty at HKU. The research results further reveal that students from these three Business majors had different information needs as well as information-seeking behaviors and preferences because of the different curricular setups and requirements. Despite the limitation that a majority of the respondents were first-year students, this survey study has collected responses from students at different study levels. This study has provided an overview of the information-seeking practices and their views toward the range of LUE programs offered by their university library as well as the perceived professional competence of the LUE services providers, i.e. the Reference Services librarians at HKU.

### *Google as the very first doorway*

All three groups of Business students answered that Google was the very first thing that came to their minds when they encountered difficulties in finding information for their research or assignments. In the age of the internet and mobile phones, it is natural that students (regardless of academic majors) expect instant gratification when it comes to information searching, regardless of whether they are looking for just quick facts or research articles of scholarly nature. Given Google's convenience, efficiency, accessibility, popularity and user-friendliness, it is unsurprising to find that a majority of the student respondents would turn to Google or Google Scholar as their first stop, as it was "quick and easy" and had nothing to do with HKU LUE librarians' professionalism. For this simple reason, only a few student respondents would turn immediately to the HKU librarians for help. Similar findings were also reported in other cross-national and cross-cultural research carried out by Liu *et al.* (2016) and Allard *et al.* (2019). In other words, "students turning to Google first" seem to be a phenomenon among students worldwide.

**Table 8.**  
Business students' satisfaction toward the content and quality of library instruction programs

Satisfaction of LUE programs	Economics and Finance	Accounting and finance	Information systems	Overall	<i>p</i> -value
The overall contents are very clear and easy to follow	4.00	3.87	3.70	3.86	0.044 *
The overall contents are very useful and relevant to my current research/ assignments	3.50	3.87	3.67	3.68	0.018 *
The overall quality of the user education programs provided by the University Library is satisfied	3.97	3.83	3.60	3.80	0.035 *
The library orientation is helpful in terms of building a positive image of the University Library and its services amongst the students	4.00	3.87	3.67	3.84	0.038 *
Total average	3.87	3.86	3.66	3.79	0.114 <sup>ns</sup>

**Notes:** ns:  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neutral, 4 = agree, and 5 = strongly agree)

Importance of library instruction services	Economics and finance	Accounting and finance	Information systems	Overall	p-value
Library user education is one of the important parts of students' overall learning in the university	3.80	3.03	3.07	3.30	0.010 **
The user education programs should be mandatory for students by the faculty	1.97	2.37	2.50	2.28	0.011 *
All students should understand what library user education is before graduation	3.03	3.03	2.77	2.94	0.601 <sup>ns</sup>
Teaching the skills of information literacy is one of the important duties of a reference librarian – i.e. teaching students how/where to find, evaluate, and apply information found in both printed and digital resources	3.73	3.73	3.77	3.74	0.894 <sup>ns</sup>
Students still can make good use of the library collection and other resources, even they do NOT take part actively in the library user education programs	3.60	3.93	3.73	3.76	0.063 <sup>ns</sup>
Total average	3.23	3.22	3.17	3.20	0.979 <sup>ns</sup>

**Notes:** ns;  $p > 0.05$ , \* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\* $p \leq 0.001$ . Five-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neutral, 4 = agree, and 5 = strongly agree)

**Table 9.**  
Business students' views toward the importance of library instruction services

*Promotion strategies of library user education*

Business students from the three majors remained neutral in terms of their attitudes toward the LUE promotion strategies launched by HKU Library. The findings of this study indicate that the HKU Library rarely uses any incentives to attract the students to take part in the LUE programs. Some student respondents revealed that they did not take part in LUE programs offered at HKU Library, simply because they were not well informed of the details of such programs. As explained by [Smith \(2011\)](#), effective promotion strategies are crucial for encouraging students to take part actively in LUE, which would eventually help them understand the essential resources and services provided by their university library. For this reason, LUE librarians need to be continually thinking about how to improve marketing and promotion strategies and to stay relevant in students' learning and interests as a whole ([Ashcroft, 2004](#)).

*Levels of satisfaction toward library user education*

Business students from the three majors agreed that the overall contents and quality of LUE provided by their university library to be useful and satisfactory. Meanwhile, student respondents gave high ratings toward LUE librarians' professionalism, particularly in the following three areas: (1) user-friendliness, (2) patience in service interactions and (3) helpfulness in service interactions. However, student respondents, in general, remained neutral when they were asked whether LUE librarians understood their needs, even when students were not good at expressing themselves. The service-oriented model requires librarians to be passive and proactive to meet the needs of users ([Bausman et al., 2014](#)), and the subject librarian should help students improve their information competency ([MacDonald, 2010](#)). Therefore, librarians not only need the marketing skills mentioned above but also need to improve their technology skills to integrate the content of the library instruction with the advanced technology to attract more business students ([Nielsen, 2013](#)).

*Students' perceptions of library user education programs*

It is interesting to note that in comparison to the other two student groups, the Economics and Finance majors preferred to seek help from their classmates. According to [Shah \(2014\)](#), information-seeking activities are not always conducted by individuals independently, and collaborative information-seeking behavior could be found very commonly at both workplaces and educational institutes ([Shah, 2014](#)). The findings of this study reveal that a majority of the Economic and Finance majors (as respondents) were first-year students. Because of their inexperience, the researchers speculated that they possessed a relatively lower level of IL skills and also less proficient in using the library resources independently. For this reason, they preferred to seek help from their classmates or to team up with other senior students to look for their desired information. Further research is needed to validate researchers' speculation in this regard. On the other hand, this also suggests the effectiveness of training student library helpers and interns to expand LUE services and outreach.

*Level of satisfaction toward overall contents of library user education*

In comparison to the other two student groups, the Economics and Finance majors gave the lowest ratings toward relevance between the overall contents of LUE programs and the students' research and assignments. One of the crucial duties of subject librarians is to integrate the contents of LUE with students' research as a reflection of their professionalism ([Smith and Oliva, 2010](#)). Therefore, the library can consider to further customize related library courses for the Economics and Finance major.



On the other hand, Information Systems majors expressed a more neutral attitude toward LUE, in comparison to the other two student groups. It is also interesting to note that Information Systems majors considered various incentives for encouraging students to take part in LUE to be effective. Besides, in comparison to the other two student groups, Information Systems majors gave lower ratings toward the professional competence of LUE librarians, as well as the overall contents and quality of LUE services provided. According to the [Association of College and Research Libraries and American Library Association \(2000\)](#), “IL, while showing significant overlap with information technology skills, is a distinct and broader area of competence. Increasingly, information technology skills are interwoven with, and support, information literacy” (p. 3). As business IL skills overlap with IL skills, the researchers speculated that the Information Systems majors had acquired a higher level of information technology skills than the other two student groups. Therefore, Information Systems majors were more proficient and self-reliant in finding information and other materials related to their learning. As Information Systems majors already acquired their IL skills elsewhere (outside their university library), it is expected that they already possessed a higher level of IL skills and are more independent as library users. Thus, their interests to take part in such LUE activities have diminished with their perceived lack of importance and needs.

#### *Student respondents' perceived importance of library user education*

Despite the convenience brought by internet connectivity, together with the accessibility of different powerful search engines (e.g. Google), it is comforting to know that a majority of student respondents (of all three Business majors) saw LUE as an essential part of their overall learning. This also gives academic libraries and subject librarians opportunities to enhance library instruction services and provide subject-related instruction on the use of advanced electronic tools for research ([Atwong and Heichman, 2008](#)). Therefore, the library may optimize the contents and quality of library instruction services and promotion channels to improve the IL of business students. The suggested ways to improve the library instruction and the students' attendance rate are as follows:

- As the globalized economy is evolving fast, the subject librarians should continuously improve and update their subject knowledge as well as the contents of the LUE programs, in particular, according to the change in business students' curriculum and assignment requirements.
- Librarians should constantly innovate the teaching methods of library instruction program, such as adding gamification to attract the attention of business students and to engage them in the learning process ([Wójcik, 2019](#)).
- User education librarians should continuously improve marketing activities and innovate promotion channels and incentives, such as planning special events to promote the library instruction, and the use of social media and virtual communities ([Fong et al., 2020; Deng et al., 2019](#)).

#### **Conclusion**

Our research shows that although business students at HKU preferred to use online search engines (e.g. Google) as the very first step for finding research materials and information for their assignments, they still possessed a relatively positive attitude toward the LUE programs provided by their university library. Among the three groups of business students investigated, the Information System majors were less active in participating in LUE

programs among the student groups, probably for the reason that necessary IL skills have already been embedded in their regular curricula.

This study has provided valuable insights into three different groups of business students at HKU, their overall views toward LUE and the relations to their information needs and learning practices. In particular, the remarkable differences in the learning needs of different business majors call for further tailoring of LUE to the program level. Thus, program directors or department representatives should work more closely with librarians on LUE curricula design based on student needs as well as the promotion of LUE programs.

According to the vision and mission of the HKU Faculty of Business and Economics [3], although the Faculty is rooted in Hong Kong, it is fully engaged with China and truly international to provide leading business education through innovative and globally significant research. This is in line with major business schools worldwide. Further, HKU is a member of the Universitas 21 consortium with frequent worldwide exchanges in students, credits, curricula and research studies among members, and they have similar curricula under the globalized knowledge economy. Thus, we expect the findings of this study could provide the basis for future developments of LUE services among Hong Kong as well as in other regions.

As for future work, we are planning to investigate the relations of students' perceptions and participation of LUE to their IL level and overall learning outcomes. We are also investigating the different needs of students among different faculties and among different majors in other faculties (such as the Medical, Engineering and Arts faculties), especially under the current new technologies of social media (Lam *et al.*, 2019; Fong *et al.*, 2020) and mobile internet (Ko *et al.*, 2015; Wai *et al.*, 2018). Last but not least, we are interested in the application of library makerspace for business innovation education (Maceli, 2019).

#### Notes

1. <https://universitas21.com/>
2. <https://ischools.org/>
3. [www.fbe.hku.hk/about-us/mission-and-vision](http://www.fbe.hku.hk/about-us/mission-and-vision)

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