Wee Kim Wee School of Communication and Information

Critical Inquiry in
Information Needs and Behaviors of Students using Smart Phone and Tablet for Learning: A Case in Singapore

Proposal

Submitted By

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Course Name:	**Critical Inquiry**
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RESEARCH PROPOSAL

Research Topic: Information Needs and behaviours of students using smartphones and tablets for learning: A case in Singapore

1. AIMS OF THE RESEARCH

The study aims to provide an understanding of the information needs, usage pattern, perception and limitation of students using smart phone and tablet for either formal learning or casual learning.

2. BACKGROUD TO THE RESEARCH

In Singapore, as of October 2013, for mobile subscriptions, there were 1190.5 thousand 2G subscribers, 5466.6 thousand 3G subscribers and 1687.2 thousand 4G subscribers (Department of Statistics Singapore, 2013). For wireless usage, there were 9093.0 thousand users. The mobile phone penetration increased gradually from 60% to 140% between 2001 and 2012. Sohn et al (2008) found that 40% of respondent addressed their daily information needs by the use of internet access (30% web access and 10% online maps). The research also found that the reason why respondents addressed their information needs later (32%) and not addressed the needs (23%) is because of the internet access unavailability. Presently, mobile devices such as smart phone and tablets have not been used solely for communication but also as impressive data transferring and processing tools. This trend is enormously changing our daily lives including our learning behavior and norms. With the increasing usage of smartphones and tablets and easy access to an internet connection in any location at any time, it is convenient to perform mobile information seeking for both formal and casual learning. Many educational professional, technology researchers, teacher, students, and mobile devices users have started to accept the potential benefits of using mobile devices for learning due to portability, mobility and effective communication ability of such devices. Mobility and connectivity of mobile devices are the primary motivation factor to utilize mobile learning for students across different environments (Looi et al., 2010). As a consequence, there is a common expectation within learners to apply mobile technology of effective learning environment (Lan and Huang, 2012) by using mobile devices. For instance, Valk, Rashid, and Elder (2010) demonstrated how mobile phone-facilitated learning can give students in developing countries increased access to educational materials and services, particularly in rural and remote regions. Today, different kind portable devices can enhance and support traditional learning mode by making portable and accessible and providing various function such as access to information, provide on-the-job support and,

education and references, deliver coaching and mentoring, deliver podcasts, update alerts, forms and checklists ,conduct assessments and evaluations (Judy & David, 2008). The availability of information on the Internet, access to databases and academic courses available on demand from mobile devices, is changing the extent, the activities, and the timing of learning interactions (García-Peñalvo, de Figuerola, and Merlo, 2010). Indeed, mobile learning is an extension of the distance learning utilizing mobile devices and wireless technologies. However, different form with traditional learning nature and it is an emerging learning model, and as consequence, it requires new forms of teaching methodology, learning, contents, and dynamics scenario between actors (Preira and Rodrigues, 2013). Therefore, it is an interesting issue in educational environment about the perception, the information needs and behaviors of people using mobile devices for learning purpose.

3. OBJECTIVES OF THE RESEARCH

The main objective of the research is to explore the practices and behaviour of students especially in information seeking for both formal and casual learning purpose which includes surveying the kinds of information that the students used to access (strategies) and the way they seek learning information (actions) and their preferences and limitation in exploring the learning resources (feeling and thought) in order to capture the position and direction of mobile technology in education area in order to create effective learning environment. Therefore, the main research questions that will be solved in this research in order to implement the objective of the research are:
- How much dependability on mobile devices by the students for both formal and casual learning?
- What are their usage pattern, the perceived preferences and limitation of students who used mobile devices for learning?

4. STATEMENT OF THE PROBLEM AND JUSTIFICATION

It is an interesting issue that how the blooming mobile technology will affect the learning style of people and what is the future trend of people's learning fashion. According to the Global Mobile Statistics from mobilethinking.com, the main usages that people mostly use their mobile phone are for connecting media, messaging, accessing entertainment/social media, accessing financial services, accessed news, sports, weather, search, retail travel and references. Furthermore, The Mobile Economy 2013 report form GSMA stated that UK smart phone users spend most of their time by browsing the internet and checking social network. Furthermore, Global Mobile thinking Report also stated that the top information people searching via mobile devices are about

restaurant, automotive, Consumer electronics, finance and insurance, beauty and personal. Although the previous researches (that was described in earlier section) on mobile learning showed that mobile technology as an effective technology to foster learning, by analyzing the statistics of mobile devices usage from the survey of MobileThinking and GSMA, it is obvious that people used mobile devices for learning purpose in a few percentages. It becomes interesting problem that why people don't reply much on mobile device for learning. Therefore, some investigation are needed to examine the perception of people on mobile devices for learning purpose that is important to confirm whether mobile technology can be effectively utilized to extend education in future or not. Therefore, it is important to know the influences of mobile learning in both formal and casual learning of people in order to capture the future trend of learning and set out the flexible learning framework that can motivate people for learning. To solve the problem of designing flexible learning framework for the future, we have decided to conduct research about the information needs and students' behavior of information seeking for learning by using mobile devices.

5. LITERATURE REVIEW

Information seeking can be defined as the process of fulfilling information as a need for certain goal which could be done by manual systems (library and newspaper) or computer-based systems (internet) (Wilson, 2000). Information seeking behaviour can be investigated using Information Search Process model which consist of a six stage process namely initiation, selection, exploration, formulation, collection and search closure (Kuhlthau, 1993).

Formal learning defined as learning process that took place in the school environment and the outcome of this process is a qualification whether degree or certification (Lai et al, 2013). Formal learning on mobile device refers to mobile application which could support the learning process in the school. Students could access the application for school purpose, such as download learning materials, post a discussion, and upload assignment. NTU have this kind of application called mLearn which could perform online collaborative learning on mobile device. The app has features such as a course management system in which students can seek for information regarding courses that students are taking in the semester.

Casual learning is not the same as formal leaning which have some straight guidelines about its information and how could be retrieved. Casual learning on mobile device refers to all activities to retrieve all kind of information for personal purpose. Information on mobile device could be retrieved from mobile application (weather app, financial app, and sport app), search engine, news portal, social media (Facebook, Twitter, and Youtube), and e-book. The information may

not be relevant to formal learning purpose, but it still useful for individual purpose. This casual learning could be defined as Everyday-Life Information Seeking (ELIS). ELIS concept was introduced by Savolainen (1995) which refers to information seeking for the way of life and mastery of life. In this context, the way of life means how the information could help someone managed their life. The mastery of life means how the information could help someone solve his/her problem.

Formal and casual learning might be used for school learning purpose. There is a third-space that made as the gap between casual (out-of-school) knowledge and school curriculum (Maniotes, 2005).This gap could be defined as student perception or everyday-life knowledge. Technology like mobile device could help the collaboration of formal and casual learning in supporting school learning (Lai et al, 2013). Lai et al (2013) explained that each application which used for general purpose could be defined as casual learning application. Application that could be the bridge between formal and casual learning are collaboration (Google apps), coordination (Twitter), and communication (Skype, Google hangout, and Facebook) application. In those applications, there is information seeking process to fulfilled information needs.

Information seeking for formal and casual learning could be done by using mobile devices such as smartphone and tablet. Information seeking, information sharing and mobile access could be used as bridges between formal and casual learning that enables casual learning knowledge as a complimentary to formal learning knowledge (Mills et al, 2008). Information seeking for formal and casual learning purpose could be done by accessing information on mobile Social Networking Sites (SNS) (Sin & Kim, 2013;Evans et al, 2010; Counts & Fisher, 2010). There are some information found in mobile SNS such as articles, thought, comment, status, live report, and photos.   In formal learning, Wang et al (2009) found that the most discussed information on the system is the information and discussion about course content. The information needs and behaviour will be discussed in this research to find out more about information seeking for formal and casual learning.

6. IMPLICATION/ BENEFIT

When developing the mobile learning app, it is crucial to know about the behaviour and preferences of the students. Therefore, the research is focusing on investigating the information needs and seeking behaviours of students for both formal and informal learning from mobile devices. The information that were collect and analyzed through the research include the category of information that students needed, the information source where students get the information they wanted, the way they seek those learning materials and learning resources,

affordance and perception such as student's thought and feeling through the learning process and the limitations for assessing the resources for mobile devices. This information will be greatly helpful for designing the effective mobile learning application and thinking for the learning framework and consequently beneficial for education professionals, application developers and technology researcher. In addition, the results of this research would be useful in selecting media and procedure for important information dissemination on smartphone and tablet device. Thus the information hopefully would be effectively and efficiently retrieved by everyone.

7. PROPOSED METHODOLOGY

The study uses a data collection approach that is by conducting an email or paper based survey and targeted at NTU postgraduate students. The survey primarily serves as a purpose to retrieve data regarding three aspects. The first aspect will be to identify what are students' needs in seeking learning information from mobile devices which consist of students' reasons for learning in which learning could be either formal or casual, the usage rate of mobile information seeking, the information sources used and information type or category. The second aspect will be to understand how students explore learning resources. The third aspect will be to analyse students' perceptions in using mobile devices for learning which consist of usability issues and limitations encountered.

The questionnaire will consist of two sections. In the first section, the focus will be on identification of students' needs in mobile learning and understanding behaviour of students' who use mobile learning based on students' responses.

The second section focus will be identification of usability issues and limitations encountered by students when they use mobile learning.

8. RESEARCH SCHEDULE

The following table describes our proposed schedule for this research.

Task Name	Duration
Literature Review & Preparing for Proposal	*17 days*
Draft topic selection	days
Revised and discuss with supervisor	1 day
Submission of CI project title and submission form	7 days
Proposal submission	6 days
Collection and analysis of data	*40 days*

Focus Group Meetings	7 days
Draft and prepare survey question	10 days
Revised and discuss with supervisor	3 days
Submission of IRB form	5 days
Conduct Survey	5 days
Analyse and interpret the collected data	15 day
Plan to meet with supervisor	1 day
Critical Inquiry report preparation	*30 days*
Draft report findings	11 days
Refine & report findings to discuss with supervisor	1 day
Draft report submission	2 days
Revise report	10 days
Pre report submission	7 days
Presentation preparation	*20 days*
Prepare presentation	5 days
Presentation of report	1 day
Final report submission	**14 days**

9. DISSEMINATION OF RESULT

The results will be disseminated in a number of ways:

- Final Report
- Presentation slides

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