LEARNING IN DIFFERENT CONTEXTS: INDONESIAN STUDENTS’ USE OF ICT IN AUSTRALIAN UNIVERSITIES

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ABSTRACT

As new technologies insinuate themselves into educational settings, there is increasing interest in better understanding their impact on pedagogy and learning activities. Recent information communication technologies have been widely used to facilitate and enhance learning environments for academics and students. By drawing on the literature of education, communication and technology, this chapter describes findings from research investigating Indonesian students’ use of technologies in Australian universities and the impact these have on their learning, study habits and practices. Using a questionnaire and follow-up in-depth interviews with 10 purposively selected participants, data were gathered from 94 Indonesian students enrolled in higher education. The findings document students’ Internet usage for academic purposes, frequency and type of online activities, frequency and category of websites visits, their use of online discussion fora and e-mails, examination preparation strategies, and their level of confidence in using the Internet. This chapter provides empirical evidence of the impact of ICT, including the Internet, on students’ learning. It shows that student practices are influenced by their experiences, needs and motivations both in the past in Indonesia and at the time of their study in Australia.

INTRODUCTION

The Republic of Indonesia is an archipelago between the Indian Ocean and the Pacific Ocean with a population of over 240 million people. As in many Asian countries, there has been a rapid increase in the number of Internet users from approximately 2 million in 2000 to
20 million in 2007 and by 2010, 30 million users. The number of Internet users in Indonesia is relatively low when compared to the size of the general population, although it increased from 8.9% in 2007 to 12.3% in 2010 (Internet World Stats, 2011). When compared with Australia, there are differences between the two countries in terms of Internet access and usage. Australia, Indonesia’s nearest neighbour, with a population of over 21 million people in 2010, had 17 million Internet users. The speed of uptake in Australia been equally rapid, in 2000 Australia had 6.6 million users, by 2007 that figure had risen to 14.7 million. Over seventy percent of the population were Internet users in 2007 and the penetration rate was 80.1% in 2010 (Internet World Stats, 2011).

These differences between Indonesia and Australia influence the practises of Information Communication Technology (ICT) in the educational sector in the two countries, resulting in different learning environments, teaching and learning processes, and student-lecturer means of communicating. In Australia, academics have a free Internet connection and are able to communicate via e-mail with their students and colleagues on a daily basis. Course learning materials are often discussed through online discussion fora and students are able to ask their lecturers questions at anytime. By contrast in Indonesia, communication is more likely to be conducted face-to-face in the classroom. Teaching-learning activities tend to be located on campus and the communication among students often occurs through face-to-face interaction or by using mobile phones rather than e-mail and online discussion fora.

**INDONESIAN STUDENTS IN AUSTRALIA**

Higher education has the largest number of international student enrolments in Australia and has been increasing every year at least until 2010 (Australian Education International, 2009). Australian tertiary education institutions are popular destination among Indonesians students. In 2007, 7,968 Indonesian students were enrolled in Australian higher education institutions with Victorian-based universities being the second most popular destination (Australian Education International, 2008a, 2008b).

There are different learning perspectives in relation to higher education in Indonesia and Australia. Indonesian universities tend to adopt what Knowles (1990, pp. 209-211) has called a *reactive way of learning*. In this context, the lecturer gives instruction for learning in a classroom, and then students are required to give respect for the authority of the teacher, and be dedicated to learning as a means to an end such as obtaining a degree. This situation in classrooms encourages students to be dependent on the teacher and to develop competitive relationships with their fellow students. For instance, the lecturer ranks students based on their academic achievements in class and the students who obtain the highest academic results will be announced at the end of the academic year. In general, students are required to have several skills such as the ability to listen, learn the material, retain information, take notes and predict examination questions.

By contrast, Australian universities tend to adopt what Knowles (1990, pp. 209-211) has identified as a *proactive way of learning*. In this learning style students are encouraged to demonstrate intellectual curiosity, a spirit of investigation, and obtain other resources, not just the materials provided by their lecturers. Students are also encouraged to think critically and to be concerned about the reliability and validity of the content. Learning is viewed as a
developmental process with students expected to widen collaborative relationships with their colleagues and to have a commitment to their own learning. Students often find support to learn from their mistakes and develop skills in self-regulation and self-direction.

**USING THE INTERNET FOR LEARNING IN HIGHER EDUCATION**

As new technologies appear in educational settings, there is always an interest in discovering their significance to pedagogical and learning activities (Barron, 2004). A significant number of Internet research studies have been conducted in university contexts. Exposure to the Internet and gender has been shown to influence certain categories of Internet usage among U.S. college students (Cotten and Jelenewicz, 2006). While a survey of Korean college students revealed that students’ motivations for using the Internet may influence them to be more dependent on this medium for social interaction (Choi, Jarzabek, Song and La, 2001). Similarly, a research study in the United States found that college students who were heavier Internet users negatively impacted their academic performance (Kubey, Lavin, and Barrows, 2001).

The rapid development of technologies has had impacts on teaching learning processes. Social scientists have explored the use of ICT across a range of subjects, such as in university education (Akroyd, Jaeger, Jackowski, and Jones, 2004; Barraket and Scott, 2001), online courses (Arbaugh and Hwang, 2006; Belawati, 2005), online libraries (MacAuley, 1997; Schwartz, 2002), the effectiveness of university Web sites (Alexander, 2005) and academics’ Internet usage (Applebee, Clayton, and Pascoe, 1996, 1997), while others have focused on the Internet as a teaching-learning tool (Anderson, Noyes, and Garland, 1999; Bermejo, 2005; Hemenway, 2000; Jackson, 2003) and in interactive learning situation (McIntyre and Wolff, 1998). When these studies were conducted, students’ devices for learning were mainly in the form of the personal computer, laptop, mobile phone, and printed books. Recently, the iPad and netbook have become popular and relatively affordable, allowing students to save e-books, articles, and to create personal libraries.

**THE PRESENT STUDY**

In terms of the use of information and communication technology for learning at the university level, there are contrasts between Indonesia and Australia. International students of Indonesian origin in Australian universities need to rapidly adjust to using these new technologies in teaching-learning activities. There are some gaps in recent research about Internet usage in a higher education context, especially among international students at Australian universities. Prior researchers have focused on Internet usage in classrooms or as a teaching tool, but not in relation to students’ experiences of using these new technologies. Those studies have investigated the technological features and descriptive use of the Internet, but not the social aspects or the impact of the Internet on its users. This chapter addresses the following questions: (1) How do Indonesian students use the ICTs for academic purposes in Australia? (2) What are their online activities? (3) How do they utilise the Internet to
communicate with lecturers? (4) To what extent has Internet usage contributed to their learning practices?

This chapter contributes to understanding international students, particularly those from a country with different learning contexts, who are studying in Australian universities. The findings are of value to prospective international students, academics and student advisors who wish to understand international students’ learning experiences in Australia where there is widespread use of learning technologies in the delivery of higher education.

METHOD

Participants and Settings

This study implemented a mixed method approach by integrating quantitative and qualitative data derived from questionnaires and in-depth interviews. Ninety four Indonesian students at Victorian-based universities participated in the survey, with their profiles as follows.

Before departing for Australia, most of the participants resided in cities (57.4%), suburbs (40.4%), and small cities (2.1%) in various areas of Indonesia covering the big islands of Java, Sumatera, Sulawesi, Bali, Kalimantan and Papua. More than half of the participants who lived in the city and suburbs had home Internet access (61.1% and 63.2% respectively) with 61.7% of total participants having Internet access at home in Indonesia. Almost half of the participants (46.8%) arrived in Australia between six months and one year prior to the time of the survey. A further 36.2% of participants had been staying in Australia for between one and two years, and 17.0% had been living in the country for more than two years. Qualitative data from in-depth interviews with ten students coming from different parts of Indonesia provided further details about their experiences.

<table>
<thead>
<tr>
<th>Table 1. Demographic Profiles of Participants</th>
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<tr>
<td>Category</td>
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<tr>
<td>Age group</td>
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<td>17-22</td>
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<td>29-34</td>
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<tr>
<td>35-48</td>
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<tr>
<td>Gender</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Level of study</td>
</tr>
<tr>
<td>Undergraduate</td>
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<tr>
<td>Postgraduate</td>
</tr>
<tr>
<td>Study funding</td>
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<tr>
<td>Work sponsored</td>
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<tr>
<td>Self-funded</td>
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<tr>
<td>Family funded</td>
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<tr>
<td>Scholarship</td>
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</table>

Note. N: Number of participants; N=94.
MEASURES

Internet usage is defined as the total number of hours spent using the Internet for academic activities both in a typical weekday and in a typical weekend day. Academic activities include downloading online journal articles, reading online resources, having contact with lecturers or tutors and supervisors. A series of questions asked about students’ online activities, such as sending and reading e-mails, looking for information related to study, using Internet news groups, chat rooms, instant messaging, bulletin boards, finding information on careers and further education, participating in educational courses or online lessons. Another question concerned different Web sites visited during a two week period such as students’ universities, other universities, library (academic journals, academic articles, any databases related to their study), search engines (e.g. Google, Yahoo!, Ask.com, Altavista), and exam related sites. Survey questions were adapted from the following: UK Children Go Online and Young People and New Media in UK (Livingstone and Bober, 2004; Livingstone and Bovill, 1999). Some original questions were adjusted to make them more relevant to the Internet usage of higher education students. The questionnaire was followed by in-depth interviews with selected participants. The interview questions covered the students’ most frequent online activities, the most frequently visited Web sites, their main Internet access point or the first Web site that appears when they connect to the Internet.

Some questions specifically asked about students’ learning related to their Internet usage, such as their opinions about the positive and negative impact of using the Internet for learning, how they used the Internet to prepare for examinations or undertake research activities, what was the most important source of information in support their learning, their online communication using e-mail with lecturers and online discussion groups, and their views regarding the trustworthiness of information found on the Internet.

PROCEDURE

Before initiation of the study, ethics approval was obtained from the Standing Committee on Ethics in Research Involving Humans (SCERH) at Monash University. Quantitative data were collected in Melbourne, June to August 2007. At the end of the questionnaire, participants were invited to take part in a follow-up interview.

Those who indicated a willingness to participate were selected based on the region of Indonesia in which they resided before coming to Melbourne for further education. Qualitative data were collected during September and October 2007.

RESULTS

Students’ Internet Usage

While studying in Australian universities, more than one third of the participants (38.3%) spent 3-5 hours on a typical weekday using the Internet for academic reasons, a slightly lower percentage (33.0%) spent 1-3 hours, a further 18.1% used the Internet more than 5 hours and
only 10.6% had less than 1 hour of use. The majority of the participants (38.3%) spent less than 1 hour for academic tasks during a weekend day, a further 30.9% had 1-3 hours of use, a further 20.2% had 3-5 hours and the remaining 10.6% used the Internet for more than five hours.

Online Activities

The question designed to measure online activities was ‘during the last two weeks, how often have you used the Internet to...’ with the most popular activity being to send or read e-mails. Most participants (40.4%) used e-mail more than 40 times during the two week period of the survey. A further 30.9% used e-mail between 6-20 times within the same period. The next most frequent activity was looking for information related to study where 40.4% of the participants engaged in this activity for between 6-20 times and a further 28.7% used the Internet for this purpose over 40 times. However, other online activities for which participants accessed the Internet for less than 5 times during the two weeks included searching for information on career or further education (79.8%), participating in online courses (84.0%), searching for information about computers or programming (87.2%).

In examining the relationships between the level of study and online activities, there was no significant association between postgraduate and undergraduate participants in relation to sending/reading e-mail, looking for information related to study, looking for careers or further education, participating in educational courses or online lessons. Chi-square tests for independence revealed significant differences between postgraduate and undergraduate participants in terms of using the Internet for group communication, such as participating in news groups, chat rooms, instant messages and bulletin boards \[\chi^2 (3, N=94) = 10.253, p = .017\]. The majority of undergraduate participants used online news group, chat rooms and instant messages between 6-20 times and 21-40 times, while most of the postgraduate participants fell into two groups, those who used these kinds of online group communications for less than 5 times or between 6-20 times in the nominated 2 week period.

From the in-depth interviews, it was found that the students had taken advantage of the Internet to support their academic activities, mainly because the lecturers had encouraged them to do so.

Now I'm studying reproductive science and most of the teachers [lecturers] use references from the Internet rather than books so the Internet is very useful for me. (Jennie)

For assignment, usually the lecturer gives the questions and references and we have to make arguments. So we need to know what other people say and we can find these using the Internet. We search the article under the same topics and then we compare and combine those arguments. (Kanti)

A male interviewee compared his university experiences when pursuing a Bachelor degree in Yogyakarta and taking a Masters level program in Melbourne.

Mostly for my study, because the university ... delivers all information using the Internet and they provides ... our private portal that leads us, at least once a day to check our e-mail. It is very different compared to Indonesia, where people still depend on written information so we need to find the information on the noticeboard, we need to go to the third floor or fourth
floor just to find the information on the noticeboard or share information with other friends, then confirm to administration desk ... also because the university provides online library, huge resources that allow us exploring any references. (Rudi)

Web Site Visits

The most popular Web site among Indonesian students was that of search engine with 39.4% having visited this category over 40 times in the nominated fortnight. The next most popular site visited by the participants was their own universities, with 35.1% visiting these sites between 21-40 times within the two week period.

<table>
<thead>
<tr>
<th>Category of Web site</th>
<th>0-5 times</th>
<th>6-20 times</th>
<th>21-40 times</th>
<th>&gt; 40 times</th>
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</thead>
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<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Own university</td>
<td>4</td>
<td>4.3</td>
<td>26</td>
<td>27.7</td>
</tr>
<tr>
<td>Other university</td>
<td>81</td>
<td>86.2</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>Library</td>
<td>12</td>
<td>12.8</td>
<td>29</td>
<td>30.9</td>
</tr>
<tr>
<td>Search engine</td>
<td>1</td>
<td>1.1</td>
<td>27</td>
<td>28.7</td>
</tr>
<tr>
<td>Exam preparation</td>
<td>59</td>
<td>62.8</td>
<td>22</td>
<td>23.4</td>
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Note. N=94.

Library Web sites were visited by 30.9% of the participants for between 6-20 times during the two weeks. However, the majority of the participants recorded visiting websites related to exam preparation (62.8%) for less than 5 times. This is not surprising given that examinations are not a regular activity throughout the semester. A chi-square test for independence did indicate a significant association between level of study and Library Web site visits [$\chi^2 (3, N=94) = 10.289, p = .016$].

The results further indicated that the majority of the postgraduate students (38.1%) looked at library Web sites more than 40 times during the two weeks, while most of the undergraduates (38.7%) visited them only 6-20 times within the same period. Approximately 37.2% of the Indonesian students in the study had looked at 11 - 30 different Web sites within the two week period.

A further 24.5% visited less than ten different sites, while around 20.2% of the survey participants had visited between 31-50 different Web sites, and the remaining 18.1% had visited more than 51.

In the in-depth interviews, the selected participants were questioned about the Web sites they had mostly looked at. Interestingly, the responses varied from academic to non-academic.

At least three interviewees mentioned one or two of the following sites: Yahoo!, Google, YouTube, and Wikipedia. Web sites related to e-mail and search engines were the most popular among the non-academic categories, while university and library Web sites were the students' most used academic related Web sites.
E-mail Activities

Participants were asked to give an approximate number of people they had sent e-mails to within the two weeks prior to the survey. Over half of the students in this study (54.3%) had e-mail interactions with less than twenty people, while the other 28.7% had contacts with between 21-50 people and 17.0% had e-mail communications with more than 51 individuals. Interestingly, some survey participants replied that they did not know exactly and were unable to recall the number of people contacted because they had joined several mailing lists, where one e-mail sent to reach hundreds or even thousands of people at the same time. They also noticed that people often forwarded other peoples’ e-mail to a number of email addresses without the sender’s permission.

Concerning the frequency of sending e-mails, similar patterns were reported: the majority had sent e-mails less than five times during two weeks prior to the survey, to lecturers or tutors (75.5%), university staff (92.6%), family living nearby (92.6%), family living far away (63.8%), friends living nearby (51.1%) and unknown people (87.2%) respectively. Given the circumstances of the participants as Indonesians studying abroad, it is not surprising that a slightly higher frequency was found for sending e-mails to friends living far away, with 42.6% of student participants sending between 6 to 20 emails in the nominated timeframe.

There were various opinions on the topic of the effectiveness of communicating online to support learning activities. Some of the interviewees shared their positive experiences in communicating with lecturers or tutors through e-mail as indicated by this undergraduate student who said:

Often I send an urgent e-mail and they send a quick response ... Face-to-face is the best, I think, but since everyone is busy it might be easier using e-mails. (Amy)

Similar responses were recorded for postgraduate students:

My supervisor prefers to have communication via e-mail rather than by phone or come to her office because her office is not in the same campus with me. And when I call her, sometimes she is not in her office. So I just write e-mail and she will reply as soon as she is available. She's very good in that. (Devi)

Because my supervisor has so many students, I think it's better to communicate via Internet. Like when I send my research analysis to supervisor via e-mail, then he make corrections and send it back to me via e-mail. Then I revise it, send it again to him. It's easier than read it in paper. (Vio)

On the other hand, some participants did not like to communicate by e-mail with their lecturers for a range of reasons, as noted in the following comments:

It’s better for me to meet them directly if I have something to discuss. If I write e-mails I don’t know whether my lecturer will understand my questions or not because I’m an international student. And about the answers, sometimes I find it difficult to understand their e-mails. (Kanti)

I prefer to look for information from my friends or to discuss my questions with my friends first before asking to lecturer. Also I often find everything is clear in the lecture because we can discuss anything in the lecture. (Siti)

Actually I sent one or two e-mails and they didn’t reply. Well, I think maybe they are very busy with a lot of PhD students. (Jennie)
If I use telephone, I’m not sure with my listening. If I use the Internet [e-mail], I feel not comfortable because I have to edit my words. (Rista)

Conversely, a Masters student expressed a positive view about using e-mail. As he discovered:

Yes, like updating the next week’s topic or the problem in the last week’s class. I found that the lecturers are pretty communicative and helpful to their students. E-mail is a very simple and useful way of communication. Everything [everyone] is comfortable using the Internet. (Rudi)

One PhD student confirmed that e-mail was useful, although it might not provide comprehensive information as she noted:

First of all because we [my supervisors and I] are physically not in the same floor ... so actually to find them, and the fact that they are not always in their room, they have teaching appointment or stuff like that, I found it more convenient to send e-mails, for example to set up appointments for meeting or ask something that I need a quick response ... but definitely I can’t use e-mail to find or get comprehensive information. I would prefer face to face communication. (Lidia)

Online Discussion Forum

An online discussion forum is often created and initiated by lecturers or course coordinators. For example, a group of students taking a specific subject may be able to meet online and access certain Web pages under the university’s Web site. Lecturers or tutors can upload learning materials and students are able to easily download materials and raise questions or leave comments concerned with that topic. Interestingly, most of the students interviewed did not actively participate in online discussion groups, as an undergraduate participant who rarely joined or participated in such groups explained:

Probably it’s easy to talk to the lecturer in class and a lot of friends are taking the same course as I am taking now. And sometimes I prefer to talk to them and to [the] lecturer directly without going to the online discussion forum. It’s just a habit. (Amy)

A Masters level student who also rarely engaged in online dialogue preferred face-to-face dialogue.

It is difficult for me to make conversation that will be understood by other people ... when we talk face to face, we can understand each other better or if we have questions we can directly ask. (Kanti)

Unlike the comment above, the following interviewees said that the topics for discussion were often either of no interest to them or cultural differences made for difficulties in understanding. For others, there was little to be gained by spending time in discussion group. Their topics are a quite different with what happen in Indonesia. So sometimes I couldn’t get the point of what they discuss. (Siti)
I join online discussion forum just to see what’s going on ... I just used that sort of information rather than engaged in discussion ... the topic so far is not something that I’m interested in. (Lidia)

Everything is clear discussed in class with our lecturer privately ... I don’t actively involved in online discussion, in general, because time is very precious for me. (Rudi)

One of the ten interviewees mentioned that her course did not include an online discussion forum for students.

We don’t have online discussion group in class. The students are very independent; usually they find references by themselves. (Jennie)

Possible explanations relating to the students’ Internet use and their leaning are discussed in the following section.

**Most Useful Study Resources**

Most of the undergraduate and the postgraduate participants alike selected the Internet as the most useful source of information for their study (58.1% of undergraduate, 46.0% of postgraduate respectively). However, there were different students’ choices for the following resources: the Bachelor students’ second preference was lecturers or tutors (22.6%), followed by books and friends (9.7% each). Among the Masters and PhD students, the second preference was books (27.0%), then lecturers or tutors (25.4%) and only one participant selected friends.

![Chart showing the most useful study resources by level of study](chart.png)

*Figure 1. Most useful study resources by level of study.*

Supporting the quantitative data, some interviewees had chosen the Internet because of the availability of online connections around them. It was perceived to provide the latest information compared to books.
Probably because I don’t have time to go to the library to borrow books, but with the Internet I can access it easily at home. No need to take shower and go to campus. (Amy)

Because the teachers mainly use online journals and we use books only for basic science, for example if I want to get new information about specific drugs. (Jennie)

Well, I think I depend on the library to get information about my assessment, my assignment and also the Internet to get the latest information about the topic that I want to discuss. (Siti)

A postgraduate student who selected her lecturers as the main source of information commented:

My course, risk management, is very new for me. Although I have many books as resources, the lecturers’ explanations are the most important source for me. (Kanti)

Some of the student participants preferred books rather than the Internet, lecturers or friends. The reason was related to the different content provided by those resources.

Because we can know the whole content, sometimes journal article on the Internet only gives short information or abstracts. (Rista)

We can read much information from books rather than online journal article. They have different sounds. Journals are mainly about research and have the same pattern, while books have more explanations about certain things. (Emma)

Another interviewee mistakenly observed that books were more reliable and had been academically peer reviewed:

Books have gone through to more a rigid review or peer review compare to the Internet … again depend on the sources because academic journals on the Internet have already gone through more rigid kind of review processes. But some information that people put in the Internet didn’t go through any review at all … if I really have to compare books and other sources like information from Web sites … I prefer using books. (Lidia)

This student complained about being uncomfortable using a computer and the Internet.

I don’t like to sit in front of the computer too long, especially my eyes is easy getting tired and my body is very easy to get tired. When I have books I can bring them anytime … I can read books everywhere. (Devi)

One Masters student, who was doing a minor thesis, explained that he found both the Internet and books important.

The latest information related to my study is available through the Internet. But in my field, we still using like, for example book of interview, which is published long time ago and it’s not provided by the Internet. So that kind of information which contains theoretical issues and could involve us more deeply into discussion which is come up into current debate and then we refer to that book. (Rudi)
Examination Preparation

The participants were asked to estimate their frequency of using the Internet and mobile phones for examination preparation with seven response options from never (1) to always (7). Because of the small number of PhD students in this study, who did not have examinations or tests, ‘no exams’ category was added. However, only two of the seven PhD students in this study put themselves in the ‘no exam’ category. The other five filled out the exam preparations question.

The findings reported that 37.2% of the participants always searched for additional references from the Internet. Nearly one quarter quite often asked lecturers via e-mail and another one quarter also frequently talked to friends using mobile phones. In addition, a slightly higher percentage (28.7%) had often sent text message to friends. Confirming previous results about joining online discussion groups, one quarter of the survey participants had never participated, although the other 20.2% were moderately involved in this activity (rated 4 of 7). This issue is taken up in the discussion.

![Graph showing exam preparations frequency](image)

**Figure 2.** Frequency of exam preparations.

The Impact of Using the Internet for Learning

During the in-depth interviews, the students’ perspectives of the advantages and disadvantages of Internet usage to their learning were investigated. Having experience in
browsing the Internet might also be positive for specific subjects. This undergraduate student clarified that her Internet skills had made it easier to achieve a good result.

Because I browse the Internet quite often ... I implemented my Web site design skills and my assignment for managing the information system got a good grade. (Amy)

On the other hand, the Internet may also have negative aspects on learning activities. A few interviewees expressed concern with the reliability of online references. At least two female students were wisely concerned about the trustworthiness of Wikipedia.

The Wikipedia is one thing as a non-reliable academic source ... I don’t really know. (Amy)

Sometimes I get difficulties in determining whether the Web sites are reliable or not because there are so many blogs, Wikipedia and other Web sites. (Siti)

Other postgraduate students preferred getting references from the library and warned others to not simply trust any online information:

I haven’t found any negative sides because I use references from the library and I don’t use, for example, Google Scholars. (Rudi)

If you open the Web sites, not scholarly Web sites, of course you cannot trust their papers. (Jennie)

Further, a PhD student raised the issue of plagiarism and proper academic practices in using sources when writing:

It depends on the way people use it ... people taking information from the Internet without actually quoting them so they did plagiarism. So I think it can be abuse or misuse but I don’t think it has any direct negative impacts. Perhaps how users be educated to properly announce the resources. (Lidia)

Moreover, this same student expressed concerns that the Internet had the potential to limit her ability to socialise with others and to communicate face-to-face with friends.

Physically, for me it’s very tired to sit in front of computers for several hours ... Psychologically ... it makes my world a bit not so social because I don’t meet other people when I’m doing my research and focus on the Internet and computer ... limits my time or opportunity to have discussion, real discussion, face-to-face with friends because we can do it by [using] the Internet. (Devi)

Another interesting issue was related to Internet addiction and like the potential for distraction, as two students reported below:

Because I use the Internet a lot, I forgot so many good books in the library that I can access. Not all good books they put in the Internet. It would be bad for academics if the Internet makes us get addicted. (Vio)

Sometimes ... I tempted to browse for shopping, downloading music ... and others. (Emma)
In the questionnaire, the participants’ confidence of using the Internet was also investigated. Over half of the undergraduates in this study reported themselves as advanced Internet users (61.3%), the another 32.3% rated themselves as average users, one participant claimed to be a beginner and another declared herself an expert user. However, among the group of postgraduate students, the majority considered themselves as average users (52.4%), with a further 44.4% looking upon themselves as advanced users, with just 2 students categorising themselves as beginners.

In investigating the students’ use of information on the Internet, the participants were asked, “Do you trust the information on the Internet?” and “How to decide whether the information is reliable or not?” Although Yahoo! and Google were the most popular non-academic Web sites visited by the participants, at least three of the ten interviewees commented negatively on Wikipedia, Google and Yahoo! as being less reliable sites:

I always open certain Web sites such as university Web sites or medical databases. I never find articles from Google. (Jennie)

I have the list of academic search engine and I never trust Yahoo! … look for information or academic article you have to make sure the Web site is ‘org’ or ‘edu’ … using Google or Yahoo! is wasting time. (Vio)

Vio’s comment suggests that she may have had some instruction on how to assess the reliability of Web sites. Other interviewees were confident that they had done the right thing by searching for online references from the university or library Web sites.

First, I look for the relevant topics, then background of the authors, then the sources or databases. Usually [I trust] journal articles [which] have already peer reviewed. (Kanti)

Usually I browse articles and when I have already got information about these articles, I use library, electronic journals from the library. Then I think that it’s reliable. (Siti)

Alternatively, they combined the use of search engines with the university’s library sites, as this Masters student noted:

First I use the resources from university library and I also trust big databases providers such as Proquest. In a case where I have to find other resources or articles using Google or Metascholar or other search engines, then I track on the Web site owner and the author as well. If there’s any information about the author, such as professor at what university, then I can trust the information. (Rudi)

Two PhD students indicated that they always checked the references or trusted certain Web sites such as international organisations and well known newspapers.

It is important to do triangulation … always try to find another source to confirm whether this information is correct. (Lidia)

I prefer to open the resource from international organisations Web sites or newspaper because we know who write the information. If we have comments or concerns we can always contact them for clarification or ask some more information. (Devi)
DISCUSSION

The quantitative findings revealed that over one third of the participants (38.3%) spent three to five hours on a typical weekday for using the Internet for academic purposes and a slightly smaller proportion (33.0%) had spent one to three hours on the Internet for the same reasons. This is perhaps not unexpected considering that the participants were university students and the questionnaires were distributed during an academic semester to ensure that all of the students were studying and not on a semester break. The demographic detail shows that a majority of participants had home Internet access before coming to Australia. Although they had familiarity with the Internet, it was not necessarily used for pedagogical or learning experiences. As one interviewee stated, her Internet usage had increased since studying in Australia, and it is likely that this would happen for other Indonesian students as well. Access and availability of the Internet in Australia and free access on campus and relatively cheap connections at home made for conditions that quickly alter behaviours. The convenience of the location and good quality connections, especially broadband, influenced the students to use the Internet for a range of activities not possible in relation to their previous learning. They used the Internet for academic purposes such as searching for online references, downloading journals, reading electronic books, communicating with lecturers, tutors and classmates.

The Pew Internet and American Life Project in 2002 found that college students are early adopters and heavy users of the Internet. Compared to the general population, this group more often engaged in online activities such as checking e-mail, using multiple e-mail addresses and instant messaging, downloading music and browsing for entertainment purposes. The Internet enhanced their communication with friends and family (Jones, 2002), and they often go to the Internet first to seek personal, academic, or professional information (Weiler, 2005). All of these findings add support to Rice's claim (2001) that university students tend to be more literate, creative and socially skilled because of their early familiarity with the Internet. These findings are largely supported by the study reported in this chapter.

An interesting finding was that the majority of the survey participants (40.4%) were involved in e-mail activities for more than 40 times during the two weeks prior to the survey, but most of the students (75.5%) had sent e-mails fewer than five times to lecturers or tutors during the same period. Additionally, the majority (92.6%) had never or less than five times sent e-mail to university staff. Their most popular group to which e-mails were sent was to distant friends with 42.6% of the students sending e-mails to such addresses between 6 to 20 times within the two week period before the survey. A slightly smaller percentage (38.3%) of participants sent e-mails to their friends nearby for between 6 to 20 times within the two week period. Considering that the survey was conducted during a teaching semester and presumably the students needed to be in touch with their lecturers or tutors, it is of interest that students preferred to maintain contact with their friends rather than with their lecturers.

Interviews revealed that some students had positive experiences in sending e-mails to their lecturers or supervisors, but others were not enthusiastic about contacting their academics through e-mail. The students, who corresponded via e-mail, were mostly postgraduates doing research who needed to communicate regularly with their supervisors. They understood that their supervisors were located in different buildings or campuses and
were often busy with teaching or other commitments. Consequently, the students realised that sending an e-mail was a convenient way of maintaining contact with university staff.

Those who rarely sent e-mails to lecturers had various reasons for not doing so. For example, they had no questions to ask, and even if they needed to clarify the learning materials they preferred asking friends first rather than sending e-mails to their lecturers. One student said that she had once sent an e-mail to her lecturer but did not receive a reply so she did not feel that e-mail was a reliable way of maintaining contact with her lecturer and was reluctant to send her lecturer anymore emails. Another two interviewees found difficulties in writing e-mails and understanding the lecturers' feedback, and they were also not confident with their English skills. This evidence confirms findings by Novera (2004) that Indonesian postgraduate students in Australia encountered two main problems: i) the use of academic English in Australia and, ii) Australian academic requirements at the university level, which are very different to those in Indonesia. The students had completely different learning contexts and limited use of technologies for academic purposes. However, there is evidence in the study that the students were aware of their difficulties and adjusted themselves to fulfill Australian academic requirements.

Compared to the postgraduates, undergraduates in this study had a higher frequency of communicating online via newsgroups, chat rooms, instant messages and bulletin boards. It was reasonable to expect these kinds of relationships given that the majority of the postgraduate participants were mature-age students and some were accompanied by their families in Australia. Perhaps the undergraduates in this study, who were often unmarried and without accompanying family, had a greater need to communicate with their family and friends in their home country, rather than the postgraduates who were accompanied by their immediate family in Australia. There may also be a generational difference in that younger undergraduate students were more engaged with new technologies.

Concerning the students' academic online activities, the majority had looked for information related to their study more than six times, but most had participated in online lessons for less than five times within the two weeks prior to the survey. The lower frequency of participation in online courses might have been related to the status of those participants as on campus students, who can attend classes rather than learn individually using the Internet. It is predictable that they had a higher frequency of searching for information related to study because their lecturers often asked them to do so.

Furthermore, it seems mailing lists were more popular compared to blogs and related activities. Given that these data were gathered in 2007 these findings are unlikely to be the same now that blogging, Twitter and Facebook have developed rapidly in recent years. There were a number of Indonesian students' mailing lists in Melbourne, and these have been developed based on Indonesian students' organisations with branches based in each State and universities, and affiliated with various social and religious groups. These mailing lists were popular with participants because of the ease of creating a mailing list by registering an e-mail account, with some students actively involved in becoming a moderator of some of the mailing lists. Participants preferred to communicate through mailing lists so as to distribute information related to their group. Most of the interviewees had joined mailing lists based on their interests, including for study group purposes. Those students supported each other's learning processes through the mailing lists by sharing information. For instance, when the students needed a reference, or a book, or a computer program related to their subject matter, they asked their friends through a mailing lists and often received quick responses. This type
of mailing list is quite different from online discussion groups, which tend to be more formal and are often organised by lecturers or tutors. In many ways, these mailing lists functioned as a social networking site with a specific purpose.

Most of the interviewees had found that the friendship based mailing lists were useful for learning processes. In contrast, this is not the case with online discussion groups. Although discussion groups are often seen as an effective means of communication to support teaching and learning activities particularly for off-campus students, a majority of the participants had rarely participated in online discussion groups. Ideally lecturers upload instructions and materials onto the discussion forum for a particular unit and students download those files and post questions or topics for discussion. Participants in the study did not engage in posting questions or contributing to a discussion thread. There were reasons why the students were not actively involved in the online discussion groups. Some of them preferred to talk to their friends first or to ask their lecturer directly in class, and often they had no questions to ask. In addition, participants were often not interested in the topics for discussion, although they might follow the dialogue among members without actively participating or posting comments.

A further investigation into the students’ online activities was about their favourite Web sites and the number of sites visited by the participants. The study revealed that search engines were the most popular Web sites, with nearly 40% of participants visiting this type of site on more than 40 occasions during the two weeks prior to the survey. The qualitative data confirmed these findings. At least three of the ten interviewees stated that they had used Google more frequently compared to other sites, with the second most popular site being the students’ own university Web site. A third of the survey participants had looked at these sites more than 40 times within the two week period. The university’s library site was their third favourite, with nearly thirty percent of the students viewing this site over 40 times in the nominated time period. An explanation for this finding is that they had to log in to the university and the library Web sites on a daily basis, and therefore had a high frequency of visits to these sites.

It was found that the postgraduates in this study had visited their university’s library more often compared to the undergraduates. It is likely that the postgraduates were required to work more independently and were reading more references compared to the undergraduates. Furthermore, some of the postgraduates in this study were also doing research, so that they needed to find literature related to their research topics. By contrast, the undergraduate students often received study materials from their lecturers or tutors and were more engaged in class discussion with little independent research or reading.

Concerning the participants’ home page, or the first Web page that appeared when they connected to the Internet, their answers were Google, Yahoo! and their own university’s Web pages. This is similar to a study that investigated Internet users in the United States, and found that 21% of online users set a search engine home page such as Google as their home page and the others located Yahoo!, America Online or Microsoft Network (MSN) (Annenberg School for Communication, 2008). Compared to this larger study, the participants’ status as students appears to have influenced them in setting their university’s sites as their first home page. It also indicates that their academic online activities are a priority, and that checking such things as their e-mail accounts on the university Web site is done first before doing other online activities.
The majority of the students in this study agreed that the Internet is the most useful item to support their learning in Australia. This is not surprising because they were able to connect online easily on campus and at home, and to retrieve large volumes of content provided by the Internet. This was in contrast to their prior academic experiences in Indonesia where universities rarely provide students with access to the Internet or online technologies. After using the Internet quite often for academic purposes, participants had become more aware of using the Internet carefully and effectively. Moreover, they had searched for additional academic references on the Internet to support their study, because the lecturers had required them to do so.

Even though the majority had selected the Internet, a number of the interviewees still nominated books and their lecturers as their favourite sources of academic information. Those who preferred books clarified that the books provided more comprehensive and trustworthy content compared to the information on the Internet. From a different point of view, a postgraduate interviewee who chose lecturers as her most useful source of information observed that she liked the interactivity of learning between students and lecturers in the classroom. Learning from books is always one way communication, while learning activities in the classroom tend to be two way communication because the lecturers give details of the materials and the students have opportunities to raise questions or make comments. This learning process is useful especially when the subject is new for the students and they need more detailed explanation from the lecturers.

It is clear that the students’ earlier learning activities in Indonesia influenced their academic routines while studying in Australia at least initially. The students who preferred books and lecturers as the main source of information were those who had not used the Internet for learning previously in Indonesia, since a high-quality of Internet connection was not available at that time, their lecturers did not encourage them to use online references.

Concerning the participants’ knowledge about selecting academic references through the Internet, some interviewees claimed that they trusted the resources from the university libraries. Others also believed in the trustworthiness of the Web sites of international organisations. In addition, those students emphasised that they never trusted search engines (e.g., Google or Yahoo!) to find academic references, although these Web sites were found as the most popular non-academic sites among the participants. Undergraduate students tended to browse more Web sites for purposes other than academic. However, interviewees in this study were very critical about downloading online references. For example, to retrieve academic articles, they searched through database providers from the university library’s Web site. Whenever they wanted to get non-academic information, they looked using the search engines or just read on the Wikipedia, even though an interviewee pointed out that Wiki Web sites could not be trusted because anyone can post comments and edit other’s postings on this site. Most of them had searched online references and also downloaded journal articles or research papers to prepare for their exams during their study in Australia.

The participants’ learning experiences in Australia support Knowles’ (1990) categorisation as a proactive way of learning. The students needed to have intellectual curiosity, eagerness to investigate and find other resources given by the lecturers. They were required to think critically about the content of study materials. As one postgraduate interviewee noted, her lecturers often asked students to seek different arguments in the journal articles then write an analyses of these as their assignment. In contrast, students in Indonesian
universities have different ways of learning, as explained by Lewis (1997), who examined Indonesian students’ learning styles:

The profile of “Indonesian learner” ... an individual who is familiar with a range of instructional tasks and learning strategies but more importantly, an individual whose approaches have changed or are in transition. It would appear that while Authority-oriented modes of teaching/learning were predominant during secondary school, they are less important or residual in the contexts of private English course and/or higher education. The emergent learning styles in these later contexts are first and foremost concrete and communicative orientations, and to a lesser extent analytical and authority-oriented modes of learning. (p. 10)

It seems that Indonesian students in this study have succeeded in adjusting themselves to the new learning environment. Most of the participants did not make any negative comments concerning their learning experiences in Australian university, except that they might have become more dependent on using the Internet and the Internet had become part of their basic needs in Australia. They also expressed their excitement about learning in a new rich technological environment.

**CONCLUSION**

This chapter has documented Indonesian students’ ICT use for academic and non-academic purposes while studying in Australia and the extent to which the Internet has contributed to the students’ academic lives. The study supported previous research findings that e-mail communication was the students’ primary activity online. Interestingly, in Australia the participants tended to communicate via e-mail with their friends living overseas and nearby, but the majority reported they rarely sent e-mails to lecturers or tutors for various reasons. However, for those interviewees who did use e-mail, stated that they had good communication with their lecturers and supervisors.

Another interesting finding was that the student participants chose to join friendship-based mailing lists rather than be involved in an online discussion forums organised by their lecturers. The mailing lists were formed based on the students’ club, organisation, interest, hobby, religion, or living area. These online forums were useful to assisting them in learning, although not surprisingly the forums often discussed non-academic matters such as music, movies or news from Indonesia.

The data also suggest that over half of the survey participants agreed that the Internet had become their most useful study resource, although some of the interviewees choose books as well as the lecturers’ explanations in class. Additionally, their most popular activity in preparing for examinations was to find online resources. There were various opinions among the students with regard to the advantages and disadvantages of using the Internet for learning. Most of the interviewees noted the benefits, such as obtaining electronic journals, research articles and international reports, and implementing browsing skills for particular courses. On the other hand, nearly all of the interviewees claimed that they were able to avoid the potential negative impacts of using the Internet for learning, such as plagiarism and unreliable articles and Web sites. They recommended that other students search for academic
references using the university or library Web sites, as well as the sites of international and widely known organisations.

What is evidenced by this study is that the students experienced learning with technology as an active and incremental process during their study in Australia. They were required to be able to use the Internet to locate sources and to think critically about what they found. This is in stark contrast with the environment of their previous learning where such technologies have not yet impacted student learning in Higher Education. However, the study provides only an introductory exploration of a topic that needs further investigation. There is a need for further studies of students from overseas, and how they cope with the need to quickly learn new technology skills in a context that assumes high levels of autonomy and sophisticated skill development.

REFERENCES


