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Online Information Resources: Thai Students' Research in the Digital Culture

Taweesak Sangkapreecha[1] and Pataraporn Sangkapreecha[2]

This research aims to highlight the specific online information sources the students use to obtain information for their study. It not only analyses how the students navigate various types of sources on the internet but also explains how they respond to different types of problems that are raised. Undertaking this study with 21 postgraduate students, we did the focus group discussions as well as redesigned and further developed an online data capturing technique by mixing quantitative and qualitative approaches. This is a technique integrating a number of currently available online technologies, which normally exist in isolation; namely a social networking system, a proxy server, and an online real-time-supporting service. Altogether, these design innovations enabled us to collect contextual information during observational studies and follow-up on interesting subject matters raised by participants. We found that the key online information gateways and sources the students used to obtain the information for their studies are Google, Wikipedia, Weblogs and Academic and Government domains. Our argument has suggested that the students' attitude and value to the online information resources highlights important issues to do with economic and cultural capital (dis)advantage regarding Thai education culture in this digital age.

Keywords: *online information resources, students' internet research, digital culture*

[1] Lecturer, Interior Design Department, School of Fine and Applied Arts, Bangkok University, Thailand. Email: taweesak.s@bu.ac.th

[2] Assistant Professor, Broadcasting Department, School of Communication Arts, Bangkok University, Thailand.

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Introduction

The manner in which students search for information in Thailand has undergone significant changes in recent years. In the past, information seeking processes relied heavily on university libraries and the resources students found and used were published materials. How students approached research for a writing assignment is one comprehensive example: a student could be assigned a task to research some interesting issues from his/her lecturer, they would most likely travel to a library, search for books, journals, newspaper, etc., borrow and carry (many) books home and read them. Today, technologies of communication, especially the internet, have reshaped information searching, making it an easier and more convenient process. The process of searching for information in a library is now being replaced with a process of online information searching with search engines. It is possible for students to satisfy all their information-related requests with a single internet search engine that has the various resources of information all collapsed together. Looking for information becomes more holistic over the internet.

There is an increasing number of internet users in Thailand. The latest statistics reported that in 2009 approximately 18.3 million Thai people (population 65.5 million) are online (Internet Information Research, 2011, no page, published online). Although complete statistics are still unavailable, there is evidence that increasing online searching in Thailand has notably increased. The latest statistics as of January 2011 reported that search engines are widely used by Thai people as a gateway for searching for information and Google is the most popular search engine Thai people use (98.88%) (Government Information Technology Services, 2011, no page, published online). However, there is a dearth of Thai literature on the online searching phenomenon.

In our previous research, we explored the social connections between students and the other key actors from whom students ask for help and assistance concerning their online learning (Sangkapreecha and Sangkapreecha, 2011). This study will go further and explore how the students navigate the various types of sites/sources on the internet and explain how they respond to the problems that are raised when using different types of sites. It also analyzes how the students develop techniques to help them find materials given the size of the internet and the limited knowledge they

have about scholarly searching. In a manner similar to the emergence of the World Wide Web, students' study culture has become more integrated with and much more likely to be dictated by internet search engines. As such, student research culture has changed, and researchers need to develop an understanding that is much more complex than what can be seen on the surface.

This study employs Bourdieu's concept of cultural capital to frame an argument on the experiences of Thai students regarding structures of control that inherently limit and shape the way students approach searching for study purposes. According to Bourdieu (1986, p. 243), cultural capital can be conceptualized as "a form of power where knowledge and actions" that can be converted "under certain conditions into economic capital". The power exercised through cultural capital is a power to shape other people's lives through exclusion through a form of power relations. Bourdieu also suggested that what he called cultural capital should in fact be called *informational capital* (p. 243). In this study, students seek access to websites on the internet that include information and knowledge relevant to their field of study. The individual capacities of the students mean some students get better results in their searches (better quality information) and so perhaps get better results for their assignments. It is here that the cultural capital they hold intersects with the process of internet research and confers more cultural capital on them. Bourdieu's notion of cultural capital thus is important to this study.

How online searching processes are undertaken is often based on generalizations and usually the detail of what has gone on has escaped observation. It is also difficult to generalize about a process that varies so much across people, situations, and objects of interest. Further, so much of the process is aligned with or produced in relation to a person's culture. This study thus does not aim to make a generalization of the research findings. It, in fact, aims to present new knowledge, providing a greater attention to detail on student research culture and so enable us to move beyond the broad pictures set out in earlier works. This study uses some innovative data capture methods and sociological theory to help develop understandings of the process of online research, as well as understanding the role of habitus (the broad cultural lives the students live) in internet searching.

Literature Review

It is clear that research cultures are rapidly changing and students now perform much of their research time online searching for information and will increasingly rely on the internet when searching for information in the future. There is much academic discussion about the quality and form of this new approach and scholars have different ideas about results of these changes. On the pessimistic side:

> In a fast food, fast data environment, the web transforms into an information drive-through. It encourages a 'type in-download-cut-paste-submit' educational culture (Brabazon, 2007, p. 22).

A number of studies have been undertaken exploring student online searching. Students are reported to regularly use electronic information technology and rely heavily on popular search engines, such as Google Search to find what they desire (Barrett, 2005, p. 329). Brophy, Fisher, Jones, and Margaret (2004) undertook a user testing study where University students were set 15 online information seeking tasks, but given no guidance on how to go about finding answers. They reported that the majority of students went first to a search engine to help them find the information they needed. In fact, over 70 percent of their student samples regularly turned to search engines first to help them find information. The Online Computer Library Centre (2002, no page, published online) reported that 79 percent of students use search engines for all or most assignments, 50 percent use web portals and 40 percent use course specific websites. EDNER (Formative Evaluation of the Distributed National Electronic Resource) Project (2002) reports that the majority of his student sample used a search engine (Google) as their "first port of call" when locating information (p. 1). EDNER (2002) noted that phrases such as "tried and tested", "my usual search engine" and "trusted" were frequently given by the students when asked why they chose this source first (p. 1). Prabha, Connaway, Olszewski and Jenkins (2007) reported that undergraduate and graduate students tend to stop looking for information when they find the required number of sources for an assignment. As Brophy et al. (2004) report:

> unlike the academic researcher who usually has a requirement to locate the key paper in his or her field in order to ensure that an approach or finding has not been overlooked, students are often satisfied with 'any' resource which comes close to meeting their expressed need-and there are often many alternatives available (p.13).

It points out that students opt for the easiest and most convenient method of online searching and appreciate the time saving attributes of online resources. Urquhart and Rowley (2007) argue that the choice of approach for finding information used by first-year undergraduates was governed by time factors and the convenience of the format. Undergraduates who had progressed beyond the first year were more likely to consider some other criteria such as "currency of information, the reliability of the resource, and the authority of the resource, yet time saving was important for them as well" (p.1192).

An important concern is that of the students' ability to determine if an online information resource is trustworthy. Graham and Metaxes (2003, p. 72-75) explored students' reliance on online resources and found that students were "very eager" to use information on the internet as a primary source of information in conducting their research. The propensity of their student subjects simply to rely on information from the internet solely because it appears online. They found that just slightly more than one-third of the students examined the reliability of online-based sources. Their results suggested that a lack of understanding of the internet as an "unmonitored source of information" could be the reason for the students' difficulty in recognising trustworthy sources.

The study by the Online Computer Library Centre (Online Computer Library Centre, 2006, p. 1-12) asked students where they find "worthwhile" information. Students said that Google provides "worthwhile" information over the academic library's website listings of databases. Many college students sampled admitted that the library has more "trustworthy or credible" and even more accurate resources than search engines, but search engines are more cost-effective, much easier to use, faster and far more convenient (Online Computer Library Centre, 2006, p. 2-10). These studies found that even when students know the library's information is more trustworthy, those students still choose a search method that is faster and more convenient over what is right and more reliable.

Methodology

We examined the online searching practices of twenty-one Thai postgraduate students at Bangkok University over a 12-week period situating their online information searching journey in the context of their private, academic and professional lives. Undertaking this study, we did the focus group discussions as well as redesigned and

further developed an online data capturing technique by mixing quantitative and qualitative approaches. This technique integrates a number of currently available online technologies, which normally exist in isolation; namely a social networking system, a proxy server, and an online real-time-supporting service.

From a user point of view, our online data capturing technique appears to be a social network website offering functions for registering as a member talks to other online members, creates a group, searches information on the internet, and writes or edits post messages. For us, since it is based on social networking system and proxy server, it enables us to aggregately keep records of online activities that have been done by individual. In addition, as our system has an online real-time-supporting service, it augments social interaction between the researchers and participants. We can raise participants a question while they are online as if we and participants were in the same room and both of us were looking at computer screen together. Altogether, these design innovations enablesd us to collect contextual information during observational studies and follow-up on interesting subject matters raised by participants.

Over a 12-week, twenty-one participants, who were studying in the same classes, were asked by researchers and their lecturers to log on to our system and conducted online searching for their class assignments. Each time, participants had to complete their tasks by writing a search plan, locating and gathering information, and writing a short report on what they had found. At the end, participants had to write the assignments based on their collective information and handed in to their class. In this way, we could control factors; such as search topics, objective of the search, and level of participants' curiosity, that might interfere with searching behaviors of each participant.

Results and Discussions

Depending on students' individual proclivities and the available resources, and the purpose of a search, students will tend to seek out information from one or more sources. Students who do online searching, whether searching for specific or general information, tend to start their information searches with the internet, and rely on the information generally found from the search as their most important source of information.

At present, academic presses and journals make use of the internet to publish their work. These online academic resources are also regarded as high-quality information for students' academic work. Yet the findings of this study indicate students seem to prefer searching for their information on the internet especially via Google rather than via online scholarly databases, including library digital databases and academic digital archives. The Library of Bangkok University has an authorization to access twenty online academic databases. It offers free access to subject-based information, primarily intended for higher education users. These scholarly databases are typically known as "aggregator databases" because they gather academic articles from a wide variety of publications in different formats and make them searchable through a single interface (Bell, 2006, p. 14). The information resources, which these online scholarly databases gather are all recommended and carefully selected and indexed by "subject specializations in their partner institutions" (Bell, 2006, p. 14), whereas the material which Google retrieves is not.

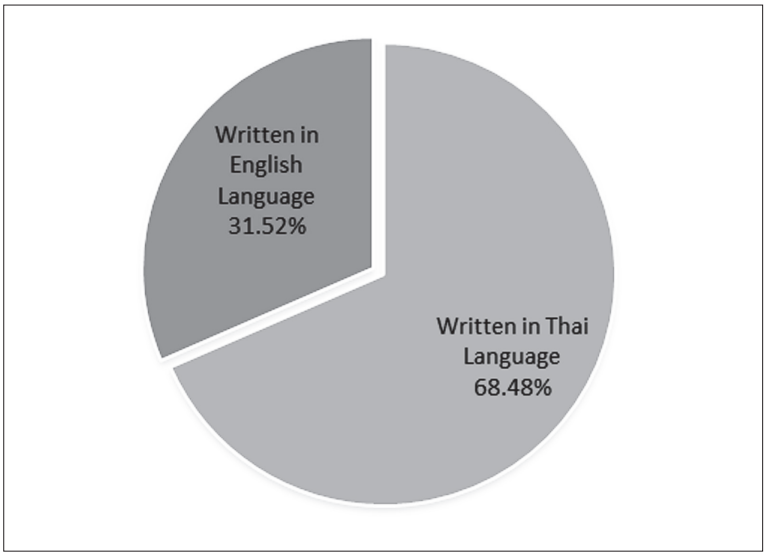
Despite the wealth of high-quality digital content the Library of Bangkok University offers, the academic library databases collections are consulted far less than internet search engines. According to the Library's statistics the monthly average usage of Bangkok University of the Library's online scholarly databases by staff and students, is low: only 0.11 percent and only 0.02 percent of online journals were accessed (Library of Bangkok University, 2009). This means that academics also do not use online scholarly databases much, and therefore, by inference, are unlikely to encourage their students to use them.

Referring to the outlines courses for the subjects the students studied, there are no reading materials from electronic database resources listed. For instance, all references the lecturer referred to in the unit courses are textbooks and articles provided in the classroom. The students thus have not been encouraged to use the Library's online databases. The findings suggest these academics lack a particular manifestation of educational cultural capital and as a result it is not "transmitted from one generation to the next" (Lareau & Weininger, 2003, p. 587).

Further, cultural capital is differently distributed across national spaces and this may be another reasons why students are not accessing the Library's online databases. So in the emerging field of global education the "cultural heritage" (Bourdieu, 1986, p. 245) that is most prized is a Western education and this is easier for Western

students to acquire. Since the majority of materials in online scholarly resources are in English, Thai students, whose English language competencies are varied, are disadvantaged. They have limited access to the "natural" (invisible) competencies that Western students have as a result of being brought up in the world dominated by an Euro-centric epistemology and speaking English as a first language. Thus, the large proportion (68.48 percent) of the online resources accessed by the students was written in Thai language (see Figure 1).

Figure 1: Language in which visited web pages is written (%)



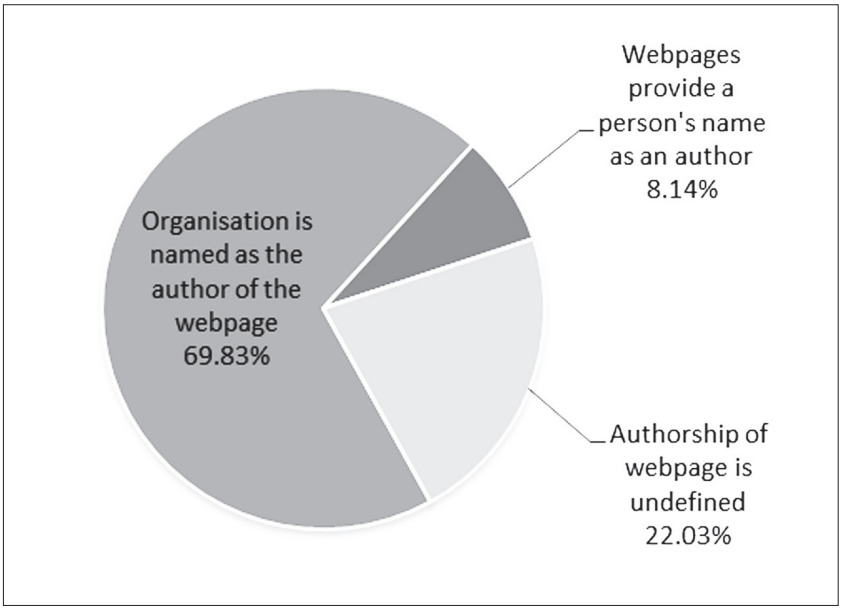
Furthermore, scholars have realized that even though the internet emerged from academia it is now growing apart from this domain. The increasing popularity of the internet makes it clearer that this is an uncontrolled and unreliable information source. As Walker, Janes & Tenopir, (1999) argues, the internet is a "self-publishing medium" on which anyone can put information whether it be "true or false", "high quality or inane", "pleasant or objectionable" (p. 47). Online users thus must themselves assess the sources of information that are available on the internet. However, the Masters degree students in this study are somewhat reckless about this issue and actually tend to do the opposite.

The findings also demonstrate that the sample students display a lack of educational cultural capital in terms of critical thinking, skills and rational responses when making decisions about the reliability and accuracy of specific online material they come across as they attempt to find the information they need. Rather, they are more concerned about how easy it is to absorb the content they obtain. The students use the idea of resources for the "lay-person". They are not seeing themselves as students who need to read academic materials. Linda's[3] preference captures this point:

> *"I tried to select and read websites, which were written for a lay person, such as how-to, and guideline stuff. That was why I did not select any academic websites."*

We later asked Linda who was the author of the material she selected. She answered: *"Sorry, I don't know. Am I supposed to know?"* Her answer exhibits a lack of concern over the importance of authorship. In fact, 77.79 percent of the web pages, visited by the students in this study, provide a name of author, either by including a person's name or a name of organization. There are only 22.03 percent where an author cannot be identified (see Figure 2).

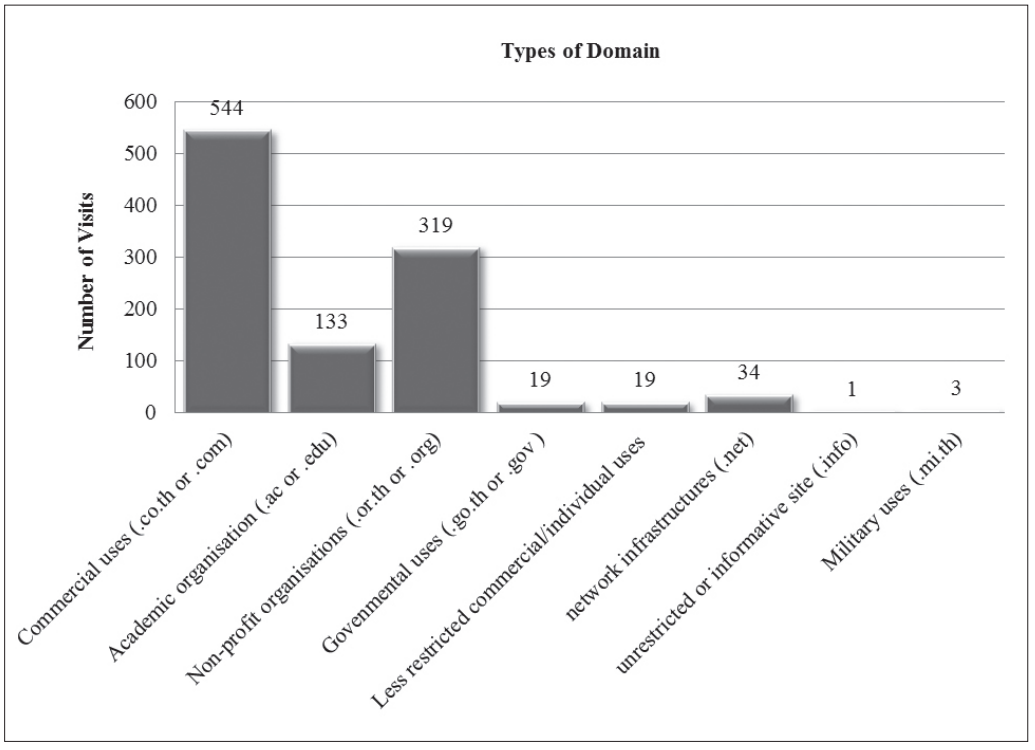
Figure 2: Author identification on the web pages visited by the students in this study (%)



[3] Note that names of all participants referred to in this study are pseudo names.

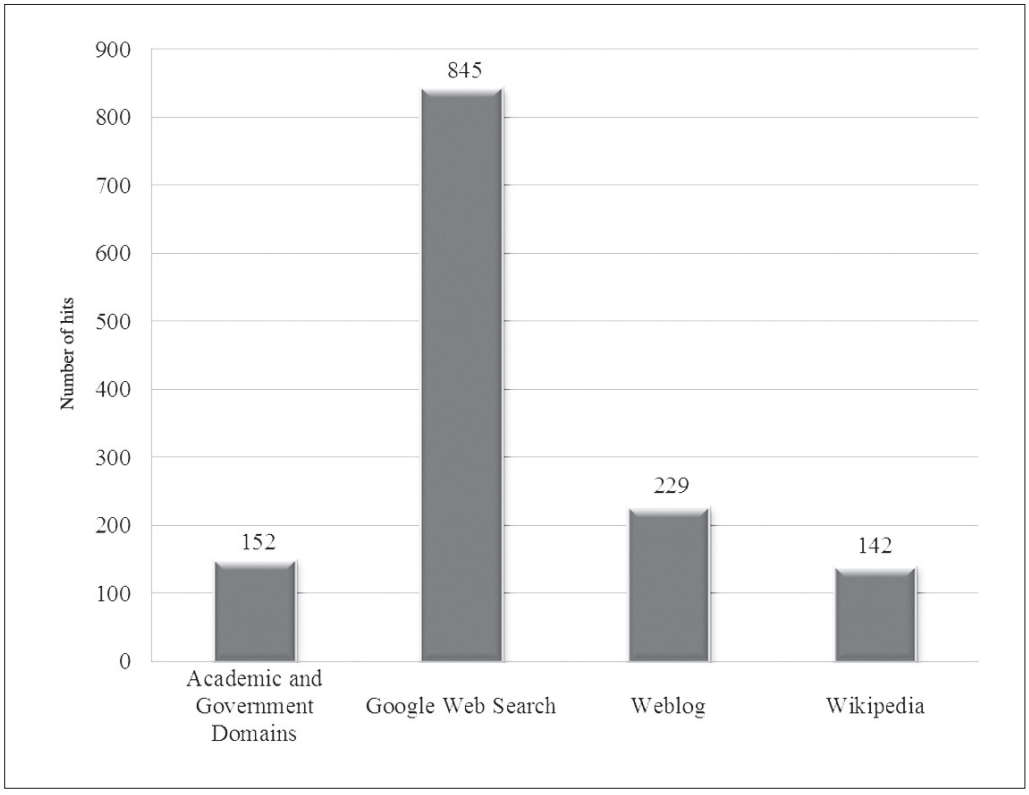
At present, a large unregulated body of information exists throughout the internet. It perhaps overwhelms the scholarly information and students are not discriminating in their selection. The findings of this study illustrates that out of the total 1,072 webpage visited by the student, 544 web pages (50.7 percent) were registered in domains for commercial uses, 319 web pages (29.8 percent) were located in a non-profit organizational domain, and only 133 web pages (12.4 percent) were on academic websites (see Figure 3).

Figure 3: Frequency of visits to various types of web pages by the student.



The data collected and analyzed in this study demonstrated that the key online information gateways and sources the students used to obtain the information for their study are (in order of frequency) Google, Weblogs, Academic and Government domains, and Wikipedia (see Figure 4).

Figure 4: Comparative Statistics of Different Online Information Sources between Academic and Government Domains, Google Search, Weblog, and Wikipedia



When students begin their online search at the first stage, the first choice they have to make is what keywords they should use. In this study, all students use Thai words as the first and foremost choice for their online searching. After typing keywords in the Google searching box and hitting the search bottom, the students undertake their selection of the web links brought up in the results pages presented in the display order by the Google search. The most common selections are the first-, second-and third-ranked websites, respectively. However, until the Google does not yield what they expected, students do their selection of the online information sources in a random manner. They browse to the sources that suit their needs the best. They end their online searching journey when they run out of ideas or have personal reasons or needs, such as feeling hungry or wanting to watch their favorite television program.

The following sections demonstrate the online information sources students use to obtain the information for their study and why they use these sources in details.

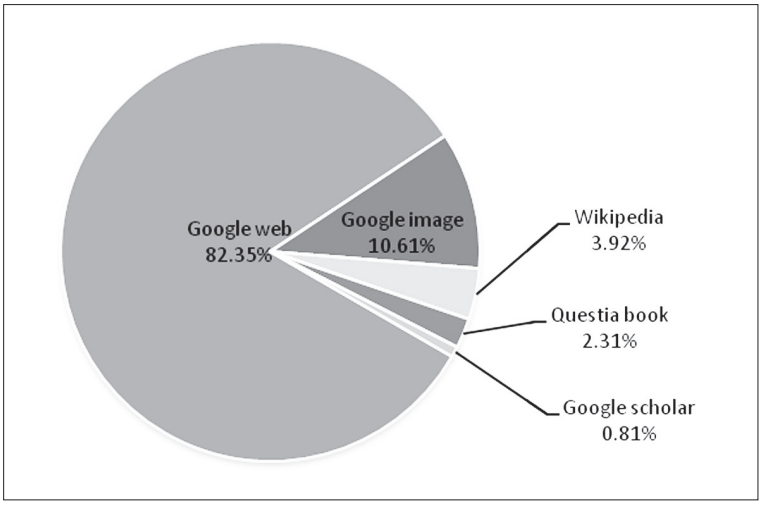
Google

The similarity between online information research that focuses on scholarly resources via databases and general search engine driven research is that they are freely accessible twenty-four hours a day so information can be quickly and conveniently accessed without visiting a library. Students can save, print or read the information from the computer screen, and the material accessed is often more up-to-date than the paper format resources. However, the findings in this study demonstrate that the students prefer to do online searching via Google rather than use online scholarly materials from library databases. Google is an attractive medium for students to use when seeking and obtaining information they need for research projects or assignments. David Loertscher (2003) confirms the omnipresence of Google and its preference over a library in this digital age:

> "Search engines such as Google are so easy and immediate that many young people, faced with a research assignment, just "Google" their way through the internet rather than struggle through the hoops of a more traditional library environment." (p. 14)

The "hoops" of the traditional library environment are replicated in the online database scholarly resources; students need to understand scholarly conventions and do more precise searches (author, subject, title, keyword, and etc.). The use of Google thus has become ubiquitous in today's Web environment. In this study, Google was the only internet search engine used by our student subjects when they searched. It is a central gateway to access online materials and other resources. As well, it is a quick and simple method that enables students to access information they can use. In addition to search on Google, students occasionally used a search function on particular websites, such as Wikipedia.org, and Questia.com, to locate online materials (see Figure 5).

Figure 5: Websites used by the students as an information gateway (%)



There is a difference between something which is simple and something which is designed to provide the best information for the task. According to the findings of this study, different types of sources and the difficulties they present for the students draw out the reasons why Google was a primary resource for the students' academic work rather than a university library. Many students in this study raised the issue of negative experiences with the facilities and services of the University and library. Students may make some effort to search for good resources, but if they cannot get them then more easily accessible resources, although with poorer quality, are substituted. The students have little sense of what might be missed by not getting academic sources-scholarly materials or documents specifically designed for their learning.

Furthermore, some students even think that information from the internet is far easier to understand than the materials taught in the class. This is perhaps due to fact that the information on the internet reflects or uses a wide variety of multimedia presentations, such as text and still visuals that allow for the instantaneous transmission of information (Smolin, 2009) and therefore can stimulate more interest in learning (Barnes, Marateo, and Ferris, 2007). This type of information display thus would suit the independent learning situation of the students who when they are researching seek simple and less complex explanations than the one they have access to in their classroom work.

Tracing the way in which students use the internet can reveal aspects of their learning styles. Jennifer's style depends on using a variety of materials from multiple online resources. As she notes it assists her to comprehend the content if she reads multiple versions of the ideas or concepts:

> *"That is what I like about the information on the web. They tell the same story in different ways and styles. If I cannot understand the content from reading one page, I will read the others. Reading in this way will help me to understand the content more than reading it from only one source. Perhaps, it is my learning style."*

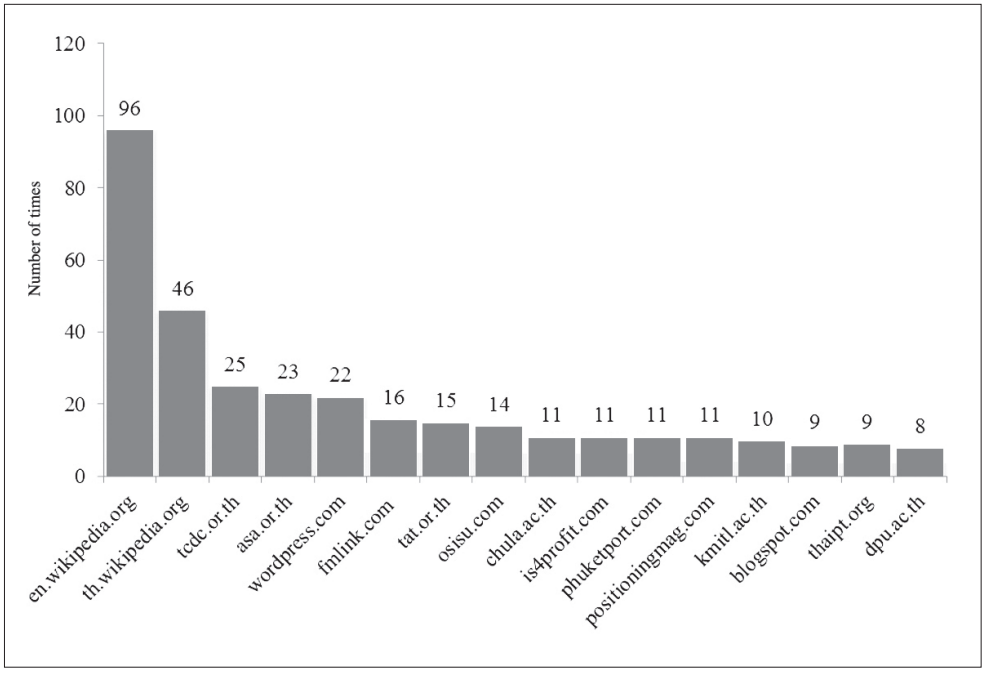
Our findings demonstrated that though students recognize the limits of Google in locating information resources for their academic study, they place a higher value on it than the library services for reasons of convenience; while still taking some steps to supplement what they sometimes recognize as the limitations of Google.

Wikipedia

In this study, Wikipedia was also a common choice as an online information source; often serving as a starting point for background knowledge of the searching topics. Wikipedia is an international internet-based project that attempts to create a free encyclopedia in multiple languages. Invented in 1995 by Ward Cunningham who created a tool for knowledge management and named it as WikiWikiWeb, using the Hawaiian term "wiki" for "quick" (Cunninghm and Leuf, 2001, p. 7). Voss (2005, no page, published online) has argued that within three years of its inception, Wikipedia was the world's largest Open Content project achieving more than 1,500,000 hypertext documents, and outnumbering all other encyclopedias. Recent data reported that Wikipedia has more than 3 million articles in more than 200 languages (Herrying, 2007). The goal of Wikipedia is to create an encyclopedia that can be shared and copied freely while encouraging people to easily change and improve the content. By using the Wiki web application, a type of online collaborative content management application, thousands of volunteers have collaboratively and successfully edited articles.

Since Wikipedia is one of the 100 most popular websites worldwide (Voss, 2005, no page, published online), it is not surprising that one of the most popular online information resources used by the students in our study is Wikipedia. The results of this study show that the students extensively use Google as a gateway to potential websites. However, Wikipedia is the most frequently visited website, adding up to 137 visits (see Figure 6).

Figure 6: Number of times the top 16 most visited websites were viewed



The place of Wikipedia can be further illustrated by tracking on students' use pattern. Sometimes the students directly go to Wikipedia and use it as a starting point for background knowledge about their topic. The background knowledge they obtain from Wikipedia steers students towards the more specific or detailed information they require. They can hone in directly on what they need when they have a general knowledge about the topic that they are searching. This idea is supported by the results of Lih's (2004) study that indicated that there is a link between Wikipedia and a "working draft of history" (p. 5). The student researching and writing an academic work, according to Kuhlthau (2004), must begin by exploring the topic area. In the case of our students, this means acquainting themselves with the body of internet information and acquiring a sense of how the topic is to be "generally addressed". Pennie and Paula tell:

> *"I think Wikipedia was very good to look up general information ..."* (Pennie)

> *"I think I will start from Thai Wikipedia first because I would like to gather general information about other people in this field. After that, I will use Google to widen the search."* (Paula)

Peggy even says Wikipedia contains whole facets of topics: "*Wikipedia provided, you know, general information yet covered all aspects of the topic. Therefore, I will ensure that I will visit it again."* (Peggy).

At a certain point, a student's knowledge is built up by learning about new topics and having previously learned material reintroduced. As a result, they not only spend less time searching, but also have more time to read information they have found as well as finding new useful keywords. This is why students perceive Wikipedia is helpful as a "one stop" or "shop.stop" shop. Furthermore, students have positive views and experiences about the documents in Wikipedia in terms of them being well-organized and easily understandable. Aura's narrative captures this image:

> *"I know that the content in Wikipedia is easy to read and it was well organized and written quite well. So I will get an overall picture about my ... topic, or even better, I can get a new keyword, which I have never thought of before, to follow up in my search ....."* (Aura)

From a student perspective, background knowledge gained from Wikipedia not only often provides students with a map for information seeking, but it also generates interest in a topic. Pennie demonstrates this point when she provides the reasons why she loves Wikipedia:

> *"I knew that general topics like these must exist on Wikipedia. The main advantage was if I found a single one of those, it would be linked to others. Therefore, I thought I could spot a whole connection around these topics. As you might notice, I have come across new topics that were not in my mind before. Furthermore, they contained referenced sources that allowed me to look further, if it is necessary. I could use Google later on for that purpose."* (Pennie)

From these results, it seems that what students like about wiki is that it is not like much of the internet. It is ordered, coherent and standardized. It is like a scholarly source for them. Yet they use Wikipedia to help them navigate Google.

Wikipedia, however, is rarely a starting point for the search. Most students begin their search with Google and then Wikipedia. This is because Google typically shows the Wikipedia link as the first item on the first result's page. This can encourage students to click on the Wikipedia site and explore the information they are looking for (See Figure 7 and 8).

Figure 7: Students who visited Wikipedia and the number of visits over a 12-week period

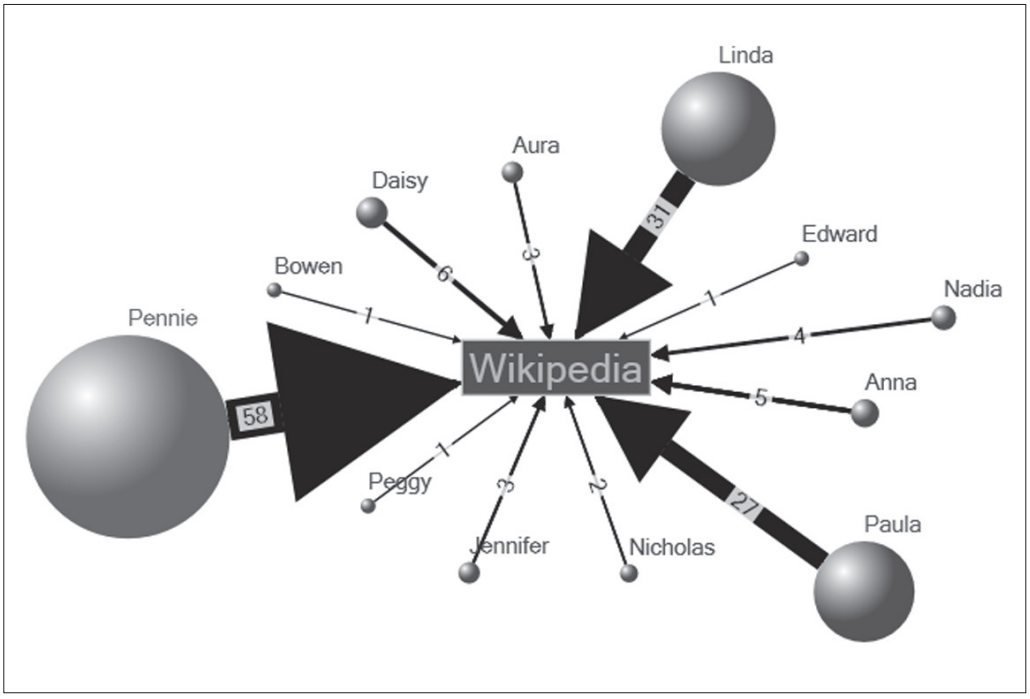
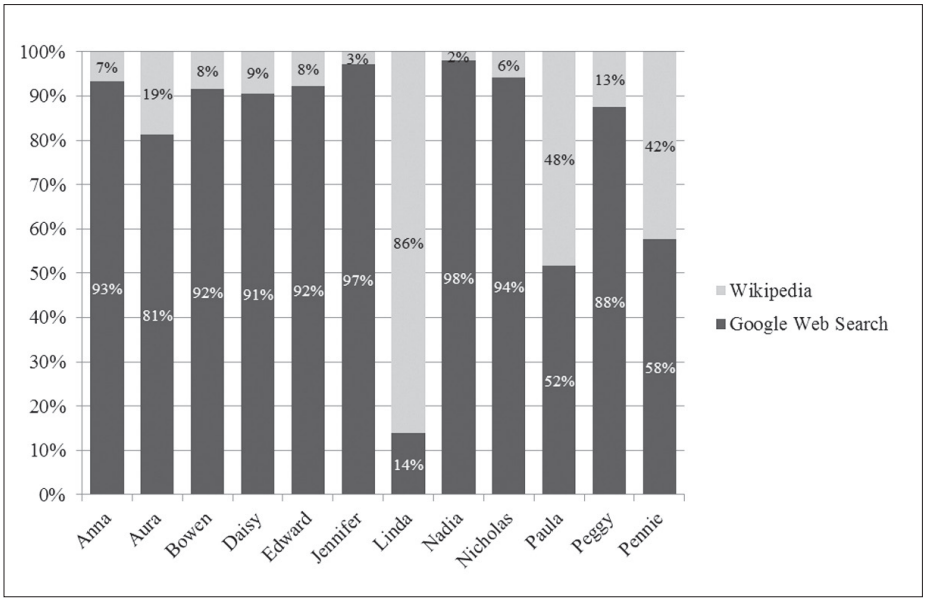


Figure 8: Comparative Statistics of Percentage between total number of online searching and total number of Wikipedia visit



Interestingly, the findings of this study are that after the students' searches on Wikipedia end unsuccessfully, they return their focus to Google which is a popular starting point for most students. Students claim they not only face the problems of unavailable information on some specific topics on Wikipedia, they also mention that finding an adequate keyword to use is a difficulty. Paula raises this issue on the problem of keywords:

> *"Firstly, I thought searching within Wikipedia would be easy. In fact, I struggled with finding the right keyword when searching in Wikipedia. Wikipedia returned nothing if the keyword used did not match its database, and it provided zero suggestion words."* (Paula)

Our point is that the problems are not only about information being unavailable; instead, it is the inadequate search techniques and the lack of English language skills of the students. Students assume that a search is a search - that is, simply typing in keywords, hitting the search button, and expecting relevant information to reveal-and that it should be the same or at least similar no matter what system it is. Thus, they apply their own techniques, the ones they have developed through their experience

with Google, to Wikipedia. When the results do not come up as easily on Wikipedia as they did not on Google, they cannot think of or reformulate new English keywords. They simply see this as a problem of the other system.

Further, we found that there is no lecturer's statement mentioned in the course materials provided for the students that could direct them to do some research at the library. As such, the students had not learned much how to search. Again-this is an issue of cultural capital-students have limited searching techniques or skills. Wikipedia is based on the scholarly technique of subject indexes, which the students are unfamiliar with. Google is "easier" because it will return something on almost any topic. Yet there is no guarantee that the keyword used reflects substantive issue of the material that turns up. By way of contrast, in scholarly materials there is a direct link between the subject heading (keywords) and the content of the material found.

Another issue to consider about Wikipedia is associated with the quality of articles as academic references. The following note on the "Cite" pages of Wikipedia points out this issue:

> "Most educators and professionals do not consider it appropriate to use tertiary sources such as encyclopedias as the sole source for any information-citing an encyclopedia as an important reference in footnotes or bibliographies may result in censure or a failing grade. *Wikipedia* articles should be used for background information, as a reference for correct terminology and search terms, and as a starting point for further research.
>
> "As with any community-build reference, there is a possibility for error in *Wikipedia*'s content-please check your facts against multiple sources and read our disclaimers for more information." (MediaWiki:Cite text, 2012)

Traditionally, an encyclopedia was a good way to learn the basics of a topic. Much of the content of Wikipedia is not sourced from individuals but from out of copyright encyclopedias, which can be added to by individuals. Lih (2004) has argued the Wikipedia concept is somewhat "counterintuitive" because the "technical implementation" itself provides "no gate keeping function" to ensure quality material is being contributed (p. 4). In Wikipedia, no proof of identity or qualifications is needed to participate. Wikipedia's articles, therefore, are of mixed quality because "they are, by design, always in flux, and always editable" (Lih, 2004,

p. 4).The findings of our tracking data analysis revealed that none of the students participated in our study followed the links from the references on Wikipedia even though some of them claimed those references were valuable for them. They claimed that they use Wikipedia as a secondary source and as a tunnel, which takes them to the original sources. According to our tracking data, only three students actually followed in-line links, which led them to other topics on Wikipedia, while they were browsing information around the Wikipedia site. The other nine students, who had visited the site, just collected information on the first topic where they landed on Wikipedia. This means that they use Wikipedia as a shortcut way to get citations, not the tunnel back to the original sources as they claimed. They also rarely check the original sources, even though they acknowledge this as important. These kinds of minimum effort behaviors have become acceptable to students. As found in previous studies, it reflects the students' perception about the time saving attributes of online resources (Dalgleish & Hall, 2000; Rowly & Urquhart, 2007).

There is also the related point that the students go back and forth between Google and Wikipedia. So they are not on a trajectory that takes them to original, reliable scholarly sources, but rather they move without any real pattern from source to source not quite knowing what is what. This is not their fault (or bad) but we do want to suggest that overall they are a bit lost. Even though they are typically impressed with what Wikipedia has provided, and consider its content useful, they need to undertake more rigorous evaluation before putting trust in Wikipedia's articles.

Weblog

A weblog (blog) is a "frequently modified web page" that is becoming an increasingly popular form of communication on the World Wide Web (Herring, Scheidt, Bonus and Wright, 2004, p. 1). With nearly 20 billion blogs on the internet, Google refers to a blog as a type of web document (Herring, 2007). A Weblog is related to a personal homepage which is typically created and maintained by a single individual (Herring et.al, 2004). The content of blogs covers "every imaginable topic" and tends to focus on the creator or his/her interests (Marlow, 2006, p. 1). Ross (2005) described a weblog as an "informal online journal with chronological entries that are usually short and often includes news summaries and links to other sites" (p. 4).

Herring et al (2004) have argued that educators and business people see Weblogs as "environments for knowledge sharing" whereas private individuals create blogs as a "vehicle for self-expression and self-empowerment" (p. 1). In our study, weblogs are one of the online resources students use to explore subjects of research and obtain useful information (as shown in Figure 4). For students, weblogs not only contain information about respected persons who are of interest to the students, but also tend to have the most up-to-date content.

Pennie, for instance, selects the contents from a weblog-called daniellock.wordpress.com-because it provides "*lots of case studies*" and "*up-to-date information*" that she sees as: "*very practical*" (Pennie). Anna also undertook a search using "sustainable interior" as her keyword and chained to the fourth item on the first results page. Then she browsed forward and entered another website-"http://aptu05.wordpress.com"-that was also written in a weblog style. Its content was news about a housing project from the year 2007. She gives the reasons for her choices:

> *"... it was also an interesting website. It collects related news and articles about architecture, as well as architecture students' reports and assignments ...."* (Anna)

Because the students are undertaking their study as practitioners, this access to and their use of weblogs by other professionals is useful for their research. In this case, students can draw on cultural capital as they have "insider" knowledge about who are the experts or professionals in their field and select good resources. And since a weblog appears to have the most up-to-date contents (Ross, 2005), this would be a type of knowledge the students might not get in scholarly resources-such as books-that take a longer time to publish. However, as Anna's quote above shows the students are not always discriminating. Apart from finding information by these professionals, they are also accessing materials by other students, which is not a good resource as they are not expert and scholarly sources.

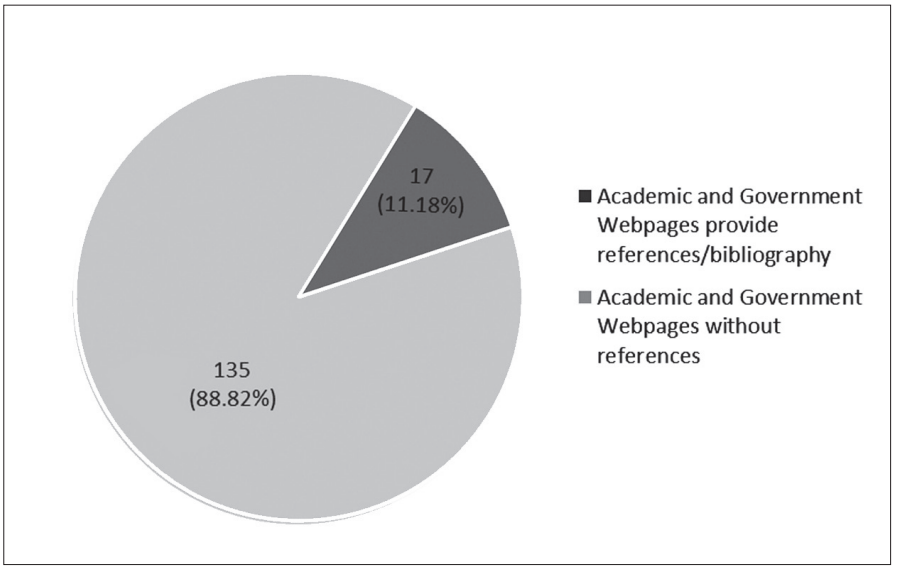
Academic and Government Domains

An academic domain is an online domain consisting of websites covering general areas of academic interest, particularly those from educational institutions. As is made explicit in the name, our students perceive those websites categorized in this genre of domain to be respected online repositories for academic work. Apart from resources located in these domains, however, it is difficult for students to make a judgment about the credibility of the information they find.

A government domain is an online domain restricted for use by government entities. Consisting of government websites, they are places that provide information about government policy and services. The accuracy of their information is important and the sites tend to be well maintained. Some students thus think the material on the government websites as "interesting".

Some students have a sense of security when they obtain information from sources that provides references. Unfortunately, most of the web pages visited in this study do not provide such a list of references or bibliographic information (see Figure 9).

Figure 9: Provision or not of a list of reference information on the academic and government webpages that students had visited



Nevertheless, not all materials from academic domains are always useful, particularly those documents provided specifically for students undertaking units of study at other educational institutions. As Arthur notes:

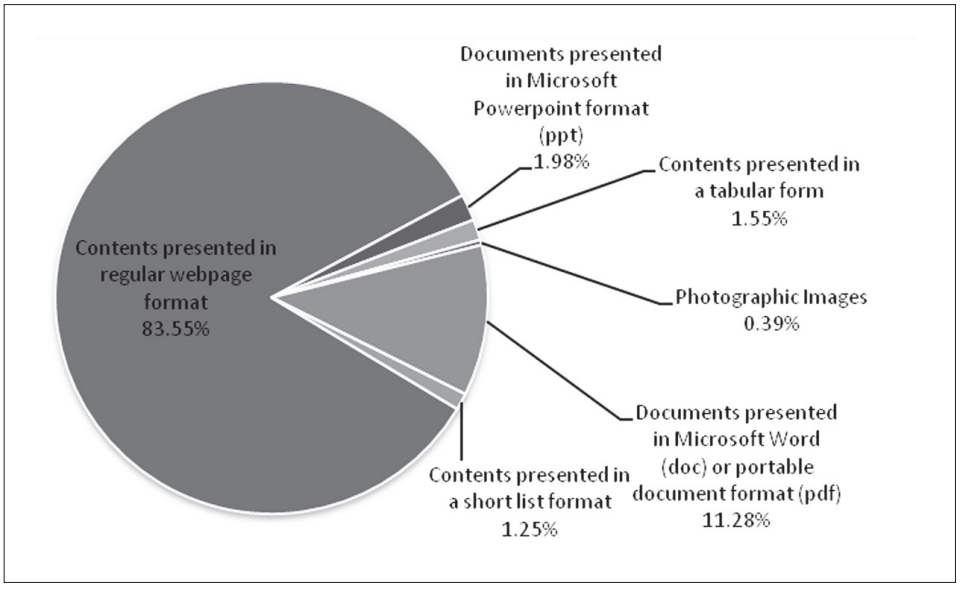
> *"… all of the materials from the educational domain were not useful. A number of them were course materials-such as a course description, and outline."* (Arthur)

The material on a dot "ac" or "dot edu" site is usually of high quality, but accessing this type of material via Google means it is still not organized in terms of subject headings, nor is it guaranteed to be research materials. So again, students are in the same situation of just getting everything the internet turns up.

Additionally, students tend to favor well-written forms of information. They believe they are more likely to find information in well-written forms, such as the Microsoft Word or the Portable Document Format (pdf), and the Microsoft PowerPoint presentation-on the academic domain. Therefore, they tend to look for the websites that provide such "ready-to-use" documents.

Students presume the professional "look" of the pdf or Microsoft PowerPoint format will be reflected in its contents. In fact, it is not necessarily so. It is true that these are, perhaps, file formats that academics use a lot, but they do not guarantee good content. Our point is that students are using shortcut indicators to help them navigate their way through an amazingly messy disorganized thing called the internet in their search for good and reliable information. They see the pdf file as a sign of an academic file, but it is not a guarantee (see Figure 10).

Figure 10: Form of information on the web pages visited by the students (%)



In this study, students experienced difficulty in accessing the full-text materials they needed for their study. Students did not have authorization to access and obtain information, particularly academic documents from the online scholarly databases. Even though Bangkok University has access to large scholarly databases, such as the Proquest and the Science Direct, the level of access is restricted to accessing only an abstract of journal articles and/or the first 24 pages of a dissertation. These limitations, finding a reference to a relevant scholarly publications but being unable to reach the full-text documents, we argue, reflect the issue of economic and cultural capital. According to Bourdieu (1986), economic capital is similar to what is usually meant by that term-that is, something that is "immediately and directly convertible into money and may be institutionalized in the form of property rights" (p. 243).

As our previous mention, Bourdieu (1986) called cultural capital as *informational capital* (p.243). In this study, the students have limited access to educational resources because they and the institutions in which they are enrolled do not have sufficient money to acquire high quality database materials. Given that, databases are not free and the relative economic status of the Thai students in relation to other students in richer educational institutions, they are disadvantaged in their research.

Conclusion and Suggestion

This study has taken the responses given by 21 Thai student subjects about the value they place on their study resources and how they navigate and respond to the various types of sites/sources on the internet. Bourdieu (1986) argues that any "competence" functions as cultural capital if it enables the appropriation "of the cultural heritage" of a society, but this capital is unequally distributed among its members, thereby engendering the possibility of "exclusive advantages" (p. 245). Therefore, in analyzing the process whereby the students acquire their Masters degrees it is useful to think about the issue of cultural and economic capital.

Drawing on this idea one part of our argument has suggested that some of the tension for the students in this study is that they are attempting to acquire the cultural capital of an education-something highly prized in Thailand-while

engaging with a research forum-the internet-that does not operate with the same logic. As a result, Google finds the most popular site for the students when they need the most academic. Further, the issues of cultural capital can be understood in terms of the students' location in a Thai university. The students have limited "competence" in English and minimal experience in developing research strategies. This means that they are disadvantaged in their "information searching".

However, they are not without cultural capital. They are professionals who all have four years of university education. Therefore, they can navigate the system even if they are not the most culturally endowed users. The internet is becoming a new site where students might both be confronted by the limits of their cultural capital, engage with sites that seek to rework inequalities around knowledge and use their cultural capital from previous education to get more. For instance, they think that 'dot pdf' often signifies a piece of academic writing or they know how to use a library even if they do not have time to do it often.

Libraries and knowing how to use them is traditionally a key mode of academic cultural capital. Some of this knowledge is just being transferred online (Google books, databases) but in other cases new computer based competencies are emerging and acquiring these competencies enables students access to an academic world, which will lead to Bourdieu's "exclusive advantages". Nevertheless, this process is very uneven for our students and mostly they are caught in the middle not able to access the best material and getting little guidance through their lecturers.

Yet, these issues are not fully caused by either the online information sources or the students alone. Instead, the interrelation between them is a crucial factor that drives students to value information on the internet. The value placed on information sources not only depends on students, but also on their use of information and their ability to put it to use (Bourdieu, 1986, p. 247). The students' attitude to the new ranking online resources, therefore, highlights important issues to do with economic and cultural capital (dis)advantage regarding Thai education culture in this digital age. An interesting extension of this work thus would be to undertake this research in a series of national, cultural and educational contexts, and see if there are significant differences in the way different cohorts of students approach internet research.

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