Engaging students in scholarly information practices in Malaysian higher education

Aidah Abdul Karim a, Andy Begg b, Rosseni Din c, Mazalah Ahmad d

Faculty of Education, Universiti Kebangsaan Malaysia
School of Education, Auckland University of Technology, New Zealand
Faculty of Education, Universiti Kebangsaan Malaysia
Faculty of Education, Universiti Kebangsaan Malaysia

Abstract:
The Malaysian Qualification Framework identified desirable information skills as the abilities to search, evaluate, organize, analyze, synthesize, use, and communicate information, and viewed these as desirable outcomes for higher education in Malaysia. Advocating for outcome-based learning, the framework supported independent research as a pathway for higher education students to acquire and demonstrate their information skills. Although the framework required teachers in Malaysian higher education to incorporate information skills and independent research within their classroom activities and assessment, the attainment of these skills in higher education has rarely been examined from teachers’ perspectives, particularly in Malaysia. Using the perspective of teachers in higher education, this study examined the learning of information skills in the context of independent research via a qualitative inquiry. Data was collected from interviews with five teachers from one Malaysian public university who had been identified as engaging with research students in information skills classes for more than three years. The study found that the teachers viewed information skills within the context of independent research as student scholarly information practices. The practices required students to actively engage in the recursive and continuous process of knowledge construction that is examining, integrating, developing, writing, claiming, formatting, and communicating their own understandings; which helped inform teachers about suitable teaching and learning approaches that could be employed in higher education. The study suggested that underpinning the teachers’ perceptions were their personal theories about the nature of knowledge and knowing. This study also suggested that the teachers’ beliefs evolved as they engaged in the practices of communities co-existed in higher education. Although the findings were unique to the research setting and suited the purpose of this exploratory study, they were useful in helping teachers and librarians in higher education in gaining better understandings of students’ information skills in higher education, necessary to foster collaborative work in producing lifelong learners and knowledge workers for Malaysian society and economy.

Keywords: Information skills; instructional practices; higher education; qualitative inquiry

1.0 Introduction

Independent research had been identified as a pathway for students who want to acquire the abilities to search, use, and communicate information (e.g., Anderson, 2006; Fry, 2006). Known as information skills, these skills enable higher education students to recognize the need for information, and to search, access, evaluate, select, synthesize, use, and communicate their findings to accomplish specific purposes (American Library Association, 1989; Association of College and Research Libraries, 2000; Bundy, 2004; Carey, 1998; Society of College National & University Libraries, 1999). Accordingly, information skills have been identified as a basis for lifelong learning (Bundy, 2004), and a pre-requisite for individuals and societies to function and progress (UNESCO, 2006).

In the context of Malaysian public universities, information skills were first introduced to students when universities were required by government to help students become knowledge workers for the nation’s knowledge economy. Characterized by fluency in computer technology, and ability to access, use, and synthesize information (Economic Planning Unit, 2006 #52) via the university library, the universities conducted various programs to help students acquire information skills. Later, the introduction of the Malaysian Qualification Framework (Malaysian Qualifications Agency, 2007) reinforced information skills as a desirable outcome or attribute for Malaysian higher education students. As illustrated in Table 1, the framework established information skills as a series of outcomes for Malaysian university students. Advocating outcome-based learning, the framework suggested that teachers develop information skills across the curriculum by encouraging students to conduct independent research.

Although both the knowledge economy and the qualification framework required teachers in
Malaysian higher education to incorporate information skills and independent research across classroom activities and assessment, insufficient information was available to assist them to do so. Previous studies have indicated that the gaining of information skills in higher education was seldom examined from the teachers’ perspectives, particularly within Malaysia. While there were a few quantitative studies attempted to establish patterns for student information skills in Malaysian public universities (e.g., Abdullah, Ahmad Kassim, Mohd Saad, Tarmuchi, & Aripin, 2006; Chan, 2003; Edzan, 2007), these studies focused on students’ perceptions. This qualitative study aimed to extend these current studies by examining the learning of student information skills in the context of independent research from the perspectives of teachers from one public university. The findings are also expected to be helpful for librarians who work with teachers and students in the development of information skills.

Table 1: Student outcomes for various degrees in Malaysian higher education as required by the Malaysian Qualification Framework (Malaysian Qualifications Agency, 2007, pp. 9-11)

<table>
<thead>
<tr>
<th>Degrees</th>
<th>Students outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor degree</td>
<td>A bachelor degree prepares students for general employment, entry into postgraduate programme and research as well as highly skilled careers. It enables the individuals to pair responsibilities, which require great autonomy in professional decision-making. The bachelors degree is conferred on individuals who are able to:</td>
</tr>
<tr>
<td></td>
<td>(i) Demonstrate knowledge and comprehension on fundamental principles of a field of study, acquired from advanced textbooks; (ii) Use the knowledge and comprehension through methods that indicate professionalism in employment;</td>
</tr>
<tr>
<td></td>
<td>(iii) Argue and solve problems in their field of study; (iv) Show techniques and capabilities to search and use data to make decisions having considered social, scientific and relevant ethical issues;</td>
</tr>
<tr>
<td></td>
<td>(v) Communicate effectively and convey information, ideas, problems and solutions to experts and non-experts; (vi) Apply team and interpersonal skills which are suitable to</td>
</tr>
<tr>
<td></td>
<td>(vii) Possess independent study skills to continue further study with a high degree of autonomy.</td>
</tr>
<tr>
<td>Master degree</td>
<td>A Master degree provides for the furtherance of knowledge, skills and abilities obtained at the Bachelors level. The entrance to masters is usually based on proven capabilities to pursue postgraduate studies in the selected fields. A master degree is conferred on students who are able to:</td>
</tr>
<tr>
<td></td>
<td>(i) Demonstrate continuing and additional knowledge and comprehension above that of the bachelors degree and have capabilities to develop or use ideas, usually in the context of research;</td>
</tr>
<tr>
<td></td>
<td>(ii) Use the knowledge and comprehension to solve problems related to the field of study in new situations and multi-disciplinary contexts; (iii) Integrate knowledge and manage complex matters;</td>
</tr>
<tr>
<td></td>
<td>(iv) Evaluate and make decision in the situations without or with limited information by considering social responsibilities and related ethics; (v) Deliver clearly the conclusion, knowledge and the rationale to experts and non-experts; and</td>
</tr>
<tr>
<td></td>
<td>(vi) Demonstrate study skills to continuously progress on their own with a high degree of autonomy to do so.</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>A Doctoral degree provides for the further enhancement of knowledge, skills and abilities obtained at the master level. It generally provides the graduate with the abilities to conduct independent research and is conferred on students who are able to:</td>
</tr>
<tr>
<td></td>
<td>(i) Show a systematic comprehension and in-depth understanding of a discipline and mastery of skills and research methods related to the field of study; (ii) Show capabilities to generate, design, implement and adopt the integral part of research process with scholarly strength;</td>
</tr>
</tbody>
</table>
|                  | (iii) Contribute to the original research that has broadened
2.0 Research Theoretical Framework

Symbolic interactionism was used in this study to guide the inquiry. From this perspective it was assumed that human action could be understood by observing various indicators such as “social interaction, human thinking, definition of the situation, the present, and the active nature of the human being” (Charon, 2007, p. 30). Situated within social psychology (Charon, 2007), symbolic interactionism can be traced to George Herbert Mead, John Dewey and others philosophers, and was identified among suitable approaches to study the conduct of communities and individuals (Blumer, 1969; Charon, 2007; Robbins, Chatterjee, & Canda, 2006). Following symbolic interactionism, as illustrated in Figure 1, this study assumed that a set of assumptions or ideas that guided teachers’ perception on student information skills in conducting independent research existed, and these influenced the instructional approaches used by the teachers.

![Figure 1: The study theoretical constructs (excerpted from Charon, 2007, p. 9)](image)

3.0 Methodology

This study was a qualitative inquiry that aimed to capture the meaning for the five university teachers of the information skills used by students while conducting independent research. The study was an inquiry guided by research strategies that were qualitative in nature (Bogdan & Biklen, 2007); and was further characterised by the involvement of real and information rich cases; flexible and emergent research design; researchers’ personal engagement and experience; and inductive and creative ways of analyzing and synthesizing data. At the same time it highlighted the uniqueness and variation of each case to reach collective findings; and located the findings in their social, historical and temporal context (Merriam, 2009; Patton, 2002). Using these characteristics the inquiry attempted to highlight the emic perspective of teachers in the university, and to support the explorative and naturalistic nature of this study that aimed to explore an unknown phenomenon and establish a local knowledge about this phenomenon.

3. Research Setting and Participants

The study was conducted in a Malaysian public research university located in the outskirts of Kuala Lumpur. The university was selected because it provided easy access for the study, and the opportunity to select interested participants; i.e. teachers in the university who taught research students and consistently had engaged the students in information skills classes run by the university library. With 11 faculties, 13 research institutes, a teaching hospital and 15 research centres, the university offered multi-disciplinary education programs at diploma, degree, master and PhD levels to currently 17,203 undergraduate and 5,322 postgraduate students, which included 1,525 foreign students from 35 countries (Universiti Kebangsaan Malaysia, 2008). Working with key informants in the university library, the researcher identified and selected teachers who had been teaching research students and who had consistently collaborated with the university library to engage their students in information skills classes run by the library for more than three years. Table 2 illustrates the profiles of the five teachers who participated in the study. To protect a privacy and confidentiality of the participants, pseudo names were used for all participants.

<table>
<thead>
<tr>
<th>Table 2: Profile of research participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>Ana</td>
</tr>
</tbody>
</table>
The study collected data in three stages. The first stage involved observation of information skills classes to identify the aspects of information skills emphasized for student conducting research works, and the types of interactions between and among students and librarians, and teaching and learning aids used, shared, and produced during the classes. In the second stage, the teaching and learning artefacts used, produced, and shared during both information skills and subject classes were examined—these included power-point presentations, information skills assignment, databases, and class evaluation forms. Based on the analysis of data from these two stages, protocols were prepared for unstructured interviews with the teacher participants. The interviews aimed at accessing teachers’ tacit knowledge of aspects of information skills, classroom interactions, and the teaching and learning artefacts employed within both the information skills classes and the subject classes.

3.3 Data Analysis

Data collected from the classroom observation, artefact examination, and unstructured interviews were analyzed using open, axial, and pattern coding that cut across data (Merriam, 2009; Miles & Huberman, 1994). Notes were recorded during and after each classroom observation and each artefact examination in the researcher log book and/or laptop. These records were then read, reflected on, coded and categorized according to their meaning. The meanings were incorporated into the development of the unstructured interview protocols for the teacher participants. Later, each interview was transcribed, read, sorted, edited and checked for accuracy before it was coded and categorized according to meaningful themes.

To construct meaningful themes, each transcript was reading, and texts within them that potentially answered the research questions were identified, selected, and reflected upon their meaning. Only then the study constructed open coding (descriptive coding), which basically categorized the texts into general topic areas. Following the identification of the topic areas, the texts within each open code were compared, contrasted, interpreted and reflected against each other. Based on the axial codes, the study further developed pattern codes that further captured examples of recurring patterns or regularities that cut across data within a transcript (within a case) and across transcripts (across cases).

4.0 Result and Discussion

The study found that teachers perceived the gaining of information skills in the context of students conducting independent research as student scholarly information practices that required students to actively and continuously engage in knowledge creation process; comprising of students examining, integrating, developing, writing, claiming, formatting, and communicating their own understanding. The findings also indicated based on this perception, teachers dominantly employed collaborative, independent and guided learning across classroom context. The teachers further employed lectures and questioning techniques to actively engage students in the knowledge creation process within their classroom learning.

The findings further suggested the teacher’s perception on student scholarly information practices could be further interpreted using the lens of personal beliefs (that is, the teachers’ personal beliefs about the nature of knowledge and ways of knowing). The nature of knowledge was often perceived “as a progressive understanding that moves from the view of knowledge as absolute to a relativistic view and then to a contextual, constructivist stance” (Hofer & Pintrich, 1997, p. 119). On the other hand, ways of knowing referred to how human know what they know, consisted of “beliefs about the source of knowledge and the justification for knowing, which includes evaluation of evidence, the role of authority, and the process of knowledge justification” (Hofer & Pintrich, 1997, p. 119).

The nature of knowledge could be further conceptualised into dimensions of certainty of knowledge and simplicity of knowledge. The former referred to individuals’ assumption about knowledge, which over time would be moving across a continuum of “fixed” (absolute truth) to a more “fluid” (tentative and evolving) view of knowledge (Hofer, 2000, p. 380), while the latter referred to individuals’ beliefs about substance of knowledge, which could vary from a collection of “discrete, concrete, knowable facts” to highly complex concepts which were “relative, contingent, and contextual” (Hofer, 2000, p. 381). On the other hand, the nature of knowing was concerned with the evaluation of evidence and role of authority, which could be conceptualised into dimensions of source of knowledge and justification for knowing. The former referred to the evolvement of the knower from a collector to a constructor of meaning, which corresponded to location of knowledge that initially
resided in external authority or experts, to self constructed meanings gained from interaction with others. Additionally, justification of knowledge was concerned with “how individuals evaluate knowledge claims” (Hofer, 2000, p. 382), and this included evaluating and using evidences ranging from authority, emotions, evidence, assessment and experts.Similar to the constructs of personal beliefs (Hofer and Pintrich, 1997; Hofer, (2000, 2001, 2004), the research findings suggested that teachers’ perception on students scholarly information practices could be further explained by the teachers’ beliefs about the nature of knowledge and knowing. This is illustrated below by Onn who taught academic writing to research degree students, and shows how teachers used their beliefs on the nature of knowledge and ways of knowing to justify their perceptions regarding students’ scholarly information practices as knowledge construction process. In return, this perception influenced teaching and learning approaches that they employed to engage their students in the practices.

To me, there are three stages (learning stages). He (a student) said I know, I understand and I do; so there are three components. When you know something; you want to learn. I told students; first I know. I am telling you because I know. Next, I understand, and then they [students] need application [to apply their understanding]. That why we said, I gave you time; one week or the next day for you to do [assignments]. And then I do, that why I gave assignments. So in everything you have to apply the three components (Onn)

Although the study found that teachers may share similar perceptions on students’ scholarly information practices, and thus be guided to apply similar instructional approaches, the underpinning and meaning of those perceptions could differ from teacher to teacher. For example, while discussing her students formatting of their understanding using academic styles, Ana said the following.

Maybe there were one or two students who were unable [to write thesis in a correct format]. [However], by right they should be able to know because we already explained in details. For example, in writing literature review; what are the do and the don’t; how to present figures and tables in writing. We had taught all the rules and, thus they [the students] should be able to write a good thesis with less mistakes (Ana)

Perceiving students as being able to acquire and master certain skills through lectures, Ana said that she viewed knowledge as a collection of absolute truths that consisted of “discrete, concrete, knowable facts” (Hofer, 2000, p. 381). Following this assumption, Ana further suggested that the knowing process was located in experts and authority, was external to the learners, but was easily transferred from teachers to students via lectures. In this respect, both assumptions reinforced Ana perception on the nature of student academic writing, which further informed her instructional practices. On the other hand, using different assumption on the nature of knowledge and knowing, as illustrated below, Wani identified lectures with student-teacher and student-information interaction.

It was PPS who wrote writing [academic] style for XXX [the university]. The style was already in its seventh edition; with new information added in each edition. Due to the additional information, students would not be able to understand what they had read. So you need to give lectures; even with the lectures, there were students who were not able to apply the style (Wani)

Recognising that the university manual for academic writing styles was provided by the university authority, and thus external to students, Wani further saw the need for her students to interact with the information before they were able to construct meaning out of the information. Accordingly, Wani viewed lectures as an avenue for students, teachers, and experts to meet, examine and justify each other knowledge claims, necessary to assist students to construct their own meaning.

Also, the researcher found teachers’ beliefs about the nature of knowledge and knowing could change as teachers moved across the seven themes of student scholarly information practices. For example, by acknowledging that certain knowledge was located in certain experts or authorities, Nora illustrated below that collaboration processes provide means for students to access certain knowledge or expertise before they are able to use this knowledge. Shared by all teachers, this assumption influenced teachers’ perception on student scholarly information practices, and this guided them to work collaboratively with librarians in order to engage students with information access and search, necessary for students to examine and develop their understanding.

To me, even though the university library offered online services, for examples we could use e-journal and others to search [for information], but sometimes I did not know the latest databases [available in the university library]. So I think librarians are the best persons; the most knowledgeable [on the databases]. And in case they [the students] have problems with their password [library], librarians are the ones who could solve the problems quickly (Nora)

Using different examples, Ana, Sam and Wani respectively illustrated that teachers believed that knowledge moved progressively from a low to high level within the dimensions of certainty and
simplicity of knowledge. As students engaged in research process, teachers assumed that students’ knowing process moved progressively from collecting knowable facts to constructing tentative and contextual understanding. This assumption corresponded well with teachers expectation that university students should experience and construct own understanding, and thus differed from school pupils who memorized knowable facts in their learning process. Shared by all the teachers, this perception became the basis on which teachers designed and implemented certain learning techniques, activities, and assessment within their classrooms.

Yes, if they [the students] translate, and later cut and paste [information], their writing will be coherent. That why it is important to have your own skeleton, only then you know what to write...What is the title the students was working on. Firstly how the introduction part is written, only then the sentence flows well. Just like writing a comprehension....Ha [Yes]! The skeleton must came from the students themselves; Based on their research proposal, the title of their research (Ana)

To know the [research] problem, to review previous research [design], to see previous [data] analysis. That why it was important to have a literature review. I always tell my students to prepare literature review before they finalized their research proposal. However, what happening now, students searched for literature review only after they finalized their research proposal (Sam)

Wani: Ha [Yes]! Students asked me how to do [this assignment]. So I asked the students what did you understand from this question?What information was given to you? So you do it. I left them for a moment on their own, and later asked them again. Aida: Why did you do this way?
Wani: Because I would not simply supply an answer, without the student understanding [the question]. If not, the students just simply memorize [the answer]

Lastly, they study suggested teachers’ assumption about the process of knowledge creation and knowing could be tied to the practices of various communities in higher education, where teachers were attached to. As illustrated by Ana, Nora, Onn, and Wani respectively such communities could comprised of communities of students, library, faculty or university administrators, and ministry of higher education.

What is important in writing thesis is we need to get latest information. So the most important[sources] were journals. So journal [collection] in our library is good; they were available in CD-ROM collection. But not all students know how to use CD-ROM. It was easy [for the students] to browse the journal [hardcopies], but actually that was the hardest way! If we know how to access CD-ROM; because in CD-ROM we have a variety of journals; Biological Abstract, Biotechnology Abstract, and other abstracts. But ho to get information; how to enter keywords? Next when they [the search result] appeared; how we want to select which one to print? That what we want our students to learn right? If we want to teach the students over here [at the department], it would be difficult because all the facilities were available over there [the university library], and nevertheless we have reader advisers [to help students]. So that the reason we send [students] for almost 4 hours; 2 hours for lectures, and another 2 hours for assignment completion; to find whatever information that they [the librarians or reader advisers] had taught and did. (Ana)

Yes, independent, but in a way we must assess the situation. If our students required help, we [must] help. Maybe I am born as educator, I have taught since years back. And I can expect, because my students will become teachers or currently are teachers. I have been teaching teachers for quite sometimes. So I know what they need, I know what teachers need. So they need all those things. Because in school, they were not exposing to this at al.l (Nora)

Not a paradigm shift! It depends on the university phases. I thought in 1980’s, the focus was toward exam-orientation. So our teaching approaches were exam-oriented, [because] our key performance was our teaching. Later in 1990’s, they [the university] said we [teachers] should be more interactive. So we conduct more interactive teaching approaches. (Onn)

Wani: Well, of course we want... as everybody (at university and ministry level) talked about generic...Ha! Generic skills, I think that the one. Aida: What is the most important component in student generic skills?
Wani: Ha, independent, because I find out; our current students are used to spoon-fed (approach). So we help. (Wani)

5.0 Conclusion

In this study the teachers perceived of information skills in the context of research students as scholarly information practices which required the students to actively and continuously engage with their own understanding, comprising of students examining, integrating, developing, writing, claiming, formatting, and communicating their own understanding. To engage students in these practices, teachers employed various teaching
and learning approaches based on their perception on the nature of student scholarly information practices. In the study it was further found that underpinning this perception was the teachers’ beliefs about knowledge and knowing. Similar to previous studies, it was found that that teachers believed that knowledge moved progressively along a continuum from knowable facts to relative and contextual view to constructive and evolving meaning. In this respect, teachers believed that knowing involves the evolution of the knower from a collector to a constructor of meaning, which corresponded to the beliefs about location of knowledge from residing in external authority, to residing with self as the constructors of meaning (in interaction with others).

The data from the study also suggested teachers’ beliefs evolved as they engaged in practices of various communities that co-exist within higher education. This evolution could be further explained by nexus of multi-membership (Wenger, 1998), which suggested that teachers’ peripheral membership within various higher education communities opens the door for the teachers to re-visit, re-think, and re-create their personal beliefs about knowledge and knowing beliefs as they access the lived experiences and real practices of the various community members and further learned, used, shared, and improvised these practices.

References: