THE UNIVERSITY OF ALBERTA

THE MIDDLE SCHOOL LIBRARY IN MOODLE:
PROVIDING ONLINE SUPPORT
FOR AN INFORMATION LITERACY PERIOD

BY

LINDSAY ROSS

This Capping Course Document is Submitted in Partial Fulfillment of the

Requirements for the Degree of

MASTER OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION

EDMONTON, ALBERTA

WINTER, 2009

Dedication

To Jennifer Branch and Dianne Oberg for your support throughout.

To Julia Ellis for your encouragement at the end.

To Dorothy Cousins for your sharp eye and your suggestions.

To Charlsey Breeze and Lilia D'Acres for inspiring me.

To Donald Ross and Dorset Ross for my love of learning.

To Willie, Abby, and Pip for keeping me company.

To Kristin Ross for everything else.

Thanks,

LR.

Table of Contents

Introduction 4

Early Inspirations 4

Technology Immersion 5

Technology Professional Development 6

One Period for Information Literacy 8

Purpose of my Capping Paper 10

Literature Review 11

Students Online 11

Information Literacy Online 13

School Libraries Online 15

Information Literacy Tutorials 17

Library Integration into the Course Management System 19

Why Use Moodle? 22

Personal Reflections 23

Moodle in Middle School 23

Setting up the Library Course 24

Adding Resources and Activities 24

Creating Resources and Activities 26

Plans for the Future 27

References 29

Introduction

> This is the first time in history that the student, teacher, the librarian, and the content don't have to be in the same place at the same time for learning to occur. Our students are our students 24/7.
> (Valenza, 2006a, slide 5)

> For today's learners, libraries can be exciting hybrid experiences; face-to-face lessons learned and reinforced with effective online supports.
> (Valenza, 2006b, ¶ 38)

Early Inspirations

The path that led me to teacher-librarianship goes all the way back to elementary school. My school library must have been small, but to me it seemed full of exciting prospects, and I had been reading my way through it for years. My teacher for grade six was also in charge of the library, and when I told her I was running out of books, she asked me if I would help her choose the new books for the following year – a thrill I have never forgotten. Years later, when I decided to become a teacher myself, I chose English as my teaching area because of my love of reading. However, for my long practicum, I was placed with an English teacher who was also a trained teacher-librarian. When I saw how she used the library to get her students inspired about reading, writing, and research, I decided I would become a teacher-librarian, too.

Several years later, I enrolled in the teacher-librarianship program at the University of British Columbia, and just as I was completing it, I got a position in a high school library in North Vancouver in the school where I had been teaching English. I was excited to finally apply what I'd learned in my courses: I began to work on collaborative

research projects with the science and social studies classes; I started to expand the young adult fiction for the English classes; and I even got to work with my sponsor teacher from my student teaching again. We organized a literary series together to bring local authors and playwrights into the library to give readings, and to take students out into the community to attend their readings and plays. I loved the scope of my job, and I knew I had made the right decision with teacher-librarianship, but I had also decided to move back to Victoria, so I took a leave of absence.

Technology Immersion

Not long after, I found a teacher-librarian position in a K-12 independent school in Victoria, where I have been ever since. The school has three campuses, and each one has its own library. I'm the teacher-librarian in the middle school, and there are two other teacher-librarians, one at the junior school and one at the senior school. From the beginning, the three of us have worked as a team: we meet regularly, we create professional goals together, we collaborate on common projects, and once in a while, we attend conferences together. In addition to my role as teacher-librarian, I also teach an ESL communication skills course and an exploratory course with a different focus each term ranging from a *Dance Dance Revolution* video game club, to a reading and beading book club, and most recently, to a mystery book club. As one of my extra-curricular duties, I also have a library council where students review new books and take part in events such as a haunted library sleepover, a booklovers' book buying expedition, and a book-making workshop.

Although my life-long interest in books was what first drew me to school libraries, my job has given me many opportunities to pursue a more recent interest in

computers. From the moment I arrived at the school, I felt like I was in technology immersion. I went from doing report cards on a computer to teaching computers in my first year, and I liked the challenge. The school was moving ahead so quickly with technology that I suggested there be an educational technology committee, and eventually I was asked to chair it. We surveyed staff on their use of computers, we organized mentors to offer extra help, and we brought in speakers to talk about integrating technology into curriculum. The school now has wireless Internet access throughout, all computer labs are updated on a three-year rotation, all school communication is handled through email, we are mapping our curriculum online, and we are using Moodle, a course management system (CMS),[1] as an online space for teachers to post resources and activities.

Technology Professional Development

Technology has been an ongoing priority in our libraries as well. We have recently moved to our third automation system, we are exploring e-books and downloadable audio books, and all three of us are pursuing technology professional development. In the last couple of years, I have done workshops and webinars on gaming for teens, libraries in Second Life, podcasting in libraries, social networking and libraries, and several online conferences about the future of school libraries. One of my favourite experiences was the Internet Librarian Conference because it allowed me to see how public, academic, and school libraries were using technology to connect to their

---

[1] Moodle is the acronym for Modular Object-Oriented Dynamic Learning Environment. Unlike commercial course management systems such as Blackboard, Moodle is open source, which means there is no cost to use or redistribute it, and developers can access its source code to modify it.

communities in new ways.

Throughout this time, I had also been pursuing my own professional development. I had finally decided to do a master's degree in library and information science so I could work in other kinds of libraries one day, but to my surprise, I discovered there were no online programs in Canada. Instead, I enrolled in an online master's degree program in distributed learning at Royal Roads University to study libraries and distance learning, but the program was not what I expected, so I transferred to the University of Alberta. I already knew I liked children's and young adults' literature courses from my UBC program, but I was delighted to discover some new and surprising interests through this program: I had never read comic books and graphic novels before, and they turned out to be an unexpected pleasure. I learned how developments in online library catalogues were enhancing access to books and connections to readers. I explored the ways in which online information literacy tutorials could be used to extend library support. I also discovered role models who still influence me today such as Joyce Valenza with her school library website that evolved from an individual creation to a student collaboration, and Helene Blowers with her public library Learning 2.0 program where playful online activities were the professional development for her staff.

For a number of years, all the teachers in my school had been required to have technology integration as a professional goal. I had always chosen to explore online library support for my goal because I could see that students were doing more and more research online, and while some of it was still in the library, much of it was in the computer labs, the classrooms, and at home. I recorded and posted MP3 files for my ESL students to practice lines from plays, I set up a wiki for senior and middle students to

compile a shortlist for a reading program, and I experimented with a wiki as a library website because my own library website, which was maintained by someone else, wasn't keeping up with the just-in-time needs of students. I could also see that Moodle, our course management system, was becoming the place where students went as soon as they logged onto the network, and I began to wonder if the library needed to be there, too.

One Period for Information Literacy

I had also come to the conclusion that, since information literacy skills were life skills, I had to find a better way to ensure that I saw all students regularly. I had always relied on collaboration with teachers to achieve this, but every year I saw some students all the time and other students almost never. I started to consider whether an information literacy period like the computer teacher's technology periods could be a solution. He taught all students twice in a ten-day cycle, so his course was included in the report card, which gave it visibility. I thought information literacy needed the same visibility, especially since there had been no new provincial school library document in BC since the early nineties. Subjects such as English and Social Studies do have information literacy learning outcomes within their provincial documents, but no mention is made of the teacher-librarian's role. Those learning outcomes are the responsibility of teachers, and teacher-librarians are involved by invitation, not as an expectation.

I discussed the idea of the information literacy period with the computer teacher, and we decided if it were added to the existing technology periods, it could further the work we were already doing together. For some time, we had been presenting ourselves as a partnership when we planned with teachers because, although we had different areas of expertise such as reading or programming, our interests were the same when it came to

information literacy. Sometimes projects would require just one of us, but we would always check whether the other person should be involved in case skills or resources could be added. We decided to make our proposal to our administration, and the two-period technology course became a three-period information literacy and technology course. For the first time, I knew I could count on regular access to all students throughout the year.

Many examples of activities from grade six illustrate how we work with teachers to integrate our skills into their content: Students began the year with an online activity about Internet safety for Health and Career Education, and then they discussed their personal safety rules in a forum in Moodle. They then moved to activities for their Humanities course. They created user accounts for the library catalogue and learned how to search, sign out, renew, and place holds on books. They chose books set in other cultures for literature circles, and they posted responses to their reading in a Moodle forum. They set up user accounts for two readers' advisory databases, searched for multicultural fiction, and created booklists of their choices. They then read examples of book talks in one of the readers' advisory databases, and they wrote their own book talks and recorded them as MP3s. They compared Canada and Australia by using online encyclopedias and websites they had evaluated, they took notes on the information, and they created an MLA Works Cited list. They then used that information to write a fictional story of a trip to Australia, and they mapped out their journey in Google Earth.

The skills I have taught this year are similar to the ones I taught last year; the difference this year is that I can teach these skills to all students. Despite this progress, there have been challenges that I didn't anticipate. The first was that students were

grouped differently for our course than they were for subjects such as English, Social Studies, and Science. Particularly in grade seven and eight, we have had to integrate what we teach into different assignments according to which teachers the students have. The second was that with three periods in ten days, there were lengthy gaps between classes whenever there were interruptions or holidays. Since I teach only one of the three periods, I would not see students for a couple of weeks if they missed my class. The third was that activities begun in one person's class often carried over into the other person's class, so both of us had to be able to provide support for what the other taught. Our course is a face-to-face course, but given the number of periods, and given that all the work is in Moodle, it's also like an online course.

Purpose of my Capping Paper

My goal for the information literacy period was to ensure that I connected to all students. In achieving that goal, I discovered a new goal, which is to ensure that all students connect to the library. Based on my observations, I have come to the conclusion that the students needed online support for the information literacy period. Based on my reading, I have become convinced that the online support needs to be in a place where the students already are, and in my school that is Moodle. The purpose of my capping paper is to explore how to integrate the middle school library into Moodle to provide online support for the information literacy period. I will examine research and professional literature on the topics of students online, information literacy online, online information literacy tutorials, and the integration of libraries into course management systems. I will begin to create a middle school library presence in Moodle, and I will share this work with the other two teacher-librarians in my school so that we can work together to

develop a K-12 library presence in Moodle.

Literature Review

Students Online

A number of studies have shown that technology has become a part of even the youngest students' lives. The Media Awareness Network's national survey, *Young Canadians in a Wired World – Phase II* (2005) investigated the online behaviour of 5200 grade 4 to 11 students and found that 94 percent were accessing the Internet from home. They were using email, online gaming, instant messaging, and chat rooms for social connection, and they were choosing the Internet rather than the school library for assignments and research. At the grade 4 level, 62 percent of students preferred the Internet, while 38 percent chose the library; at the grade 11 level, 91 percent of students preferred the Internet, while only 9 percent chose the library. Despite their preference for the Internet, some students did express a desire to learn how to find and evaluate information, and how to protect their privacy. In a news release about the study, program director Cathy Wing described the role the Internet plays for young people: "the Internet isn't another world; it's an extension of kids' lives" (*YCWW-II*- News Release, ¶ 6).

Generation M: Media in the lives of 8-18 year-olds, a study by the Kaiser Family Foundation (2005), looked at the time that American students from grade 3 to grade 12 were spending with technology and found that it averaged six and a half hours per day. This included new media such as computers, the Internet, and video games, as well as old media such as TV and music. This amount of time appeared to be only a slight increase from the first study in 1999, but the actual increase was greater because students reported that they were multi-tasking by using more than one technology at a

time. The report concluded that "young people ... inhabit an environment that is not just media-rich – it is media saturated" (p. 21) and this affects expectations and preferences in many parts of their lives.

The *Pew Internet & American Life Project* has also researched the impact of the Internet on young people's lives. Lenhart, Hitlin, and Madden (2005) found that the majority of American teens were using the Internet for social interaction, shopping, gaming, and information. Instant messaging (IM) had become the choice for personal communication while email was used only for formal communication. Teens considered the Internet to be an important component of their education; however, in a qualitative study of the attitudes and behaviours of middle and high school students, Rainie and Hitlin (2005) discovered that most educational use of the Internet occurred outside of school. Obstacles to effective use of the Internet in schools included poor computer access, restrictive filters, and unimaginative assignments.

According to Prensky (2001a), today's students are "digital natives" while their teachers are "digital immigrants," and this mismatch creates a challenge for schools. Because students have been surrounded by technology since birth, they think and learn differently: they are visual learners, they multi-task, they prefer games to work, they don't like to wait, they thrive on rewards, and they're always connected. These students, says Prensky (2001b), have "hypertext" brains, and to reach them both content and methods must change. Prensky (2005) urges schools to find ways to integrate kids' "technology-rich after-school lives with their lives in school" (p. 13). Geck (2006) uses the term Generation Z to describe young people born after 1990. The graphical web browser was introduced around that time, and it transformed the difficult-to-access, text-

based Internet into the accessible, hyper-linked World Wide Web. These young people have grown up in a digital world where they can connect to the Internet for information, communicate with one another constantly, and collaborate to create content online. Because they have never known anything else, Geck states that they are likely to have "heightened technical expectations, attitudes, and beliefs" (p. 20) which can influence how they perceive libraries.

Information Literacy Online

Some commentators see a range of problems with young people and online research: they do not "work at getting high-quality information when they can quickly find information that will both satisfy and suffice" (Agosto, 2002, as cited in Valenza, 2005, p. 54). They do not know how to do academic research, and they need online guidance about the range of search options and resources available to them. They are not aware of resources beyond what they find with Google, and even then they do not go beyond superficial searches (Geck, 2006). The Internet is being used as an "electronic textbook" (Burns, 2005, p. 50) so young people must be taught how to evaluate information to make decisions, to create new understandings, and to apply those understandings to new situations. Results from the Educational Testing Service (ETS) suggest that these concerns are valid. The American non-profit testing group administered their new ICT Literacy Assessment Core Level test to 3000 college students and 800 high-school students and found that only 13 percent were information literate: "college students and high-school students preparing to enter college are sorely lacking in the skills needed to retrieve, analyze, and communicate information available online" (Foster, October, 2006, ¶1).

In their review of the literature, Loertscher and Woolls (2002) comment on the increasingly important role of information literacy in school libraries. However, at the same time that information literacy skills have become more important, studies by Schacter, Chung, and Dorr; Grover, Fix, and McMahon Lakin; and Geffert and Christensen (as cited in Loertscher & Woolls, 2002) show that students from elementary to college level consistently over-estimate their ability to conduct searches. Large, Beheshti, and Breuleux (as cited in Loertscher & Woolls, 2002) observed that students do not "intuitively acquire skills in information strategy formulation simply by the amount of time spent at the computer" (p.18). Students bypass the library, go straight to the Internet, and they don't ask for help. Integration into curriculum is the key to this issue because students need to practice information literacy skills in small and large ways that culminate with demonstration projects (Lorenzo & Dzuiban, 2006).

The challenge for teacher-librarians is to ensure that all students learn information literacy skills. Provincial school library policies have had information literacy as a goal for years, but provincial curriculum and technology documents integrated information literacy into subject areas and made teachers responsible for those learning outcomes without any mention of school libraries or the role of teacher-librarians (Doiron, 1998). The school library community has its own national information literacy standards (Asselin & Branch, Eds., 2003), but they are guidelines for developing school library programs. Hartzell (1997) referred to teacher-librarians as "invisible" professionals and advised that they find ways to demonstrate that their contributions were integral to the success of the school as a whole. Providing information literacy support that connects learning outcomes to standards is one way to make a visible contribution.

Many students use the Internet as their library (Arafeh, S., Levin, D., Rainie, L., & Lenhart, A., 2002). They like the ease of access, the simplicity of searching, the up-to-date results, and the range of choice. Yet many students do not have the necessary information literacy skills to access, evaluate, and use information effectively (Oblinger & Hawkins, 2006), so they do not benefit from the quality information sources and information literacy support school libraries already provide. According to Madden (2006), "teenagers are increasingly becoming library immigrants in a land of library natives" (slide 9) and although they need the resources and services that libraries offer, they are the last ones to realize it.

School Libraries Online

Young people need coaching throughout the research process, and virtual libraries can provide support for this (Valenza, 2005). They "expand and reinterpret library service" (p.1) by offering online library services and supports that complement the physical library's services and supports. A virtual library provides students with both "independence and intervention" (p.1) by means of interfaces that organize high quality resources at the same time that they instruct students in their use. A virtual library can also support ethical use of information. Documentation of sources is a precise process, and style sheets and online citation-makers help students do it correctly. Online lessons in information literacy skills such as summarizing and paraphrasing can provide students with just-in-time support. A virtual library can also be an archive for collaboratively developed curriculum that connects to a wealth of online resources.

Church (2003) gives examples of how online school libraries can support students virtually by providing them with "sources and services at point of need" (p.3).

It's important to collaborate with teachers on pathfinders to support research assignments, and to create or collect information literacy skills lessons that provide assistance when and where students need it. Online tools and tips about searching and evaluating information are also useful. Online school libraries have the potential to guide students to valuable resources purchased or selected by the library as well as to Internet content.

Oberstein (2006) reports on how her school library became an "integral part of the campus in a nontraditional, innovative way" (p.1). Through technology-rich units that linked to online resources as well as online lessons and tutorials, she made certain that her virtual school library connected to as many parts of the curriculum as possible. Her school library web page was central to achieving this, and it has helped to create a virtual school library community. According to March (2005), involving young people in the creation of online resources is an important way to develop a sense of community: a project such as a collaborative class website can produce learning that is "rich, real, and relevant" (p.14), and it can also shift students from "passivity and consumption to action and creativity" (p.17). Schrock (2002) focuses attention on virtual pathfinders, collections of evaluated and annotated links to resources, which are of particular interest because they can connect curriculum and resources, and they can provide just-in-time support for student learning

Although technology has been part of libraries for years, Lippincott (2005) believes it has resulted in modernization rather than transformation. Libraries are text-based systems that require expert explanation and are designed to be used by individuals, not groups. Students have become accustomed to multimedia, to multi-tasking, to working in groups, and to figuring things out for themselves. The difference between

library culture and student culture becomes even more obvious when libraries are not integrated into course management systems, when there are no provisions for student creation of library information, and when students rely only on Google for information. Libraries need to consider student information-seeking behaviours and information literacy needs in order to design support systems that work (Lippincott, 2005). Many libraries have made their physical space more inviting, and they need to do the same for their virtual space now. If a library's virtual resources and services are not easily accessible to young people, then they will go elsewhere, never knowing the wealth of information they are missing (MacDonald & Thomas, 2006).

According to Neuman (Chelton & Cool, 2004, p 65), there is no doubt about the potential of digital libraries to provide an environment rich with resources; however, there is some doubt about its potential to provide an environment for learning. It is challenging to ensure high-level learning happens in a physical library; how will we ensure that it takes place in an online library? Answers to this question can be found in research, theory, and practice from several fields. Both information studies and instructional technology provide insights into how students access, evaluate, and use resources, and how they learn from the use of those resources. Information literacy provides a framework for understanding the challenges of learning with online resources (p. 66). "The challenges and the opportunities, like the virtual library itself, are virtually unlimited and only beginning to be explored" (pp. 90-91).

Information Literacy Tutorials

Although there is little research on information literacy tutorials that relates to school libraries, there is much that can be learned from work done in academic libraries.

At the university level, the advantage of online information literacy tutorials is that they provide students with flexible access to library instruction, but their disadvantage is that they require computer technology, computer literacy, and self-motivation (Hadengue, 2004). In terms of their effectiveness, a causal-comparative quasi-experimental research study (Alexander & Smith, 2001) compared the achievement of traditionally instructed students and web-instructed students in a university library skills credit course and found no significant difference. The study suggests that web-based instruction appears to be a viable option for library instruction but also recommends further research since this is an area that is relatively new. Case studies of college and university online information literacy tutorials (Bender & Rosen, 2000; Hansen, 2001) include examples of tutorials that range from a credit course integrated into the course management system with discussion postings, short essay questions and a research notebook, to an interactive web-based tutorial for on-campus users that consisted of modules for searching the library catalogue, accessing databases, finding articles, and using information on the Internet.

At the middle school level, there are few examples available. Arnone and Small (2001) report on a web-based tool for K-8 teachers and teacher-librarians called S.O.S for Information Literacy. Based on situation-specific variables (S.) and desired instructional outcomes (O.), suggested instructional strategies (S.) are generated which link to an online database of video and multimedia demonstrations for information literacy teaching. Junion-Metz (2004) recommends the Kentucky Virtual Library's Research Rocket as an excellent example of an interactive multimedia website designed to teach research skills to middle school students. It has a board game format with animation, audio, games, and quizzes that appeals to visual learners. Although both of these

examples are large-scale undertakings, a simple method that individuals can use to create tutorials is screencasting (Kroski, 2009). With nothing more than software and a microphone, it is possible to create a video that captures everything that happens on a computer screen and includes an accompanying audio explanation. In creating any kind of online information literacy tutorial, it's important to consider principles of instructional design. Dewald (1999) reviewed the principles of face-to-face bibliographic instruction, and then analyzed web-based tutorials for evidence of those principles: integration into assignments; opportunities for active learning and collaborative learning; information presented in more than one medium and based on educational objectives; concept-based, not mechanics-based learning; and the existence of options for further assistance. The author concluded that online tutorials could supplement face-to-face instruction but not substitute for it and recommended new standards be developed for web-based tutorials.

Library Integration into the Course Management System

Although I could not find literature on the integration of school libraries into course management software, it is possible to use examples of work done in academic libraries as a guideline. Course management systems are software that is designed to enhance teaching and learning. The software runs on a server and is accessed with a web browser. It provides tools for creating course websites that can include the ability to enroll students, upload and share materials, set up forums for online discussion, administer quizzes and tests, receive submitted assignments, and record grades (Cole and Foster, 2007). Shank and Dewald (2003) maintain that an understanding of the benefits of course management systems is the first step to integrating library services and resources.

Although there are a variety of course management systems available, most offer similar features to support resource sharing, communication, and assessment, and librarians can make use of those same features to establish a library presence. Course management systems should be a logical place for libraries given that online resources are increasing and information literacy instruction is moving online, however, this is often not the case.

If librarians wish to integrate their libraries into course management systems, there are barriers to overcome. Buehler (2004) finds course management systems to be "deficient overall in developing a built-in academic library component (p. 76); however, she urges librarians to find solutions because integrating library resources and services can provide all students with access to the same research assistance. Long (2002) points out that libraries, which were early adopters of technology, have not yet found their place in course management systems. Cohen (2002) suggests this is because librarians have not been involved in purchasing decisions for course management systems, nor have they been part of the consultation process with vendors of those systems. The result has been design features that accommodate the needs of courses rather than libraries. To change this, librarians must become more involved in discussions with vendors, and both must focus on the needs of students and teachers.

Despite barriers, there have been successes. Some have been the result of large-scale institutional initiatives, but many have been due to the efforts of individuals (Gibbons, 2005). Shank and Dewald (2003) outline two common approaches to integration: the macro-level approach in which a standardized library presence is created, and the micro-level approach in which a library presence is customized for different purposes. Examples of the macro-level approach could include, at the most basic level, a

link to the library website. The next level up would be links to resources on a library website such as a subject guide, an online citation-maker, or an online tutorial. The advantage of the macro-level approach is that it puts library resources and services into the course management system without much time or effort. A disadvantage is that librarians aren't involved in individual courses so students are less likely to develop connections to the library. Another disadvantage is that it may not meet student expectations for library resources to be at the same level of specificity as other course content.

Examples of the micro-level approach could include subject guides created for particular courses, an online discussion for research questions monitored by a librarian, or the assessment of student research papers by librarians. The advantage of the micro-level approach is that students get access to personalized services and resources. A disadvantage is the time and effort it takes, although it may also serve to create stronger connections between the students and the library. Another disadvantage is that librarians need faculty who are willing to collaborate with them in order to get access to courses. The ultimate goal of both approaches (Pyatt and Snavely, as cited in Gibbons, 2005) is that the "library no longer will exist outside the CMS; instead, the CMS will serve as a door to the library" (p. 24).

Although course management systems are usually associated with distance education, according to Cohen (2002), they are used most often in face-to-face courses to provide access to a range of resources with the one exception, all too often, of the institution's own library. This means students may not use library resources such as periodical databases and e-books, or selected Internet resources that librarians have

organized in consultation with instructors. According to Ashmore and McNeal (2008), connecting the library with the course management system is critical because each one enhances the other:

> What is most exciting about the use of course management software in conjunction with library resources and services is that by combining the two resources each tool becomes stronger and better equipped to serve the user. The course management software is enhanced by providing trustworthy resources that are often purchased by the university and are carefully chosen by librarians and teaching faculty. The library's resources are placed more conveniently at the point of need in the online classroom environment (p. 206).

Shank and Dewald (2003) caution that librarians "may well find themselves and their services being ignored in a world where library services and resources are not included in the courseware domain" (p. 38). They recommend the following methods of integrating the library into the course management system: virtual reference desk service; online catalogue and periodical database links; pathfinders, bibliographies, and webliographies; guides to MLA, APA, and other style sheets; email and chat reference; and online tutorials and quizzes, and questionnaires.

Why Use Moodle?

Moodle is different to other course management systems in several ways. It is open-source which means that developers can access the software's source code to fix problems or create new features, and there is a worldwide community of users who support and develop it. It is also free to use with no limit to the number of servers it can be installed on, or the number of users who can use it. The design of Moodle is based on

the educational philosophy of social constructivism, so there are many resources and activities available to teachers that allow students to learn by working together (Cole & Foster, 2007). Many schools already use Moodle, and based on the experiences of academic libraries, if a school is using Moodle, then the library should be using it, too.

Personal Reflections

Moodle in Middle School

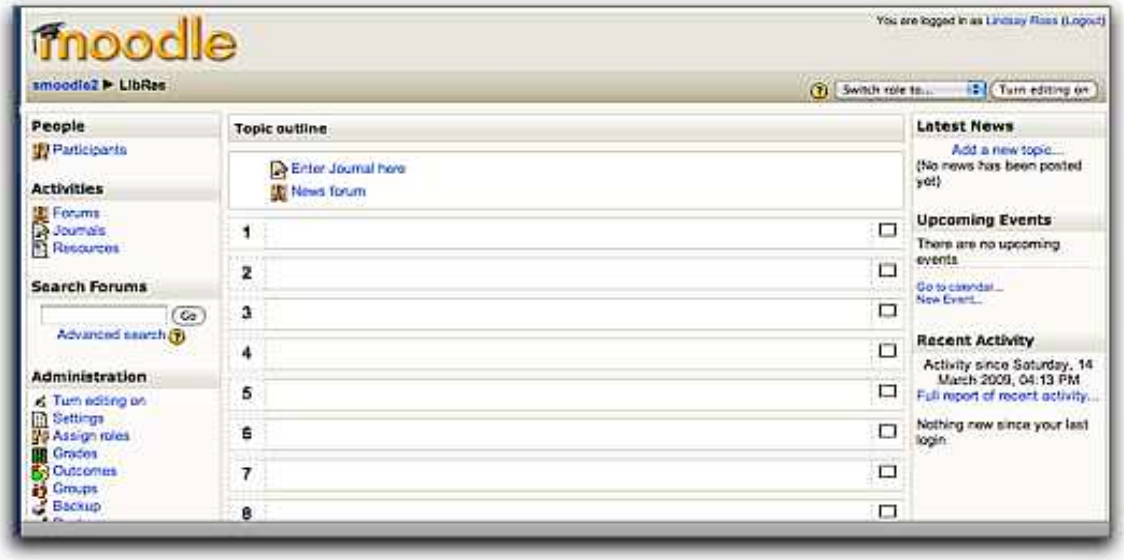
Many of the middle school courses are already in Moodle and more are being added all the time. In addition to the grade six, seven, and eight Information Literacy and Technology courses, Communication Skills, English, ESL, Humanities, Science, and Social Studies courses are also in Moodle now. So far, I have integrated the library into Moodle with links to the library website, which means that it has been almost invisible. The advantage to a library course in Moodle is that it would put the library on an equal footing with the other courses. The disadvantage is that the library is a resource, and not a course. Unlike other courses that can stand alone, a library course needs to connect. My first priority would be to provide online support for the information literacy period, but in doing that, I would hope to be able to provide support to other courses, too.

According to my literature review, there are barriers to integrating libraries into course management software, but since it ensures that libraries remain part of student learning, it is important to do it. From accounts of academic librarians who have integrated libraries, and the advice of those who have studied their efforts, I know some barriers will not be an issue for me. I already have a professional relationship with teachers in my school, I have permission to edit courses, and I teach all students in the

school. One kind of barrier that could be an issue is the design of course management systems because their purpose is to support courses, and not libraries.

Setting up the Library Course

The screenshot below shows what the library course looked like when it was first set up. At this point, I had made choices about the course settings, but I had not yet added any content. I had chosen to use the topics format rather than the weekly format because it is designed for courses that focus on concepts or have flexible schedules. Each topic can eventually include as much information as necessary. There are also modules, or blocks, that can be added to the course such as a calendar, a clock, a blog, a feedback form, and an RSS feed. Once the set-up is complete, students can be given a password that allows them to enroll themselves in the course:



Adding Resources and Activities

I discovered that I could start adding content to the course by making choices from two drop-down menus, although knowing what result each choice would produce

was not always self-evident. As the screenshot below shows, each topic section had the same two drop-down menus: The first was the "Add a Resource" menu which allowed me to add resources I had created such as documents or web pages, or to link to other courses within Moodle or websites on the Internet. To add a welcome message and a photo, I had to choose to add a resource called "Insert a Label," which took me a few tries:

The second menu is the "Add an Activity" menu and that is where the educational philosophy of Moodle becomes clear because many of the activity choices such as chats, dialogues, forums, glossaries, surveys, and wikis involve social construction of meaning. They are designed to be used to support collaborative learning and sharing of learning.

Deciding on the Approach and the Content

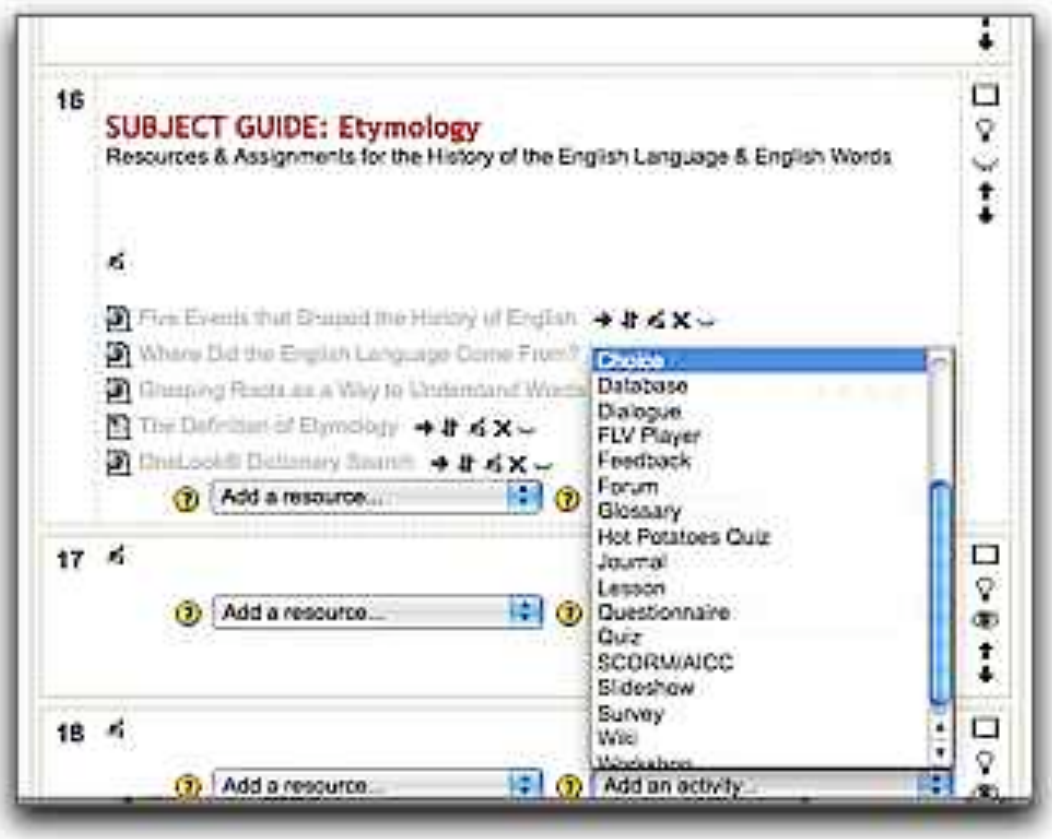
Since my goal is to provide online library support for my information literacy period, it makes sense to start with the macro-level approach because I can create a

standardized library presence that can be used for more than one grade level or course or activity. For example, students in the grade six, seven, and eight Information Literacy and Technology courses all work on a range of information literacy activities integrated into different assignments and projects. Elements of those activities, however, could be made available to be used for different purposes, and the screenshot below shows an example of this. All students need to know how to use the online catalogue, online citation-maker, online encyclopedias, periodical databases, and readers' advisory databases. I can decide the number of topics I want to include when I first set up my course, but I can also add topics later. I can also move them up or down in the list, or I can hide them until I want students to see them. I can also make similar changes within each topic, adding resources or activities as they are needed.

Creating Resources and Activities

Choices from both the resources menu and the activities menu could be used to provide online library support as the screenshot below illustrates. Some uses for

resources could include tutorials on how to use periodical databases, or pathfnders with online and print resources for projects, or booklists that include readers' advisory databases and websites. Some uses for activities could include forums to discuss information ethics, or glossaries for science research, or a wiki for themed booklists. Other choices of activities are intended to provide support for the online assessment of learning including drop boxes for online marking of assignments and quiz modules for online testing.



Plans for the Future

So far, what I have created is just the beginning of a middle library presence in Moodle to provide online support for the information literacy period, but I believe that

this is a process worth continuing. My library website is far more polished than Moodle, but if the students aren't using it frequently enough, then the time and energy required to maintain it aren't justified. When I want to add or change anything on the library website, I have to make a request and wait for it to be done. With Moodle, as I've already discovered, I can do the work immediately, or I can figure it out by trial and error. I can easily create online library support for my information literacy period, but I can also easily put together other kinds of support, whether in response to a carefully planned collaboration with a teacher, or a casual student comment overheard in the computer lab.

The ease of editing a course in Moodle means that I can focus on how to create online library support that goes beyond the screen-shot approach I've used so far. I've already experimented with audio, and it's time to try screencasting now. I plan to use my book-talking activity from this year as the starting point for an online tutorial about how to write and record book talks. I also plan to have the students create some of the online library support because it will help them learn, and it will catch the attention of their peers. Of course, I can also link to the many ready-made resources that are available online. Creating a middle school library presence in Moodle to provide online support for the information literacy period is just the first step because, as Ashmore and McNeal (2008) conclude, "where the students and faculty go, so should the library and librarians" (p. 199).

References

Alexander, L., & Smith, R. (2001, July). Research findings of a library skills instruction Web course. *Libraries & the Academy*, *1*(3), 309-328. Retrieved March 11, 2009, from Library, Information Science & Technology Abstracts with Full Text database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=lih&AN=ISTA3603210&loginpage=Login.asp&site=ehost-live&scope=site

Arafeh, S., Levin, D., Rainie, L., & Lenhart, A. (2002, August 14). The digital disconnect: The widening gap between Internet-savvy students and their schools. *The Pew Internet & American Life Project*. Retrieved March 12, 2009, from http://www.pewinternet.org/Reports/2002/The-Digital-Disconnect-The-widening-gap-between-Internetsavvy-students-and-their-schools.aspx

Arnone, M., & Small, R. (2001, November 1). S.O.S. for information literacy: A tool for improving research and information skills instruction. (ERIC Document Reproduction Service No. ED470194) Retrieved March 11, 2009, from ERIC database. http://www.eric.ed.gov:80/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1a/88/22.pdf

Asselin, M., Branch, J., & Oberg, D. (Eds.). (2003). *Achieving information literacy: Standards for school library programs in Canada*. Ottawa, ON: Canadian Library Association.

Bender, L .J., & Rosen, J. M. (2000). Working toward scalable instruction: Creating the RIO Tutorial at the University of Arizona Library. *Research Strategies*, *16*(4) 315-325. Retrieved March 13, 2009, from Elsevier Science Direct database. DOI:10.1016/S0734-3310(99)00019-1

Buehler, M. A. (2005). Where is the library in course management software? *Journal of Library Administration*, *41*(1), 75-84. Retrieved March 12, 2009, from http://www.informaworld.com.login.ezproxy.library.ualberta.ca/10.1300/J111v41n01_07

Burns, M. (2005, December). Tools for the mind. *Educational Leadership*, *63*(4), 48-53. Retrieved March 11, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=19270017&loginpage=Login.asp&site=ehost-live&scope=site

Canada's wired kids: Connected, active and younger than ever. (2005, November 7). *Young Canadians in a Wired World – Phase II* – News Release. Retrieved March 11, 2009 from http://www.media-awareness.ca/english/resources/media_kit/news_releases/2005/ycww.cfm

Church, A. (2006, November). Your library goes virtual: Promoting reading and supporting research. *Library Media Connection*, *25*(3), 10-13. Retrieved March 28, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/logi

n.aspx?direct=true&db=tfh&AN=22924173&loginpage=Login.asp&site=ehost-live&scope=site

Cohen, D. (2002, May/June). Course management software: Where's the library? *Educause Review*, *37*(3). Retrieved March 12, 2009, from http://connect.educause.edu/Library/EDUCAUSE+Review/CourseManagementSoftwareW/40341

Cole, J., & Foster, H. (2007). *Using Moodle: Teaching with the popular open source course management system* (3rd ed.). Sebastopol, CA: O'Reilly Media.

Dewald, Nancy. H. (1999, January). Transporting good library instruction practices into the web environment: An analysis of online tutorials. *The Journal of Academic Librarianship*, *25*(1), 26-32. Retrieved March 12, 2009, from Elsevier Science Direct database. DOI:10.1016/S0099-1333(99)80172-4

Doiron, R. (January, 1998). School library resource centre policies in Canada: Re-viewing our shared vision. *School Libraries Worldwide*, *4*(1), 1-14.

Foster, A. (2006, October 27). Students fall short on information literacy educational testing service's study finds. *Chronicle of Higher Education*, *53*(10), A36-A36. Retrieved March 12, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=22984125&loginpage=Login.asp&site=ehost-live&scope=site

Geck, C. (2006, February). The generation Z connection: Teaching information literacy to the newest net generation. *Teacher Librarian*, *33*(3), 19-23. Retrieved March 12, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=19832337&loginpage=Login.asp&site=ehost-live&scope=site

Gibbons, S. (2005). Strategies for the library: CMS integration barriers. *Library Technology Reports*, *41*(3) 24-32. Retrieved March 10, 2009, from the Academic Search Premier database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=lih&AN=17297356&loginpage=Login.asp&site=ehost-live&scope=site

Hadengue, V. (2004). What can e-learning do for university libraries? *Library Review*, *53*(8), 396-400. Retrieved March 11, 2009, from Emerald Fulltext database. DOI: 10.1108/00242530410556229

Hansen, C. (2001). The Internet navigator: An online Internet course for distance learners. *Library Trends*. *50*(1), 58. Retrieved March 13, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=5827797&loginpage=Login.asp&site=ehost-live&scope=site

Hartzell, G. N. (1997, November). The invisible school librarian. *School Library Journal*. *43*(11), 24. Retrieved March 1, 2007, from ProQuest database. http://login-.ezproxy-.library-.ualberta-.ca/login-?url=http://proquest-.umi-.com-.login-.ezproxy-.library-.ualberta-.ca/pqdweb-?did=22542633-&sid=1-&Fmt=3-&clientId=12301-&RQT=309-&VName=PQD

Huang, C. (2005). Designing high-quality interactive multimedia learning modules. *Computerized Medical Imaging and Graphics*. *29*(2), 223. Retrieved July 27, 2005, from Academic Search Premier database. DOI: 10.1016/j.compmedimag.2004.09.017

Junion-Metz, G. (2004, June). Desperately seeking study skills. *School Library Journal*, *50*(6), 30. Retrieved March 12, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=13409707&loginpage=Login.asp&site=ehost-live&scope=site

Kaiser Family Foundation. (2005). *Generation M: Media in the lives of 8-18 year-olds*. Retrieved March 2, 2009, from http://www.kff.org/entmedia/upload/Generation-M-Media-in-the-Lives-of-8-18-Year-olds-Report.pdf

Kroski, E. (2009, February). That's infotainment! *School Library Journal*, *55*(2), 40-42. Retrieved March 11, 2009, from Academic Search Complete database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/logi

n.aspx?direct=true&db=a9h&AN=36426977&loginpage=Login.asp&site=ehost-live&scope=site

Lenhart, M., Hitlin, P. & Madden, M. (2005, July 27). Teens and technology. *The Pew Internet & American Life Project*. Retrieved March 11, 2009, from http://www.pewinternet.org/Reports/2005/Teens-and-Technology.aspx

Lippincott, J. (2005, March/April). Net generation students and libraries: Educating the net generation. *Educause Review, 40*(2). Retrieved March 17, 2009, from http://connect.educause.edu/Library/Abstract/NetGenerationStudentsandL/43032

Loertscher, D. & Woolls, B. (2002*)*. *Information literacy research: A review of the research: A guide for practitioners and researchers*. 2nd ed. Castle Rock, CO: Hi Willow.

Long, P. D. (2002, March 4). Can Libraries Find a New Home in Courseware? *Campus Technology*. Retrieved March 12, 2009, from http://campustechnology.com/Articles/2002/03/Can-Libraries-Find-a-New-Home-in-Courseware.aspx

Lorenzo, G., & Dziuban, C.; Edited by Diana G. Oblinger. (2006). Ensuring the net generation is net savvy. *Educause Learning Initiative Paper 2*: 2006. Retrieved March 12, 2009, from http://www.educause.edu/ir/library/pdf/ELI3006.pdf

Madden, M. (2006). Young and wired: How today's young tech elite will influence the libraries of tomorrow. *The Pew Internet & American Life Project*. Retrieved

March 11, 2009, from http://www.pewinternet.org/Presentations/2006/Young-and-Wired.aspx

March, T. (2005, December). The new www: Whatever, whenever wherever. *Educational Leadership*, *63*(4), 14-19. Retrieved March 12, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=19270009&loginpage=Login.asp&site=ehost-live&scope=site

McDonald, R. H., & Thomas, C. (2006). Disconnects between library culture and millennial generation values. *Educause Quarterly*, 29(4). Retrieved March 11, 2009, from http://connect.educause.edu/Library/EDUCAUSE+Quarterly/DisconnectsBetweenLibrary/39994

Media Awareness Network. (2005). *Young Canadians in a Wired World – Phase II* – Key Findings. Retrieved March 1, 2009, from http://www.media-awareness.ca/english/research/YCWW/phaseII/key_findings.cfm

Neuman, D. (1997). Learning and the digital library. *Library Trends*, *45*(4), pp. 687-707. In M. K. Chelton & C. Cool (Eds.), Youth Information-Seeking Behavior (pp. 65-94). Lanham, MA: ScareCrow.

Oberstein, K. (2006, January/February). Invisible access: Innovative school library programs in a wireless world. *Knowledge Quest*, *34*(3), 12. Retrieved March 13, 2009, from ProQuest database.

http://login-.ezproxy-.library-.ualberta-.ca/login-?url=http://proquest-.umi-.com-.login-.ezproxy-.library-.ualberta-.ca/pqdweb-?did=985431701-&sid=4-&Fmt=3-&clientId=12301-&RQT=309-&VName=PQD

Prensky, M. (2001a, September/October). Digital natives, digital immigrants, part I. *On the Horizon*, *9*(5), 1-6. Retrieved March 11, 2009, from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf

Prensky, M. (2001b, September/October). Digital natives, digital immigrants, part 2. *On the Horizon*, *9*(5), 1-9. Retrieved March 11, 2009, from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part2.pdf

Prensky, M. (2005, December). Listen to the natives. *Educational Leadership*, *63*(4), 8-13. Retrieved March 12, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=19270008&loginpage=Login.asp&site=ehost-live&scope=site

Oblinger, D. G., & Hawkins, B. L. (2006). The myth about student competency: Our students are technologically competent. *Educause Review*, *41*(2). Retrieved March 10, 2009, from http://connect.educause.edu/Library/EDUCAUSE+Review/TheMythAboutStudentCompet/40622

Rainie, L & Hitlin, P. (2005). The Internet at school. *The Pew Internet & American Life Project*. Retrieved March 11, 2009, from http://www.pewinternet.org/Reports/2005/The-Internet-at-School.aspx

Schrock, K. (2002, September). The "new" virtual library: The virtual pathfinder. *Book Report*, *21*(2), 8. Retrieved March 13, 2009, from Academic Search Complete database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=7302781&loginpage=Login.asp&site=ehost-live&scope=site

Shank, J., & Dewald, N. (2003, March). Establishing our presence in courseware: Adding library services to the virtual classroom. *Information Technology & Libraries*, *22*(1), 38. Retrieved March 12, 2009, from Academic Search Complete database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9391586&loginpage=Login.asp&site=ehost-live&scope=site

Valenza, J. K. (2005, December). The virtual library. *Educational Leadership*, *63*(4), 54-59. Retrieved March 11, 2009, from Professional Development Collection database. http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=tfh&AN=19270018&loginpage=Login.asp&site=ehost-live&scope=site

Valenza, J. K. (2006a, February 3). School libraries and the 21st century learning landscape. PowerPoint presented at the *Ontario Library Association Super Conference 2006*. Retrieved March 11, 2009, from http://www.accessola.com/superconference2006/resources.html#f

Valenza, J. K. (2006b, October). They might be gurus. *Teacher Librarian*, *34*(1), Retrieved March 11, 2009, from ProQuest database. http://login-.ezproxy-.library-.ualberta-.ca/login-?url=http://proquest-.umi-.com-.login-.ezproxy-.library-.ualberta-.ca/pqdweb-?did=1135117991-&sid=2-&Fmt=3-&clientId=12301-&RQT=309-&VName=PQD

Young Canadians in a Wired World – Phase II – News Release. Retrieved March 11, 2009 from http://www.media-awareness.ca/english/resources/media_kit/news_releases/2005/ycww.cfm