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Literature Review

State of the E-Library

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This annotated bibliography and literature review will examine the current state of digital libraries around the world today. As our libraries begin the migration to the electronic and digital realm, there are many competing visions and issues involved in defining the role, scope, services, goals, and even definitions of what a digital library is and should be. This paper will look at some key articles that examine the current state of the union of digital libraries and some of the larger issues incorporated in creating and maintaining an E-Library for the Vancouver School Board's distance learning students.

ANNOTATED BIBLIOGRAPHY

“Defining a Digital Library” by Michael Seadle and Elke Greifeneder explores and attempts to define exactly what a digital library is or can be. This foundational article, expertly written and organized, brings in many current definitions of what an E-Library looks like and what experts around the world foresee as the directions that digital libraries should be heading. Seadle and Greifeneder frame their exploration through a seminar series by exploring the many definitions their graduate students at Humboldt University in Berlin found and discussed, eventually creating their own definition of what they think a digital library should be. “A digital library is the electronic provision of digital documents in connection with online services, building on the tasks of a traditional library, which enables worldwide access to its collection via the internet” (Seadle and

Greifeneder, 2007, p.172). I very much agree with this definition and find this to be exactly my aim in the creation of my own E-Library for the Vancouver School Board. Their definition incorporates the concept of a traditional library, and builds upon that model with more digital and distance learning possibilities, exactly my own aim. Seadle and Greifeneder summarize their article with some very important warnings to the future digital librarians; that they must never forget the most important goal of librarians everywhere: the protection and preservation of our common knowledge and resources for future generations, digital or not.

“What are digital libraries? Competing visions” by Christine L. Borgman builds upon these definitions of what a digital library should aim to be, and offers up some insight into the two main directions that digitization and library services are heading. Borgman outlines the two competing visions of digital libraries; one, a research based approach, which envisions digital libraries as content collected and organized on behalf of their users, for example, databases. The other competing vision is that of a practical perspective; that a digital library is an institution or organization that provides not only digital content, but also digital services to their users. My own research, development, and implementation of a digital library has been focused on the practical side of this debate. I aim to replicate and provide as much of the resources and services of a traditional library, but in a digital, distance-enabled model. Borgman also goes on to describe the possibilities of digital libraries in “becoming ‘enabling’ technologies” and essential in providing distance based learning opportunities. (Borgman, 1999, p. 239).

This is of special interest to me, as that is the entire purpose of my E-Library with the Vancouver School Board.

“The Roles of Digital Libraries in Teaching and Learning” by Gary Machionini and Hermann Maurer builds upon this discussion by exploring how to use a digital library, in the practical definition, in supporting teaching and learning in the public and post-secondary education systems today. This article was a fresh and very practically focused review of the possibilities and opportunities that are present due to the development of the digital library. Machionini and Maurer declare that digital libraries have very important roles to play and that these new roles and technologies will allow “parents, teachers, and students to share common information resources and to communicate easily as needed” (Machionini and Maurer, 1995, p. 75). This provision of service is a very important and useful goal that is desperately needed in the distance learning school system that is rapidly expanding throughout British Columbia today. By implementing some of the author’s suggestions that they discuss in the article, including the realignment of the traditional classroom model of teacher-centered knowledge dissemination to a modern, more student-centered model, where students take over responsibility, ownership, and navigation of their learning, relying on teachers only for mentorship, guidance and moderation, we can begin shifting the power structure of the traditional learning model. One of the most apt forecasts of the authors in the article is that the “digital library will go beyond reference to serve as teachers on demand” (Machionini and Maurer, 1995, p.74). Overall, this is a very insightful, practical and

inspiring article that builds upon a common definition and offers a strong vision of everything that a digital library can be.

“Librarians evolving in Cybrarians” by Janet Murray, brings this discussion of digital libraries further into the practical and specific world that I am researching. Janet Murray explores the evolution of school-based Teacher-Librarians and how they can build their library programs to better serve and prepare their students for the information-rich world that they will soon inherit. While this article is very brief it offers an insightful discussion of the history of public school based Teacher-Librarians and their migration onto the internet as well as an overview of the different roles or ‘hats’ that Teacher-Librarians need to wear when developing a solid digital presence for their library program. Murray succinctly describes these roles as: “Navigators.... Teacher and Collaborator.... Evaluator.... Publisher.... Program Administrator.... Staff Developer.... Family Resource” (Murray, 2000, Multimedia Schools). All of these roles play an important part in creating a strong digital library to complement your in-school program. I very much agreed with her practical advice, tools and strategies on how to engage your audience from a distance and to use your expertise as an Information Manager to teach information literacy skills to your patrons, students, teachers and parents.

Moving back from the specific and practical and into the theoretical again, we take a look at Kenneth Arnolds’ article titled “The Electronic Librarian Is a Verb/ The Electronic Librarian Is Not a Sentence”. Arnolds explores the role of the Digital Librarian, or Cybrarian in our society as a whole. Arnolds asks the tough questions such

as: what it means to be a librarian in our new information saturated world? What usefulness and service can a Digital Librarian provide in the age of Google? Arnolds acknowledges that there is no longer a need for a digital Alexandria, or central depository for all the knowledge and writing from around the world. This is an issue that has already been addressed with the advancement of storage technologies and the interconnectedness of our information based world. What matters now is how to find the right information when you need it most. This is where Arnolds' analysis becomes most interesting and applicable to this study. Arnolds' premise is that a "library should supply patrons with expanded access to resources beyond the library itself" and that "librarians still need to provide context for patrons" and finally, that "libraries need to use these new resources to expand access" (Arnolds, 1995, Journal of Electronic Publishing, ¶56). I especially agree with Arnolds supposition that librarians are information retailers and that they need to sell themselves as value-added support for our increasingly information rich world (Arnolds, 1995). A digital librarian is perfectly suited and skilled to become the new lighthouses illuminating their patrons through this vast dark sea. However, Arnolds does summarize his article with one stark warning that whenever major power structures, especially ones as deep seated and foundational as the library and librarian knowledge repositories, face changes, challenges to the existing power structures will result in protracted battles from the established hegemony.

"The Library is Dead, Long live the Library! The Practice of Academic Librarianship and the Digital Revolution" by Lyman Ross and Pongracz Sennyey continues the discussion and examination of the changing power structures and

hegemony in the Library world. Ross and Sennyey examine the reaction of grand research libraries and their strategies to remain relevant and prominent in our new digital world. They summarize that many of the classic traditional libraries have responded with “fine-tuning the time-proven model – obsolete though it may be – rather than recognizing that the marketplace has made a discontinuous switch to an altogether new model” (Ross and Sennyey, 2008, p. 151). This new model, which the authors dissect into three goals: services, collections, and ‘library as space’ offers a chance for the traditional to take the best aspects of the old model and add them to their new visions, creating a new definition and relevance in our information world. “In a digital environment, the distinguishing characteristic of great libraries is that they will create virtual environments that are compelling and efficient to use, and are sensitive to the patron’s productivity.” (Ross and Sennyey, 2008, p.150). By refocusing the concept of a library to be centered around the patrons and users, rather than the collections, the library will survive this profound transition, redefining the role and purpose of librarians and libraries to be more than stacks of books, study halls and reference desks. The digital library can replace so much more than a physical space, it can be a virtual hub to all information around the world, centered on providing the patron with all the tools and services they need to find the most relevant and appropriate information they need.

LITERATURE REVIEW

Just as we started the Annotated Bibliography with the simple and foundational question of ‘what is a digital library’? It is very useful for this overview and discussion to explore what a digital library is to this specific study and project. The concept of a digital library is a constantly moving and evolving target. Due to the increasingly complex and fast moving development of technology, both in storage and archival tools and also in communication and interaction capabilities, the two main purposes of the digital library as I see it, are coming together very nicely. So, what is this E-library? The E-Library, as informed by the annotated bibliography, is trying to replicate and provide the same resources, spaces, tools and services that a traditional face-to-face school library provides, but in an entirely digital and virtual way. By framing the development and implementation of my E-library within the existing and traditional model of a school library, I will hopefully create a space that is new, yet familiar; a library that feels like any other library in a school, but exists exclusively on the internet. This project and study will be an overview of what I have already created for the Vancouver Learning Network, a Distance Learning Secondary School for the Vancouver School Board. We are the biggest and one of the oldest Distance Learning schools in the province and are uniquely situated to develop this resource as a model for the other Distance Learning programs around the province.

It is important to discuss the roles and aims of this new type of library in our information based world. First, it is vital to note that a digital library is not a ‘web-

interface' for a traditional school library. Simply letting your patrons search your collections from the comfort of their own home, but then require them to come visit your library to use the selected resource does not make your library digital. A digital library, as defined by Seadle and Greifeneder, couples the provision of digital documents with distance based services and tools, enabling world-wide access to its collections and librarians, from anywhere, at anytime. This is a profound and noble goal that has not yet been achieved, but I feel is very close and will change the way the world interacts with their libraries, librarians and information.

There are two main competing visions of what a digital library is right now. These two visions are split between two ultimate goals. The first, and one that I feel is an incomplete and inferior goal, is that digital libraries are simply databases of information, collected, organized and provided by Librarians over a web-interface. This is referred to by Borgman as the “research” based approach and prioritizes the actual data and metadata over the users. This is in stark contrast to my own goals and aims of my E-Library, in that I am focused exclusively on my users. This is referred to by Borgman as the “practical” based approach to developing a digital library. The ultimate purpose of the practical digital library is to provide information and research services to the users that need it, when they need it, wherever they need it. While I acknowledge that the collection, organization and provision of vetted information and data, coupled with well formed meta-data makes searching and finding the information the users need easier, there is no point in having the most organized and vetted database in the world if you have no needs, purposes or users who will utilize and access this information.

Another important distinction to make when discussing the current state of digital libraries is to examine your audience. Comparing an audience of kindergarten to grade twelve students with post-secondary and graduate students, you will find vastly different needs and capabilities. My E-Library is focused on the distance based secondary students of the VSB, and thus, I do not need to expand my resources and services to meet the more advanced needs of post-secondary and graduate students. Instead, I can develop the role of the E-Library into a virtual space that will assist in the teaching and learning of my distance learning students. The E-Library offers a unique perspective to my online students in that it is a cross-curricular area that is focused on how to become an informed, skilled and efficient information based manager, fully invested with information literacy based skills. Because digital libraries are not exclusive to Science, English, or Math, we can focus on the higher order thinking and learning skills. As discussed by Marchionini and Maurer, the digital library offers a unique opportunity to begin offering new types of services and information based skills to the students of today and tomorrow. The E-library will assist teaching and learning by giving the students the foundational information literacy skills that a normal school library could provide to students who come down as a class to learn. However, where things begin to change is that now, teachers and librarians will be releasing the reins and passing over ownership and responsibility for learning over to our students, regulating ourselves to the background as mentors, guides and moderators. This is a profound shift that is fully explored by Marchionini and Maurer and cannot be understated.

The E-Library, due to its course-agnostic role, is fortunately positioned to help students and teachers make this very large and profound transition in the next few years. The traditional classroom model of the Teacher as disseminator of knowledge and the only ‘expert’ in the room is definitely fading away. Today, in our networked and information saturated world, there can be no ‘experts’ or ‘renaissance’ teachers. Everyone has the same access to the same knowledge out there on the internet. Only some people, like librarians, working within a digital library, can teach students how to become their own information researchers and data-miners. Cybrarians, as discussed by Janet Murray, have a new role to play in helping graduate a new generation of students that will flourish and thrive in our information based world. Cybrarians can teach our students how to be navigators, evaluators, referencers, collaborators, and publishers. These are all new roles that will be exciting and offer tremendous opportunities to our students and children as they inherit our strange, new, and information-based world. We have come a long way from the very first list of hyperlinks published by Kathy Shrock, in her “Guide for Educators” website she began publishing in 1995 (Murray, 2000). At first, Cybrarians began by just finding and vetting good, trustworthy websites for students to explore; similar to a traditional librarian going through the stack of books and selecting some of the best books out there. Does this help our students become strong information managers? Definitely not, but those were the first important steps that the librarians took into the digital realm and need to be recognized as the first few steps on this long journey we are travelling along.

This leads us to an important question. Now that we know where we are in the state of digital libraries, where are we going? I believe this new direction into uncharted territory is best exemplified by Arnolds' description of the digital librarian as a "verb". This redefinition shows that our world is no longer static, organized, and predictable. There is too much information, resources, changes, and new technologies to expect the same search results twice, thus the need for a new type of librarian who can adapt, work on the fly, and continually update and teach themselves new skills and tools. This new world, as explored by Arnolds, centers the new information based world around key 'mavens' that are the lighthouses, or verbs as he describes them:

The librarian as a verb is a useful image, I think, because it implies movement. In the past the librarian, unlike most professionals, has been associated with a place, the library, a building. In the future, the librarian will be a vector, searching for and establishing connections. The library in which this librarian works is more a state of mind than a location. It is a set of neural connectors. And that is why the place called library is not a sentence in which the electronic librarian dwells. (Arnolds, 1995, *Journal of Electronic Publishing*, ¶64)

Without these new guides, the information based world will become an un-navigable sea, with all those who venture forth, lost within the vast amounts of information. This deconstruction and re-building of the librarian model is also thoroughly discussed by Ross and Sennyey. The purpose, and I agree with their statement that "the shift to a digital environment brings the very identity of the librarian under question" (Ross & Sennyey, 2008, p. 147), of the new librarian is to rebrand the library and librarian to be the center of all things digital and information based, face to face or remotely, through distance technology. Ross and Sennyey's discussion in their article, "The Library is Dead, Long live the Library! The Practice of Academic Librarianship and the Digital

Revolution” offers practical suggestions on what exactly a digital librarian and library can offer its patrons. They have much insight into the possibilities and also pitfalls of this new model and their article can help envision the direction we all should be heading. Ross and Sennyey offer up a well written mission statement for all budding Cybrarians; “[i]n a digital environment, the distinguishing characteristic of great libraries is that they will create virtual environments that are compelling and easy to use, and are sensitive to the patron’s productivity” (Ross & Sennyey, 2008, p.150). With these words as our guides, we will become again, an essential and vital aspect to our communities, societies, countries, and world, helping our patrons with our unique and highly valuable collections, skill-sets and mentorship.

As we venture forth into this great unknown that is digital libraries, we have much pedigree and history to reflect back upon. The concept of libraries and librarianship will never change, but the impact, role and importance of these services, collections and spaces needs to be modernized and rebranded as absolutely essential for the citizens of our societies. The libraries always have and will be for the people, and it is them that must be kept as the foci for the new digital libraries. Increasingly, our digital collections will be populated by our students and patrons and it is the cybrarians that will organize and help navigate these virtual spaces and collections. E-libraries are exactly what the information based world will need in order to take advantage of and learn how to navigate this exciting new age.

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