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Librarians Going Mobile: Applying “Threshold Concepts” to the Design of E-Booklets for Library Instruction.

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Abstract

Assuming that students no longer read printed handouts, many librarians have stopped producing printed handouts after observing the piles of paper that remain after library sessions. Libraries have transitioned comfortably to providing online access to handout information via subject and course guides, and now need to make a more complete transition to making them mobile. Although only four in ten college students own a tablet, 75% own a smart phone, and over a third of students intend to purchase either a tablet or a smart phone in the next six months. (“Pearson Student Mobile” 7). Librarians are all aware that tablet and smartphone use in the college classroom is on the increase, and already some courses are instituting mandatory tablet requirements.

In 2011 the author began to publish an information literacy E-Booklet series called “6 Quick Tips.” The e-booklets are used in classroom instruction and are downloadable on iPad, Kindle and Android devices. This paper will discuss how the theory of “threshold concepts” influenced the design and content of the e-booklets, point to Sigil and Calibre as software used to design the e-booklets and model an instructional learning activity in which the students will use the e-booklets in a classroom setting.

Background.

In an effort to increase enrollment and retention the University of Nebraska-Lincoln (UNL) established 21 first year learning communities for students with common majors and career interests. These learning communities consist of first year students with similar academic goals, who live in the same residence halls, enroll in common classes, and participate in community events to support their curriculum. These unique social and scholarly environments offer smaller class sizes, and cultivate distinctive approaches to teaching, learning and research that are exclusive to each learning community. Each community requires that the students be involved in common academic experiences and social events that enhance their learning and relationships with the faculty and also with other students.

In 2012 the University of Nebraska-Lincoln Libraries created a new position, the First Year Experience & Learning Communities Librarian, to serve all first year students and these smaller first year scholarship and learning communities. The librarian’s goal was to provide some unique library experiences for these students to support their academic career and the social events offered by the communities. The William H. Thompson Learning Community is the largest first year learning community on the UNL campus. The community consists of first generation students who have been awarded a Buffet Scholarship of full tuition and board, for all four years of their undergraduate education. They have dedicated faculty who

teach the first year required courses and class sizes are small allowing the students to receive the individual support and attention they need during this critical first year of university.

After working with the classes and having many discussions with the faculty, faculty identified two main areas of concern: the students were relying too much on the Internet and Wikipedia for their research needs and were not selecting suitable information for their papers, and when the students found information they were not able to integrate this information effectively and responsibly into their papers. In response to this, the Learning Communities Librarian designed some first year research workshops and companion e-booklets to address some of these research issues.

The goal of the workshops was to help the students use the Internet, Wikipedia and the library databases as seamless resources for their research needs. The author offered the workshops in the afternoons as a part of the learning community's workshop offerings that were required events for all the affiliated students, and they were designed to be interactive giving students the opportunity to search independently during the workshops for information they need to complete their assignments. This paper will communicate how the Quick Tips e-booklets were designed and used in the research workshops.

Threshold Concepts and Information Literacy

Threshold concepts can be applied to any discipline and according to Meyer and Land they are concepts that have the following five attributes (1). These attributes are transformative (allow students to see content in a new way), integrative (connect concepts and idea between disciplines), irreversible (once learned, cannot be unlearned), bounded (learned within a specific context) and troublesome (they prevent the understanding of a new concept that is contrary to their previous understanding). These concepts are those foundational and vital theories that “are the central concepts that we want our students to understand and put into practice”, concepts that students need to grasp before they can move onto other concepts and principles (Hofer, Brunetti, and Townsend 387). Threshold concepts set the learning outcomes of the lesson and give students “a coherently structured body of ideas and procedures to analyze problems as they are defined by that discipline” (Davis 2). Students then have an opportunity to become valid contributors to the scholarly conversation and begin to think critically about their subject and the information culture within their discipline.

If these threshold concepts are understood, students will gain an understanding that is transformative and permanently changes the way they think towards the course content. For threshold concepts to be of valuable in teaching information literacy, they must be used to inform the design of the information literacy instruction in such a way that it will change how students interact with information, in all areas of their academic and social endeavors.

Information literacy cannot be taught without understanding its relationship with transliteracy. Wilkinson explains the intersection between information literacy and transliteracy, suggesting that information literacy instructors should “downplay the difference between library and non-library resources” and focus how the resources can be used together (32). In this way information literacy instruction becomes more about accessing and using

the information through the variety of platforms and less about knowing how to use specific platforms. Blackmore refers to a “systemic thinking” viewpoint that could bring students into a “holistic comprehension of information sources” (4). If students are taught to evaluate and use information based on its overall value and importance to the task on hand, and not according to whether or not they accessed it through the library website, this moves them into a broader understanding of information that is independent of the library website design and database subscriptions. When we teach students to find information using only the tools and websites that we have access to at that time, this only ensures that we have to repeat the session when our website or database interface change, and does not provide students with the skills they need to be life long learners when they graduate and no longer have access to the library resources.

Threshold concepts are both a product and a process; they are about the learning process in addition to the theory or concept that is learned. They facilitate learning that results in the students taking a journey that changes how they understand the course content. The concepts are cognitive ideas of knowledge that demand “deep learning” without which the student would continue to think in the same way with no shift in understanding taking place (Walker 248).

Using threshold concepts in the design of lessons and instruction tools is more difficult. First the threshold concepts that relate to the content need to be identified. Davis applied threshold concepts in the design of an economics curriculum, by first identifying relevant concepts through an analysis of academic writing in economics, with an analysis of student work from classroom lessons (8). Blackmore in 2010, identified information literacy threshold concepts by using reference desk staff to identify “places where learners get stuck” applying the “troublesome knowledge” attribute. Hofer et al also used this approach to identify information literacy threshold concepts, by isolating and analyzing the troublesome ideas gleaned out of discussions with information literacy instructors (390). The librarian in this project identified the threshold concepts to be addressed in these e-booklets, through discussion with the teaching faculty, student workshop exit slips, and anecdotal classroom observations.

Applying Threshold Concepts to the Writing of the Quick Tips E-Booklets.

The Quick-Tip e-booklets were designed to teach information literacy within a framework of information literacy threshold concepts. The most difficult challenge was to identify the threshold concepts within each information literacy topic. These had to be ideas that the students were having difficulty understanding, and ideas that were fundamental to the topic on hand. These concepts because of their difficult nature would also, if understood, have the potential to permanently transform the information seeking behavior of these students.

Hoffer et al in their research suggests seven potential threshold concepts for information literacy (402). This author identified four of these threshold concepts that had some connection to the problems identified by the teaching faculty, to provide the initial foundational theories for the e-booklets. The e-booklets were not designed to give students detailed instructions on how to use library resources but to give the students a deeper

understanding of the theories and processes behind the searching and finding of information within subject content. The concepts selected were Good Searches Use Database Structure, Format is a Process, Authority is Constructed and Contextual, and Information is a Commodity. These theories reinforced the skills highlighted in the workshops and the strategies covered in the e-booklets.

Good Searches Use Database Structure

This concept “conceive[s] of information sets as something with an organization and underlying system, rather than a mysterious cloud of data that serves up ‘good enough’ information on command” (Hofer et al. 402). When students understand that all information has some degree of organization, they then can grasp how organizing information impacts the access to the data. The fact that the way information is organized can either improve or restrict access to the data, is a concept that is often difficult for students to appreciate. The ease with which they use the Internet makes students unaware of the fact that the Internet is organized and that the search engines do not provide a reliable and efficient way of searching and retrieving all the information in the web that is relevant to their request. The difficulty students have finding information is not because they are accessing a library database, an internet database, a website or a webpage, but is dependent on whether or not they understand how the information within the source is organized regardless of what the sources are. If they understand where to find the details about how the information in the database is organized and if they understand how to navigate the source, then their ability to find more relevant information will increase. Librarians when giving database instruction first need to teach the bigger picture explaining the how and why of database organization, and then they can proceed to show students searching strategies. If students are not given a chance to understand this concept, then database searching becomes rote type learning, with students trying to remember menus and other tricks to achieve the same results as the librarian did in the class.

This threshold concept serves as a foundation in the first and second e-booklets entitled “Searching a Database” and “Narrowing Your Topic- to get an interesting research question”. In the first booklet, students are given strategies for searching databases, and in the second booklet students are given tips on how to identify key concepts and keywords in their discipline, sub-disciplines, and related disciplines. This threshold concept gives them insight into the relationships between disciplines, how this relates to the organization of the information, and influences the search for information within the disciplines. Using database tools to help them narrow their topics then becomes an instinctive approach to narrowing their research questions in all their assignments.

Format as a Process

What differentiates a book from a newspaper, according to Hofer is the process that went into its creation not the way it is accessed (403). This concept is presented in the “Peer Reviewed, Scholarly, Trade or Popular- how to know the difference” and “Finding Reputable Resources on the Web” e-booklets. These e-booklets help students understand the difference between the format, content and purpose of information. Examining the publishing process of information forces students to think more critically about the validity of the information they

find regardless of where they find it. When students understand that information has an inherent value that is retained regardless of how it is retrieved and stored it then becomes easier for them to identify different types of publications and make decisions on their relevance to their assignment. This takes time for them to understand that formats are conceptual and ephemeral but the publishing process that gives information its value and credibility is not. This concept becomes transformative as it changes where students look for information and how they evaluate it. The Internet can then become more than a “banned non-scholarly” information source and can be viewed as a place where important, reputable information can be found (Wilkinson 33). The library database also becomes a resource that warrants a critical approach to information selection.

Authority is Constructed and Contextual

This concept clarifies the relationship between the author and context and becomes the foundation theory in the e-booklets entitled “Peer Reviewed, Scholarly, Trade or Popular” and “Finding Reputable Resources on the Web”. The main theme of these two e-booklets is to help students identify and evaluate suitable materials for their assignments, through their critique of the authority of a particular source that is retrieved from a library database or the Internet. Bias, purpose, and how it influences information choices will force students to think critically about the publications they use and why they make certain selections.

Information as a Commodity

“Thinking about information in economic terms positions students to better understand their responsibilities as consumers” (Hofer, 403). The teaching faculty was clear about the need for students to learn correct citation practices and understand the reasons behind these standards. Sessions on plagiarism encouraged students to blindly follow citation rules, without understanding the reason and importance of the formats to their discipline. This threshold concept is important and explains ethical behavior in a way that seeks to create a climate of respect for authors and their intellectually property.

Designing and Using the E-Booklets

Each e-booklet was formatted into six tips with the first tip encapsulating the over-arching threshold concept, and the other tips explaining strategies, tools, or other sub-concepts. The tips were not written to be used as consecutive steps in a logical process, but were arranged to be used in any sequence, at any time during the workshops giving the students the opportunity to learn and work on skills that they felt necessary. The e-booklets were published using Sigil, a free e-pub editor and Calibre an e-book management software that was used to convert the e-booklets to other digital formats. The e-booklets were then used as the instruction tool in the classroom, and also made available for the students to download to their mobile devices for future use.

Conclusion

During the next year, the author will work with some of the teaching faculty to evaluate and further develop the e-booklets. They will work together to continue to identify “troublesome concepts” that relate to their disciplines and information literacy, with the intention of publishing more e-booklets to address other concepts and information literacy skills.

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