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# **Learning to Provide 3-D Virtual Reference: A Library Science Assignment**

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## **Abstract:**

In Spring Semester 2009, two of the authors taught LIB 5020 - Information Sources & Services to graduate library science students at Appalachian State University. The course covers information seeking patterns and provides an overview of reference services. The course is also designed to examine and evaluate library reference materials and other information sources (print, audiovisual and electronic) used in support of informational and recreational needs of youth and adults. This paper discusses one class assignment, in which the students were paired together to role play the reference interaction between a librarian and student in a 3D virtual learning community. This paper reports the assignment's evolution, learning objectives, discusses the students' reactions to working as a virtual librarian, and includes ways to improve the assignment in the future.

**Background:**

Appalachian State University (ASU) uses a 3D, immersive, web-based world, called the AETZone (Appalachian Education Technology Zone) . The AETZone is used by four distance education graduate programs: Instructional Technology, School Administration, Library Science, and Higher Education. It facilitates instructional delivery, provision of library support and services, and collaboration across programs. The 3D virtual learning environment also promotes active engagement between students, faculty, and librarians and a strong sense of online community.

The virtual library in the AETZone, the Information Gardens, was designed and built by the Distance Learning Library Services Team at ASU. The Team delivers research support, library instruction, and access to library resources to all off-campus students which include students taking classes and faculty teaching in the AETZone. Within the Zone, methods of communication include avatar gestures, text-chat, and VoIP (voice over internet). Metaphors are used throughout the Information Gardens to represent real world objects and they link to resources and information. Over the avatar, the user's name is displayed, so one of the author's label, for example, is "Librarian Geri" in the AETZone.

The Library Science Program at Appalachian State University offers a Master's of Library Science (MLS) degree in School and Public Libraries. The program is a major educator of school and public librarians for North Carolina and is accredited by the National Council for Accreditation of Teacher Education (NCATE) and by the North Carolina Public Library Commission.

In Spring 2009, there were seven graduate students enrolled in the Information Sources & Services course. All the students had work experience in North Carolina Public Schools. All were just beginning their graduate work for a MLS degree and none had experience doing

traditional library reference work. This class was unique in that it was an on-campus class which met face-to-face, but had online aspects such as using both the AETZone and the open-source online course management software, Moodle (locally branded as “AsUlearn”).

### **Assignment history and preparation:**

The first time this assignment was given was Spring 2008. The Distance Learning Library Services Team designed the assignment collaboratively with a Library Science faculty member who offers many classes in the AETZone. During a two week period, each library science student spent two to three hours in the Information Gardens as a virtual reference librarian. Their task was to assist other real students who were in-world. A professional AETZone librarian was present to mentor and guide the library science students as they interacted with the real students. Questions asked and answered were logged in an online database. After the assignment was complete, the students, librarians, and faculty reflected on what did and did not work. Students became familiar with navigating in the Information Gardens and retrieving resources. Some of the students got practice doing reference interviews, but not all- just like at a physical reference desk, sometimes the questions were service or access related.

Some of the problematic aspects were:

- Lack of questions or traffic in the Information Gardens. Depending on class times and point in the semester, sometimes were busier than others.
- Poor labeling. In the AETZone, a user’s name appears over their avatar. A name does not indicate a person’s function and therefore real students in the Information Gardens did not recognize a role-playing reference librarian.

The Distance Learning Library Services Team brainstormed ideas to make this a more meaningful and effective assignment. During Spring Semester 2009, the authors presented the revised assignment. An Information Gardens scavenger hunt was included as the first step. The goals of the scavenger hunt were to: 1) orient students to the location of library resources within the Information Gardens, 2) inform them about services for off-campus students, and 3) provide experience finding material in the online catalog and library databases. Students enjoyed this exercise and found it helpful in learning how the Gardens were organized. One student reflected, "I think that doing the scavenger hunt exercise really helped me prepare for the online reference interview. I didn't realize that I would be a bit nervous. Although I was not physically talking in person, I still felt pressure to find the correct resources in the Zone to answer the questions asked by the patron."

Additionally, the students were required to read the *RUSA Guidelines for Implementing and Maintaining a Virtual Reference Service* (MARS Committee 2004). The Guidelines were reviewed in class and the differences in providing traditional virtual reference service and 3D-world virtual reference service were discussed. These differences are evident in presence, staffing, location, provision of service.

**Presence:** According to the RUSA Guidelines, "Virtual reference is reference service initiated electronically, often in real-time, where patrons employ computers or other Internet technology to communicate with reference staff, without being physically present." Traditional virtual reference takes place in an isolated environment while the 3D virtual reality setting promotes a strong sense of community and co-presence not found in a traditional virtual reference setting. Although citizens are not physically present in the AETZone, their avatars are virtually present. This virtual presence enables librarians to offer research support in a more active manner, as they are able to move throughout the world, initiating conversations with a gesture, via text chat, or verbally using web-conferencing software.

**Staffing:** In traditional virtual reference service, most libraries have scheduled times when the chat or e-mail service is monitored. In the AETZone Information Gardens that is not the case. Librarians log in more randomly, and try to be in-world during night class sessions or weekends when many distance learning students will be doing assignments.

**Location:** Many traditional virtual reference services require the monitoring librarian to be in the library and at a library workstation in order to receive and respond to chat. ASU Distance Learning Librarians can use any computer with Internet access, easily install the ActiveWorlds software and enter the Information Gardens to provide service.

**Provision of service:** Traditional virtual reference service often receives requests from unaffiliated users, which requires clear service parameters. In the AETZone, the population is limited to students who are currently enrolled in the programs and the teaching faculty. Entering the world requires a username and password which is granted via the teaching faculty. The scope of service also differs. In traditional virtual reference, the level of service is usually limited to short reference questions. For longer questions, users are sometimes asked to call or come in. And follow-up may take place with email after more extensive research can be completed. In the AETZone, librarians attempt to answer all questions, regardless of time spent via the chat interface or the web-conferencing software.

**Assignment details and Learning Objectives:**

The assignment had three Learning Objectives : 1) to build student skills in conducting a reference interview, 2) to give students the experience of providing virtual reference service in a 3D web-based virtual world, and 3) to allow students to reflect and report on their experience.

Students were paired with another student to form a team. Each team chose a time to be present in the Information Gardens to complete the assignment. A professional Distance Learning AETZone librarian was assigned to mentor and assist during these sessions. Student

team members took turns playing the role of reference librarian and the role of a student needing research help. The student was provided with a set of reference questions to ask the reference librarian. Then they switched roles.

The questions were written to encourage a reference interview. For example, the real information need was to find a book on Egyptian cooking, but the question was written, "Do you have any books on Egypt?" Teams submitted their chat transcripts along with a reference log (see appendix). In the log, they were asked to report whether they felt they were successful in answering the questions and to reflect on the process of virtual reference.

### **Selected student reflections and insights:**

Many students thought that providing a face to face interview was preferable. For example, Student A reported, "It is hard to tell through chat if you are meeting the patron's needs. By meeting in person or talking the patron through the search on the phone, you can show the patron exactly where to go. I think it is more difficult to do online, because you have no idea what is happening on the other side of the chat! Does the patron see where the advanced search screen is? Why are they taking so long to respond? Did they leave the computer?"

In general, students adapted quickly to the virtual environment and to demonstrating features. Student D said "I learned why the AETZone is an effective feature for libraries to have. I must admit, I was very skeptical. After walking around the Information Gardens as a librarian during my reference interview, I was able to see how easy it is to locate items such as the ILLIAD! [Interlibrary loan service] All the patron has to do is click on the bird or mailbox icon."

The following comments demonstrate that the assignment was an effective way to give students experience in conducting a virtual reference interview. Student B made this statement about understanding the user, "If they are using a 3D environment, I think it is important for

librarians to identify the type of patron that they are helping. Most of the patrons using the AET Zone will be distance learning students so these patrons are going to need different methods to receive information such as books and articles. Public librarians may encounter users that are homebound and also rely on other means of getting information from their public libraries. By determining the type of patron being served, they can tailor the reference interview to meet the patron's needs."

Student E learned the importance of asking follow up questions, saying, "I learned that most patrons do not ask the "right" question. They may not realize that you, as the librarian, can help them much more extensively if they give the more information so that you know exactly what they are looking for... Also, the patron may not be comfortable asking further questions if they did not receive the correct information."

Student C commented on providing virtual reference in a 3D world. "It seemed inferior [inferior] to email and phone contact because it is so clumsy. If a virtual library service is worthwhile, it should add something that the other methods of providing reference help do not." New users, as these students were, can experience some frustration as they learn to move around and master the metaphors used in the Information Gardens. After an initial period of adjustment, most users become proficient and see the benefit of co-presence in student engagement and learning. However, some may still prefer face to face reference.

The following edited transcript demonstrates a successful experience. The student was looking for biographies of potters. Student Reference Librarian, "OK! One moment please...Ok, here is what I would like for you to do: the treasure chest located in front of you provides access to our library catalog, which will enable us to locate books, journal titles, and so forth. I want you to click on that and go into the library catalog. There are actually treasure chests located throughout the Information Gardens. Please let me know once you are in the Library Catalog

and I will provide you with further instruction.” The Student Reference librarian then demonstrated how to search, and concludes the session with, “Does this answer your question?” The student was able to respond, “That was very comprehensive. I found exactly what I was looking for.”

### **Did we succeed?:**

To review, there were three desired Learning Objectives of the assignment: 1) to build student skills in conducting a reference interview, 2) to give students the experience of providing virtual reference service in a 3D web-based virtual world, and 3) to allow students to reflect and report on their experience. These learning objectives were met. Based on student reflections and our observations, the assignment successfully simulated a reference interview and gave the students a real taste of what it’s like to be a reference librarian.

There are required skills which are needed to conduct an effective reference interview. We believe these skills transfer regardless of the medium (face-to-face, on the phone, or in a virtual world). Some additional skills are also required to provide reference in a 3D virtual world, such as the ability to comfortably chat with multiple conversations going on, and using an avatar effectively. Some of the students addressed these differences in their reflections. “What I learned is that virtual reference really isn’t easy. I know that we’ve read that it isn’t and have had people explain that it isn’t but I really had no idea. In my opinion it is probably more difficult to do reference interviews virtually than in person because virtually you lose many of the physical cues from the patron that can help facilitate the reference interview.”

It was advantageous to have a chat transcript rather than VoIP. The students could see if they had asked open-ended questions and followed up with a question like, “did that answer your question?” The chat transcript also enabled us to review other service behaviors such as the tone of the written communication and conversation. Chatting lends itself to a casual form of

communication, therefore it is important to remain professional, use complete words, and attempt to spell accurately. Ideally, conversations should have a helpful, professional tone and be polite.

It was invaluable to have an experienced Distance Learning AETZone librarian in-world to provide assistance. This colleague was familiar with the assignment and with providing reference service in the AETZone, and was able to mentor the students as a neutral party. She was present to coach the student team while the reference interview was taking place and provide feedback immediately after the session. The course instructors were able to be present and observe, but the students learned independently.

#### **Considerations for assignment revision:**

- 1) In the assignment description we did not clarify how far we expected the students to go in the reference interview process. Was success completing an interview, or was success finding the correct answer? This caused some confusion. Student F said, "I felt like the task I was being graded on was finding resources using the virtual library in the AET Zone. ...I have found this to be the case many times in higher education – I am so preoccupied with completing the task that I don't realize the intent of the assignment." In the next iteration we will state that the goal of the assignment is to build reference interview skills, and that it is not essential to find the answer.
- 2) We learned that the most successful teams were the teams who completed the assignment when the AETZone was not too busy. One team met on a night when most classes are scheduled, and a student reported, "I learned that there can be interruptions in there. I am not sure whether the visitors and the instructor's comments were planned for the purpose of distracting, but I was very distracted by the visitors and the comments." In reviewing that team's transcript, it is easy to see how she was distracted.

In the AETZone, conversations show in the chat window, so when many people are speaking it can be hard to track the thread of a conversation.<sup>i</sup>

- 3) Use the audio chat instead of the text chat to conduct the reference interview and record the session. Audio clips could be reviewed and discussed later in class. In public speaking, it is helpful to tape yourself and review your presentation style, so this could be a learning tool. Utilizing the audio chat software would also allow the reference librarian to turn on the “follow-me function” available in the AETZone that allows the patron to follow librarian navigation in the browser. This would remove the uncertainty as to “what was happening on the other side of the chat!” as stated by Student A. Typed chat is different than verbal communications, so it might be interesting to have students try both and discuss the difference.
- 4) Discuss more completely the aspect of role playing with the students. In some cases, when in the role of the student, the team member gave their full question without letting the student playing the reference role do a full interview.
- 5) Further refine the log questions so that they are all open-ended, to help the students reflect and elaborate.

### **The next iteration**

In Summer 2009, the assignment is being used again for two off-campus sections of LIB 5020. This involves approximately 30 students. The distance learning librarians are collaborating with a library science faculty member. To facilitate the assignment they will orient the students to the Information Gardens; administer the Information Gardens scavenger hunt; present the RUSA Guidelines for Implementing and Maintaining Virtual Reference Services and mentor the students during the reference interview process. There will be multiple teams working on the assignment at the same time, so they will be using the audio-chat, rather than

the text chat. Each team will log into a different audio chat session within the AETZone and then proceed to the Information Gardens.

**In summary:**

This assignment is valuable because library reference services are evolving to address the changing ways that information is being requested. The millennial generation student wants and expects virtual information space. As the demand and expectation for quality distance learning grows, our services must develop to support the needs of our students. In the *UNC (University of North Carolina) Tomorrow Final Report* dated December 2007, 72% of survey respondents ranked increasing distance education and online course offerings as the number one way in which UNC could have the greatest impact in their community. UNC is committed to increasing access to its educational programs by broadening delivery of course and degree programs virtually through online and distance education programs. The ASU library science students are training to become effective media resources educators and should be prepared to deliver information in creative and relevant ways. We look forward to continuing our collaboration with faculty using the AETZone to increase the student's experience in providing effective research and reference services in a 3D virtual world.

**Works Cited**

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## Virtual Reference Desk Assignment Log

Date:

Name:

The purpose of this log is to reflect on the questions and answers you worked on while in the role of librarian and student.

Some things to consider:

### **Reference Interview**

After the “reference interview” did you gain a clear understanding of the patron’s information need?

As you think back on the experience, did more questions arise that you wish had been addressed during the reference interview?

How do you know if you adequately and appropriately addressed the information needs of your patron?

What did you learn?

### **3D Virtual Environment**

Did anything in particular strike you about this environment that you would like to mention?

What did you learn?

In the Librarian Role

In the Student Role

Questions to ask your team member while a student:

**These two sets of questions were passed out to separately to team members**

**Therefore, when in the role of a reference librarian they did not know what they would be asked.**

Set 1:

1. Do you have the book The Audacity of Hope? If so, how do I request the book?
2. You need a biography in book format of a potter (as in one who makes pottery). Phrase the question this way, "Do you have books on ceramics?"
3. Do you know how to cite a web site in APA style format?
4. Do you have any examples of how to cite a full-text article from a database?
5. What the patron asks: Where should I go to find articles on public transportation?  
What they really want to know: You need to find articles on the LINKS (the light rail system in Charlotte)
6. Would you please help me find peer-reviewed articles on leadership in education?

Set 2:

1. I have found some articles in the June 2008 issue of *Teaching Children Mathematics* that I would like to read. How can I obtain these articles?
2. If you are not in this virtual world, how can I get in touch with you?
3. Can you help me find a list of children's books that focus on Asian-Americans?
4. Can you help me find a list of children's books that focus on Hispanic-Americans?
5. Can you help me find a list of books for teens that focus on gay and lesbian issues?
6. You need to find some books on Egyptian cooking.  
Phrase the question this way, "Do you have any books on Egypt?"

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<sup>i</sup> There is a "whisper" feature that allows a user to only chat with one person or a selected group, which can be useful when providing "real" service, but because we wanted students to copy their transcripts, the whisper feature couldn't be used.