
Teens Are from Neptune, Librarians Are from Pluto: An Analysis of Online Reference Transactions

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ABSTRACT

As part of a project to evaluate the effectiveness of Tutor.com's Live Homework Help service, the authors examined over 100 transcripts of online transactions between teens and the virtual reference librarians in California who connect students to Live Homework Help tutors. Using content analysis, the authors document and discuss the difference in online communication styles between teens and adults. In addition, the transactions are measured against Reference and User Services Association's (RUSA) reference performance guidelines and are found to be severely lacking in the qualities required for effective reference service. Recommendations are made within the context of positive library service to young adults, including recommendations on how to make virtual reference encounters with teens more responsive to their homework needs.

INTRODUCTION

In 1992 family therapist John Gray published the self-help book *Men Are from Mars, Women Are from Venus: The Classic Guide to Understanding the Opposite Sex*. The cover of the 2004 paperback edition claims that more than fourteen million copies have been sold (Gray, 2004). The title has become a watchword for the seemingly galactic gaps in communication that can occur when people with different values and worldviews try to have a dialogue. The authors of this article were reminded of that watchword when they were charged with evaluating Live Homework Help, an online tutoring program funded by the California State Library. The service originally provided access to Tutor.com at designated hours at thirty libraries throughout the state. In 2003 the service was expanded to allow students

to access the tutoring assistance program from their home computers by connecting through the state's 24/7 online reference service. We have analyzed 114 transcripts of transactions between teens and the 24/7 librarians. In this article we focus primarily on the communication gap that we discovered between the librarians and the teens. We situate our discussion within the overall context of library service to young adults. Within that context, we analyze the transactions using two different frameworks: the guidelines for effective reference performance and the basic tenets of critical discourse analysis.

PUBLIC LIBRARY SERVICE TO YOUNG ADULTS

While teens are heavy users of public libraries, they are still relatively unrecognized as a specialized target market. A 1995 report from the National Center for Education Statistics reported that only 11 percent of all public libraries in the United States employ a young adult librarian, a figure that had not changed since the 1980s (U.S. Department of Education, 1995, p. iii). Librarians who do serve teens, however, are strong advocates for their clients. Through their involvement with the Young Adult Library Services Association, they draw strength from their peers and lobby the larger library field for more attention.

Current notions of good practice in public library service to young adults are based on the principles of youth development. Patrick Jones describes this approach in *New Directions for Library Service to Young Adults* (2002) as a means for supporting teens as they move from childhood to adulthood. This document, bearing the imprimatur of the Young Adult Library Services Association, includes a checklist of services that libraries might provide to achieve the mission of positive youth development. The first item on this checklist is "Develops and offers reference and information services for young adults which provide a positive experience for the customer" (p. 63).

Youth development is also the centerpiece of Walter and Meyers's (2003) vision of effective young adult library services. They present six developmental outcomes that teens need to make a successful transition to their adult years:

- Contribute to their community
- Feel safe in their environment
- Have meaningful relationships with adults and peers
- Achieve educational success
- Develop marketable skills.
- Develop personal and social skills (Walter and Meyers, 2003, p. 44)

This focus on youth development may be more normative than actual, however. It is operationalized in most instances through the mechanism of youth participation, usually through youth advisory councils of various

sorts. In practice, young adults are served largely through the traditional mechanisms of reference and reading promotion.

There is some evidence that, if teens could design their own library services, they would put less emphasis on these traditional services in favor of more homework assistance and improved access to the Internet. A small study conducted in the state of Florida ranked the strategies that are most effective in attracting teens to libraries. Both the young adults and librarians agreed that the top three priorities were Internet access, volunteer opportunities, and school-related research (Bishop & Bauer, 2002). As part of a project for the Public Libraries as Partners in Youth Development initiative, Meyers also found that teens want libraries to offer more access to technology, longer hours, fewer restrictive rules and fees, and more help with homework projects and research (Meyers, 1999).

Linda Braun has been a particularly convincing advocate for the development of relevant library-based Internet services for teens. She observes a gap between the Internet services that young adults want and need and those provided by libraries. In particular, she finds that libraries have been slow to give teens access to the online chat and instant messaging media that they find so appealing (Braun, 2002, p. vii).

HOMWORK ASSISTANCE

Homework has been defined as “tasks assigned to students by school-teachers that are meant to be carried out during non-school hours” (Cooper & Valentine, 2001, p. 145). Teachers assign homework for various reasons, including: (1) to encourage students to practice skills or expound on concepts learned in class; (2) to prepare for the next lesson or class discussion; (3) to foster the student’s personal development through increased responsibility, time management, self-confidence, and sense of accomplishment; (4) to promote communication within the family; (5) to promote parent-teacher communication; (6) to enhance peer interactions through group study; and (7) as punishment (Cosden et al., 2001; Epstein & Van Voorhis, 2001; Warton, 2001). Although educators agree that punishment is not necessarily a valid reason for assigning work, the students themselves may consider homework a punitive exercise if their assignments are confusing or poorly constructed (Epstein & Van Voorhis, 2001). As one researcher noted, parents and teachers alike cite class assignments “as a source of considerable difficulty and conflict at home and school,” often leading to student frustration, procrastination, and noncompliance (Warton, 2001, p. 155). Not surprisingly, a majority of young adults recently surveyed by Teenage Research Unlimited indicated that homework was among their least favorite school-related activities (cited in Zollo, 1999, p. 279).

A large majority of the reference questions asked by kids are homework based. Helping students with their homework often has a profound impact on library services and may be the source of much staff frustration (Gross,

2000). In the early 1990s Sager asked several administrators to define the public library's role in facilitating education. No consensus emerged, although one director adamantly advised that it "would be a grave mistake to assign an additional mission to the public library, specifically one in education . . . [as] we most likely would end-up with an institution that would do two jobs inadequately instead of one barely adequately" (Sager, 1992, p. 15). Sager subsequently described the rift between libraries and schools as a "blackboard curtain" that prevents librarians from fully serving K-12 students (Sager, 1997, p. 23).

There is evidence that librarians treat school assignments as "second-class" reference questions and that students are, intentionally or not, made to feel alienated when using the library. College students have classified librarians as "those who like to point, those who like to help, and those who hate kids" (Gross, 2000, p. 14). The teens interviewed by Meyers confirm this stereotype, saying that librarians "always have something better to do" than help students (Meyers, 1999, p. 44).

Not all librarians ignore the needs of students, however. Around the country many public libraries have begun offering formal homework assistance after school, in the evening, or during the weekend. Preliminary research has shown that this type of service results in positive outcomes (Mediavilla, 2001). In a study sponsored by the American Library Association, Walter and Mediavilla discovered that teens receiving homework help in public libraries not only achieve educational success; they may also develop important social skills by interacting with classmates and adult homework helpers. In addition, the students acquire math and computer skills that may some day be marketable in the workplace (Walter & Mediavilla, 2003).

In 1999 one out of every seven public libraries surveyed by the American Library Association delivered some form of after-school homework assistance, ranging from telephone hotlines to formal tutoring programs (American Library Association, 1999). A more recent survey conducted in New Jersey revealed that nearly 32 percent of public libraries statewide provided homework help specifically to teens. As investigators Winston and Paone noted, however, there are "a number of opportunities for enhancing service provision in this area" (2001, p. 50).

VIRTUAL REFERENCE

Reference services, in general, and homework assistance, in particular, took a dramatic turn in the late-1990s with the exploding popularity of the Internet. In 1998 an Ohio public library trustee asked a random sample of people what source they used first when seeking information. Twenty-four percent listed the library, while 23 percent answered that the Internet was their first choice for information. When the trustee repeated the study two years later, 36 percent of the respondents said they preferred the Internet as their primary information source, while only 12 percent said they went

first to the library (cited in Coffman, 2003, p. 6). During the same period, researchers noted a 44 percent increase in homework questions asked of digital reference services, such as KidsConnect, Ask Dr. Math, Ask a NASA Scientist, and Ask Professor Construction (Lankes, 2003).

Recognizing their patrons' reliance on the Internet, librarians began offering virtual reference services via email in the mid-1990s. Questions were received electronically, usually by way of an "Ask the Librarian" link from the library's home page. Several hours later, an answer would be delivered to the patron through email. Although revolutionary at the time, the process was clunky at best, with patrons having to wait for responses that were very one-sided based on the librarian's interpretation of the initial question (Coffman, 2003).

Eventually, emailed transactions gave way to live, synchronous "chat reference," which Francoeur defines as a service "where the core of communication between librarian and user is an exchange of text messages sent in real-time" (2001, p. 190). The advantages of such service include interactivity, anonymity, speed of response, and the ability for the librarian and patron to co-browse the Internet together (Janes, 2002; Fagan & Desai, 2003; Kresh, 2003; and Coffman, 2003). Janes also admits that virtual reference is "cool." As he suggests, "Synchronous technologies may appeal to groups of users we don't currently serve well, particularly the young, who are addicted to the social nature of instant messaging and chat technologies" (Janes, 2002, p. 13).

Although much has been written about college students using chat reference for homework and research assistance (see, for example, Blank, 2003; Broughton, 2003; and Dunn & Morgan, 2003), few articles have addressed adolescents' use of similar services. Instead, the literature has focused on the "best practices" of the few public libraries that offer in-house computerized homework centers for teens (for example, Mondowney, 1996; Sternin, 1998; Denny, 2000; and Gorman, 2002) or that have created Web portals to online homework sites (Bryan, 2002). Morris County Library in New Jersey developed a homework chat service for school kids in 2001, but it failed after only three months due to students' lack of interest (Weissman, 2001).

LINKING HOMEWORK ASSISTANCE WITH VIRTUAL REFERENCE

In 2001 Tutor.com introduced Live Homework Help, an online, interactive homework assistance program that connects fourth–twelfth graders to tutors via the Internet. Synchronous homework help is provided on several topics by subject experts who are also certified teachers, college professors, graduate students, and professional tutors (Kohn, 2003). Teens appreciate the service because it is anonymous, immediate, and personalized (Gerhardt, 2004).

Nearly 600 libraries nationwide subscribe to Live Homework Help, including those in Brooklyn, San Diego County, Prince George County, and

San Francisco (Tutor.com, 2004). In California the Live Homework Help program is provided by the California State Library, which funds the project through federal Library Services and Technology Act monies (Minkel, 2002). Statewide service was also recently adopted in Alaska, Colorado, and Ohio (Statewide VR, 2004).

Because of the expense, few California libraries subscribe directly to Live Homework Help. Therefore, most California students who want to connect to the service from their homes must do so through the state's virtual reference service, called AskNow. Although many students ask to be connected to Live Homework Help as soon as they log onto AskNow, many others must first interact with a virtual librarian before being referred to a tutor. This interaction, which may or may not be successful in identifying the student's true information need, is the subject of this study.

METHODOLOGY

The advantages of using transcripts as a means of assessing virtual reference transactions have been touted by Whitlach (2001), Fagan and Desai (2003), and Coffman (2003). As Ward enthusiastically reports, "every single online reference interview can be captured in its entirety for later examination," enabling "routine analysis of the interview in ways not previously available through traditional means" (2003, p. 46).

To tease out the librarian behaviors that helped or hindered student access to online homework assistance, we examined 114 transcripts from the virtual reference sessions that ended in referrals to Live Homework Help between October 12 and November 8, 2003. One hundred fifteen transcripts were provided by the Metropolitan Cooperative Library System, which at the time oversaw the AskNow virtual reference service in California. One transcript was discarded because the transaction was obliterated by an "administrative failure" message.

Applying the Tenets of Model Reference Behavior

We conducted two successive analyses of the transcripts. First, each transcript was measured against a "Virtual Reference Behavior Checklist" that attempted to capture the various behaviors required for conducting a successful reference interview. The checklist, loosely modeled on the form developed by Gers and Seward (1985, p. 34), was based on the tenets outlined in the Reference and User Services Association's (RUSA) "Guidelines for Behavioral Performance of Reference and Information Service Providers" (RUSA, 2004). These guidelines, which were recently revised to include standards for "remote" (that is, virtual) reference transactions, address behaviors related to approachability, interest (for example, clarification and keeping the patron informed), listening and inquiring (for example, probing, paraphrasing, and communicating clearly), searching (for example, explaining the search strategy, finding the appropriate mate-

Table 1. Types of Questions Asked by Subject

Subject of Request	Number of Queries
Math	40
Social Studies/History/Civics	9
Science	8
English Composition and Grammar	7
French	2
Nondescript Subject	2
Direct Requests for Tutor	46

Note: The total number of queries in the sample is 114.

rial, and making appropriate referrals), and follow-up (for example, asking if further information is needed and/or if the question has been answered). Demonstration of these behaviors was ranked as “strong evidence,” “evidence,” “no evidence,” or “not applicable.” (See the Appendix, p. 227.)

The checklist also incorporated behaviors described by Gross (2000) as being unique to homework transactions—for example, helping the student interpret the homework question, verifying a mutual understanding of the question, encouraging the student to solve the homework problem, advising on alternative solutions and methods, and reassuring the student. In addition, we made note of the general subject (for example, math, social studies, etc.) of each homework question, as well as the length of each transaction. Particular attention was paid to how long the student had to wait for the chat session to begin.

Of the 114 referrals made by the 24/7 librarians, 40 percent (46 referrals) were made as a direct result of students requesting either a tutor, Live Homework Help, or “the website for tutors.” All other patrons represented their queries as reference questions, only to be eventually referred to Live Homework Help after the librarian surmised that a tutor was needed. A great majority (60 percent) of the homework queries were math problems, while only 8 percent were science related. Nine students needed help with social studies/history/civics questions, seven had English composition and grammar problems, and two presented French language questions (see Table 1).

The 24/7 encounters were as short as one minute and as long as an hour, with the average session lasting eleven minutes. A majority of the transactions lasted seven minutes or less. Longer sessions resulted when librarians were busy, causing patrons to wait for assistance. Waiting for seven to twenty minutes to be connected to a librarian was not uncommon, with one unfortunate student having to wait forty minutes before his query was handled.

Although some librarians conducted thorough interviews and even referred the students to math or other suitable Web sites, for the most part the encounters were brief and heavily one-sided as patrons were quickly—and

Table 2. Virtual Reference Behaviors

Characteristics of Virtual Librarians	Strong Evidence	Evidence	No Evidence	N/A
Is available quickly		78	36	
Gives friendly greeting		92	22	
Encourages student to ask question		15	98	1
Repeats question/paraphrases		6	104	4
Clarifies question				
Probes for further information	3	33	75	3
Helps interpret question		2	109	3
Verifies mutual understanding			111	3
Finds an answer in source		6	8	100
Uses other sources	1	14	3	96
Communicates clearly		110	1	3
Checks that information is clearly understood	1	20	87	6
Keeps student informed		13	6	95
Offers referral		89	10	15
Encourages student to solve problem		4	3	107
Advises on alternative solutions/methods		2	2	110
Reassures student		3	107	4
Asks if question has been answered			110	4
Asks if student needs more information		10	100	4

Note: Figures indicate number of occurrences each behavior was observed in the study.

sometimes inappropriately—referred to Live Homework Help. Even worse, the referrals were often made without consulting the patron first, causing some students to express confusion when suddenly confronted by the Live Homework Help Web page. Very few of the librarians clarified or confirmed their understanding of the question and only two librarians helped the student interpret the homework assignment. Almost all librarians communicated clearly, but several (twenty-two) failed to give a friendly greeting when first encountering the patron. Only 32 percent of the librarians probed the students for more information when deciding how to proceed with the question. Even fewer (17 percent) bothered to check if the patron understood the information provided (see Table 2).

Applying Principles of Critical Discourse Analysis

Discourse analysis is generally understood to be a method for looking at language used in particular contexts as a form of social practice (Fairclough, 1995, p. 7). It studies talk or communication as a means for producing knowledge or meaning in concrete situations or institutions and aims to clarify the perspectives and points of view on which that knowledge and meaning is produced (Talja, 1999, pp. 460–461). Frohman (1994) has utilized Foucaultian discourse analysis to examine ways in which information, its uses, and its users are discursively constructed. Budd and Raber (1996) have also argued that discourse analysis is a particularly appropriate methodology for library and information science research because of its

grounding in communication and its utility in examining both written and spoken texts. They have used this method to look at the social, political, and technical uses of the word “information” and their implications for theory and practice. By applying the lens of discourse analysis, we observed two significant phenomena that further contribute to our understanding of the online transactions between teens and librarians: the negotiation of power relations and the communication of nonverbal messages.

Negotiating Power Relations Online Fairclough’s approach to discourse analysis is grounded in critical studies and seeks to understand how language reveals and/or maintains the power relations in social situations. He describes the ways in which people develop what he calls “discursive conventions” that embody certain ideologies or roles. The examples he gives include the language of medical consultations and crime reports (Fairclough, 1995, p. 94). We see examples of these discursive conventions in typical reference interviews. Some of these conventions, as noted in the previous section, are intended by librarians to routinize or standardize good practices in reference work. By asking the patron, “Did I fully and completely answer your question?” for example, the librarian is requesting feedback from the patron and trying to ensure a satisfactory conclusion to the reference transaction. Fairclough points out, however, that these conventions, used by most professionals in their interactions with clients, also serve to reinforce the professional’s superior position vis-à-vis the help-seeker. The formal language of the professional is a distinct contrast to the more informal and less precise language of the client. He notes that in some situations the less privileged participant in such discourse situations will struggle to replace those discourse conventions with other devices that feel more comfortable to them. We observed this phenomenon over and over again in the online transactions between librarians and teens seeking access to homework assistance.

In almost every instance, the librarians made no attempt to transcend the impersonal anonymity that the chat reference situation makes possible. They relied on the stock phrases that their pull-down menus allow them to make at the press of a button:

- “We are experiencing a very busy time right now.”
- “I am going to send you a page which will give you some help with your homework. After we disconnect this session, click on this link and follow the instructions to be connected with a tutor. Please do not click on any links on this page until after we have disconnected.”
- “We answer questions in the order that we receive them, and we need to finish helping the people who logged in before you. If you will continue holding, we will help you as soon as we can. If you would like us to email you with a response, please type this information: 1) Your email address, 2) Your deadline, and 3) Anything else that will help us in our search.”

The teens who were trying to connect—both electronically and personally—with the librarians often did not realize that they were receiving a canned response. One teen responded to the last message above, “ok! Sorry.” Another student wrote back, “take your time,” followed by the ubiquitous smiley emoticon.

Some teens, almost certainly repeat users of Live Homework Help, were as businesslike as the librarians in their interaction. They would begin the transaction with a quick request to connect with a tutor. These students were familiar with the necessary online protocol and had downloaded the software needed to access the Tutor.com site. Here the automatic responses from the librarians were effective, as long as there was not a problem with the electronic connection.

In many cases, however, the student just started out with a question. Then it took longer for the librarian and student to sort out their roles and responsibilities. In a few cases, the teen did not know that he had reached a librarian. “Oh, I thought you were a tutor,” one replied when the librarian offered to connect him with Live Homework Help. If the question dealt with math, the librarian in almost every case referred the student immediately to the tutoring service rather than dealing with it as a reference question. In a few cases, however, the librarian began by offering reference assistance using the Web-based resources on which online reference service depends. A look at one session of this nature is instructive for what it tells us about the librarian’s perception of her professional role and her strategies for maintaining it. In the interests of readability, some of the grammar has been cleaned up, but the spelling and punctuation have been left intact.

Student: I just need help finding some links to science fair projects.
[smiley]

Librarian: Hello. We are experiencing a very busy time right now. What grade are you in, so I can find out what kind of links to send you. Do you need links to help you find a project? Or links to info about a specific project.

Student: i.e. want to find something about plants. [smiley] I am in 7th grade.

Librarian: Ok. I will look.

Student: take your time [smiley]

Librarian: Hi [student’s name]: I am sending you a list of science fair pages. [Item sent.] Please look through this and let me know if they help.

Student: okay

[Four additional web pages are transmitted, one on science fairs, one on search strategies, one on plants, and one on photosynthesis.]

Librarian: Is this helping?

Student: uh . . .

[One more web page on photosynthesis sent]

Student: can you help me find something, or ANYTHING about plants

Librarian: It isn’t helping?

Student: [frowney]

Librarian: Are you looking for science fair projects you can do with plants? Here is a list about plants. [Item sent.]

Student: uh . . . I just need help on finding something like . . . “does pressure affect the way how leaves grow.” I don’t know . . . something like that. Aaa! My project is due on Monday!!, well, not the project, the IDEA of the project, and I must write 9 pages about it. [frowney]

Librarian: Did that list I just sent help? [2 items sent] Would you like to speak to a tutor? I think a tutor would be better able to help you. I am a librarian. [Sends link to Live Homework Help.] I am going to send you a page which will give you some help with your homework. After we disconnect this session, click on this link and follow the instructions to be connected with a tutor. Please do not click on any links on this page until after we have disconnected. [Student’s name.] Can you see the tutor site?

Student: ? okay. Well . . . thanks anyways [smiley]

Librarian: I just sent you a site to connect to a tutor. Here it is again. [Sends URL.]

Student: ?

Librarian: [Sends URL for the third time.]

Student: I don’t see it. [frowney]

Librarian: I just sent it in our conversation too. You can open it up in another browser window. Do you know how to do that? [Student’s name?] [Student’s name], it looks like we have been disconnected.

Now, this is actually a very patient and helpful librarian. She uses the student’s name. She tries to clarify the student’s request. She sends multiple resources. It takes less than fifteen minutes, however, for her to decide that the child needs a tutor, not a librarian. “I think a tutor would be better able to help you. I am a librarian.”

Another librarian was more emphatic about what she could and could not do as a librarian. The student opened the transaction: “I was doing a project for school and I need to invent something and I need help, I don’t have any ideas.” This eleventh grader eventually communicates that she has a history assignment to invent something or make a labor-saving device. The librarian tries to send a Web site that is an idea exchange for things that people would like to see invented, but the student does not receive it. “That sounds great but I didn’t get anything.” Librarian resends the link and asks, “Can I help you with anything else?” The student tries to engage her personally: “Do you need anything invented to help you?” The librarian responds. “Reference librarians are here to answer questions and to make referrals to other sources of information. We cannot give advice.” The student says “ok” and is linked to Live Homework Help. Another student asks: “Can you answer this? $Y=2x-4$ $7x-5y=14$.” The librarian responds: “Hello, this is the reference librarian. I’m reading your question . . . [Student’s name], this is a question for a homework tutor. We are an information service. I can direct you to a tutor. Would you like me to do that now?” The student says, “if you can please.” A fourth librarian made a very fine

distinction in response to a student who asked, "What should I put on a poster for recruiting crew members for Amerigo Vespucci's voyages?" She said, "Well, I can give you information on the voyages, but I cannot advise you about creating your poster."

It could be argued that the librarians' efforts to clarify their roles in the above transcripts were intended to help the students get the help they really needed. These were among the more helpful librarians whose transcripts we analyzed. With the exception of the librarian faced with a math problem, they all at least tried to help with conventional information resources. Almost certainly a math tutor would be able to help the student get started with the algebra problem. Perhaps the online tutors would indeed be more effective than the librarian in helping the teens think through the science fair project or come up with an idea for a new labor-saving device. Who could best help the student at a loss as to how to make a poster recruiting crew members for Vespucci's voyages? We would argue that even these conscientious librarians would have served their young patrons better by more genuine and authentic communication strategies and less reliance on the discursive conventions that enabled them to maintain control over the transaction and decide the parameters of their helping behavior.

Most students acquiesced passively when the librarian referred them to a tutor or said they could no longer help. Many young people, however, tried to subvert the discourse by introducing a more personal tone—note the use of emoticons in the transcript above—or by confronting the librarian directly.

One boy, a repeat user, had the assignment to write about the two things he would bring if he were going to be in the mountains for one year. The librarian asks if he received the link to the tutor site. The boy replies, "ya, but you have to download it." The librarian tries to explain what he needs to do to open the site. The boy retorts: "Dude, im in fifth grade and my computer sucks and i need it by tomorrow." Another student, apparently frustrated by the ten minute wait for a librarian to come online, asks, "Hello, is ther anybody there?" A little later: "Heloooooo!"

Sending Nonverbal Messages in a Text-Oriented Discourse Environment Chelton (1998) has documented the communication disconnects that occur when teens approach the reference desks in public libraries. She describes the controlling rituals that characterize librarians' interactions with middle school students. These face-to-face encounters include not only the language used to communicate between the two parties but also gestures, facial expressions, tone of voice, and other nonverbal forms of communication. In theory, online communication lacks the emotive element of nonverbal communication. However, we observed affective as well as cognitive strategies employed by the teens and librarians as they struggled, not always successfully, to conduct online reference transactions. We documented

some of these strategies in the previous section, noting how students tried repeatedly to inject a less formal and more personal tone into these reference transactions. We believe that these represent efforts by the students to create a more comfortable discourse environment, one that is more like the chat rooms in which they communicate with their friends. For all of their familiarity with and fondness for electronic communication technology, most of the teens we observed online were not competent participants in the text-oriented discourse environment created by reference librarians. When teens go online with their friends, spelling is less important than rapid response, and capital letters and punctuation are nonexistent. The aim is to connect. Content is almost irrelevant. Indeed, when teens go online with their friends, the medium *is* the message.

Here are a few more examples of teens' efforts to inject their colloquial and personal discourse styles into their reference interviews. In one session, the librarian signs off saying "goodbye for now." The student replies: "until we meet again lol. Lol bye." What was so funny that the student was "laughing out loud"? Another student introduces herself as "Aastha" and then explains, "Think of my name as pasta. Aastha pasta!" A student asks, "What does MCLS stand for?" The librarian replies, "Metropolitan Cooperative Library System." The student says, "cool." When the librarian gives him the standard message connecting him to the tutor, he says, "no problem." When the librarian sends a student a Web page from the University of Texas, the student says, "Whoa, I need something for beginners."

When students used more colloquial or informal language conventions, it appeared to be both their natural communication style for an online chat environment and also an effort to transform the reference transaction into a more familiar form of discourse. On the rare occasions when librarians abandoned their routine professional responses and injected a more personal comment, it read like an attempt to bridge the gap and reach out to the young person somewhere in cyberspace.

DISCUSSION

Earlier in this article we characterized contemporary good practice in public library service to young adults as being informed by the principles of youth development. The most reflective and up-to-date young adult librarians see their work as more than just providing teens with books and information. They are aiming at a broader objective: to help teens achieve the developmental outcomes of adolescence. While reading promotion and reference services are still at the heart of young adult library services, the mode of delivery and the nature of the relationship between the teen and the library staff have changed considerably in all current discussions of best practice. At their best, public libraries involve teens as meaningful participants in the planning and delivery of the services intended to benefit them. Librarians and other library staff work *with* teens in a relationship

that is qualitatively different from the more paternalistic mode of providing services *for* teens. Libraries try to provide opportunities for teens to develop interpersonal skills through healthy relationships with peers and with adults. They work with teens to determine the kinds of informational and reading resources and services they need to meet their educational and personal objectives.

The librarians in the transcripts analyzed here presumably do not see themselves as young adult librarians. It is doubtful that many of them are aware of the prevailing trends in young adult services. There is certainly little evidence in the transcripts that they are trying to work *with* their teen clients; they do not even do much *for* them in the framework of traditional reference service.

The researchers did not have access to the librarians whose transactions were analyzed. We do not know their motives or intentions. We also do not know how they interacted with clients who asked questions that were not related to homework. Perhaps they failed to follow the principles of good reference practice with all of their clients. Perhaps they maintained the same rigorous professional distance with adult clients that they did with teens. What the transcripts do reveal is a conviction that homework questions are not the proper content for reference transactions.

Certainly the availability of homework assistance programs in libraries or as adjuncts to online library reference services makes it possible to offer specialized services to students of all ages. The challenge that we have observed through our study of both onsite and online library-sponsored homework assistance is to guide the young person to the proper service, whether that is reference or homework assistance. We have observed librarians in face-to-face encounters direct students to Live Homework Help when it would have been more appropriate to show them an atlas or an encyclopedia article. We have also observed tutors giving inexpert reference assistance that librarians would have been more equipped to provide. The line between tutorial and librarian roles is blurry and awkward enough to manage when the parties are in the same building. The student may feel that he is getting the run-around when he is shunted back and forth between the reference desk and the homework center. The possibility for frustration increases exponentially, however, when the student is being shunted between frequently incompatible software interfaces by anonymous adults in cyberspace.

Radford (2001) has posited that the interpersonal nature of the reference interview is critical to the perceived success of that encounter. In fact, for some patrons the human aspects of the reference transaction may actually be more important than the information received (p. 30). Likewise, RUSA's (2004) guidelines for effective reference performance remind librarians that "the success of the transaction is measured not only by the information conveyed, but also by the positive or negative impact of the

patron/staff interaction.” Therefore, the first standard of good reference service is approachability—that is, making patrons feel comfortable “in a situation that may be perceived as intimidating, risky, confusing, and overwhelming” (RUSA, 2004). The librarian who displays a helpful, patient, and reassuring attitude sets the scene for a successful reference encounter (Radford, 2001, p. 30).

Although projecting a welcoming demeanor is more difficult in the virtual realm, librarians have found ways to do this when serving remote patrons. Showing interest in the student’s topic, adding humor, and giving positive feedback are all ways to exude warmth during instant messaging (Fagan & Desai, 2003). In addition, Fagan and Desai recommend avoiding library jargon and “robot-like instructions” (p. 132). Janes (2003) suggests that librarians must appreciate and understand the etiquette and lingo of instant messaging if they want teens to take the library’s virtual reference service seriously. Furthermore, librarians may have to abandon their strict adherence to accurate grammar and spelling when helping students via the Internet. For many teens, a fast-moving conversation is far more important than correct spelling and punctuation (Fagan & Desai, 2003; Janes, 2002).

Finally, it is imperative that the librarian clarify the student’s real information need, whether the child is standing across the reference desk or seated at home in front of a computer. This is especially critical with imposed homework questions that may not be all that clear to the student (Gross, 2000). Jones has called this phenomenon the “garbled assignment,” often requiring the librarian’s intervention in helping the student interpret the teacher’s intent (cited in Ross, Nilson, and Dewdney, 2002, p. 147). Fagan and Desai (2003) and Ross, Nilson, and Dewdney (2002) urge librarians to work with young people to develop a mutual understanding of the homework question, while Shenton and Dixon (2004) emphasize the need to help students develop appropriate search strategies.

CONCLUSION

Kuhlthau (2004) has documented the affective dimensions of information-seeking behavior. Her research has highlighted the anxiety and uncertainty that students experience when they are faced with the need to do library research. She describes the information-seeking process as an effort to seek or create meaning. In the reference transactions that we analyzed, the teens attempted to create meaning by recreating the chat discourse environment in which they were most at home. Librarians, however, tried to create meaning in a parallel discourse environment that duplicated as much as possible the standard impersonal protocols of a face-to-face reference counter.

The World Wide Web promises so much to teens. Dan Tapscott (1998) makes a convincing case that these members of the “Net Generation” work,

learn, and play differently from their elders because of their immersion in the culture of cyberspace. An online chat mode would seem to be a natural delivery system for many kinds of library services to adolescents. Unfortunately, the librarians we studied seem to have grafted inferior versions of the communication styles and protocols of face-to-face reference onto some rather clunky software. It would be interesting to see what would happen if the designers of such online reference services followed the principles of good young adult library practice and involved the teens as active participants in both the planning and the delivery of the services. At the moment, teens are from Neptune, librarians are from Pluto. Better services would result if they could meet somewhere closer together in cyberspace.

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VIRTUAL REFERENCE BEHAVIORS CHECKLIST:

Transcript number:	Investigator:			
GREETING				
	Strong Evidence	Evidence	No Evidence	N/A
1) Is available quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Gives friendly greeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Encourages student to ask question	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REFERENCE TRANSACTION				
4) Repeats question or paraphrases to confirm understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Clarifies question if need	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Probes for further information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Helps interpret question (homework assignment) if possible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) Verifies mutual understanding of question (homework assignment)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROVIDING INFORMATION				
9) Finds answer in first source	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Uses other sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Communicates clearly using terminology that is easily understood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) Checks that information is understood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Keeps student informed of search progress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14) Offers referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROBLEM-SOLVING				
15) Encourages student to solve problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) Advises on alternative solutions or methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17) Reassures student	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FOLLOW-UP				
18) Asks if question has been answered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19) Asks if student needs other information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>