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Article

Formality in Chat Reference: Perceptions of 17- to 25-Year-Old University Students

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Abstract

Objective – To examine the ways in which the formality of language used by librarians affects 17- to 25-year-old university students' perceptions of synchronous virtual reference interactions (chat reference), in particular, perceptions of answer accuracy, interpersonal connection, competency, professionalism, and overall satisfaction.

Methods – This qualitative study used semi-structured interviews to examine the perceptions of participants. Participants reviewed and responded to two virtual reference transcripts, portraying a librarian and student asking a simple question. One transcript portrayed a librarian using traditional, formal language while the other portrayed a librarian using informal language. Five 17- to 25-year-old university students were interviewed. Data were analyzed using a phenomenological, qualitative approach to discover common themes.

Results – Analysis suggests that participants perceived the formal librarian as being "robotic" and impersonal while the informal librarian was thought to be more invested in the reference interaction. Several participants viewed the formal librarian as more competent and trustworthy and questioned the effort put forth by the informal librarian, who was perceived as young and inexperienced. Participants' perceptions of professionalism were based on expectations of social distance and formality. Satisfaction was based on content and relational factors. Several participants preferred the formal interaction based on perceptions of competency, while others preferred the informal librarian due to perceived interpersonal connection.

Conclusion – Formality plays a key role in altering the perceptions of 17- to 25-year-olds when viewing virtual reference interaction transcripts. Both language styles had advantages and disadvantages, suggesting that librarians should become cognizant of manipulating their language to encourage user satisfaction.

Introduction

Libraries have undeniably been impacted by the invention of the Internet. Resources are increasingly made available in digital formats, sometimes exclusively, due to high demand for instantaneous access to information. In the face of these changes, virtual reference services (VRS) in their asynchronous (email reference) and synchronous (chat reference) forms have emerged as viable alternatives to traditional face-to-face (FtF) reference services in academic and public libraries (Johnson, 2004).

Synchronous VRS allow librarians and users to communicate in real time and users can connect wherever Internet access is available. VRS offer many advantages, including speed, convenience, and the ability to save time through the use of pre-generated scripts (Thompson, 2010). Yet, chat can be a challenge for librarians who may find online communication difficult, lacking the visual and non-verbal cues that are central to FtF communication (Fagan & Desai, 2003; Park, 2007).

In academic libraries, VRS are of particular importance for young students from the newly dubbed Millennial Generation (Millennials), born 1979 to 1994 (Sweeney, 2006). For this generation, technology is important: 90% of Millennials use the Internet compared with 79% of Baby Boomers, and instant messaging (IM) services are frequently used for communication amongst Millennials (Pew Internet and American Life Survey, 2004; Pew Internet and American Life Survey, 2010). Accordingly, synchronous VRS are important for this user group and studies have found that

undergraduates, who account for the majority of university-aged Millennials, are the predominant user-group of synchronous VRS in academic libraries (Arnold & Kaske, 2005; Houlson, McCready, & Pfahl, 2006).

It is widely recognized that this age group has a unique online communication style. A librarian chatting with a 17- to 25-year-old might note the frequent use of contractions (e.g., "btw"), emoticons (e.g., ":)"), and a lack of punctuation and capitalization (Baron, 2004; Haas, 2011; Maness, 2008; Park 2007; Rourke & Lupien, 2010), prompting some to suggest librarians mimic this informal style to appear more approachable (Fagan & Desai, 2003). However, though there is a wealth of literature exploring VRS, much is focused on the evaluation of the VRS of specific libraries or of question type and answer accuracy (Arnold & Kaske, 2005; Cloughley, 2004; Houlson, McCready, & Pfahl, 2006; Silverstein, 2006; White, Abels, & Kaske, 2003). Few have explored the impact that formal or informal language may have on the virtual reference interaction.

Radford (2006) and Westbrook (2007) have identified the need for studies which examine formality in VRS, as formality is a critical component of relationship building and interpersonal communication when using computer-mediated communication (CMC). To date, studies of formality in CMC have largely used quantitative methods to identify broad trends (Jessmer & Anderson, 2001; Walther & D'Addario, 2001) or have qualitatively observed formality patterns (Baron, 2004; Haas, 2011; Maness, 2008; Park, 2007; Radford, 2006; Westbrook, 2007). This study uses a qualitative framework to more deeply investigate the ways

in which the critical user group of 17- to 25-year-old students perceive the use of formal and informal language in virtual reference to supplement previous quantitative and observational studies. The study addressed the following research questions:

1. Does the formality of language used by librarians impact how 17- to 25-year-olds perceive the credibility of answers provided to them during a virtual reference interaction? If so, how?
2. Does the formality of language used by librarians impact how 17- to 25-year-olds perceive the competency or professionalism of the librarian in a virtual reference interaction? If so, how?
3. Does the formality of language used by librarians affect 17- to 25-year-olds' perceptions of interpersonal connection with the librarian during a virtual reference interaction? If so, how?
4. Does the formality of language used by librarians affect 17- to 25-year-olds' perceptions of satisfaction in virtual reference environments? If so, how?

Literature Review

Interpersonal Communication in the Virtual Reference Interview

CMC is a unique form of communication. Unlike FtF, it physically separates communicators from one another. As such, the ability to communicate through gesture, facial expression, or vocal qualities such as intonation is lost (Park, 2007). This has prompted some, such as Daft and Lengel (1984), to suggest there is less potential to develop socioemotional relationships in this medium or that this reduced social presence makes CMC less friendly and personal (Rice & Love, 1987). However, a growing body of work suggests that CMC is as rich as FtF communication. Rice and Love (1987) discovered that over 30% of messages sent via CMC are socioemotional in content and more

recent studies by Park (2007), Radford (2006), and Walther and D'Addario (2001) suggest that users of CMC have adapted the medium by developing textual cues to replace nonverbal and prosodic signals such as, intonation, accent, and vocal pitch. Radford's (2006) examination of VRS transcripts concluded that CMC is no less personal than FtF communication.

It is critical to consider interpersonal communication in the virtual reference interaction, as relational dimensions have been shown to greatly impact the FtF reference interaction (Dewdney & Ross, 1994; Radford, 1998; Ross & Dewdney, 1998). Durrance (1989) found that, in FtF reference interactions, users were unlikely to forgive negative interpersonal factors. Dewdney and Ross (1994) discovered that users who perceived librarians as friendly were more likely to express overall satisfaction. In fact, many of the guidelines dictating best practice for FtF reference interactions focus on interpersonal skills and building rapport (Reference and User Services Association [RUSA], 2004).

Interpersonal dimensions have been found to be equally important in virtual reference interactions (Connaway & Radford, 2010; Maness, 2008; Mon, 2006; Mon & James, 2007; Nilsen, 2004; Radford, 2006). Mon (2006) found that users responded positively to librarians perceived as friendly and polite while impolite librarians were deemed unhelpful. Mon and James (2007) examined virtual reference interactions which had received unsolicited "thank you" messages and discovered that satisfaction was determined both by content and relational dimensions. Nilsen (2004) concluded that users respond similarly to virtual and FtF reference interactions and that interpersonal factors are important in both.

This body of work suggests that interpersonal communication is possible in CMC and plays a significant role in determining whether users perceive a virtual reference interaction as

successful. Yet few have examined how interpersonal information is communicated in the virtual reference interaction. Radford (2006) identified "relational facilitators" and "relational barriers" in virtual reference interactions by qualitatively evaluating 285 virtual reference transcripts. Her results suggest that actions such as using emoticons or abbreviations to compensate for nonverbal cues facilitate relationship building, while relational barriers include ending the interaction without an exchange of farewell. Walther and D'Addario (2001) found that emoticons could successfully convey interpersonal information, and recent studies have suggested that informal language such as abbreviations (e.g., "ttyl"), contractions (e.g., "gunna"), and emoticons and excessive punctuation (e.g., "thanks!!!!") are associated with greater interpersonal connection in various CMC environments (Park, 2007; Park, 2008a; Radford, 2006; Westbrook, 2007).

Politeness, Formality, and CMC

Several CMC studies integrate Brown and Levinson's (1987) politeness theory to explain interpersonal and relational aspects in CMC. Politeness theory is based on the assumption that individuals have a social "face" with a negative and positive aspect (Arundale, 2005; Brown & Levinson, 1987). Positive face involves the desire to be approved of and receive appreciation whereas negative face involves a person's desire to be unimpeded in their actions (Brown & Levinson, 1987). Being "polite" requires individuals to affirm the positive face of others without undermining their negative face. Communication ultimately breaks down when persons are "impolite" or make face-threatening acts (FTA) to either the negative or positive face (Arundale, 2005; Morand & Ocker, 2002).

In CMC, formality indicators are a key component of politeness. Formality establishes the boundaries and nature of the relationship between communicators (Morand & Ocker, 2002; Westbrook, 2007). Formal language is

normally used among relative strangers and indicates social distance and seriousness. It can affirm the negative face by showing respect for a person's autonomy and expertise (Park, 2008b), whereas informal language is often used between those with less social distance between them and can affirm the positive face (Morand & Ocker, 2002).

Politeness is complicated in CMC due to the lack of nonverbal and prosodic cues that are used in FtF interactions to clarify meaning (Morand & Ocker, 2002; Westbrook, 2007). Without such cues, speakers in CMC are prone to misinterpret messages, as was seen in Nilsen's (2004) study of virtual reference interactions where users often perceived librarians' comments negatively while the same statements spoken FtF would likely not have elicited comment.

Studies of politeness theory in CMC suggest that formality is a critical factor to consider in virtual reference interactions. Jessmer and Anderson (2001) suggest that those who send polite, grammatically correct emails are seen as more competent than those who send informal emails. Yet in the virtual reference interaction, Mon (2006) and Thompson (2010) found that users may respond negatively to formal language which is perceived as "robotic." On the other hand, informality can encourage positive interpersonal relationships but may also imply that the sender is uneducated or of low status (Jessmer & Anderson, 2001). In order to facilitate successful communication in virtual reference interactions it is critical that librarians understand how different styles of communication are perceived by users of VRS.

Summary

Interpersonal communication has long been identified as critical to the FtF reference interaction, yet researchers are only beginning to understand its role in the virtual environment. Previous studies have established patterns, yet Burke and Kraut (2008) note a major downfall of

current CMC politeness or interpersonal communication studies in LIS is that most are descriptive in nature. Few have included users' perceptions in their findings, in particular the perceptions of 17- to 25-year-old university students. This study addresses these gaps in the literature and builds upon previous, descriptive studies by directly assessing users' perceptions of formality and informality in virtual reference and its impact on perceptions of professionalism, competency, credibility, interpersonal connection, and satisfaction with virtual reference interactions.

Methods

Inquiry and Design

This exploratory study was deeply rooted in human context and personal perceptions, and so the researcher deemed qualitative research methods appropriate. A phenomenological approach was chosen, as the research questions focus on understanding the lived experience of participants and their perceptions of formality (Kvale, 1996; Leedy & Ormrod, 2009; Patton, 2002). Semi-structured interviews were used to facilitate the discovery of common themes, while allowing participants to fully articulate their unique perspectives (Seidman, 2005). During interviews, participants were asked to share their perceptions about two virtual reference transcripts, each portraying a librarian and undergraduate student asking a question. One transcript portrayed a formal librarian; the other, a librarian using informal language. See Appendices A and B to view the transcripts that were used for all interviews.

Sampling/Participants

Phenomenological studies seek to understand the perspectives of individuals with direct lived experience with the phenomenon under study (Leedy & Ormrod, 2009; Patton, 2002). In this study, "lived experience" was supplied in the form of transcripts, however; it was essential

that participants could relate to the user shown, who was designed to resemble a 17- to 25-year-old student. Thus, purposive sampling strategies were used to recruit participants similar to the user in the transcripts. Participants were required to be between the ages of 17 and 25, native English speakers, registered as students at the University of Alberta, and have had experience using instant messaging.

Recruitment posters were placed at the University of Alberta and electronic advertisements posted on student mailing lists. Participants were self-selected by contacting the researcher and volunteering to participate. Five participants from the University of Alberta took part, including three graduate students (Participants 3, 4, and 5) and two undergraduate students (Participants 1 and 2). All were female and within the age range of 18 to 24. All gave their informed consent before participating and were assigned pseudonyms to preserve anonymity.

Data Collection

During interviews, participants responded to two virtual reference transcripts, each portraying a librarian and a student asking a question. One portrayed a librarian using formal language, while the other portrayed a librarian using informal language (see Appendices A and B). Participants were asked to read and comment on both transcripts, alternatively reading either the formal or informal transcript to begin. Participants were given pens, highlighters, and paper to record their thoughts on each transcript. After allowing for careful reading and scrutinizing of the transcripts, the researcher posed a series of open-ended questions centred on themes of professionalism, competency, interpersonal connection, and satisfaction. Transcripts acted as a lived experience eliciting more revealing interview data than a focus on abstract experience or opinions would (Gubrium, 2001; Leedy & Ormrod, 2009).

Transcripts were carefully constructed based on previous research. The structure of each was based on published examples of virtual reference transcripts (Fagan & Desai, 2003; Radford, 2006; Westbrook, 2007), surveys of VRS (Houlson, McCready, & Pfahl, 2006; Rourke & Lupien, 2010), and the RUSA (2004) *Guidelines for Behavioral Performance of Reference and Information Service Providers*. The formal librarian's language was modelled on grammatically correct English such as is seen in a business letter and lacked informality markers such as linguistic contractions (e.g., "it is" instead of "it's"). The informal librarian's language used informality markers such as abbreviations, emoticons, colloquial grammar, informal punctuation, linguistic contractions, and prosodic features (e.g., ". . ." for time passage), based on research by Haas (2011), Park (2008a, 2008b), Radford (2006), and Westbrook (2007). Finally, the language of the user was modelled on studies of 17- to 25-year-olds' CMC communication, including linguistic analysis conducted by Baron (2004), Haas (2011), and Maness (2008).

Data Analysis

Transcribed participant interviews were subjected to in-depth qualitative analysis using an approach similar to Groenewald's (2004), involving phenomenological reduction, delineation of units of meaning, individual theme formation, and the extraction of general and unique themes for all interviews. Each individual interview was analyzed through multiple readings. Units of meaning were delineated by considering the literal content of the transcribed interviews, the number of times a meaning was mentioned, and how the meaning was stated through paralinguistic and non-verbal cues recorded during interviews (Groenewald, 2004). Major units of meaning were tabulated using Microsoft Excel along with representative quotes to identify. Following this, commonalities amongst participants were identified by comparing individual themes,while ensuring that minority voices were not lost amongst the majority themes (Groenewald, 2004).Throughout the data analysis process, the researcher was conscious of bracketing presuppositions. Bracketing, or phenomenological reduction, refers to the deliberate and purposeful opening up of the researcher to the phenomenon (Groenewald, 2004). The researcher avoided projecting interpretations and meanings onto the participants by frequently returning to the original transcripts and audio-recorded interviews to avoid becoming too removed from the data (Forde, 2011).

Results and Discussion

Authenticity

To address the impact of formality on interpersonal connection, participants were asked to share their perceptions of the librarian's mood and whether the librarian cared about the student's question. A strong theme which emerged was the concept of authenticity.

The Librarian as a Person

Four of the five participants perceived the formal librarian as being robotic or machine-like. Participant 4's initial reaction upon reading the formal transcript was to exclaim, "This librarian sounds like a robot!" Participant 2 explained, "It's robotic in the way she's answering the question. She might have added some other extra stuff." Participant 3 easily articulated her perception of the formal librarian: "It's almost like in some ways speaking to a machine. It's very . . . action-reaction." Paralinguistic cues further suggested the participants had difficulty injecting "life" into the formal librarian's speech, as all of the participants, when mimicking the formal librarian, used a monotone lacking in pitch and tone variation.

Previous studies have similarly found an association between formal speech and perceptions of a "robotic" interaction (Mon, 2006; Thompson, 2010). However, though Mon's findings suggest "robotic" librarians are perceived negatively, this was not the case for all participants in this study. Participant 3 perceived the "robotic" formal librarian as calming, stating, "It's like talking to this very lovely artificial intelligence . . . with a very persuasive voice. Very calming." And though many participants mentioned the formal librarian's "robotic" nature, most perceived it as acceptable (see Theme 4: Professionalism).

In contrast, the informal librarian was often associated with human characteristics. While explaining her perception of the informal librarian's grammar, Participant 1 stated, "I mean it shows that they're a real person," and later referred to the informal librarian as "very much an authentic person." Further evidence of this theme was seen in the frequencies with which participants attributed humanizing characteristics such as gender, emotion, and age to the informal librarian versus the formal. Participants 2 and 5 did not associate mood, gender, or age with the formal librarian. Participant 5 stated, "It's formal, impersonal, it gives nothing." When asked about the formal librarian's mood, Participant 2 stated: "The librarian is . . . nothing really." On the other hand, most participants associated happiness, femininity, and youth with the informal librarian, suggesting the informal librarian was more easily humanized. This is an interesting expansion of Mon's (2006) discovery that participants often positively mention interacting with librarians who are identified as "real people" based on the provision of a name, and supports others who have concluded that informal language can increase interpersonal connection between communicators (Park, 2007; Radford, 2006; Westbrook, 2007).

Authenticity of Emotion

The informal librarian's emotional engagement was seen as more authentic than the formal in three key areas of the interaction: the greeting, expression of interest, and closing. Four participants perceived the use of informality in the greeting as engaging and inviting. Participant 3 stated, "When I first started reading it, I'm like oh that's awesome, they're really into this . . . you can feel when the enthusiasm comes through." Again, paralinguistic cues supported this theme. When mimicking the informal greeting, the participants injected enthusiasm and excitement into their tone, while the formal greeting was interpreted as monotonous and "flat," according to Participant 5. Although Kwon and Gregory (2007) found approachability difficult to observe in the virtual reference interaction, this finding supports Fagan and Desai's (2003) assertion that informal greetings may be perceived as more approachable than formal greetings.

In addition, the informal librarian was seen as being more invested in the interaction by four participants. In reference to the informal librarian, Participant 1 stated, "They are a little bit more invested," echoed by Participant 3's statement that the informal librarian was "more invested somehow." Conversely, the formal librarian's expression of interest, "That sounds interesting. Have you tried searching in ERIC?" (Line 10, Appendix B), was perceived as inauthentic. When asked if she felt the formal librarian cared about the student's question, Participant 2 stated that "she pretended to care about it" and "it's not like she really cares, it's just her job." Participant 3 commented:

> . . . The librarian says, "That sounds interesting," that's almost so formal you can't really tell if they mean it. If they were more casual almost like, "Oh my god that's really cool," and then you can feel that enthusiasm whereas this feels almost like here's my token enthusiasm.

Showing interest builds rapport during the reference interaction (Radford, 2006; RUSA, 2004) and the formal librarian's lack of interest was negatively perceived by Participants 1 and 2, who preferred the informal interaction due to perceived interpersonal connection with that librarian.

Finally, several participants viewed the informal librarian's invitation to return for help as more authentic. Participant 3, referring to Line 28 of the informal transcript ("np ☺ . . . do you need help w. anything else?"), stated, "No problem, happy face is like really, no problem. It's awesome that you wanted help," while Participant 2 injected an inviting, excited tone to the informal librarian's closure but a monotonous tone to mimic the formal.

Competency

Formality Builds Trust

Participants were asked what factors suggested competence or incompetence in both transcripts. Competence was associated with content-based factors, such as providing instructions and links. In addition, proper grammar was often connected to feelings of trust and three participants perceived the formal librarian as more competent than the informal, regardless of other content-based factors.

Feelings of trust were related to the perception that the informal librarian did not put forth the same effort as the formal. Participant 3 stated, regarding the informal transcript, "I realize it's the exact same content and even though one of the things I found really professional (in the formal transcript) is the thoroughness, it doesn't feel thorough because of the way they've conveyed it," and, "I think I'd walk away feeling kind of like I'm not sure they've done everything they possibly could to get me the answer to this question." Participant 4 echoed this, flatly stating, "I wouldn't trust this." Participant 5 stated, "I don't understand why

they aren't using proper grammar. . . . I don't understand what they're going to do for me. If they don't use proper grammar, what else are they not doing?" Participant 5 perceived the informal librarian as so untrustworthy that she would have left, had she been involved in the interaction.

Perceptions of trust may be explained by politeness theory, as greater formality tends to be used among relative strangers to establish a basic level of trust and can also suggest that the librarian shoulders responsibility for problem solving (Morand & Ocker, 2002; Westbrook, 2007). Kim (2005) found that formal language is perceived as coming from an expert. In addition, Jessmer and Anderson (2001) found that the senders of grammatically correct emails are seen as being more invested in the editing of their messages and thus more competent.

Though trustworthiness was strongly tied to formality for three participants, it is important to note exceptions. Participants 1 and 2 did not perceive the use of informal grammar as being indicative of incompetence. Participant 1 made some connection, stating, "It's nice to see the quotation marks around 'search.' I don't know, it's just like a, 'Oh yeah, like you're smart, you type properly.'" However, when asked about the competency of the formal librarian, she stated that they were "maybe not more competent but maybe a little bit more experienced." Participant 2 made no connection between formality and trustworthiness. When asked how she perceived the competence of the informal librarian, Participant 2 stated, "She actually knows as much as the other person but the way she's presenting it is better," suggesting that the informal librarian's language actually made her more competent in the chat environment. These findings suggest it may be an overgeneralization to presume that formality is automatically associated with higher competency for this user group.

Power Dynamics

Feeling Patronized

Participant 1 perceived the formal librarian's statement, "Then press the search button" (line 26, Appendix B), as "patronizing" and felt that the formal librarian was "bossy," whereas she perceived the same statement in the informal transcript as lighthearted and explained that the informal librarian was "more of a guide than a boss." In CMC, the act of giving advice (to press the search button) could be interpreted as a face-threatening act which threatens the positive face by suggesting the recipient is flawed and the negative by appearing to constrain choices (Westbrook, 2007). Perceptions of bossiness may also relate to a lack of prosodic and non-verbal cues which some have suggested leads CMC communicators to infer rudeness from relatively small indicators (Morand & Ocker, 2002; Nilsen, 2004; Westbrook, 2007). This finding suggests that informality may mitigate some of the face-threat associated with giving advice in CMC.

In addition, two participants associated feelings of inferiority with formality. Participant 2 preferred the informal librarian because, "She's in your language, the way you are speaking and it's . . . not like you're feeling different or you're feeling inferior because you can't use the language." Participant 3, reflecting on previous virtual reference interactions, mentioned feeling "pressure" from formal librarians, and that, "through the use of their extremely great grammar that they're almost a little bit condescending."

Speaking My Language

The importance of individual themes should not be discounted in the wake of shared commonalities (Hyener, 1999). A unique theme was Participant 2's association of informal language with identity. Participant 2 frequently referred to the informal librarian as speaking "her language" while the formal librarian's grammar was perceived as out of place:

> She's writing full sentences and using punctuation which you never use in chat . . . she never used any kind of words like those small acronyms we use for like "thanks" even we don't put all the – we just go "thx." She doesn't do that. She used a full sentence for that!

Ultimately, Participant 2's choice of librarian was based on the use of informal language which she associated with her age group. This may be based on the positive politeness associated with using "in-group" speak, which can suggest camaraderie and common ground (Morand & Ocker, 2002).

Professionalism

RUSA (2004) guidelines were associated with professionalism by all of the participants, including asking open questions and follow-up questions. Four participants associated formality more strongly with professionalism than with content-related factors.

Professional Tone

Three participants perceived the formal librarian's "tone" as professional. Participant 5 stated, "They maintain a sort of good professional tone. Very even, it doesn't seem overly on either side, not overly friendly or overly unfriendly." When asked what was professional in the formal transcript, Participant 4 explained, "The librarian isn't overly friendly in this one . . . it's not like this person's asking for advice. They're asking for research help." Conversely, these participants felt the informal librarian was overly friendly or eager, which was perceived as unprofessional. The lack of formality and consequent lack of negative politeness in the informal interaction may have caused a perception of "coming too close" or

intrusion for these participants (Morand & Ocker, 2002; Park, 2007).

Expectations of Formality

Often, perceptions of professionalism were tied to expectations of formality and by extension to asymmetrical interactions. Goffman (1956) suggests that many interpersonal interactions are asymmetrical in nature and that people engage in "status rituals" to define superiority in relationships. Both Radford (2006) and Westbrook (2007) observed that the librarian-user interaction is fundamentally asymmetrical, with librarians taking on a superior status. In this study, the relationship between the student and formal librarian was asymmetrical since formality typically establishes high social distance (Morand & Ocker, 2002). Yet, the informal transcript was relatively symmetrical since the librarian and student use similar language, suggesting less social separation (Park, 2007).

Three participants had explicit expectations of formality, which led to a perception of unprofessionalism when reading the informal transcript. Participant 5 felt that, "Librarians should care about grammar," and Participant 3, referring to the use of informal abbreviations, said they gave "such a flavour that you don't really expect from a librarian. You know, you expect some level of formal[ity]."

Informality sometimes meant participants were unable to clearly define the roles of the student and librarian. In regards to the informal transcript, Participant 4 felt that, "This could be me talking to my friends," whereas in the formal transcript the roles were "very clearly . . . student, librarian." Participant 3, referring to the informal transcript, stated there was "nothing in it that makes me feel like they're behind a desk in a library." These findings extend those of Radford (2006) and Westbrook (2007), who suggest that users may perceive asymmetry in VRS interactions as the norm and feel uncertain

if the boundaries of the librarian-user relationship are less clearly defined.

"Chat" Professionalism

Two participants were hesitant to label the informal librarian as unprofessional. Participant 1 perceived informal grammar as "not unprofessional" but rather showing the librarian was a "real person." Participant 2 perceived informal language as appropriate to the chat environment, stating, "The language that she's using is not professional but that's what you expect from chatting . . . It's better than writing full sentences and taking so much time in writing them." These findings suggest that members of this user-group may be more accepting of informality in the virtual reference interaction and may not immediately associate informality with unprofessionalism.

Satisfaction

Durrance (1989) defines satisfaction as the willingness to return to or work with a librarian in the future. Thus, to gauge satisfaction, participants were asked whether they would be willing to ask their own question of each librarian or if there was a librarian they would prefer to interact with. Willingness to visit the librarians was notably divided. Participants 3, 4, and 5 stated that they would not ask a question of the informal librarian whom they perceived as untrustworthy. These participants preferred the formal librarian, based on perceived authority:

> I would definitely prefer the [formal] one . . . like I said I love the enthusiasm that comes with [the informal one] and the initial approachability that I felt, but I don't feel like it was as good quality of an interaction as the [formal one]. (Participant 3)

Participants 1 and 2 were willing to visit both, yet preferred the informal librarian due to perceived interpersonal connection:

> If it was me, I'd probably go to the happy one [informal] because . . . let's say I'm panicking and I'm finishing up a last minute assignment . . . I wanna talk to someone who makes me feel just a little bit more encouraged. (Participant 1)

Participant 2 echoed this, stating, "I would prefer to go to the one that's actually using the language . . . of our age group cause you're more comfortable with the person."

Limitations

Participants in the study were not personally invested in the reference interactions presented to them. Contextual markers of formality, such as humour, self-deprecation, and hedging (Brennan & Ohaeri, 1999), have been shown to impact the reference interaction (Radford, 2006; Westbrook, 2007), but because participants were not involved in the interactions, contextual markers could not be studied. In addition, due to the limited sample size of this pilot study, the responses of graduate and undergraduate students could not be reliably compared. Future research may expand upon this study by analyzing the differences in the responses of graduate and undergraduate students, who may have different expectations regarding virtual reference interactions. Finally, though formality levels in this study were purposefully static, in the typical reference exchange formality rises and falls during different stages of the reference interview (Westbrook, 2007). Future studies may seek to determine whether perceptions differ when formality levels fluctuate during the reference interaction.

Conclusion

The findings of this study suggest that formality plays a key role in altering the perceptions of 17- to 25-year-olds in relation to virtual reference interactions. Both communication styles appeared to have benefits and drawbacks. Whereas participants often perceived formal language as suggesting competency and trustworthiness, it also was interpreted as robotic, impersonal, and at times condescending. Conversely, informal language suggested approachability, enthusiasm, and interpersonal connection, but also youth and inexperience. Future research might examine how perceptions differ for different user groups and in different environments. Would users of a public library's VRS have similar expectations of formality and social distance? Or would older users be as comfortable with informal language?

Future studies may build upon the findings by investigating whether formality levels may be altered at points in the reference interaction to facilitate satisfaction. Would using more informal language to greet, express interest, or invite users to return while using higher formality to provide answers build rapport while encouraging trust? Might librarians be trained to understand politeness theory and respond to users with the appropriate CMC communication style?

What is clear from these findings is that formality plays a pivotal role in CMC and that librarians communicate far more than information in the virtual reference interaction. Building upon these findings may help librarians develop a repertoire of communication tools, increasing their ability to better communicate in the virtual reference environment, and thereby increasing the effectiveness of this essential service.

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Appendix A
Informal Transcript

Line numbers added after data collection.

Scenario:
An undergraduate student completing their Education degree requests information on how to find a journal article that is about motivating high school students to learn about science. The student is talking to a librarian, in real time, using chat ("Ask a Question").

1   **Librarian:** hi! i can help with that!
2   **Librarian:** what do you need it for?
3   **Patron:** it's for a class
4   **Librarian:** ok . . . can you tell me more about your topic?
5   **Patron:** i have to research how to motivate students to learn about science
6   **Librarian:** are you looking for a specific age range? or type of science . . . chem? bio??
7   **Patron:** high school students . . . it can be about any kind of science.
8   **Librarian:** ok cool . . . have u tried searching in ERIC?
9   **Patron:** no . . . what's that?
10   **Librarian:** it's a database for education . . . it will probably have articles on your topic
11   **Patron:** ok, how do i get there?
12   **Librarian:** go to the library site: [url].
13   **Librarian:** and click on the databases link . . . it's on the left-hand side.
14   **Patron:** ok
15   **Librarian:** let me know when you're there!
16   **Patron:** i'm there now
17   **Librarian:** if you click on the E and scroll down u will find ERIC . . .
18   **Librarian:** when you find it click on the link
19   **Patron:** ok, it's open
20   **Librarian:** in ERIC we can try searching "motivation AND high school science"
21   **Patron:** k
22   **Patron:** do i just type it where it says keyword search?
23   **Librarian:** yep. then click search!!
24   **Librarian:** do any of the articles look useful?
25   **Patron:** yeah, some of them look good.
26   **Patron:** thanks!!
27   **Librarian:** np ☺ . . . do you need help w. anything else
28   **Patron:** nope
29   **Librarian**: please come back if you need more help!

Appendix B
Formal Transcript

Line numbers added after data collection.

Scenario:
An undergraduate student completing their Education degree requests information on how to find a journal article that is about motivating high school students to learn about science. The student is talking to a librarian, in real time, using chat ("Ask a Question").

1   **Patron:** i need to find an article on teaching high school science
2   **Librarian:** Hello. I can help you.
3   **Librarian:** What do you need this information for?
4   **Patron:** it's for a class
5   **Librarian:** Okay. Would you tell me more about your topic?
6   **Patron:** i have to research how to motivate students to learn about science
7   **Librarian:** What age of students are researching? Are you interested in a particular field of science, such as chemistry or biology?
8   **Patron:** high school students . . . it can be about any kind of science.
9   **Librarian:** That sounds interesting. Have you tried searching in ERIC?
10   **Patron:** no . . . what's that?
11   **Librarian:** It is an educational database that will probably have articles on your topic.
12   **Patron:** ok, how do i get there?
13   **Librarian:** Go to the library website: [url]
14   **Librarian:** And click on "Databases" link. It's on the left-hand side.
15   **Patron:** ok
16   **Librarian:** Let me know when you are there . . .
17   **Patron:** i'm there now
18   **Librarian:** If you click on "E" and scroll down you'll find ERIC.
19   **Librarian:** When you find it, click on the link.
20   **Patron:** k, it's open
21   **Librarian:** Now that we are in the database, let's try searching "motivation AND high school science"
22   **Patron:** k
23   **Patron:** do i just type it where it says keyword search?
24   **Librarian:** Yes. Then press the "search" button.
25   **Librarian:** Do any of these articles look useful?
26   **Patron:** yeah, some of them look good.
27   **Patron:** thanks!!
28   **Librarian:** You are welcome. Do you need help with anything else?
29   **Patron:** nope
30   **Librarian:** Please feel free to contact us again if you require additional assistance.