Research Studies in Interpretation from Gallaudet University Doctoral Students

Cynthia Roy and students[1]

Gallaudet Uniiversity

Abstract

The following three studies were presented at the Conference of Interpreter Trainers Conference in October 2012. The studies were undertaken as predissertation work by students in the first cohort of the doctoral program in the Department of Interpretation at Gallaudet University. In the first study, Erica Alley addresses the population of students of American Sign Language–English interpretation in the United States who are employed in the video relay service (VRS) industry while pursuing their degree. It is proposed that VRS is changing from a specialization to an introduction to the field of interpreting and that students may find comfort in the highly structured environment of VRS, which diminishes the need for autonomous decision making. In the second study, Danielle Hunt explores how two signed language interpreters currently working in the field experience and understand what it means to be an interpreter. As phenomenological study, she strives to identify the essence of interpreting through the eyes of these interpreters. This essence is what should be passed on to future generations of interpreters through educational programs. The interpreters are profiled for a deeper understanding of how they make meaning of their work, what their work has entailed, and what outside forces have impacted their work. In the third study, Roberto Santiago examines how research into the cognitive function of co-speech gesture may have practical applications to the teaching of interpreting. The study examines the gesture rate of an interpreter compared to rates found in similar bilinguals in previously published research.

Key Words: ASL–English interpreting research, phenomenology, video relay service, co-speech gesture

[1] Correspondence to: cynthia.roy@gallaudet.edu

Video Relay Service: The Path from Student to Professional?

Erica Alley

1. Introduction

Students in the field of sign language interpretation in the United States exhibit a high level of comfort with technology. Classrooms are often equipped with computers, cameras, and associated recording devices needed in order to review one's work. In addition, students utilize their personal iPads, smartphones, and laptops for class work and correlated assignments. With a great deal of their interpreter training activities implemented using technology, and the comfort that the students feel with these devices, it may seem only natural that the next step is to interpret for video relay service.

Video relay service (VRS) may seem appealing to students because it provides experience in a variety of specializations (e.g., medical, legal) without the interpreter ever having to leave the anonymity of the VRS booth. In addition, the hours of operation of the VRS industry (i.e., 24 hours a day, 7 days a week) support students' ability to work overnight shifts while attending class during the day. Although VRS calls may initially seem unpredictable, calls soon appear to follow a pattern (e.g., medical appointments, tech support); students may find comfort in VRS's predictability. They may also appreciate their own anonymity while working with unfamiliar deaf community members from a distance. Accustomed to clear methods of evaluation in the classroom, students interpreting for VRS may feel at ease knowing that their interpreting work is being evaluated by the number of minutes on a call as opposed to the quality of their work.

This study outlines the guidelines that VRS interpreters follow, examines the origin of the guidelines, and investigates whether interpreters are aware of their origin (i.e., created by the Federal Communication Commission [FCC], individual VRS companies, or the Registry of Interpreters for the Deaf [RID]).

2. Literature Review

It may be argued that the advance of telecommunications technology (e.g., videophone, smartphone) through the years has transformed the lives of both hearing and deaf people; however, the development of technology is not without its detractors. Postman (1992) asserts thata primary danger in technology is that it presents itself as a "friend," making the user's life easier. Ultimately, "technology is seductive when what it offers meets our human vulnerabilities" (Turkle, 2011, p. 1). In fact, over time, technology changes our perception of human interactions.

It changes our view of labor in terms of the value placed on efficiency, standardization, and objectivity. In Postman's view, technology may lead to the belief that standardization of work can be considered best practice. As Postman states, "machines eliminate complexity, doubt, and ambiguity. They work swiftly, they are standardized, and they provide us with numbers that you can see and calculate with" (p. 93). Students may find comfort in this method of evaluation of their work, given their being accustomed to years of rubrics and standardized testing in the classroom.

Aside from work, technology has made an appearance in social lives as well (e.g., Skype, Facebook). It can be said that the use of social technology has fostered a degree of detachment from others to which students have grown accustomed. "Technology makes it easy to communicate when we wish and to disengage at will" (Turkle, 2011, p.13). This perspective may be reflected in the way that VRS is delivered. Specifically, students may have grown accustomed to the anonymity that VRS provides. They may find appeal in the perceived detachment of responsibility while they learn to navigate the interpreting industry.

Alongside the technology, there are rules stated by the FCC that new interpreters may accept as given. The following are rules dictated by the FCC in regards to the way that the video relay interpreter, referred to as *communications assistant (CA),* proceeds with a VRS call as stated within the TRS (Telecommunications Relay Service) Mandatory Minimum Standards (FCC, 2011a, 2011b):

1. The CA must continue with a call for a minimum of ten minutes.
2. CAs are prohibited from intentionally altering the content of a relayed conversatio.n
3. CAs are prohibited from refusing calls or limiting the length of calls.
4. The CA may not utilize a privacy screen and must disconnect from a call if the caller uses the privacy screen or is not responsive for greater than five minutes.
5. The CA ID number must be announced to the Public Safety Answering Point (PSAP) or local emergency authority during a 911 call in order to ensure the ability to contact the CA if the call is disconnected.
6. The TRS provider must make their best effort to accommodate the caller's preferred CA gender.

As Brunson (2011) points out, an assumption is developing that interpreters are a one-size-fits-all commodity. If interpreters behave as if there is one correct way to conduct an interpretation, the belief may develop among novice interpreters that all communicative interactions are the same and can be handled formulaically.

3. Methodoology

After an initial document review, consisting of the Americans with Disabilities Act (ADA, 1990), an RID standard practice paper (2007), and the FCC's *Mandatory Minimum Standards* (2011), *Report and Order and Further Notice of Proposed Rulemaking: Structure and Practices of the Video Relay Service Program* (FCC, 2011), and *Consumer Facts* (2012), I conducted interviews with four experienced interpreters who have either served in a managerial position in a VRS setting or have heavily participated in the Video Interpreters Members Section of RID. I chose to interview experienced VRS interpreters as opposed to students in order to examine the overall interpreting community's understanding of the rules that govern interpreters' work in VRS settings. This perspective can be applied to students' understanding of their role in VRS.

The participants involved in this study were either colleagues that I have worked with over the years or individuals recommended to me by colleagues. All of the interviews were video recorded and began in English. Participants often alternated between English and ASL in order to provide specific examples of an experience

working in VRS. The interviews consisted of open discussion pertaining to VRS guidelines in order to create a comfortable environment that fostered the sharing of personal experience.

Each interview was recorded, transcribed, and analyzed in order to determine participants' awareness of the origin of the guidelines that interpreters follow in VRS. In addition, the interviews were examined in order to explore interpreters' perception of the effectiveness of these guidelines.

4. Results

In responding to questions regarding the origin of particular guidelines, all participants demonstrated language that can be considered uncertain. They used forms of hedging, such as *I think, from what I understand, um,* and *I am under the impression that.* This shows a strong degree of hesitancy in the answers they provided (O'barr & Atkins, 1980) and led to the overall impression that they did not feel that their comments were accurate.

One example of uncertainty can be seen when participants discussed initial call introduction. According to one participant, the interpreter must inform the hearing caller that a "person using sign language to communicate" is on the line as opposed to a "deaf or hard of hearing" person. In response to the question of whether call introduction is an FCC rule or an independent company policy, the participant stated,

> Um I actually think that's company policy and I don't think that's through the FCC, I think that's more of a—I actually think that's company policy and I don't know. I think that came with people were wanting the idea that the person calling is going to identify themselves, uh if they're deaf or if they're hard of hearing or if they want to use something else or whatever they want to use. . . . I think it probably hit one company and then branched out to the other companies. Uh I don't think that's necessarily FCC because the FCC doesn't regulate the scripting of anything. . . . That's a guess (laughs).

This participant was correct in stating that the rule is established by individual companies. The participant noted that it seems to be widespread practice and offered an explanation for why this is the case: Given the ubiquitous nature of machine-like scripting in VRS, it may seem to be a guideline derived from the FCC when in reality it is not. The FCC does not regulate any of the scripts used by VRS providers, including call introduction, explanations of teaming, transferring calls, or the need to disconnect from a call.

When asked about the apparent inability of interpreters to ask for information prior to placing a call, one participant stated the following:

> I would say that's more company requirement, but it's funny how all the companies—it's very similar across different companies that they [do] the same thing. Part of it could be that everyone started at one company and then branched out to this other company and brought all the rules with them.

Another participant justified the rule regarding the apparent inability to ask for information prior to placing a call, stating that it makes sense from an economic perspective—a business's aim is to earn money. The participant stated the following:

> I think that each company has its own policies around that but understand, as a service, companies don't get paid unless there's that three-way connection between the interpreter, the deaf person, and the hearing person and so I would assume that that's, you know, an element in it.

This participant began by stating "I think," indicating an expression of personal understanding of company policy. Company policies often includes rules regarding break times and obtaining preparatory information, as well as debriefing with team members after a call.

5. Conclusion

The information gathered from the interviews in this small-scale study indicate that ASL interpreters are uncertain of the origin of many rules that govern their work in VRS settings. Participants expressed their concerns regarding individual rules, but did not overtly express rebellion against them. Some interpreters associated rules with enhancing customer service and/or facilitating call ownership, whereas others expressed that they had grown accustomed to the rules that governed their work. As one participant stated, often the ubiquitous nature of the guideline from one company to the next makes it appear that the rules originate with the FCC; however, rules often stem from company's individual interpretation of FCC documents (e.g., functional equivalence).

Students who aim to work in VRS should be able to identify FCC regulations and compare these rules with the protocol that is established by independent VRS companies. Ultimately, students need to be able to make informed decisions regarding which VRS agency's rules align with their own perspective on how VRS should be delivered. With this information, students can make informed decisions regarding the agencies with which they are associated.

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Through the Looking Glass: Glimpses of the Lived Experience of Two Signed Language Interpreters

Danielle Hunt

1. Introduction

This study provides a narrative of how signed language interpreters experience and understand the phenomenon of interpreting and their own roles within the profession. Two interpreters from different backgrounds were interviewed using a phenomenological approach to learn more about their experiences. From the 18 recoded emergent themes common in both conversations, I focused on three superordinate themes: (a) the field of interpreting, (b) demographics of the interpreting community, and (c) perceptions of interpreters. The goal of this study is to negotiate an understanding of the lived experience and attain a greater understanding of the essence of what it is to be a signed language interpreter that will inform research, teaching, and practice. This information can be mined for use in interpreter education and training programs.

Researchers in interpreting studies have examined interpretation from the standpoints of translation, cognitive processing, and sociolinguistics, with a focus on equivalency and the resulting product of an interpretation, the process of interpreting from one language to another, and even the roles and boundaries of those involved. Such research has shown a clear preference for quantitative methodologies, with only a recent increase in qualitative and mixed-method studies (Metzger, 2006). Although qualitative methodology in interpretation research is on the rise, few interpreting scholars are examining the field of signed language interpreting using a sociological or anthropological lens, with the exception of Ramsey and Peña (2010), who used an unconventional research approach to look at the lives of interpreters working in four languages at the border of Mexico and California, and Brunson (2011), who focused on interpreting within video relay service settings. For this reason, I have set out to study interpreting from a heretofore unused methodological approach that represents the interpreter's lived experience in a way that it has not been represented in previous studies.

Researchers focusing on interpretation theory now agree that the interpreter is an active participant in the interpreter-mediated interaction. Because that role may be different from the role of a primary participant, the presence of an interpreter does not mean that the primary interlocutors no longer have to seek understanding (Roy, 2002; Wadensjö, 1998). When researchers recognize the importance of the interpreter in the communication situation, they can begin to focus on the interpreter as a person. Past research has focused on the product or process of an interpretation; it is time to consider more than a simple reflection and delve through the looking glass to gain a far-reaching and holistic view at the interpreter. In this study, the interpreter's experience becomes the object of inquiry and the data source for research.

2. Methodology

This study uses a qualitative approach to examine the profession of signed language interpreting. Examining the lived experience of interpreters through a qualitative phenomenological approach allows for a representation of the participants' experience retrospectively and thus interpretively. Specifically, hermeneutical phenomenology not only delves into the lived experience, but also tries to interpret that experience (van Manen, 1990). As a researcher, I only seek to share my perception of the participants' stories. The research question that has guided this study is as follows: How do two interpreters currently working in the field experience and understand what it means to be a signed language interpreter?

2.1 Sample Selection and Participant Information

I recruited participants for this study from interpreters participating in a structured mentoring program, meaning that they had developed an ease in discussing the work, the field, and their experiences within it. Both selected interpreters provided a pseudonym to be used throughout the study so that identifying information could be kept confidential.

Anette is a 52-year-old white woman who holds no academic credentials in interpreting. She lists her primary occupation as an interpreter and she has worked as a professional signed language interpreter for 23 years. She received national certification in 1996 and holds a Certificate of Transliteration (CT) from the Registry of Interpreters for the Deaf (RID). Ifunanya is a 27-year-old African American woman who holds a bachelor's degree in interpreting studies from Northeastern University. She lists her primary occupation as an ASL–English interpreter, and she has worked as a professional signed language interpreter for 4 years. She received national certification in 2010 and holds a National Interpreter Certification (NIC) from RID. Neither woman has any deaf relatives.

2.2 Methods of Data Collection

I conducted one-on-one, semistructured interviews with the participants. Through a participant background questionnaire completed prior to the start of the conversation, I collected information about the participants. The conversations were video recorded in order to capture participants' code-switching and code-blending. The interviews lasted approximately 1 hour each and addressed the following questions:

- How did you become an interpreter?
- Is there an experience as an interpreter that stands out to you—perhaps your most memorable interpreting experience? Can you describe that experience?

- How would you describe what it means to you to be an interpreter? What does a typical interpreter look like to you?
- Can you describe how you learned what it meant to be an interpreter or how you learned what interpreting means?

The participants were then given the opportunity to add any final thoughts that they had at the conclusion of the conversation. I asked follow-up questions as needed to gain a deeper understanding of the experiences being discussed.

2.3 Data Analysis

I conducted a preliminary analysis by using an inductive approach of watching the recordings that allowed for emergent themes to appear. Choosing to rely on in vivo coding whenever possible, I assigned codes to parts of the interview transcript using a word or phrase taken from that section of the data so as to stay as close to the participants' own words or terms. I created a matrix expressing the codes used for each emergent theme along with selections from the conversations that supported these themes. Anette's conversation yielded 36 emergent themes whereas Ifunanya's yielded 27. I used cross-participant analysis to identify common and dissonant themes in the data that led to the essence of the phenomenon. This resulted in a recoded matrix that revealed 17 themes. Through further narrowing, I identified three superordinate themes that encompassed all of the recoded emergent themes as well as the originally coded emergent themes. The resulting three themes best illuminated the research question.

3. Findings and Discussion

Anette and Ifunanya have a certain way of thinking about their profession, the composite of what the field holds to be an exemplar interpreter, and how interpreters are perceived by others within and outside of the profession. Their insights illuminated societal, institutional, and structural forces that bear upon interpreters' view of themselves and their work.

3.1 Theme 1: The Field of Interpreting

Interwoven across both conversations is the idea of legitimacy. Both women acknowledge that interpreting is an actual profession with all the rights and privileges thereof. Both participants discussed their own entry into the field, their many experiences within it, what an interpreter is, and what an interpreter is not. They talked about roles and boundaries that interpreters must navigate in a professional manner while working in a variety of jobs in a variety of environments. They also expanded on the use of formal training, education, and job skills to navigate relationships and cultures. In regard to this educational component, Ifunanya identified her college training as being very important to her work in the field: "It did prepare me along the way to where I am now." Anette supported this point in saying, "It's much more professional-oriented. You go to school, you get your degree, and that's the profession you choose to take . . . yes, you are a working professional."

3.2 Theme 2: Demographics of the Interpreting Community

I had hoped to gain an understanding of the crux of the life of an interpreter when viewed through the eyes of professionals in the field. By learning what a typical interpreter looks like to these participants, I gained a greater understanding of how the participants situate themselves within the profession. Although the field may have some sort of ideal of what it is to be an interpreter, individual views can and will vary based on personal experiences. Anette stated that in her view the interpreting field is "not a hugely diverse population" and that individual interpreters usually stand out in a crowd. It is obvious to Anette that the interpreter "fits somehow, belongs here, supposed to be here, but not really in that group or that group." In terms of diversity, Ifunanya talked about how "the interesting part for me, personally, was that in the hearing community, I was always a minority because of my skin color; [in the deaf community] I was no longer a minority because of my skin color. I was a minority because of my hearing status."

3.3 Theme 3: Perceptions of Interpreters

Anette and Ifunanya expressed differing views of the perceptions of interpreters. Anette felt that she had been perceived negatively at a particular agency to a point where she experienced emotional distress and felt a strong "us versus them" mentality between staff and nonstaff interpreters. She was also concerned that what she had been saying in this conversation could be viewed negatively. "I'm very aware of my perception of how what I'm saying might be perceived by others . . . we all realize it's a tough environment that we work in." Ifunanya spoke very positively of her experiences at this same agency. "I remember just being here and feeling like I was a part [of it]." Both women also discussed how community members and other interpreting stakeholders viewed them.

3.4 Limitations of the Research

Because this study looked at the lived experience of only two signed language interpreters, the findings cannot be applied to the larger populations of interpreters. This study allowed for an in-depth analysis of the experience of being an interpreter for these two individuals. Future research could expand on this study by including conversations with several more participants to see if these superordinate themes remain consistent across the experiences of many interpreters.

4. Conclusion

From this study, we can all learn more about the experiences of these practicing professionals in addition to their skills, personality, and attitudes. The two participants openly discussed several issues in the field that have not been talked about on record before. For example, the perception of an interpreter by others has been discussed in the field, but it has never appeared in a research study or publication. The findings in this study can be used to think differently about the phenomenon. Also, by learning more about these interpreters, we learn more about ourselves and our own experiences as interpreters.

Through the narratives of Anette and Ifunanya, we see the application of knowledge acquired from formal education to the work that is performed. This correlation between education and practice confirms a gap between graduation and certification and informs educators that a better synthesis of information learned in the classroom and applied to work in the field is needed. In an effort to close the gap, the current approach to interpreting

education that focuses on theory as a base of understanding the process needs to be shifted to an approach that places more emphasis on practice and real-world experience. I expect that these conversations with Anette and Ifunanya will open up a broader dialogue among interpreters, educators, students, and the consumers with whom we work.

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Co-Speech Gesture and Cohesion: A Teaching Perspective

Roberto Santiago

1. Introduction

In my work as an interpreter educator, I have interpreting students watch samples of their interpretations and note where they sound natural or unnatural. I noticed a pattern in such disfluencies in their work interpreting from American Sign Language (ASL) into English: Disfluencies often coincide with the interpreter's own inhibition of co-speech gesture—students often have their arms crossed, in their pockets, or leaning on the arms of their chair. I have found that small physical adjustments can have positive effects on an interpreter's product; thus I decided to examine whether the inhibition of gesture might, conversely, lead to disfluencies in ASL-to-English interpretation. The following article presents elements of gesture research that have applications to teaching interpreting. I present a brief review of literature that shows how co-speech gesture relates to language production and cognitive tasks associated with interpreting as well as results from a pilot study I conducted on co-speech gesture during interpretation. This study is part of a larger project on co-speech gesture in bimodal bilingual interpreters[2].

2. Literature Review

Co-speech gesture (CSG) has been linked to several cognitive processes: prompting memory stores, conveying spatial concepts, searching for lexical equivalents, and supporting rhythm and cohesion (Cassel, 1998; Feyereisen, 2006; Wesp, 2001). Studies have demonstrated that bilinguals fluent in American Sign Language (ASL) and English produce gestures at similar rates during conversation as spoken English monolinguals, but that bimodal bilinguals use different gesture types (Casey & Emmorey, 2009, Casey et al, 2011, Faust 2012).

In the following remark, Cassel (1998) lays a foundation for a study of CSG in interpretation:

> A growing body of evidence shows that people unwittingly produce gestures along with speech in many different communicative situations. These gestures have been shown to elaborate upon and enhance the content of accompanying speech. . . . Gestures have also been shown to identify underlying

[2] Bimodal bilinguals are people who are fluent in two languages where one language is visual/gestural (i.e. sign languages) and the other is oral/aural (i.e. spoken languages).

> reasoning processes that the speaker did not or could not articulate. (p. 191)

Nagpal, Nicoladis, and Marentette (2011) suggest that CSG helps speakers access language and aids language production. Studies have demonstrated that CSG is produced even when no one is present to see the gestures (Cohen, 1977; Iverson & Goldin-Meadow, 1998). Individuals gesture more when producing their second language (L2), suggesting that gesture increases with difficulty of language production (Nagpal et al., 2011). This suggests that interpreters' inhibition of CSG could negatively impact the their interpretations. Gesture is also related to lexical search behaviors (Wesp, Hesse, Keutmann, & Wheaton, 2001).

Gestures are traditionally divided into two primary types (this is an accepted concept among gesture researchers, e.g., Casey & Emmorey, 2009; McNeill, 1992; Naughton 1996; Feyereisen, 2006). The first type, *representational* gestures, contain "visual or dynamic features of the referent" (Feyereisen, 2006, p. 188). For example, a speaker may be talking about coffee while producing gestures of holding a cup and stirring; in this way the gestures represent the objects and actions being conveyed verbally (Feyereisen, 2006). The second type, *nonrepresentational* gestures, do not depict a particular referent; rather, they are produced with a single form regardless of the content of the message. Nonrepresentational gestures are sometimes labelled *beats* because they are tied to the rhythm and stress that occurs during speech production.

Representational gestures are used to recall and describe spatial concepts, as illustrated by Wesp et al.'s (2001) description of participants describing a painting to another person using spoken language. CSG was shown to increase when the speaker attempted to describe something visual. Feyereisen (2006) reinforces this finding with his study of speakers' use of CSG-related observer recall. Feyereisen found that sentence recall was enhanced most when participants were presented with representational gestures, but it was also improved when participants were presented with nonrepresentational gesture. ASL presents many of the concepts Feyereisen describes through the use of iconic signs, which may be considered representational gestures or classifier constructions (Casey & Emmorey, 2009). For example, the ASL sign for stirring a cup of liquid looks like someone stirring a cup of liquid, with one hand representing the cup and the other moving in a motion as if grasping an object and stirring. Use of CSG also helps with recall related to spatial cognition (Casey, Emmorey, & Larrabee, 2011). The authors noted research that found that adults' use of CSG while describing events helped with their recall of those events in both the short and long terms. The authors also posited that gesture rates related to learning a manual language may improve cognitive abilities, by adding a manual component to the encoding of events in memory. These findings suggest that bimodal interpreters who are receiving signed language input and producing spoken language output may also use representational and deictic gestures as cohesive aides when discussing spatial information.

The first question that must be addressed is whether interpreters' use of gesture while interpreting patterns like that of spoken language users during conversation. Casey and Emmorey (2009) found that the CSG rates in spoken language conversation among native bimodal bilinguals were statistically similar to the CSG rates of English monolinguals. However, the bilinguals used different gesture types, including greater use of iconic gestures.

Casey and Emmorey (2009) also suggested that CSG behaviors may differ in bilinguals who learn their L2 later in life as compared to the native bilinguals in their study. This idea is supported in Casey et al. (2011), who found that new ASL users increased their use of representational gestures during their spoken language conversation. In a study examining CSG rates and types used by ASL–English bilingual adults, findings indicated that adults who acquired ASL later in life showed similar CSG behaviors as native bimodal bilinguals (Faust, 2012).

From my observation of interpreters at work, I believe that their use of CSG may be unconsciously produced to serve three functions: (a) to aid cohesion, "punctuation," and timing in the source language output, (b) to

facilitate the retrieval of lexical items, and (c) to elicit feedback from communication participants. However, I also predicted that interpreters will inhibit their CSG production while interpreting.

3. Pilot Study

The data were taken from a film of a communicative event involving one ASL-fluent deaf person, one English monolingual hearing person, and an interpreter. The interpreter was a native ASL–English bimodal bilingual. I analyzed 9 minutes and 42 seconds of the interaction, during which the interpreter interpreted into English for 4 minutes and 35 seconds. The nonsigning participant spoke for 4 minutes and 7 seconds. The gestures of both the interpreter and the nonsigning participant were examined, with the nonsigner acting as the control in parallel with the previous bimodal bilingual gesture studies (Casey & Emmorey, 2009; Casey et al., 2011; Faust, 2012; McNeill, 1992; Naughton, 1996). Coding paralleled the coding used by Casey and Emmorey (2009).

Over his 275 seconds, the interpreter produced 51 identifiable gestures. The 51 tokens represent a rate of .19 gestures/second (g/s). This is less than the mean of .41 g/s reported for bimodal bilinguals by both Casey and Emmorey (2009), and Faust (2012). The nonsigner produced 63 identifiable gestures over 247 seconds of talk, a gesture rate of .26 g/s. This is less than the .38 g/s for nonsigners rate found by Casey and Emmorey (2009). However, it is similar to the mean .28 g/s rate for nonsigners reported by Faust (2012).

4. Discussion

The results of this pilot study suggest that native bimodal bilingual interpreters gesture less while interpreting than they might during conversation. This suggests a tendency of some interpreters to physically inhibit their production of gesture. In the data, the interpreter's most prevalent CSG was moving from his rest position (fingers intertwined) to the modified-A-bar handshape (fingers intertwined, thumbs up), as a beat gesture while producing stressed words in English. This seems to indicate conflicting reflexes. On the one hand, he appeared to want to inhibit his gesture; on the other hand, he could not suppress movement when emphasizing aspects of the spoken message. In order to explore this topic in depth one might determine if interpreters are consciously endeavoring to not gesture or if the effort is unconscious. The occurrence of beat gestures produced by bimodal interpreters warrants further analysis, because these gestures are tied to prosody and cohesion—two areas interpreters often struggle to master.

The identification of unarticulated cognitive processes by Christoffels and de Groot (2005) are of interest here—specifically, whether the amount of CSG produced during interpretation is correlated to the cohesiveness of the target language output. An example in this study is the interpreter's use of *um*. The interpreter says "um" 32 times during his 275 seconds of talk. Only one of these is an interpretation of the deaf student's discours; the rest are disfluencies by the interpreter. This rate of .11 *um*s/second (or 1 *um* every 8.5 seconds) is close to his overall gesture rate, with 25 of the instances occurring while the interpreter's hands are clasped, inhibiting gesture. This supports the observation that inhibition of gesture coincides with disfluencies in students' target-language (TL) product. That CSG could impact quality, or give insight into the cognitive act of interpreting, is supported by Casey et al. (2011) who note that, "gesture creation . . . affects both language production and comprehension" (p. 3). If this is so, it is worthy of study for what it may reveal about nonlinguistic aspects of successful interpretation.

5. Limitations

This study examined one interpreter in one interaction. There was no opportunity to talk to the interpreter about his gesture behavior, intent, or other reasons for observed disfluencies. As such, we cannot generalize the results. However, taken with previous gesture research I believe there are still applications for current teaching of interpreters.

6. Future Research and Application

Understanding the role of gesture as it relates to cohesion and comprehension during interpretation could inform the training of interpreters. Inhibition of CSG may lead to disfluencies and/or interfere with lexical search (Wesp et al., 2006). Research on CSG use by interpreters may find that student and novice interpreters could benefit from information on the role of CSG. Casey et al. (2011) concluded that learning a manual language may stimulate a stronger link between language and gesture. This, along with the research on the functions of CSG on recall, cohesion, and affect suggest that further study of CSG use by interpreters could provide insight into how the cognitive process of interpreters manifests in CSG. Research on CSG as it relates to working memory during simultaneous interpretation could be another viable research topic.

It would be a leap to suggest teaching CSG to interpreting students based only on this study; however, understanding the link between gesture and language production does have practical teaching applications. If gesture is used as a tool, along with traditional methods of instruction, attention to an interpreter's use or inhibition of CSG during interpretation could provide another avenue for helping interpreters with cohesion and affect. If our goal is interpretations that sound natural, it follows that allowing ourselves to gesture naturally could aid in that goal.

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Acknowledgments

The three researchers would like to thank the first cohort of the PhD in Interpretation program at Gallaudet University as well as Cynthia Roy, Brenda Nicodemus, and Melanie Metzger.