

VISUALIZATION: A MENTAL PROCESS  
OF INTERPRETING

A Report of a Senior Thesis

by

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## CHAPTER I

### INTRODUCTION

Interpreting was formally recognized as a necessary service during the 1919 Paris Peace Conference after World War I (Frishberg, 1990, p. 8). From that time, schools started training interpreters for spoken language interpretation and translation. In 1960, William C. Stokoe published Sign Language Structure in which he showed evidence of sign language being a true language (Maher, 1996, p. 71). Four years later, the Registry of Interpreters for the Deaf was established in order to work towards making the field professional (Frishberg, 1990, p. 12). Stokoe further researched the formation of signs and sign language and published the Dictionary of American Sign Language in 1965 (Maher, 1996, p. 88). Through his work, the process of changing American Sign Language (ASL) into English, or vice versa, can be officially called interpreting. Prior to this, sign language interpreting had been performed, but it was not known that it was between two true languages.

Interpreting is commonly known as changing what is said in one language into another language (Frishberg, 1990, p. 18). In applying this to sign languages, the definition must be changed slightly: "Where a message in a natural [their emphasis] sign language is recreated in a spoken language, or vice versa, the process is known as interpretation. Where the conversion involves an artificial sign language, the process is called transliteration" (Dominique & Ingram, 1978, p. 81). A natural sign language refers to a sign form such as ASL, as opposed to

an artificial sign system such as Signed English. Fant (1972) wrote that because "neither fingerspelling, writing, nor Morse Code constitute a language, they are merely media for conveying a language"; however, ASL has been found to be a language, not simply a medium for conveying English (p. iii). Diversity has had an influence, changing the definition to include mediation between communities and cultures as well as languages (Humphrey & Alcorn, 1995, p. 194; Pergnier, 1978, p. 203). One final consideration when making sense of the definition includes Pergnier's (1978) idea that an interpreter "transfers not the words but the meaning of the message" from one language to another (p. 200).

Often interpretations are classified or referred to as "accurate" or "perfect." This is not possible because between languages word equivalents which represent fully all the denotations and connotations of the original word rarely occur. Instead, Dively (1995) has suggested interpretations be classified as "outstanding, acceptable or unacceptable" (p. 99). In order to distinguish between the classifications, the basis for evaluation must be understood. An acceptable or outstanding interpretation will convey the meaning of the text in as exact a form as possible (Pergnier, 1978, p. 200). An unacceptable interpretation may impart part of the meaning, but it will have omitted major details or otherwise important information. An outstanding interpretation will also convey all the details in the text, be in the same register as the speaker, and will be at a similar level of difficulty and without awkward phrases or constructions (Tytler, 1978, p. 9).

Interpreters are the medium by which the interpretation is produced. They are the receivers of messages in the source language and producers of the interpretation of those messages in the target language. Research by Barik (1972, 1973) and Gerver (1972) has shown that, many times, interpreters receive and produce messages at the same time, making the job more difficult (as cited in Moser, 1978, p. 353). In current thought, interpreters are the medium through

which the communication occurs, yet they are not machines. They are also not the helpers of the deaf client. The deaf client is a competent person; interpreters are there to facilitate the communication which occurs and to give the deaf person greater opportunities with larger groups of people.

Interpretation of a text can be done consecutively or simultaneously. Consecutive interpreting allows for the speaker to finish all or part of the text before the interpreter begins the production of the interpretation. This allows the interpreter to take notes and understand all of the message received before producing it in another language. Consequently, fewer errors occur in the production. Simultaneous interpreting, on the other hand, is an immediate target language production of the incoming message. Less than one minute elapses between the incoming message and producing the interpretation. Often, while the previous information is being processed and produced in the target language, more information is being received. Because of such dependence on the memory, errors and subsequent corrections often occur in the productions. According to Harris and Sherwood (1978), "Simultaneous interpretation is the least natural mode of interpretation: few people are gifted with the talent to do it professionally. . . . [It] is stressful and tiring, even for professionals" (p. 158).

Researchers have studied and been able to develop theories about the mental processes of interpreting. These processes are the steps from receiving the message through the production of the interpreted message. They can be used to teach students how to interpret and to allow further development of the skills of working interpreters. Some models of the process have been developed through data collection and research whereas other models have come from application and interpretation of the research and experience as an interpreter (Humphrey & Alcorn, 1995, p. 195). Some are sociolinguistic models, others are pedagogical models, and still others are called communication models of interpreting.

Because of the different approaches to the processes, many different models have been developed and no one model exactly matches any other.

In developing a model of interpreting, several researchers started with a model of communication in which a source encodes a message and sends it through a channel, and a receiver decodes the message (Ingram, 1974, p. 3). In the sign language interpreting model which Ingram proposed (see Appendix A, Figure 1), an interpreter is entered into the diagram, along with language forms, either signed or spoken, and the three language systems of lexicon, syntax, and semology. The full process then adds a communication-binding context. The communication-binding context is the purpose of the communication and the communication environment. The environment includes "clothing, lighting, backgrounds, visual barriers and auditory barriers" (Ingram, 1974, pp. 3-4, 7-9).

Seleskovitch (1978) has proposed a spoken language model of interpreting. The process has been described in words and separated into stages. The first stage involves receiving the incoming message and analyzing it in order to understand what is being said. The second stage discards the language form and keeps the meaning and "mental representation of the message." The third stage is the creation of the message in the target language. This must fulfill two conditions: "it must express the original message in its entirety, and it must be geared to the recipient" (p. 8). A few years after Seleskovitch's processes were published, Roy (1980) adapted them for sign language interpreting (as cited in Frishberg, 1990, pp. 48-49).

Moser (1978) hypothesized a model of simultaneous interpretation of spoken languages which was rather complex (see Appendix A, Figure 2). This model focuses on processing and analyzing the incoming message and describes the processes of production only briefly. It starts with reception of the auditory message. Then it asks if what has been received is a word, and later, a

meaningful phrase. The interpreter then evaluates whether the meaning of the message is understood without words. Once it is determined that the interpreter understands what is being received, the interpreter can start to form the message in the target language. Each step of the process is either linked to another step by way of a yes/no question or to the long-term memory for supplemental information (p. 355).

Ford (1982) described the interpreter as "a facilitator of communication" and "a communication specialist" (pp. 94, 96). The interpreting process (see Appendix A, Figure 3) starts with the basic idea of the communication process, adding the interpreter as a medium through which the language form changes (pp. 94-96). Later, Isham (1985) described the interpreting process as "identifying what needs to be relayed; searching for equivalents in the target language; and finally, producing them" (p. 112).

Cokely's (1992) theoretical sociolinguistic model of interpreting (see Appendix A, Figure 4) focuses on the stages of language processing and application of the societies and cultures which are involved in the message. His seven main stages are supplemented by the processes which occur in these stages and the concepts considered when passing through the stages. It is a fairly complicated model and must be so in order to incorporate societies, cultures, and languages into one model. His main processes start with message reception, next going to preliminary processing, short-term message retention, semantic intent realized, which is understanding of the incoming message in the context of the culture, then to semantic equivalent determined, syntactic message formulation, and finally, message production in the target language (pp. 124-128).

Colonomos (1992a, 1992b) has devised a pedagogical model of the interpreting process which is based on Seleskovitch's model (1978) and Cokely's theoretical model (1992). This model is shown in a flow chart (see Appendix A,

Figure 5) which considers the source message in terms of context and speaker. That message goes through receptive channels in which the interpreter analyzes it. The analysis factors lead to mental representation of the message, then to composition factors. What is composed mentally is then expressed as the equivalent target message in the environment of the audience and the context. The interpreter then continues to monitor the message for accuracy through internal and external cues (1992a). The model is given in diagram format as well (see Appendix A, Figure 6). In this version, the interpreter concentrates on the incoming message, analyzes it and discards the language form. The meaning is then filtered through the source frame for application to the speaker's goals. It is then represented in the form of pictures, mental images, or concepts. The target switch applies cultural differences and adjustments to the message, leading the message to the planning stage where the interpreter constructs, corrects and produces the message in the target language (1992b).

Each model has a different perspective to offer, different ideas on how the mind works, and different ways in which to go from message reception to message production. The five stages common to most process models (see Appendix B, Table 1) include: the general incoming source message in the context of the surrounding environment and situation; analysis of the message to find the speaker's intent, goals, surface and underlying ideas, and context implications on the message; creation of a mental or conceptual representation of the message, without words or signs; finding equivalents in the target language; and production of the equivalents. An equally important stage which is not frequently discussed is monitoring of the message for necessary correction during output.

The development of models is important because from these models interpreters can improve their own skills and interested students can be taught the

skills, the knowledge, and the process needed for interpreting. Not everyone who is taught these will have the ability to interpret, but those who can interpret will be able to interpret successfully. Considering all of the models together, they can be regarded as representative of the process itself as fully as is now possible.

Exercises can then be developed in order to improve the skills required for each stage. These skills are illustrated in Appendix B, Table 2. Many of the exercises associated with these skills have the same name as the skills themselves (see Appendix B, Table 3). These exercises include attending/concentrating, memory, text analysis, and self-monitoring. Others can be subdivided into more focused exercises. An exercise included in attending and concentrating is shadowing which involves the interpreter listening to the text and repeating it, with or without a time lag, in the source language. A variation can include paraphrasing the source text. Text analysis can be divided into many areas including lag time, prediction and cloze, chunking, and visualization and verbalization. All of these exercises can be important to the development of skills used in the interpreting process.

Moser (1978) suggested several exercises to work on the different stages in her process model. One of the exercises is called abstraction of ideas. In this exercise, the interpreting student locates the "keyword" of one or more sentences as they are presented increasingly faster (p. 362). A variation on this exercise involves the use of sentences which seem to ramble. The interpreter is to produce the main idea in a few words. These sentences should be presented in both (or all) of the interpreter's languages, starting with the native language, and can also include presentation in one language and response in another. A second exercise is called paraphrasing. In this exercise the interpreter simply restates what is presented in different words. Increasing speed and difficulty is important to improving skills in this area, but presenting in one language and responding in

another is not beneficial at this stage. Moser has called the next exercise probabilistic prognosis. Students are given a topic of discussion and the first few words of a statement are said. The student is to finish the statement accurately as quickly as possible. Again, difficulty can be increased by making the statement more difficult or more technical (pp. 362-363).

The fourth exercise presented is called decreasing reaction time. Students are asked questions which require a yes or no answer. While they are answering one question, the next is being asked. Later, difficulty may be increased by asking questions which require a longer answer, first slowly, then increasing in speed. Finally, the questions can be asked in one language with a response expected in another language. Another exercise works with dual-tasking. In this exercise the interpreting student listens to a text and performs a mentally demanding task at the same time. This second task could include counting backwards in any language, reading aloud a different text on the same subject, or working on a handout. After the exercise is performed, a recall test is given on the information contained in the incoming text. Languages should be the same in the beginning and later can be interchanged. Finally, shadowing is suggested as an activity. This involves repeating what is said, in the same language at first, word for word or by paraphrasing. The text should start slowly and as the student becomes increasingly comfortable with the task, the speed should increase to and above normal discourse level. This exercise can then be changed into actual interpretation between languages (Moser, 1978, pp. 363-364).

The South East Regional Interpreter Training Consortium's (SERITC) analysis of the mental processes of interpreting divided the skills into 14 stages, seven for sign to voice and seven for voice to sign. Each of the seven stages have the same name as the other seven, with the exception of the contrast between visual and auditory sources and targets. The seven stages are perception,

processing (memory), processing (discrimination), processing (attach meaning), target equivalent, prediction, and delivery. These skills are then divided into exercises to develop the skills. Some of these activities include using item or sequence recall, shadowing, paraphrasing, minimal difference pairs work, voicing silent films, vocabulary development, attaching meaning activities, cloze exercises, and public speaking on tape. These are just a few of the exercises suggested by SERITC, but they are some of the most frequently used (Griffin et al., 1983).

Lambert (1989) also suggested several exercises for interpreters. The first of her exercises involves listening and memory skills. This requires the interpreter to listen to a text in one language and remember it in either the same or a different language. Several of these exercises are similar to Moser's activities. One is shadowing which is when the interpreter repeats the text directly after the speaker. Dual-task training is the next area. It is almost identical to Moser's. Paraphrasing is also emphasized by both; however, Lambert asks the interpreter to paraphrase every word one time and only main ideas the next time. Next is abstracting or telescoping practice. This is similar to Moser's except that Lambert uses main ideas instead of key words. The sixth exercise is cloze skills. It requires the interpreter to listen to a speech and fill in the blanks as they arrive. This simulates not being able to hear clearly due to someone's coughing or laughing or other environmental noise. The next activity is sight translation which seems to be solely Lambert's idea. This involves the interpreter reading in one language from a script written in another language. Then the student works on digit processing. This is a particularly difficult task because numbers can be quite random within a sentence. The exercise allows interpreters to become used to seeing or hearing numbers and handling them effectively. Lag time is then developed by hearing a word and waiting until the after the next word is said

before translating the first word. This develops patience in the interpreter. Anticipation is much like Moser's probabilistic prognosis. The interpreter becomes comfortable with interpreting a text, then the speaker stops suddenly and the interpreter must finish the statement. Finally, further stress is added to any activity by increasing the speed of the text, incorporating many numbers into the text, having a speaker who speaks with an accent, increasing the environmental noise, and continuing beyond 20 minutes to produce fatigue in the interpreter (Lambert, 1989, pp. 47-64).

Isham (1985) proposed a method to analyze messages. He compared a text to a "many-sided crystal." Six sides of the crystal represent the six parts of his process. These include content, function, register, affect, contextual force, and metanotative qualities. All of these are also related to the context or background information of the situation. The content contains the ideas being conveyed. The function is the purpose of the discourse. Register is the way the material is presented, be it formal or intimate. Affect is the emotion or tone the text imparts to the audience. Contextual force is the impact the speaker's message has on the audience, rated from low to high. Finally, metanotative qualities are the attitudes and opinions the audience has developed about the speaker. This exercise can be used as a critique of an interpreted text or for understanding of any text. Ideally, it is to be used while interpreting in order to convey the meaning of the message. By identifying the parts in a text, the interpreter can understand the meaning of what is being conveyed, then reconstruct that meaning into the target language (pp. 112-120).

Witter-Merithew (1987) offered a PIE (no terms for abbreviation given) method of analyzing a text. This involves taking the message and dividing it into four sections or slices of the pie. The first slice is content or the topic of the discourse. The second is context, the situation of the discourse. This is followed

by the function or purpose of the text and, finally, style includes register and affect. This is another method for the student or interpreter to divide the message into its parts in order to fully understand the meaning of what is being said (pp. 78-79).

Gish (1987) proposed an exercise in which the interpreter divides the message from goal-to-detail and reforms it from detail-to-goal. Goals are the speaker's purpose for the speech. Objectives, the next largest parts, are divisions of the goal into main points. Units are manageable propositions which contain ideas supporting the main points, and details are the words and tone the speaker gives to the speech. The exercise starts with a preparation stage. In the preparation stage, student interpreters are given the topic of the message and asked to determine goals, objectives, units, and details that may be used. The students then listen or watch the text repeatedly, identifying the goal first, then objectives, then units, and finally details. The detail-to-goal section can be performed in two ways. The first way involves doing the opposite of what was done for the goal-to-detail section. Again, the first step is preparation. Then the interpreting students identify the units and details, then the objectives, and finally the goal. The last step of this method is to discuss the process of interpreting including accuracy of the predictions made in the preparation. The second way to do detail-to-goal starts with preparation. Then the student interpreters listen to the first unit of the text, interpret it consecutively, listen to the next, interpret, and continue that process until the text is finished. The interpreting students are occasionally stopped to identify the objectives or the goal of the message. The final step in this process is discussion of the process. Taking the message apart and putting it back together again will help the interpreters to analyze the message and understand the meaning of it (pp. 129-136).

Stauffer (1993) researched visualization, a key step to understanding meaning without influence from words or word order. She suggested the use of several exercises, using several sources, to increase the ability to visualize and respond to the images. Her first set of exercises is directed toward sign language students. The first activity is McKim's (1972) "Clarity of Mental Imagery." This requires the students to visualize what is said, generally a single object or small phrase describing an object. Then the students evaluate the image seen as clear, vague, or no image. The next activity, also McKim's, works on controlling the mental image produced. The objects described now also have motion accompanying them, and the students try to produce the motion in the visualization. Again, the image is evaluated, this time as controlled, unsure, or not controlled. The next exercise uses mime to develop skills in visualization and use of space when signing. The student would use Eastman's (1989) From Mime to Sign book and videotapes. The following exercise uses action pictures which are described by one student and drawn, from the description, by another. A variation on this activity was suggested by Colonomos and includes listening or watching a text and then drawing what is being discussed. Her next activity allows the students to analyze videotapes made by other people for use of space, classifiers, and descriptions of objects (Stauffer, pp. 78-80).

The next tasks increase attention to visual details. The students are paired and asked to stand back-to-back. Then they are asked to describe each other in as much detail as possible without looking at the other person again. Another activity to develop this skill allows the students to draw a picture from memory in as much detail as possible. The best topics for such pictures include objects that were experienced in abundance at an earlier point in the student's life. Another activity which concerns details is giving directions using only gestured finger directions. This incorporates the use of ASL facial expressions for distances such

as near, moderate, and far away. "This and similar activities can be found in the Vista Signing Naturally (Lentz & Mikos, 1992) curriculum Level I, Unit 3" (Stauffer, 1993, p. 80). Still another exercise involves one student creating a shape and passing it onto another person who creates an object from it and passes it to another person who creates still another object. Visual poetry can also develop visual skills. By using a poem which has strong visual descriptions and asking the students to draw or sign the poem, the students will be working on developing a full picture of the object. Finally, visual problem solving is another exercise to develop visual acuity. In this exercise, students are asked to visualize the problem being described in order to solve it (Stauffer, pp. 80-81).

Stauffer's second set of exercises, to go along with the first, were designed for interpreting students. In the first exercise, the students learn to visualize a concept which does not have exact signs associated with it in order to describe it in signs. In the second exercise, students are asked to read a visually descriptive text and work together to translate it. A third activity involves the students using a signed text with a few visual descriptions, interpreting it, and discussing as a class how to approach the visual descriptions. The next activity uses detailed descriptions of scenes, such as crime scenes in legal transcripts, to interpret into ASL, being sure to keep all of the information accurate. Finally, the students work on conceptual accuracy of their interpreted messages. To do this they are presented with texts which contain English words with multiple meanings. They are to use visualization in order to interpret the texts correctly, using the appropriate meaning of the words. All of these exercises can develop the visualization skills of the interpreter and add to the appropriate conveying of the meaning of a message in the form most accessible to the deaf client (1993, pp. 81-83).

Many of these exercises are the same, but also many differences exist in the ways in which some of them are approached. Although all of these are important and necessary, it seems that some gaps remain in the process. Many interpreting students lack the visualization necessary to convey the full meaning of a message. More information needs to be gathered on visualization; exercises then need to be developed from that information in order to prepare students to adequately transform the message and ensure accurate relaying of the message and meaning.

The purpose of this thesis was to gather current information on the process of interpreting and on visualization, to apply and develop exercises for visualization skills, and to apply visualization to the process of interpreting. The researcher used current exercises and developed new exercises to increase her visualization skills because she thought that doing so would improve her interpreting performance. The researcher had found that she did not often visualize the message before changing it into another language. She often resorted to interpreting word for word. She thought that this was because she did not have the skills to visualize the message enough to prepare a spatial representation of the message in ASL or to make sense of the spatial message in English. By using the exercises, the researcher intended to improve her visualization skills and to apply those skills to interpreting situations for an overall improved interpretation of the text.

## CHAPTER II

### METHOD

#### Participants

The present study involved the researcher, a hearing consultant, and a Deaf consultant. The researcher was a 21-year-old female who was a senior in an interpreter degree program and has been signing regularly for just over four years. She had previous sporadic contact with sign language through her deaf cousin and a deaf schoolmate from the time she was eight years old. She travelled to Europe for vacation and used her journey to supply material for this study. Her travel experiences were many; however, this was her first trip overseas and without her parents.

#### Materials

The materials used in this study consisted of a student's spoken story about a ski trip on videotape. It was designed as a humorous speech for a second-year interpreting class. The researcher also used exercises from Stauffer's article (see Appendix C), and experiences from school and vacations for visualization. Some of the experiences from the European vacation were both from memory and from pictures.

#### Procedure

Prior to leaving school for summer vacation, the researcher videotaped herself interpreting a story in spoken English from videotape. The study began one month after the start of summer vacation when the researcher went to the

beach. The "Assessment of Clarity of Mental Imagery" exercises found in Stauffer's (1993) article were started and a journal was kept during the first week (see exercise journal, Appendix D). A week later, the researcher travelled to Europe and, instead of using pre-designed exercises, actively talked to people, tried to visualize what they were talking about and recalled people and places, trying to visualize them in detail. During this time, the journal was not kept as work was done, but rather was prepared afterwards by recalling the experiences. Most often, the researcher used active visualization as an exercise. This consisted of having a conversation with someone and actively trying to visualize what was being described in the conversation. Upon the researcher's return to school in late July, the journal was again maintained as visualization was done.

Final tests of accuracy were performed as the researcher consulted with hearing and Deaf persons. The hearing consultant was a 19-year-old male who had travel experience to other locations. He was familiar with the places to which the researcher travelled only through pictures of these places. He had little deaf experience and knew no sign. The Deaf consultant was a college professor of American Sign Language and was chosen for her language skills and ability to correct problems with ASL construction. She had travel experience in foreign countries and was eager to learn about the researcher's vacation in Europe. The consultants advised the researcher and were not study subjects. The consultants asked questions for clarification and detail as was necessary for their understanding of the places being described.

The researcher then videotaped herself interpreting the spoken English story again and compared the tapes for improvement in use of visualization in interpreting and spatial description of the story. The analysis was based on changes in spatial descriptions of the same text, changes in classifier use and role-shifting, and on the researcher's subjective feelings of comfort with the

visualization and interpretation. Classifiers are handshapes which are used to represent a noun and/or its motion. They generally work as pronouns or physical descriptions of a noun. Role-shifting occurs when the signer "steps into the role of the [characters] involved in the communication exchange being discussed" (Humphrey & Alcorn, 1995, p. 218). After her own analysis of the video, the researcher asked the Deaf consultant to analyze it for proper use of classifiers and clarity of interpretation. The consultant watched the first video, then the second, and watched the second again, explaining the signing problems to the researcher.

## CHAPTER III

### RESULTS AND DISCUSSION

The purpose of this thesis was to gather current information on the process of interpreting and on visualization, apply and develop exercises for visualization skills, and apply visualization to the process of interpreting.

Through her own research of what has been done, the researcher found that although almost every model of the interpreting process included visualization as a step in the process, very little information was available on visualization for interpreters. Even fewer visualization exercises were available for an interpreter to use.

Stauffer's (1993) article focused mainly on gathering exercises and putting them together in a program in order to enhance visualization. In this thesis, the researcher instead used one of these exercises as a base from which to begin and moved to creating another exercise. These two exercises do not cover the breadth of information and focus which Stauffer's exercise program supplies, but they do cover other needs such as fitting time constraints and being more convenient for someone to use.

The researcher performed Stauffer's (1993) adaptation of McKim's (1972) "Clarity of Mental Imagery" exercises. They were a good basic introduction to what visualization should be because they focused on still pictures and details. No movement was included to distract the mind from the details of the image. The researcher thought this was an important exercise for people who are unsure

if they can visualize at all. By starting with familiar, still objects people can work on shapes of the image and build to details as they are ready.

After a short time working on this exercise, the researcher found it difficult to carry the list of images to visualize with her or to find time to work on the exercise. As a result, the researcher found a method of practicing visualization without extra materials or added time. She called this "active visualization." Active visualization requires the person to have a conversation with someone and, while the other person is describing objects, the person doing the exercise visualizes the objects according to the speaker's description. The listener can also re-describe the objects to the original speaker in order to ensure correct understanding and visualization. A journal should be kept recounting the amount of visualization which is performed each day. This will keep the person aware of the amount and frequency of visualization done every day and help see the outcome of the project. By actively using visualization, the researcher became more aware of it, which led her to use it more often and to become comfortable with it. This, in turn, increased her confidence in using visualization. The convenience of this activity is important because it prevents procrastination due to lack of time, space, or materials. This lack of materials is also very much like real-life interpreting situations. The interpreter often does not have much information on the topic of the discussion or lecture prior to performing the interpretation.

In the present study, during discussions with the Deaf and hearing consultants, the researcher at first did not readily give details; however, the consultants' questioning could often produce them. The researcher could visualize and describe these details, but at first they were not foremost in her mind when describing the object. This suggested that the researcher needed to spend more time visualizing important details, first for practice, then for verbalization,

and finally during the lag time portions of the interpreting process. She also might have needed to have learned to determine and distinguish the important details to include for each culture. The cultural differences might have affected the importance of details, especially those concerning sound rather than visual descriptions. This distinction would be more important for telling stories in each of the cultures rather than interpreting between the cultures.

The videotape proved to be very useful in recognizing the significance of visualization. This activity was designed in order to allow the researcher to apply her improved visualization skills to interpretation. The first video was completed in May, prior to starting the visualization exercises. It showed nervousness through rushed passages and multiple corrections in signs. Some items were only fingerspelled rather than fingerspelled and visually represented with classifiers. Several wrong classifiers were used for descriptions which caused confusion about what was happening. The second video was completed in October. The researcher could remember only the topic of the text prior to re-interpreting it. This reinterpretation was much clearer from the start. The nervousness was not present in this second videotape. More classifiers were correct and more role-shifting was used in the descriptions of conversations. The researcher felt more confident in her second interpretation.

Prior to viewing the video, the researcher thought that no signing differences would be found. She anticipated only having mental differences, such as confidence. However, differences in use of classifiers, role-shifting, and spatial relationships and descriptions were evident. Also evident was the increased confidence of the researcher. The researcher was obviously less rushed and nervous in the second interpretation, as shown in that fewer sign corrections were made. This could have been caused in part by other variables such as taking

an ASL class in the 1998 fall semester and working on interpreting jobs; however the researcher thought the visualization assisted in those events as well.

The classifier differences were mainly changes in the classifiers which the interpreter chose to describe certain nouns or the interaction between nouns. In the first performance, most of these classifiers were not the proper classifiers for the shape and size of the object. In the second performance, some of the previously misrepresented objects were properly represented with correct classifiers. The amount of role-shifting increased between the two performances. It became more clear who was saying what to whom in the second interpretation. Spatial relationships and descriptions also increased, both in number and accuracy. This was mostly due to appropriate use of classifiers; however, some spatial descriptions did not use classifiers at all.

The Deaf consultant also viewed the videotapes of both performances and thought that both were fairly equal. After viewing both performances, she reviewed the second with the researcher and made corrections as mistakes appeared. Her suggestions included making the fingerspelling more clear, correcting body movements to match the action being described, setting up character placement and staying with that instead of renaming the character each time, and many corrections of classifiers. The researcher accepted these suggestions but still thought that the second interpretation improved in its spatial representations. The consultant's classifier corrections were often of descriptions of items which the researcher had never learned how to describe. Instead, the researcher used the best classifiers she could think of which would work for those objects. Other problems the consultant found were a result of too short a lag time with confusing corrections afterward. Still others were because too much time was spent visualizing the scene and incorrect signs were chosen due to lack of

focus on semantic accuracy. The researcher will work to correct these in the future as well.

Active visualization may not work for everyone, but it helped the researcher achieve her goal for this thesis. This project only focused on the activities of one person and therefore cannot be generalized to any other person or group. Also, the fact that the journal was not kept as the work was conducted might have affected the results of the exercises. In the future, this project should be tried with a larger group of people and the journal should be kept as work is conducted in order to see the results as time passes.

Also, a future study should set a length of time within which the exercises are to be performed in order to determine minimum time for benefit to some people. This should then be repeated with another time length in order to accommodate more people. The researcher used four months to work on the exercises; however, less time might yield the same results for some people. The researcher also had to mainly depend on her subjective thoughts in order to evaluate her performance. In addition to this qualitative method, a method of quantitative analysis would be beneficial to determine more accurately whether improvements actually occurred or whether the exercises are just confidence builders. Finally, research conducted on the cultural importance of different topics would be beneficial to the telling of stories in each culture and to the focus of details in these stories.

The researcher thought that the visualization project was a success. Her skills and confidence have improved in this area. Other people can use this information to find and increase their own visualization skills. The researcher hoped that this study would also be used as a source of information for future exercises and research in this area.

## APPENDIXES

## APPENDIX A

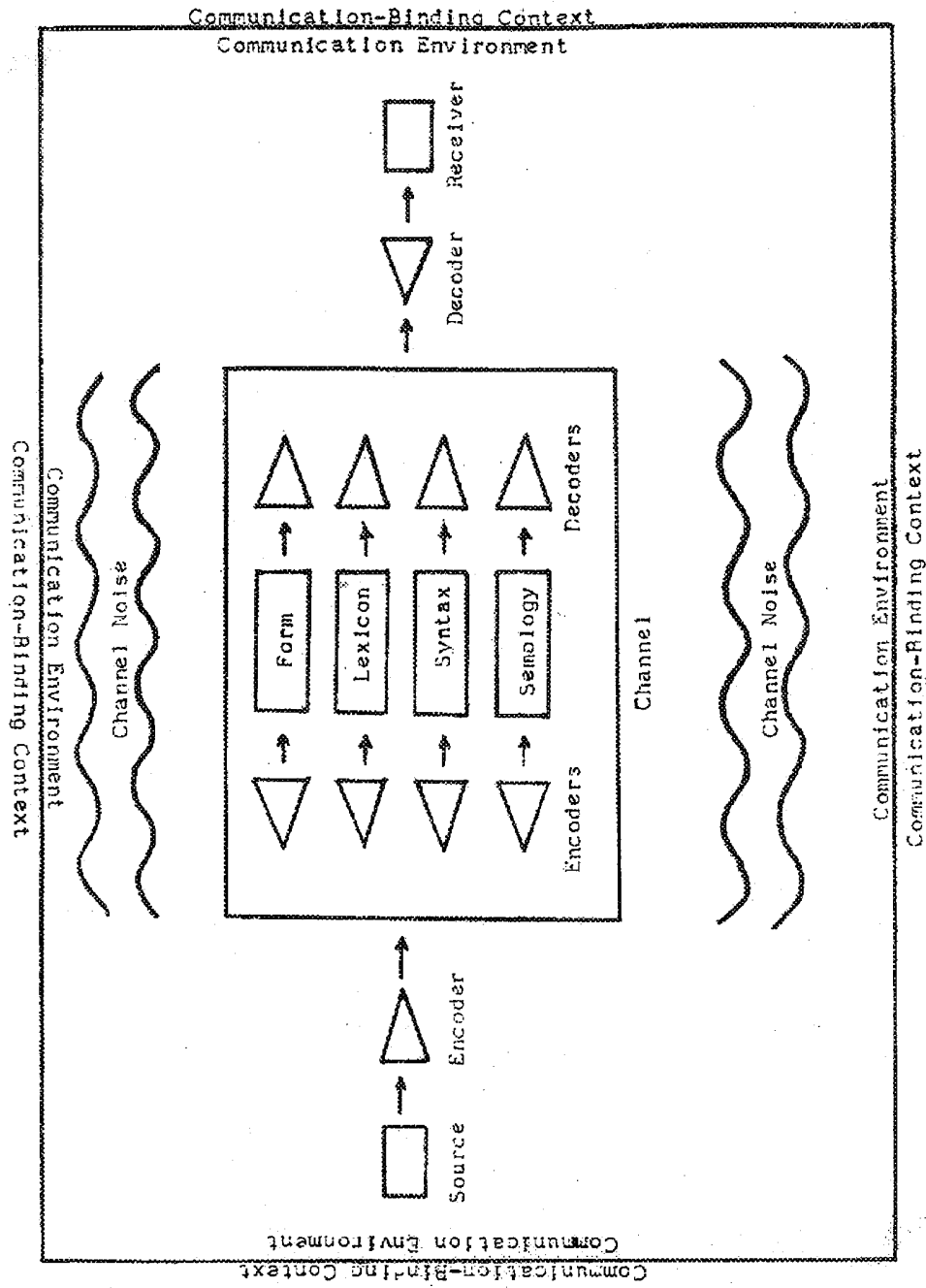


Figure 1. Ingram's Communication Model of the Interpreting Process (Ingram, 1974, p.9).

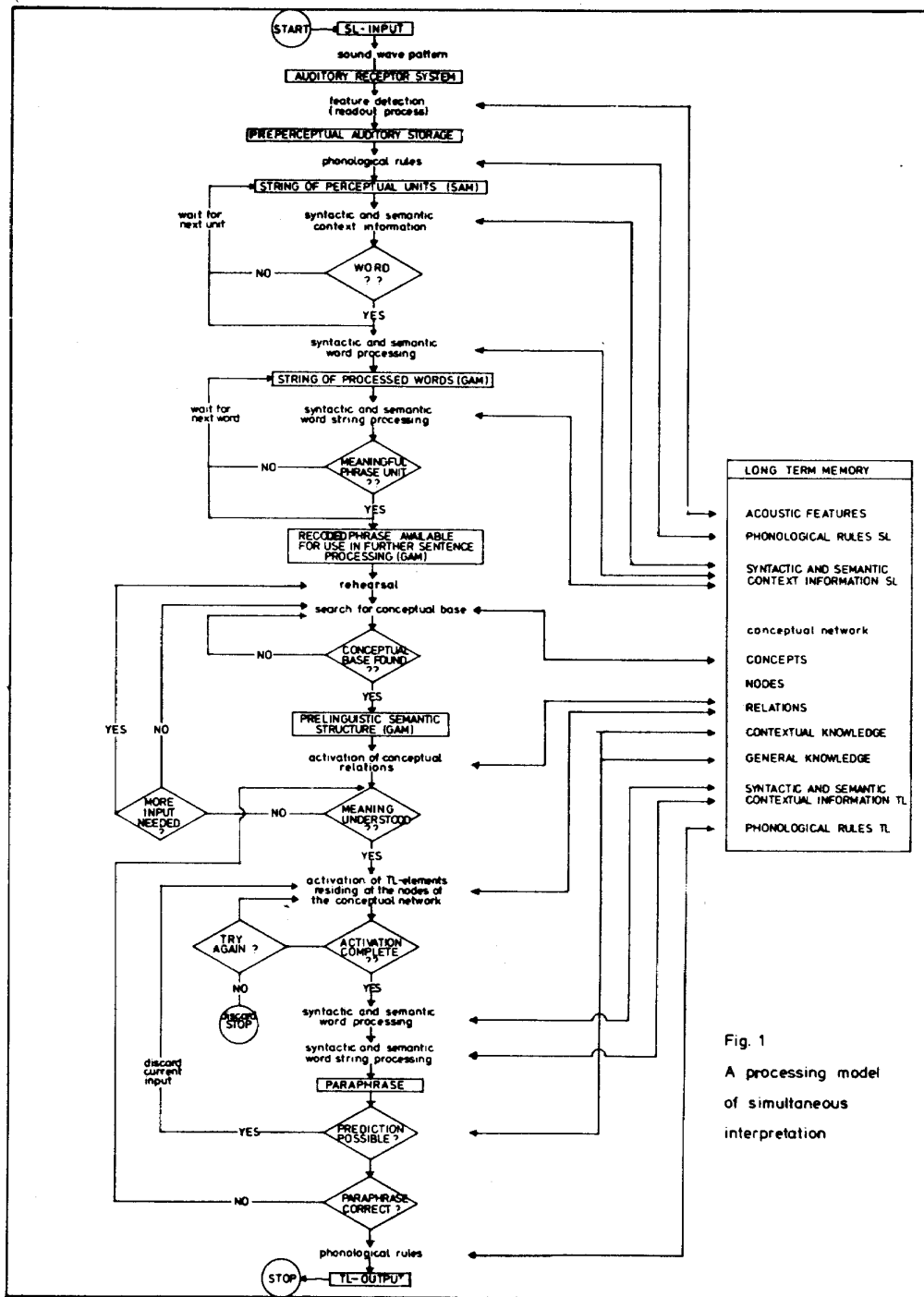


Fig. 1  
A processing model  
of simultaneous  
interpretation

Figure 2. Moser's Model of the Interpreting Process (Moser, 1978, p. 355).

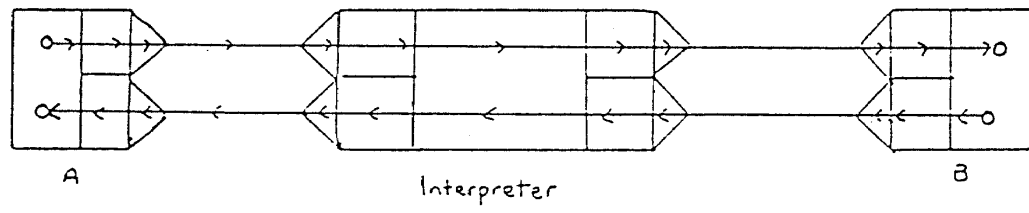


Figure 3. Ford's Model of the Interpreting Process (Ford, 1984, p. 94).

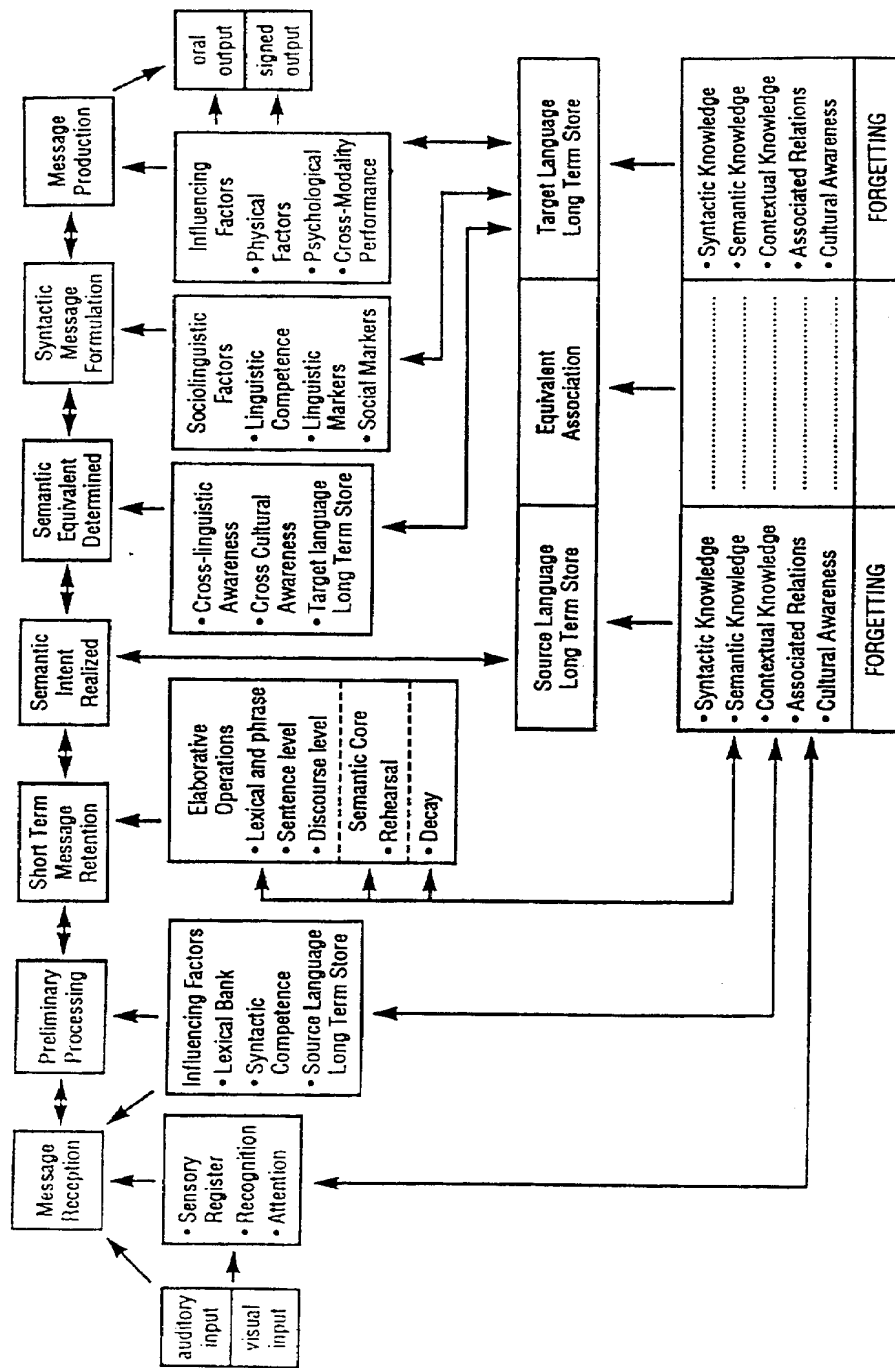


Figure 4. Cokley's Sociolinguistic Model of the Interpreting Process (Cokley, 1992, p. 124).

# The Interpreting Process

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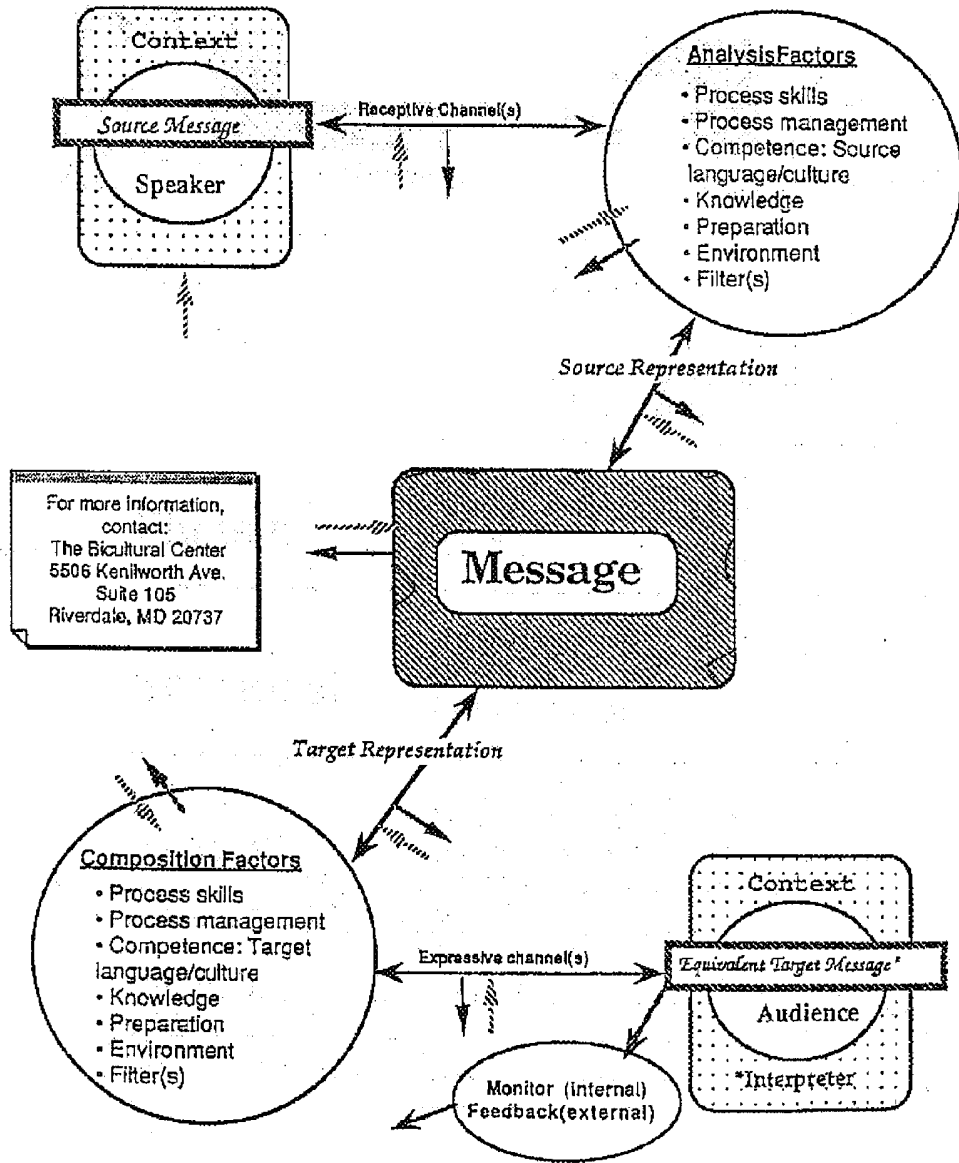
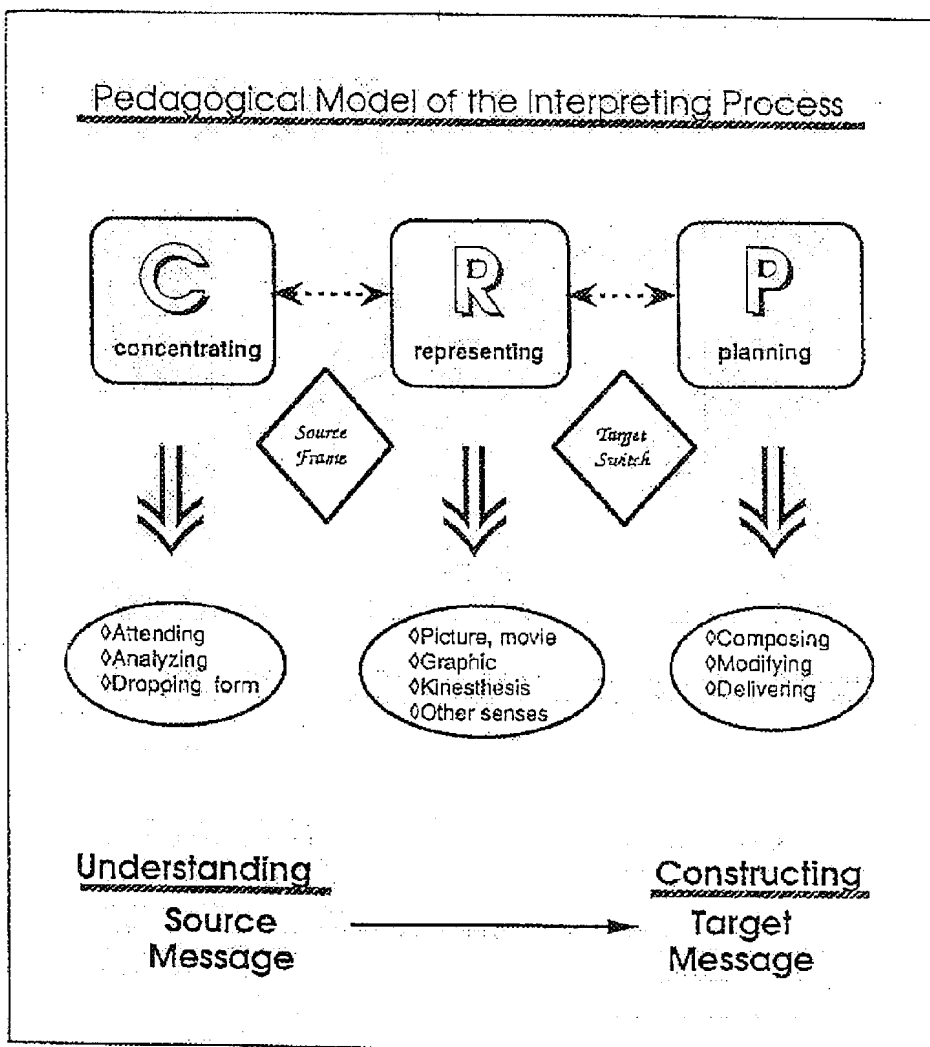


Figure 5. Colonomos's Model of the Interpreting Process (Colonomos, 1992a).



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Figure 6. Colonomos's Pedagogical Model of the Interpreting Process (Colonomos, 1992b).

## APPENDIX B

Table 1.  
A Comparative Table of the Models of the Interpreting Process.

Ingram	Seleskovitch	Moser	Roy	Ford	Isham	Colonomos a	Colonomos b	Cokely
Decode	receiving & analyzing	reception	receive	reception	identify what to relay	reception	concentrating	message reception
			comprehend	decoding		analysis	source frame	prelim. processing
Form Lexicon Syntax Semology		SAM	analyze, identify relationships	changes message				short term message retention
	discard language & keep mental represent.	GAM	discard wording			representation	representing	semantic intent realized
			visualization		search for equivalents	composition	target switch	semantic equivalent determined
			recreation	encoding			planning	syntactic message formulation

Ingram	Seleskovitch	Moser	Roy	Ford	Isham	Colonomos a	Colonomos b	Cokely
Encode	creation - original message & recipient geared	creation	production	transmission	produce	expression		message production
						monitor/ feedback		

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Sources: (compiled from Cokely, 1992; Colonomos, 1992a, 1992b; Ford, 1982; Ingram, 1974; Isham, 1985; Moser, 1978; Seleskovitch, 1978)

Table 2.  
Skills Associated with Interpreting Processes.

Receiving	Analyzing	Representing	Composing	Producing	Monitoring
listening	memory	memory	memory	memory	memory
attending/concentrating	lag time	lag time	lag time	verbalization	listening
prediction/cloze	context (situation) identification	context (situation) identification	context (situation) identification	paraphrasing	text analysis
memory	register/affect	prediction/cloze	register/affect	dual tasking	self- monitoring
dual tasking	prediction/cloze	world knowledge	cultural knowledge		dual tasking
	world knowledge	cultural knowledge	vocabulary		
	cultural knowledge	comprehension	language fluency		
	vocabulary	visualization	verbalization		
	language fluency	dual tasking	paraphrasing		
	text analysis		dual tasking		
	comprehension				
	visualization				
	dual tasking				

Sources: (compiled from Lambert, 1989; Moser, 1978; Witter-Merithew, 1987)

Table 3.  
Exercises for Developing Skills Associated with Interpreting Processes.

	Receiving	Analyzing	Representing	Composing	Producing	Monitoring
	listening	lag time	lag time	lag time		listening
	attending/ concentrating	context (situation) identification	context (situation) identification	context (situation) identification		
	prediction/cloze	prediction/cloze	prediction/cloze			
35	memory	memory	memory	memory	memory	memory
		register/affect	register/affect	register/affect		
		world knowledge	world knowledge			
		cultural knowledge	cultural knowledge	cultural knowledge		
		vocabulary		vocabulary		self-monitoring
		multi-meaning words and phrases				
		language fluency		language fluency		
		text analysis	text analysis			text analysis
		abstraction (keyword)	abstraction (keyword)			
		chunking				
		digit processing		digit processing		

Receiving	Analyzing	Representing	Composing	Producing	Monitoring
	comprehension	comprehension			
	visualization	visualization	verbalization	verbalization	
		paraphrasing	paraphrasing	paraphrasing	
dual tasking	dual tasking	dual tasking	dual tasking	dual tasking	dual tasking
	sight translation		sight translation		
shadowing	shadowing		shadowing	shadowing	shadowing
stress	stress	stress	stress	stress	stress
use of models	use of models	use of models	use of models	use of models	use of models

Sources: (compiled from Lambert, 1989; Moser, 1978; Witter-Merithew, 1987)

## APPENDIX C

### Assessment of Clarity of Mental Imagery

Translate each of the following descriptions into a mental image. As you do, rate its clarity according to the following scale:

C = Clear

V = Vague, but recognizable

N = No image at all

Can you visually imagine:

1. A familiar face.
2. A horse.
3. A rosebud.
4. A body of water at sunset.
5. Your bedroom.
6. The characteristics of a friend.
7. A table laden with food.
8. A stop light.
9. The moon through the clouds.
10. A newspaper headline.

Stauffer's (1993) adaptation of McKim's "Clarity of Mental Imagery." Sources: (Stauffer, 1993, p. 85; McKim, 1972, p. 86.)

## APPENDIX D

## Exercise Journal

June 15, 1998

Today I am in Ocean City in Maryland with the Westminster Municipal Band. I started with Stauffer's Assessment of Clarity of Mental Imagery. The results were as follows (V=vague, C=clear):

1. A familiar face -- my Mom's      V
2. A horse      V-C
3. A rosebud      V-C
4. A body of water at sunset      V-C
5. My bedroom      C
6. Characteristics of a friend -- Trey V-C
7. A table laden with food      V
8. A stop light      C
9. The moon through the clouds      C
10. A newspaper headline      V

While doing this exercise, I stared at a plain blue surface to avoid eye distractions from looking around a room or from closing my eyes. I allowed myself only a few seconds to create each image (no more than 10 seconds). I then went through each of them again, imaging each until it was clear and I saw details. The first part took about 5 minutes, the second part took 15 minutes.

I found I used images stored in memory for each of the items instead of creating a new image. Later, I should try to make a new list with items I cannot recall from memory and try to visualize them.

The remaining 40 minutes was spent listening to stories and gossip from my friends and visualizing what was being said or recalling these tales for further visualization.

June 17, 1998 -- June 23, 1998

During this week I have occasionally recalled the mental imagery words and images. When someone describes something, I work to visualize it. I may have spent a total of two hours working on these skills this week; however, I am becoming more aware of when I am visualizing. I didn't use the blue background this time and don't plan to use it again. It was good for a start, but it will not be available during interpreting jobs.

June 24, 1998

I spent about an hour working on visualization of my trip to Ocean City and college experiences while on a plane to London. This time was spent recalling figures and scenes, mostly vaguely. All scenes I used were more snapshots than fluid, moving scenes.

June 25, 1998

I spent half an hour or an hour talking to someone from New York. He's a theatre major and was describing sets and shows and I was trying to visualize them while he described them. I couldn't double check my visualization easily without being rude, so I'm not sure how accurate they were in my mind.

June 28, 1998

This night I met a computer engineering graduate from Montreal. I spent about two hours talking to him and about 30 minutes to an hour visualizing what he was describing to me. The main topics were the city of Montreal, his university, Edinburgh, and Dublin. I had never been to any of these places, so it was purely use of imagination to construct visual images. After visiting some of

the places, I learned how different my images were than the real thing, but they were accurate according to the description I got.

June 29, 1998

I spent about 30 minutes talking to two Spaniards and visualizing their descriptions of Madrid. Again, I had never been there, but had seen pictures with the current description. I think the Spanish are more descriptive than most English speakers. For example, they described the layout of the area of Madrid in which we were to find a dance club, including the name of many of the shops surrounding it, which side of the street it would be on depending on from which metro station we came, and what the building looked like. Many English speaker's directions were more like "straight through the park" or "on the next block."

July 2, 1998

I spent about 30 minutes visualizing different parts of Australia and learning about climates and landscapes there. Later that day, I also spent about 30 minutes talking to local people on trains about their schools and the countryside of Ireland. That night I spent between thirty minutes and an hour talking to a few Trinity College dental students about different parts of Ireland, what that area looks like, and what college in Ireland is like.

July 14, 1998

I visited a castle today and did about two hours of visualizing what life would be like in that castle. I was also talking to a boy from Holland and visualizing what his life was like. After that I spent 30 minutes talking to a friend from home, telling him about my experiences in Europe.

July 25, 1998

I spent about two hours today talking to American and International students at the college about their summer vacations, their homes, and their classes. Although I didn't focus on visualizing, I found that I was visualizing anyway. This feels like a big step in the process. I didn't often visualize before, for anything.

August 28, 1998

I spent half an hour today revisiting Europe in my mind. I only got vague pictures of places I saw and people I met, as I didn't take much time to do it. I will have to go back and focus more later and do more detail.

September 5, 1998

Tonight I played a role-playing game with my friends and did a lot of visualization of the buildings and areas we were travelling through. Not only did this help with the visualization skills, but it helped me play my character in the game because I was more oriented to what was around in the room or area. Also, while I was working on my homework, I found myself more clearly visualizing what I was reading from the Odyssey. Finally, when working on my sign language homework, I was visualizing what was being described and found it easier to reproduce what I had seen as well as simply recall for answering comprehension questions.

September 18, 1998

Tonight we played our role-playing game again, and I worked to visualize in as much detail as possible and found it quite a bit easier than I had expected. I

also started working on detailed visualization of my trip to Europe. I tried to see the faces and places clearly instead of just shapes and outlines. I'm still visualizing my homework. It is becoming more natural and detailed the more I practice.

September 22, 1998

I'm finally finished visualizing my Europe trip in detail. I spent about three hours total over the last few days visualizing in as much detail as I could. I have also picked a few places to describe to a hearing and a deaf person to check accuracy and ability to verbalize the pictures in my mind.

September 25, 1998

My friends and I played our game again, and I visualized the scenery without giving it much thought or planning. I feel very comfortable doing it, and it is working to my advantage in interpreting as well. I have had one job so far in which I applied the visualization, and I think it worked very well. I was able to use the visualization and was more confident about my descriptions in ASL. The client also seemed to understand what was being described.

September 29, 1998

Tonight I spent half an hour describing, in detail, the Tower Bridge in London to a friend. He is familiar with pictures of the bridge and compared my description to pictures he has seen, thereby checking my accuracy. He also asked questions to get more detail for his understanding and my practice. If his question was a particularly difficult one to see and answer, I found myself closing my eyes to see it better.

October 1, 1998

Today I spent about an hour with my deaf consultant, describing my trip to Europe in detail and getting feedback on the accuracy of the descriptions. It was mostly accurate, with occasional misused classifiers (used to describe objects) or misunderstandings due to not going into enough detail. I was visualizing the places before I described them and used pictures to help clarify when I couldn't decide how to sign something. At this point, I think the project was a success. I still have to redo a videotape and compare the descriptions for a basis to measure.

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