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ROLE OF GESTURE AS VISUAL CUES IN LISTENING
COMPREHENSION BY SECOND LANGUAGE LEARNERS

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**THE ROLE OF GESTURES AS VISUAL CUES IN LISTENING
COMPREHENSION BY SECOND-LANGUAGE LEARNERS**

By

Ayano Sueyoshi

A THESIS

**Submitted to
Michigan State University
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ABSTRACT

THE ROLE OF GESTURES AS VISUAL CUES IN LISTENING COMPREHENSION BY SECOND-LANGUAGE LEARNERS

By

Ayano Sueyoshi

Despite a growing interest in the contribution of visual cues to second-language (L2) speech processing, little research has been done to compare the effects of nonverbal cues such as a speaker's hand-arm gestures and lip movements in L2 listening comprehension. The present study focuses on the contribution of hand gestures and lip movements in L2 learners' listening comprehension of a lecture presented by a native speaker of American English in a classroom setting. A total of 42 learners from beginning and advanced classes in English as a second language in the U.S. participated. They were randomly assigned to three stimulus conditions: AV-gesture (auditory and visual presentation of hand gestures and facial cues), AV-face (auditory and visual of facial cues only), and A-only (auditory-only input), and completed a multiple-choice comprehension task followed by a questionnaire on their attitudes toward and use of gestures. Results revealed that comprehension was significantly better for the lower proficiency learners in the AV-gesture condition, whereas the higher proficiency learners performed best in the AV-face condition suggesting that gestures facilitate comprehension even at lower proficiency levels but more linguistic experience is needed to enhance the information value of facial speech cues such as lip movements. Questionnaire results indicated learners' positive attitude towards visual cues as aids to comprehension regardless of proficiency level. Findings indicate the importance of raising learner awareness to nonverbal aspects of communication.

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KEY TO ABBREVIATIONS

A-only = Audio Only

AV-face = Audio and Visual Cue of Face

AV-gesture = Audio and Visual Cue of Gestures

EAP = Academic Purposes Program

EFL = English as a Foreign Language

ESL = English as a Second Language

FL = Foreign Language

IAH = Integrative Studies in the Art and Humanities

IEP = Intensive English Program

LOR = Length of Residence

L1 = First Language

L2 = Second Language

NS = Native Speaker

NNS = Nonnative Speaker

TOEFL = Test Of English as a Foreign Language

Chapter One

Introduction

Why do second language (L2) learners want to avoid talking to somebody on the phone in the L2? Why do they think watching a video is easier than listening to the radio in the L2? There is an assumption that a good language teacher can make a message more comprehensible to learners of English as a Second Language (ESL) than most English native speakers. Is it because of a teacher's hyperarticulated speech, or is there any other information he or she is providing? Is the phenomenon known as "phone phobia" explicable? Because of these questions, researchers started paying attention to the effect and the nature of nonverbal communication. It has been suggested that the visual cues of a speaker's gestures and face facilitate the interlocutor's comprehension. The main objective of this study is to assess the contribution of visual cues such as lip movements and hand-gestures to ESL students' comprehension while completing a listening comprehension task during a lecture.

The experiment involved ESL learners, and they were divided into two proficiency groups: higher and the lower, depending on the courses in which they were enrolled. The participants were further divided into three input conditions: stimulus of audio and visual cues of speaker's face and hand-arm gestures (AV-gesture), stimulus of audio and visual facial cues (AV-face), and stimulus of auditory only (A-only). The lecturer's lip movements were less discernable in the AV-gestures versus AV-face condition because of the distance between the camera and the lecturer (see Appendix B). All stimuli were presented via QuickTime and projected onto an overhead projector (OHP) screen. As for the control group (A-only), the stimulus was presented using the same media but without

video. All participants in each group were assigned to complete a multiple-choice task to check their comprehension of the stimulus. A background questionnaire, which followed the listening task, investigated the participants' attitudes towards visual cues in L2 comprehension in general, and the comments about and reaction to the stimuli in this study

Definitions and functions of nonverbal cues and gestures

Nonverbal communication involves conveying messages to an audience through channels such as body movements, facial expression and proximity between a speaker and the interlocutor. Kinesics specifically refers to body movements including head movements such as nodding, gesture (frequently with hands), facial expression, gazing, posture, and interpersonal distance (Kellerman, 1992). Hand gestures can be divided into several categories including iconic gestures and beat gestures. Iconic gestures include semantic information of the verbal message delivered with it, whereas beating does not usually have a semantic aspect but corresponds to speech rhythm, and is frequently used when a speaker controls the pace of speech (Morrel-Samuels & Krauss, 1992). McNeill (1992) uses four gesture types to describe hand gestures and functions. They are Iconics—having a close association with the meaning of the message, Metaphorics—having similar functions as Iconics presenting an image of abstract concepts, Deictics—involving pointing movements used for referring to specific objects or abstract things which may not be present at the moment of the speech and Beats—‘biphasic movements’ of rhythmical hand gesture that are non-imagestic.

Facial visual cues

The other visual source that may help the interlocutor's perception is facial visual cues including lip movements. It seems that being unable to read a speaker's lip movements results in ineffective conditions for nonnative interlocutors' comprehension (Goto, 1971). McDonald and McGurk (1978) found that the visual cues of a speaker's face greatly influenced the auditory perception of natural speech in their study of English speaking undergraduate students in England. This effect was found especially in the bilabial position which displays the most explicit visual sound articulation. A similar result was found in Hardison's (1999) study using ESL students; the most salient visual information facilitated perception when the visual and the auditory cues matched, whereas visual nonlabials dubbed over auditory labials produced a nonlabial percept indicating greater information value for these visual nonlabial cues. L2 learners also benefit from visual and auditory cues in perception training versus unimodal training (Hardison; 2003). The learners especially benefit from the visual cues in the more phonologically challenging areas based on their L1: In her study /r/ and /l/ in final position for Korean participants and in initial position for the Japanese participants.

Gestures and interaction

Visual cues appear to be helpful for communication. In other words, "eliminating the visual modality creates an unnatural condition which strains the auditory receptors to capacity" (von Raffler-Engel, 1980, p235). McNeill (1992) argues there is some evidence showing a strong association of gestures with speech. The majority of gestures

(90%) are produced with utterances and they are linked semantically and pragmatically, also prosodically in the case of beat gestures.

Hand gestures represent an interactive element during communication. For instance, the types of gestures differ according to the speech type, and their frequency depends on the presence of the audience. Beat gestures are employed more frequently when a speaker is giving a narration whereas iconic gestures are used more often when a speaker is describing specific things (Alibali, Heath & Myers, 2001). They also found that speakers produced iconic gestures much more frequently when communicating face-to-face than when interlocutors could not see each other. However, beat gestures appeared regardless of availability of audience.

Various studies dealing with native speakers have shown that the presence of gesture given with a verbal message brings a positive outcome to both speakers and listeners. Morrel-Samuels and Krauss (1992) found that a gesture functions as a facilitator to words/expressions a speaker intends to say. In narrative speech, gestures are synchronized with speech, and are conveyed right before or simultaneously with a lexical item. Gestures are also informational in the sense that they give a clue about what a speaker is trying to do in the interaction. A gesture such as withdrawing eyes from the recipient during a conversation shows the speaker is thinking or recalling what he or she intends to say. In their study, Goodwin and Goodwin (1998) observed the interlocutor attending the word-search when a speaker showed a 'thinking-face'. In other words, when the speaker paused due to his or her inability to recall a word to describe drawings in the information gap activity, the presence of thinking facial expressions encouraged the interlocutor to help by participating in the word search. A 'thinking-face' gesture

also gives a reason for the interlocutor to wait. However, when a speaker starts to engage in gazing when word-searching, he or she is asking for the interlocutor to respond or finish the sentence. Another beneficial function given to a speaker is the increase in rate of speech. Hadar, Wenkert-Olenik, Krauss, and Soroket (1998) found that gestures work as an aid for verbal lexical messages to negotiate the meaning and they help speakers to recall lexical items sooner than those who did not use gestures.

If nonverbal cues accompanied by verbal messages facilitate speakers in such ways, it should help the speaker recipients as well. Graham and Argyle (1975) found great differences in the presence of nonverbal cues in word-searching tasks. Gestures work much more effectively when communicating in difficult conditions such as talking in noise. Riseborough (1981) examined the interaction of available visual cues in recounting a story task. A story was told in four conditions: sound only, visual cues of the speaker with no movement, vague body movement, and visual cues of gesture in three presentations of different signal-to-noise ratios. The result was that the group which had the visual cue of gestures performed significantly better regardless of signal-to-noise ratio whereas the scores of the other groups declined as the amount of noise increased. The effectiveness of the presence of gestures in an in-noise condition was also found in Graham and Argyle's study using an information gap task. This suggests that visual cues of gestures facilitate memory recall and comprehension in difficult conditions. Also, the availability of visual cues or visibility of the gestures of the speaker aided, and shortened the time needed to complete information gap tasks (Graham & Argyle).

Gestures and language development

Not only do gestures facilitate both speakers and listeners in face-to-face communication, they also function as an indicator of L1 language development. Mayberry and Nicoladis (2000) found certain gestures such as Iconics and Beats have a strong correlation with children's language development. At the prespeaking stage, children mainly use Deictics such as pointing, or simple gestures such as waving and clapping. However, as the speaking ability develops, they start to use Iconics and Beats. This tendency can be found in the development of gesture perception. For example, comparing ESL children (L1 Spanish) and native English-speaking children, ESL children comprehended much less nonverbal information than native speakers because of the lower language proficiency (Mohan & Helmer, 1988). As linguistic knowledge develops, L2 learners are able to make use of visual information. Japanese students who lived in the U. S. for more than two years reported that they took advantage of eye contact as a result of this experience allowing them to use visual information such as lip movements (Hattori, 1987).

Culturally biased gestures

However, some research shows that cultural differences in nonverbal communication may interfere with understanding a message due to the semantic variation of gestures cross-culturally. Morris and Collett (1979) collected data in 40 locations in 25 different European countries, which covered many adjoining but linguistically distinct areas. They observed gestures during interpersonal communication and interviewed local people. Twenty key iconic gestures were selected, and they were used for a survey clarifying

meanings in different regions during the interviews. They found that most gestures had various meanings along a continuum within a region, although some gestures represented only one meaning, and the distribution was complementary (with no other meanings in the region). For example, the palm-back V-sign meant a “sexual insult” in Scotland, Wales and England, and meant nothing else whereas in the majority of other European countries, it indicated “victory” or “two”. Another study showed different frequencies of gesture use according to the language spoken by a speaker. Italian participants used gesture more frequently, and they took greater advantage of the visual cues of body movements than American participants during information gap tasks (Graham & Argyle, 1975).

In addition to the semantic differences among iconic gestures, there may be a difference in gesture function among cultures. Speakers in Asian cultures are known to utilize their gesture and facial expressions more subtly than those of western cultures, and they sometimes use gestures as social functions such as showing politeness, respect, and formality; “Giving a bow” or “looking down slightly” is used to express respect to the interlocutor (Kagawa, 2001) and engaging eye contact is frequently considered rather ‘rude’ in Asian culture. Not only do gesture functions differ, the interpretation of others’ facial expressions shows a gap across cultures. The perception of facial expression differs between Americans and Japanese. A “Smile” was considered a positive facial expression by American participants, who rated smiling faces more intelligent than neutral faces whereas Japanese participants did not perceive them as relating to intelligence (Matsumoto & Kudoh, 1993). Facial expressions in Korean culture are also different from those of western culture weighting on subtleness. With regard to subtlety,

which may seem meaningless to one from another culture, sensing others' feelings is highly valued as explained by the expression "nun-chi" meaning sensibility or perceptiveness (Yum, 1987).

Visual uses in L2 learning environment

Second language acquisition theory advocates verbal interactions (communication between individuals in order to avoid a communication breakdown) in language learning (e.g., Gass & Varonis, 1994; Mackey, 1999), an interaction offers learners opportunities to receive comprehensible input and feedback (Gass, 1997; Long, 1996; Pica, 1994) and also to make modifications in their output (Swain, 1995). This allows learners to notice the gap between their interlanguage and correct output (Schmidt & Frota, 1986). These interactions may be facilitated by visual cues such as hand gestures and facial expressions provided by both speaker and hearer in both production and comprehension.

Many researchers suggest instruction involving any kind of nonverbal use facilitates students' comprehension in the language learning environment. Introducing kinetic gesture in language learning is important because it is natural input this way (Cabrera & Martinez, 2001; English, 1982; Mueller, 1980; Saitz 1966), and improves the social pragmatic competence of L2 learners (Saitz, 1966). The nonverbal element of communication is at least as important as verbal communication in L2 instruction because it is more powerful than verbal information and provides information in depth (Perry, 2001). Without this, L2 learners' communicative competence would be limited to the linguistic component (Edwards, 1980).

A sample observation of classroom teacher Grant and Hennings (1971) found that predominate teaching pattern of speech was accompanied by gestures. No other study was found that analyzed teachers' use of gestures in a routine classroom instruction. Understanding or interpreting nonverbal messages accurately is crucial for students, especially for L2 learners whose comprehension skill is limited. In addition, if not used properly, it is highly possible that gestures presented by L2 learners may lead to major misunderstandings or even an insult (Pennycook, 1985).

The importance of nonverbal cues is maximized in listening comprehension, where gestures or other kinds of visual cues help students understand the content better since completing an activity in the L2 constitutes a difficult task; "it is easier to show a shape than explain it" (Ducroquet, 1977, p252). Also the process of listening becomes more active when accompanied by the visibility of motions and the nonverbal aspect of speech cannot be separated from the whole communication process. As a consequence, previous literature encourages integrating visuals such as video in the L2 teaching environment because it is engaging, reinforces comprehensible input (Wood, 1999), and aids elaborate verbal messages (Swaffer & Vlatten, 1997). Authentic TV programs in Spanish significantly improved L2 Spanish learners' listening comprehension as well as their vocabulary (Herron, York, Cole, & Linden, 1998). As a result, many language textbooks, teacher's handbooks, or commentary articles suggest that nonverbal communication is essential in language instruction. Despite this attention to nonverbal communication in language teaching, methodological problems in research studies to date have failed to demonstrate a positive effect of the presence of gesture in ESL/EFL students' comprehension.

Listening comprehension using gestures in L2 research

Research by Cabrera and Martinez (2001) revealed the positive effect of gestures on students' comprehension during story-telling in EFL at a primary school in Mexico. The study was designed to compare a control group which had a story-telling class with language modifications using "simplified input" to make the story more comprehensible, and an experimental group which had interaction modifications including teacher's repetitions, comprehension checks, and gestures. They found that the latter group comprehended the story much better than the control group. Even though their conclusion emphasized the importance of body language instructions in foreign language teaching, their result unfortunately failed to show the true value of body language. This is because the experimental group also received repetition and comprehension checks, which may have contributed to students' comprehension. English (1982) also examined the effect of instruction using a video lecture in academic listening. There were two experimental groups and one control group: One received listening instruction focusing on nonverbal cues of the lecturer and another group received listening instruction focusing on verbal discourse, and a control group received no specific listening instruction. English reported no effect of visual instruction; however, the methodology raises several concerns. The first is the subjects' proficiency level, which was already high (TOEFL 418-557) and suggests a possible ceiling effect. Another is the fact that the post-test was a note-taking task. It is likely that the subjects were unable to attend adequately to the visual cues because they were focused on taking notes.

The main purpose of the present study is to examine the effects of visual cues (lip movements and gestures) on ESL students' listening comprehension by controlling types

of input, background knowledge, and selecting an appropriate comprehension task. The effect of proficiency level on gesture use was also investigated using questionnaire.

Purpose and Research Questions

This study was motivated by the following research questions and hypothesis. The first two questions were addressed in the comprehension task, and the third was addressed in the questionnaire responses.

- 1) Does more access to visual cues such as gestures and lip movements facilitate ESL students' listening comprehension?

Previous nonverbal communication studies have shown that visual cues of a speaker facilitate a positive comprehension by listeners. Visual cues of a speaker's face including lip movements increased listeners' perception for both native speakers and nonnative speakers of English (Hardison, 1999; McDonald & McGurk, 1978). Other studies have shown that gestures accompanying speech contain meaningful information, which helps the comprehension of content (Cabrera & Martinez, 2001; Morrel-Samuels & Krauss, 1992). Since these two types of nonverbal cues (gestures and lip movements) have been shown to be beneficial to listeners, I hypothesized that the AV-gesture group presented with the visual cues of both a speaker's face and hand gestures would perform the best followed by the AV-face group who saw visual stimulus of a speaker's face only but did not see the speaker's gestures, and then the A-only group.

- 2) In the listening comprehension task, do lower proficiency ESL students rely on visual cues more than higher proficiency students?

Previous studies indicated that visual cues were most beneficial in difficult tasks such as an in-noise. In Riseborough's (1981) study using English native speakers assigning a retelling task in English, the in-noise condition group's performance varied the most depending on the stimulus; that is the gesture stimulus group, who had visual cues of a speaker using hand gestures while speaking, performed significantly better than the visual cues of a speaker with vague or no movement, or the audio-only group with stimuli in-noise condition. However, the accuracy of the retelling task was the same across different stimulus conditions when noise was not added. Therefore, the positive effect of visual cues appeared only in the challenging task, in this case in noise. A listening comprehension task for ESL learners is similar to a task performed with stimuli in noise; it is difficult because of limitations in the participants' language abilities, especially for lower proficiency learners. Therefore, I hypothesized that the listening comprehension scores of the lower proficiency group would be best facilitated when gestures and lip movements were available to them than facial visual cues only. Visual cues were not expected to help the higher proficiency group as much as the lower proficiency group.

3) Does proficiency level affect the learner's preference of input type for English, and does it also affect their choice of activities in the development of listening and speaking skills, and vocabulary building? Does proficiency level affect the perception of gestures in general, and the perception of their own gesture use both with first language (L1) and L2 speech?

According to the ESL/EFL listening comprehension literature, lower proficiency learners should be provided with visual cues to make pedagogical materials comprehensible. If this is true of the lower proficiency ESL learners, they will prefer

being able to see gestures and put more value on the extra information because it helps their listening comprehension. I hypothesized the higher proficiency learners would show a more favorable attitude towards these cues as suggested by Hattori (1987) than lower proficiency learners.

Chapter Two

Study

Method

Participants

A total of 45 ESL students (Male=13, Female=32) were involved in this study. The data from three participants were omitted from the analysis. Two participants in the AV-group did not pay attention to the visual stimulus by looking down or closing their eyes when the stimulus was being shown on the OHP screen. Therefore, when the response sheets from these two participants were collected, I separated them from the others. The proficiency of another participant was not compatible with the rest of the group, as she was enrolled in two advanced linguistics courses. The reminding participants were enrolled in either the Intensive English Program (IEP) or English for Academic Purposes Program (EAP) at Michigan State University. All the IEP students took an in-house placement test, and were placed in appropriate courses based on their listening, reading, and writing skills. Some participants were placed in their current course after completing the preceding level. Some of the EAP students were enrolled in the program in order to meet the university language requirement to obtain undergraduate student status, whereas others were enrolled to improve specific English skills depending on their needs. All participants in this study were randomly assigned to three groups based on stimulus conditions: AV-gestures, AV-face and A-only. Each group was subdivided into two proficiency groups; the participants from Level 1 and 2 (the lowest and second lowest level in the IEP) were considered the lower proficiency group and those who were placed in Level 4 (the highest in IEP) or in EAP courses were considered the higher proficiency

group. Their ages ranged from 18 to 27 years. The majority of these students had Korean (N=35) as their native language and the others were Japanese (N=3), Chinese (N=1), Thai (N=1), Italian (N=1) and non-specified (N=1). The students' mean length of residence (LOR) in the United States or other English speaking countries was 7.3 months. Most students were attending only the English courses described above at the time of this study except for four participants who were also attending academic courses such as hospitality business, management.

All students participated in this study voluntarily outside of their usual classes. After the experiment, the test results were given to the participants upon their request.

Materials

Stimulus preparation. A female graduate teaching assistant whose L1 is American English was videotaped giving a lecture following a special outline containing pre-chosen key information, which was planned for making listening comprehension questions; however, the lecturer was allowed to expand or omit some content in the outline (see Appendix A) depending on her confidence in her topic knowledge (see Appendix B for the script). At the time of the experiment, she was teaching an Integrative Studies in the Art and Humanities (IAH) course involving issues of American history, society and culture. An IAH instructor was chosen because the course is one of the university required courses that all undergraduate students have to take in order to graduate; therefore, the instructor was considered representative of academic lecturers. Prior to the video recording session, I observed the instructor during her usual lecture schedule in order to analyze her gesture use.

The content of the lecture in this study was “Ceramics for Beginners”. This topic was selected in order to avoid any previous knowledge bias, and to obtain sufficient amount of gesture use. In previous studies, listening comprehension tasks used lectures given on topics of general academic content such as psychology, sociology however, these topics are popular among university students, which suggests these ESL learners might have learned about these fields in their home countries. In order to confirm that there was no previous knowledge of the lecture content, participants were asked to write down in the questionnaire if they had had any instruction relating to ceramics or pottery-making.

Another important element concerning the topic was eliciting a variety of gestures during the lecture. In this study, four types of gestures (Iconics, Deictics, Metaphorics, and Beats) as defined by McNeill (1992) were used in the lecture. The frequency and examples of each gesture type are discussed in the “Gesture type” section. The content of the lecture covers definitions of terms and a brief history of ceramics, which tended to be done in narrative form. Demonstrating how to make basic pottery involved description.

Recording and editing the stimulus. Two video recording sessions using the same outline were scheduled, each lasting approximately 20 minutes. Sony Digital Video Camera Recorders (Model DCR-TRV27) were used for recording; one was focused on her upper body (waist and above) and the other one was focused on the lecturer’s face (shoulders and above) in order to make two types of stimulus conditions: AV-gesture and AV-face (see Appendix C). The lecturer was not told what kind of gestures to use or how to them so in the AV-face condition, her hands were occasionally visible. This was not planned but was inevitable in order to have naturalistic gesture quality. The recordings

were done in a small room, often used for writing tutorial sessions in the English Language Center.

Previous nonverbal communication studies showed the importance of having an interlocutor when eliciting natural gesture use from a speaker, and therefore during the recording two observers were allowed in the room to listen to the lecture in order to create a naturalistic atmosphere for the lecturer to use gestures. The lecturer was instructed not to walk around but was allowed to shift her body position within a few steps. She was also instructed to give a lecture as if she were lecturing to a whole class. The lecturer was aware that the visual cues of hand gestures were one of the variables for the video stimulus. The two video recordings were then compared in terms of frequency of gesture use and quality of sound; one was selected for further use.

The video was edited with “i-movie”, a movie-editing program created by Macintosh. Recordings for the two stimulus conditions (AV-gesture and AV-face) were made at the same time and edited in the same manner. After both stimuli were imported into “i-movie”, they were edited into five small clips for the purpose of reducing dependence on memory for the listening comprehension task. In addition, to keep the content coherent, the length of each clip varied from two to four minutes depending on the subtopic of the clip. The contents of the five clips were: 1) the history of ceramics, 2) tools and techniques, 3) hand-building procedures, 4) kneading the clay, and 5) shaping it on the wheel. After editing, all clips were compressed (using IMA4:1) from the original film and exported to “QuickTime”, an audio/video playback software program. The maximal quality for showing and ideal size to avoid technical problems were taken into consideration during the editing process and after several editing and testing sessions, I

decided on the size and the quality; the sound property was set as 22050 Hz, the video format was 320 x 240 by Sorenson video 3, and the video track format size was also 320 x 240 pixels. The stimulus for the A-only group consisted of the recording's audio track only. All three stimulus conditions were of the same quality.

Gesture types. The gestures used in the lecture were categorized into four types using McNeill's (1992) definition: Iconics, Metaphorics, Deictics and Beats.

1. Iconics refer to gestures that are strongly related to the speech semantically. Iconic gestures used in this lecture were mostly accompanied by descriptions of ceramic tools, shapes, and patterns. In addition, the lecturer used Iconics while demonstrating some methods explained in the lecture and illustrating procedures of shaping or decorating a ceramic piece. The following are examples of Iconics in the video; the first one was used to describe a tool, and the second one was used when demonstrating the procedure. During the lecture, italicized words or phrases described below were accompanied by hand-arm gestures.

In the loop tool explanation, pointing fingers shaped a triangle and a circle. These gestures accompanied the utterance, "They're shaped with *triangles* or *circles* on the top that are *hollowed out* by wires....." (Clip 2) and a sign similar to 'OK' was given with the word "hollow out".

" So, you allow yourself to kind of gently remove the machine from the clay and *slide the clay over to a...erm...piece of wax paper.....*" (Clip 5) accompanied by the gesture of two hands holding a circular object and moving it to the left.

2. Metaphorics represent a semantic message as Iconics do but they are used when describing more abstract images. During the lecture, metaphoric gestures were used to

describe some motions involved in the procedures and to refer to an object. Occasionally they were used for a conceptual indication such as a waving hand implying that something was incorrect:

“...it does sound a little odd considering it has *nothing* to do with clay or pottery in the name.” (Clip 1) accompanied by a moving the hand from side to side.

3. Deictics refer to objects or abstract things. The lecturer used this type of gesture to compare and contrast especially when she talked about the history and characteristics of ceramics in different regions. The gesture involved one hand movement indicating ‘this’ and another movement indicating ‘that’ to distinguish or contrast two things:

“*Pot or clay*” (Clip 1)

“It was something that was really used for a *function* rather than *form*.” (Clip 1)

The same gesture was employed to indicate difference or to change the topic.

“Urn color were [sic] varied, *different from* Mesopotamia era.” (Clip 1)

4. Beats are the most frequently type gesture and characterize rhythmical movements that do not have semantic association with the speech. Beats were used throughout the lecture; however, the lecturer tended to use beats more often when she emphasized important information with constant movements of hands or emphasized one key term with one hand movement accompanied by a higher tone of voice or stressed vowels:

“.....*clay* does not come in the shape you see it in... in all the *stores* as it’s already *formed*.” (Clip 4)

The distribution of gesture types in each clip is described in Table 1. As you can see Beats were the most frequently used (38%) followed by Iconics (31%) and Metaphorics (24%). Deictics were the least frequent in this lecture (8%). Although there was a slight

difference between the frequency of Beats and Iconics, Beats were more common throughout the lecture and lasted longer each time than any other gesture. However, the focus of gesture type in this lecture was Iconics because of strong association with the meaning of the content, which may facilitate listeners' comprehension.

Table 1
Frequency of Gesture Types in Each Clip

	Clip 1	Clip 2	Clip 3	Clip 4	Clip 5	Total
Iconics	10	27	13	15	21	76 (31%)
Metaphorics	6	5	11	12	19	58 (24%)
Diectics	7	0	2	6	4	19 (8%)
Beats	17	15	17	21	22	92 (38%)

Note. The "Total" column represents the total number of each gesture used throughout the lecture. The percentage of the total number of gestures is given in parentheses.

Listening task. A multiple-choice comprehension task was employed in this study to test participants' comprehension of the stimulus. A multiple-choice format was used to minimize the confounding of listening with other skills such as speaking or writing and for effectiveness within time constraints (Dunkel, Henning, & Chaudron, 1993). There were two types of questions: Asking for a main idea or detailed information about the topic, and selecting the correct sequence of the procedures given by the lecturer. Some questions involved information, which could be facilitated more by the availability of visual information from the lecturer than the other items due to the nature of gestures presented, although all questions were designed so that it was possible to answer without visual cues. Four multiple-choice questions were prepared for each clip. All stimulus groups had identical questions.

Background questionnaire. The background questionnaire (see Appendix E) consisted of twenty-three items including questions about participants' demographic background, learning preferences, perceived effectiveness of visual cues in the listening task, and attitudes towards visual cues or gestures. The first six items asked about participants' background including their L1, the LOR in an English speaking country, and their experience with courses related to ceramics. Item numbers seven through nine were about perceived method efficacy in improving certain English skills: Listening, speaking and vocabulary building. Item numbers 10 through 18 were related to participants' use of visual cues in daily life and items 19 through 23 were about perceived efficacy of visual cues during the listening comprehension task in this study. Therefore, each stimulus group (AV-gesture, AV-face, A-only) was asked different questions followed by an open-ended question regarding how they felt about the task.

Procedure

The Listening comprehension task. The experiment was conducted in a regular classroom equipped with a built-in computer, and a speaker that was suspended from the ceiling in the middle of the room. Three sessions were conducted for each offered stimulus condition and two extra sessions were scheduled for the participants who had a conflict in their schedule. Each participant attended the session to which they had been randomly assigned. The testing was done in small groups of five to eight participants. The stimuli for the AV-face and AV-gesture groups were presented via computer projected onto the overhead projector screen. The "QuickTime" software was used as a medium to play the stimuli that had been already downloaded onto the computer prior to

the experiment. Both visual stimulus groups (AV-face and AV-gesture) were presented with the audio material through a speaker while the video was projected onto the big screen at the front of the classroom. In viewing, I chose “double size” instead of “full size”, which covers a whole screen (the size options in QuickTime) to prevent the image from blurring. In the AV-gesture condition, the size of the lecturer was approximately a life-size image. AV-face was presented in the same manner, shown using the same frame size; however, the lecturer’s face appeared much closer than in the AV-gesture because in recording, the camera was focused much closer for the AV-face than AV-gesture. As for the A-only group, participants were provided with the material in the same manner, using the same medium and audio system but the visual image was not shown.

A response sheet was distributed to the participants, which had written instructions on the front page (see Appendix D). They were told to answer four multiple-choice questions during a two-minute pause after each 2-4 minute clip. Participants were not allowed to read the questions ahead of time; they listened/viewed the clip, and then were told to turn the page to answer the questions for that clip. The length of each clip was kept short enough to minimize dependence on memory. In contrast to the study by English (1982), participants were not allowed to take notes during the experiment to maximize attention to the visual input for the AV-face and AV-gesture groups. To assure comparability across groups, the A-only group was not allowed to take notes either. I observed participants during the experiment in order to remind the visual groups (AV-face and AV-gestures) to pay attention to the visual stimulus. After the listening comprehension task, participants were asked to complete the questionnaires and then they

were dismissed. The experimental session was completed in 30 minutes including instructions at the beginning, the comprehension task, and the background questionnaire.

The Background Questionnaire. Following the listening comprehension task, participants were asked to fill out the questionnaire, which was included with the response sheet. They were given approximately 15 minutes to complete this task but if they did not finish on time, they were allowed to continue until they had finished. They were allowed to inquire when they did not understand the meaning of the questions in this section.

Questionnaire items 1 to 5, addressing the background of the participants, involved circling the items that best described them. Items 6 to 9 asked them to rank, on a scale of 1 to 3, what they felt were the most efficient methods of improving different English skills. Item numbers 10 through 23 used a 5-point Likert scale where participants were asked to mark 5 for “strongly agree”, 3 for “neutral” and 1 for “strongly disagree” after each statement.

Chapter Three

Results and Discussion

The data were analyzed in two stages: Analysis of the listening comprehension task and analysis of the background questionnaire. The mean accuracy scores for the listening comprehension task were tabulated according to the stimulus condition (AV-gesture, AV-face, AV-only) and participants' proficiency. The background questionnaire was examined as both quantitative and qualitative data focusing on participants' behavior towards visual cues in listening tasks, which will be discussed following the results of the listening comprehension task.

The Listening Comprehension Task.

Table 2 is the summary of descriptive statistics of the listening comprehension task for the two proficiency groups (higher and lower) across three stimulus conditions (AV-gesture, AV-face and A-only). Overall, the groups that received input with visual cues performed better than the group that received auditory-only input regardless of proficiency level. As shown, the group mean score for the listening comprehension task was the highest for the lower proficiency group in the AV-gesture condition, whereas AV-face was the highest for the higher proficiency group. Figure 1 provides a graphic display of the differences between proficiency levels across stimulus conditions. The mean score of the lower proficiency group showed a gradual decline in performance from AV-gesture ($M=10.14$, $SD=1.95$), to AV-face ($M=8.71$, $SD=.64$), to A-only ($M=7.57$, $SD=.48$). This confirms hypothesis 1, that the more visual information available to the participants, the better the listening comprehension. However, the higher proficiency

group did not follow this trend; instead, the AV-face group received the highest group mean score ($M=13.29$, $SD=.84$) followed by AV-gesture ($M=11.14$, $SD=2.54$) and A-only ($M=8.57$, $SD=.61$). As mentioned, the greatest difference in the mean of the proficiency groups was in the AV-face condition, where the difference was 4.58 (shown in the “Difference” column in Table 2); whereas the other stimulus conditions, AV-gesture and A-only did not show such a big gap (a 1.00 difference for both proficiency groups). The reliability of the listening comprehension test was .60 (total item $N=20$, $M=9.90$), which was acceptable in this study due to the small population ($N=42$) of two extreme proficiency levels and the small number of test items ($N=20$).

Table 2
Summary of Descriptive Statistics

Stimulus Condition	<u>Mean Accuracy</u>			<u>SD</u>	
	Higher Prof.	Lower Prof.	Difference (H-L)	Higher Prof.	Lower Prof.
AV-gesture	11.14	10.14	1.00	2.54	1.95
AV-face	13.29	8.71	4.58	.84	.64
A-only	8.57	7.57	1.00	.61	.48

Note. $N=42$. The total possible score for the listening task was 20. The “Difference” column is the mean difference between the higher and lower proficiency groups calculated simply by subtracting the lower proficiency score from the higher proficiency score. SD =Standard Deviation.

Figure 1: Mean Listening Comprehension Scores: Proficiency Group x Stimulus Condition.

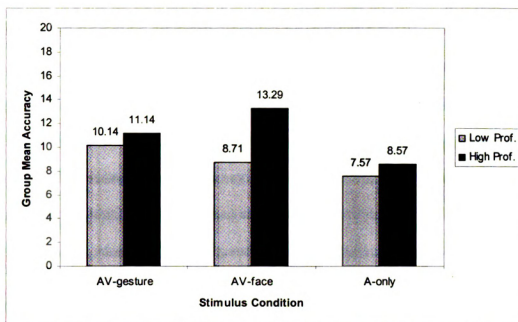


Table 3
Summary of Two-way ANOVA of the Listening Comprehension Task:
Proficiency Group x Stimulus Condition

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Stimulus	50.38095	1	50.38095	13.53518	0.00076	4.113161
Proficiency	71.47619	2	35.7381	9.601279	0.000455	3.259444
Interaction	29.7619	2	14.88095	3.997868	0.027043	3.259444
Within	134	36	3.722222			
Total	285.619	41				

In order to see the effect of visual cues on listening comprehension, I conducted a two-factor ANOVA [Proficiency Group (higher, lower) x Stimulus Condition (AV-gesture, AV-face, A-only)]. Table 3 provides the summary of the two-way ANOVA analysis. Analysis revealed the main effects of stimulus condition [$F(1, 36)=13.54$, $p<.001$]. Post-hoc Tukey HSD tests were conducted to compare each stimulus condition.

The analysis revealed that the scores for the A-only group were significantly different from those of AV-face [$F(2,36)=9.60, p<.001$], and those of AV-gesture conditions [$F(2,36)=9.60, p<.01$]. However, there was no significant difference between AV-face and AV-gesture conditions [$F(2,36)=9.60, p=.877$]. There was a main effect of level of proficiency [$F(2, 36)=9.60, p<.001$] as hypothesized; ESL learners' listening comprehension was facilitated when visual cues of the speaker were present and scores were higher for the higher proficiency group. This finding is comparable to the results of other studies which claim that visual cues facilitate listeners' comprehension (Graham & Argyle, 1975; Riseborough, 1981), and demonstrates that the presence of visual information itself helps ESL learners' comprehension without repetition of a story or comprehension checks (Cabera & Martinez, 2001). The fact that both proficiency groups performed better on the task with visual cues suggests that listening to a lecture in the L2 is comparable to noise-added conditions for native speakers (NSs) in other listening comprehension studies (Kellerman, 1992; Saiz, 1996; von Raffler-Engel, 1980). Especially for the lower proficiency group, it can be said that the difficulty of the task forced them to rely on visual information.

There was also a significant interaction [$F(2, 36)=4.00, p<.05$]. The difference between the two proficiency levels is greatest in the AV-face condition; the higher proficiency group benefited most from the AV-face stimulus followed by AV-gesture and then A-only. This order was not as predicted. However, this result is supported by other studies, which indicate the positive effects of lip movements on perceptual accuracy (Hardison, 1999; Hardison, 2003; McDonald & McGurk, 1978). One of the reasons for this finding may be that lip movements are often found less informative for the lower

proficiency learners, which have less experience with L2 input. As reported by Hattori (1987), L2 learners with greater linguistic experience seem to obtain the benefit of more subtle visual cues such as lip movements or other facial expressions. Considering that only the higher proficiency group performed outstandingly in the AV-face condition, they were able to make better use of the stimulus. If one cannot make use of such visual cues, they may become meaningless or even become a distraction for listeners. In addition, the nature of the visual cues may have contributed to the difference between the higher and lower proficiency group in their comprehension. Hand-arm gestures, which facilitate semantic information of speech, appear to be most useful for the lower proficiency learners because they require semantic information to help their comprehension whereas the visual cues of a speaker's face, which visually present phonological element of the message, were most beneficial for the higher proficiency learners. This may be because they already understood the main part of the message and phonological visual cues, which may have functioned as a clarification of the message.

The Background Questionnaire

The questionnaire was divided into three sections: Participants' demographic background, perceived effectiveness of activities contributing to listening, speaking and vocabulary skills, and comments on their attention to and use of visual cues (see Appendix E). Discussion focuses on the second two sections. To address research question 3, the questionnaire was analyzed in subsections and discussed in the order in which they appeared on the response sheet.

Questionnaire items 6-9. Questionnaire items 6-9 were tabulated according to the rankings participants assigned to general activities that contribute to the development of listening, speaking proficiency and vocabulary building. Table 4 provides the frequency of rankings for these activities reported by the two proficiency groups. Graphs are also provided for Items 8 and 9 where the responses were different between the higher and lower proficiency groups.

Table 4

Frequency of Rankings of General Activities Using English That Contribute to Language Skill Development: Questionnaire Items 6-9

Item Q6	Proficiency level Higher			Lower				
Ranking	1	2	3	Total	1	2	3	Total
Homework	4	9	4	17	0	12	6	18
English use in class	9	5	1	15	12	3	1	16
TV	1	5	7	13	3	3	8	14
Talking to friends	4	2	1	7	4	2	0	6
Reading	1	1	4	6	0	0	1	1
E-mail	2	0	3	5	1	0	1	2
Radio	0	0	0	0	1	0	2	3

Q7	Higher			Lower				
Ranking	1	2	3	Total	1	2	3	Total
TV	6	8	5	19	5	8	6	19
Talking to Americans	8	7	1	16	14	4	1	19
Attending class	3	0	6	9	0	2	4	6
Radio/CD	3	0	5	8	2	3	2	7
Talking to friends	1	3	2	6	0	0	4	4

Q8	Higher			Lower				
Ranking	1	2	3	Total	1	2	3	Total
Talking to Americans	18	1	0	19	15	3	2	20
TV	3	3	8	14	1	5	4	10
Talking to friends	0	8	0	8	2	9	3	14
Attending class	0	2	4	6	0	1	5	6
Radio/CD	0	0	2	2	1	1	1	3

Q9	Higher			Lower				
Ranking	1	2	3	Total	1	2	3	Total
Reading	13	4	1	18	8	9	0	17
Homework	5	3	3	11	6	5	3	14
Attending class	1	5	4	10	1	3	5	9
TV	0	0	6	6	0	0	6	6
Talking to friends	1	4	0	5	3	0	3	6
Talking to Americans	1	1	2	4	1	0	1	2
Radio/CD	0	0	2	2	0	1	0	1
E-mail	0	0	0	0	1	0	1	2

Note. The figure for each activity represents the frequency with which it was ranked, first, second or third by respondents. The total possible response was 21 for each group.

In Table 4, the far left column presents each questionnaire item number (6-9) followed by the name of the activity that contributes to the skill development. Activities

are ordered from most to least frequently preferred. The first column under “1” is the number of participants who ranked the activity first, in the second column it is the number who ranked it second, and in the third column it is the number who ranked it third.

Questionnaire item 6 indicates the rankings of participants’ activities using English. The question did not refer to a specific skill (listening, speaking, reading or writing) because investigating the most common skills used in these activities was one of the purposes of the question. Responses indicated that regardless of proficiency, learners are exposed to English engaging in similar activities, which shows homogeneity in their English use. The most common activity using English was “Homework” (N=35) followed by “English use in class” (N=31), which suggested the participants used a special type of English related to the course they were attending and “Watching TV” (N=27). The responses were different with regard to proficiency for the other activities such as “Talking to friends”, “Reading” and “E-mail”; these were preferred more by the higher proficiency group (N=7, N=6 and N=5) than the lower proficiency group (N=6, N=1, N=1), whereas “radio” as an input source was chosen only by the lower proficiency group (N=3).

Questionnaire item 7 referred to their proficiency of activities contributing to listening skills. Figure 2 indicates the rankings by the higher proficiency group and Figure 3 indicates those for the lower proficiency group. Each bar represents the number of respondents who marked the activity as their first, second or third preference in the development of their listening skills. “Rank 1” indicates ranking as the first choice, “Rank 2” as second and “Rank 3” as third. In general, both proficiency groups preferred

activities involving visual input to develop their listening skills. As shown, “Watching TV” was the most preferred activity by both proficiency groups (N=19). The same number of respondents in the lower proficiency group marked “Talking to American friends” and “Watching TV” (N=19) but this number was a little less in the higher proficiency group (N=16). “Attending class” was preferred more by the higher proficiency group (N=9) than the lower proficiency group (N=6) as an activity contributing to listening development.

Figure 2: Rankings of Activities Contributing to Listening Comprehension Skills by the Higher Proficiency Group: Questionnaire Item 7

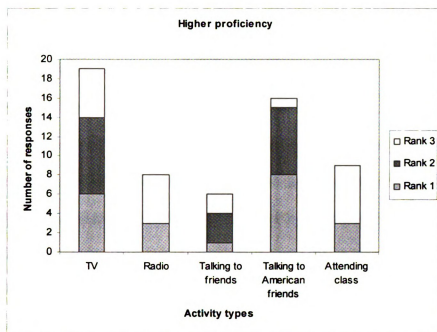
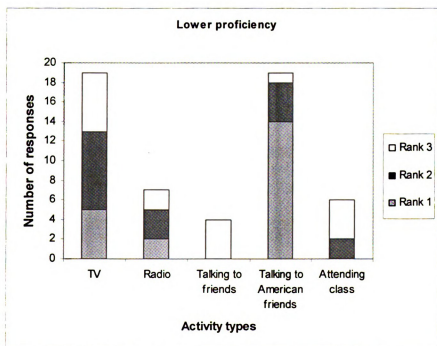


Figure 3: Rankings of Activities Contributing to Listening Comprehension Skills by the Lower Proficiency Group: Questionnaire Item 7



The results of questionnaire item 8 indicate participants' preferences for activities contributing to the improvement of their speaking skills. As shown in Figures 4 and 5, both proficiency groups perceived "Talking to American friends" as the most effective activity to improve speaking skills (N=19 for the higher, N=20 for the lower). As for the second most popular activity, the preferences between proficiency groups varied; "Watching TV" was preferred more by the higher proficiency group (N=14 by the higher proficiency group, N=11 by the lower proficiency group) whereas "Talking to friends" (N=14 by the lower proficiency group, N=8 by the higher proficiency group) was preferred more by the lower proficiency group. Lower proficiency learners may not be ready for or comfortable with the input. Commonly, they need to ask questions to clarify meaning. Participants favored activities that provide potential interaction with the interlocutor such as "Talking to American friends" and "Talking to friends in English". In terms of activities that offer English input, participants preferred input with visual cues better than auditory alone. For example, "Watching TV" was evaluated as more effective than "Radio" which was rated the least favorite of all activities by both proficiency groups.

Figure 4: Rankings of Activities Contributing to Speaking Skills by the Higher Proficiency Group: Questionnaire Item 8

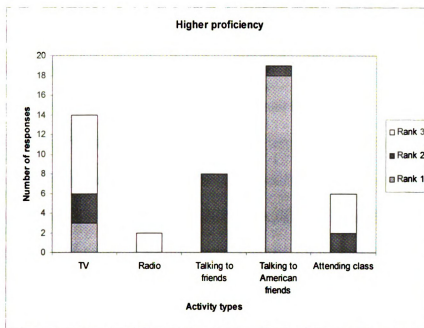
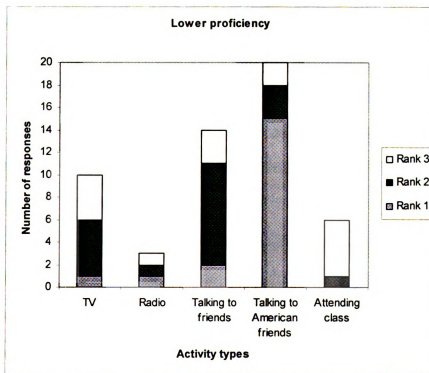


Figure 5: Rankings of Activities Contributing to Speaking Skills by the Lower Proficiency Group: Questionnaire Item 8



Questionnaire item 9 deals with the preference for activities that contribute to vocabulary building. No difference was found in the choice of activity between the proficiency groups; “Reading” was the most preferred activity (N=35 in total) followed by “Doing homework” (N=25 in total) and “Attending class” (N=19 in total) by both groups. “Watching TV”, which gives visual information, was more popular than “listening to the radio/CD”.

As suggested in the literature, visual cues have a positive effect on the development of ESL learners’ language skills. The participants of this study, both higher and lower proficiency groups, were exposed to English that was related to the English course they were enrolled in. The results from questionnaire items 6-9 suggest that there is no difference in activity preferences. Across the proficiency levels, activities using visual cues were rated higher than those that involve auditory input only. This preference corroborates the findings of the listening comprehension task; visual cues facilitate listening comprehension and are preferred by ESL learners.

Participants were in favor of the activities involving visual input in improving listening and speaking skills, and vocabulary building. The difference in preference ranking between the two proficiency learners was found for activities related to developing listening and speaking skills; in both cases the higher proficiency learners had a stronger preference for TV as input.

This positive attitude towards visual cues was hypothesized, and is supported by previous studies (Ducroquet, 1977; Perry, 2001; Swaffer & Valentten, 1997; Wood, 1999). This suggests that the ESL learners were aware of the positive outcome of visual information in listening comprehension and they preferred “natural” input as defined in

the literature (Cabrera & Martinez, 2001; English, 1982; Mueller, 1980; Saitz, 1966) with visual cues from a speaker. Using radio or CDs as input was the least favorite type of activity because of this difficulty caused by the absence of visual cues. Questionnaire items did not address specific kinds of radio or TV programs. TV tends to offer a wider variety of programming than radio, allowing L2 learners to select whatever they feel comfortable watching. Visual media such as TV or video can function as an advance organizer as well, helping the viewer to build schema, which facilitates comprehension of subsequent information (Hanley, Herron, & Cole, 1995; Mueller, 1980). Not only does TV attract L2 learners, it also facilitates the development of vocabulary and listening skills (Herron, York, Cole, & Linden, 1998). Another reason that L2 learners may not have preferred radio as an input source is because radio programs usually contain songs and advertisements, which are not necessarily meaningful input for them. In addition, radio typically speak faster than actors or actresses on TV. Needless to say, rate of speech and lack of visual information create a very difficult condition for L2 comprehension.

“Talking to American friends” was the most popular activity in developing listening and speaking in both proficiency groups. Especially in developing speaking skills, it was preferred much more than any other choice. This response is supported by the SLA literature on interaction: Interaction between a NS and a NNS (nonnative speaker), or NNSs results in attention paid to L2 learners’ own output, which is noticing the malformed utterance and then a chance to correct their output (e.g., Gass & Varonis, 1994; Mackey, 1999). There was an interesting difference in the responses between the higher and lower proficiency groups; the lower proficiency group preferred “Talking to

friends in English”, which may include friends who are NNS of English whereas the higher proficiency group chose “Watching TV” as the second most frequent response. This suggested that advanced L2 learners favor authentic input. The lower proficiency learners preferred “Talking to friends” to TV input because the former preference may offer more comprehensible input for them because of NNSs’ slower rate of speech than that of NSs appear on TV program. TV preference occurred in the responses of listening skills as well whereas the lower proficiency group chose “Talking to friends”.

The participants’ positive attitude towards “Reading” as an effective activity in building vocabulary is compatible with Grandman and Hanania’s (1991) findings; not only did they find a positive effect of reading on vocabulary building, they also found extracurricular reading contributed to better performance on the TOEFL test than the other activities. In the present study, there was no difference in the ranking of the responses between proficiency groups except for vocabulary building with “E-mail” which was chosen only by the lower proficiency group (N=2).

Questionnaire items 10-23. The third section of the questionnaire involved a 5-point Likert scale, and the responses were then analyzed to show the tendency of the behavior of participants. A *t*-test was used to analyze differences between the lower and higher proficiency groups. The items were divided into subcategories according to their focus: Items 10-12 refer to respondents’ preference for attending to visual cues in general listening comprehension, items 13-14 refer to perceived difference in gesture use between L1 and L2, items 15-16 refer to perceived contribution of gestures in face-to-face communication, and 17-18 refer to attention paid to speaker’s lip movements and gestures in face-to-face communication. Questionnaire items 19-23 were given to each

experimental group in order to ask for feedback on the stimulus: Item 19 was given to the A-only group, items 20-21 to the AV-face group, and items 22-23 to the AV-gesture group. Analysis of items 19-23 follows the analysis of items 10-18.

Table 5 shows the summary of responses to questionnaire items 10-28. The first column indicates the category of each item, and the second shows the item numbers related to the category. "Overall Mean" is the total mean score for the 5-point Likert scale: 5—Strongly agree, 4—Agree, 3—Neutral, 2—Disagree and 1—Strongly disagree followed by the standard deviation (SD). The separate mean score by proficiency group and *t*-value are also shown on the table.

Table 5
Summary of Responses to Questionnaire Items 10-18 and *t*-test Statistics Comparing Higher and Lower Proficiency Groups

Category	Question Items	Overall Mean	SD	Mean Higher Prof. Group	Mean Lower Prof. Group	<i>t</i> -value
Preference for visual cues in listening comprehension	10,11,12	4.16	.86	4.30	4.03	1.79
Perceived difference in gesture use between L1 and L2	13, 14	3.83	.97	3.88	3.79	.45
Perceived contribution of gestures to comprehension of speaker in L1 and L2	15, 16	3.44	1.00	3.43	3.45	.11
Attention paid to visual cues in face-to-face communication	17, 18	3.30	1.01	3.43	3.17	1.10

Note: Critical *t*-value to meet significance at $p < .05$ was 1.99 except for items 10-12 where critical value was 1.98.

As can be seen in Table 5, there was no significant difference in participants' perceptions of visual cues between the proficiency groups. Overall, the higher proficiency group had a more positive attitude towards visual cue use than the lower proficiency group but the gap was very small. The strongest preference was found in the perception of visual cues in listening comprehension: Participants reported that they understood better with visual cues in listening tasks as found in items 10-12 ($M=4.30$ for the higher, $M=4.03$ for the lower proficiency group). Since both groups showed similar responses, there was no significant difference between the proficiency groups ($t=1.79$, $df=124$)

The responses of questionnaire items 13 and 14 indicated that participants were conscious of gesture use in American culture. Participants reported that Americans use gestures more frequently than people in their own countries and they also reported that they tended to use gestures more when speaking English than their native language (Total $M=3.83$). In this study, there was no difference between the proficiency groups ($t=.45$, $df=82$); both proficiency groups show very similar responses.

The analysis of items 15-16 indicated that the mean score showed a moderate preference for perceived gesture contribution to comprehension in L1 and L2 (Total $M=3.44$, $SD=1.00$) regardless of the proficiency levels ($t=.11$, $df=82$). Both proficiency groups perceived that the interlocutors would understand them better using gesture when communicating both in the L1 and in English. Items 17-18 also indicated a moderate tendency for attention to visual cues in face-to-face communication (Total $M=3.30$, $SD=1.01$), and there was no difference between the proficiency levels ($t=1.10$, $df=82$).

In these last two categories, items 15-16 and items 17-18, participants marked a wide range of responses ranging from 5 (strongly agree) to 1 (strongly disagree) on the Likert scale. Especially for item 17, the responses divided into two opposite views: 21 of the 42 participants responded that they pay attention to the speaker's lip movements and 21 responded that they did not. However, as for item 18, which was observation of gestures, there was little variation: Only two out of 42 respondents reported that they did not pay attention to gestures in general face-to-face communication.

There was a strong association between participants' perception of gesture efficacy and their gesture observation; 31 out of 36 participants who responded that gestures helped their comprehension of a speaker also reported that they pay attention to the interlocutor's gestures in face-to-face communication (86%). However, their use of gestures had less connection with the perception of gesture efficacy; 24 out of 36 reported they actually used gestures in their English speech (67%).

Participants' LOR was also examined for each questionnaire item from 10-18. 20 participants had LOR of less than 2 months, 14 participants had LOR of between 4 and 6 months, and 9 participants had LOR of 9 months or more. Each of these groups according to LOR included participants whose proficiency level was lower and higher, and who had been randomly assigned to all stimulus conditions. There was no relationship between LOR and the responses except for item 14, in which I noted a trend in their responses that the longer the LOR, the greater the reported gesture use in the L2.

Table 6
Summary of Responses to Questionnaire Items 19-23 According to Stimulus Condition (A-only, AV-face and AV-gesture) and *t*-test Statistics Comparing Higher and Lower Proficiency Group Scores

Category (Stimulus Condition)	Question Items	Overall Mean	<i>SD</i>	Mean Higher Prof. Group	Mean Lower Prof. Group	<i>t</i> - value
Perceived efficacy of visual stimulus if provided (A-only)	19	3.43	1.01	3.86	3.00	1.69
Attitude towards visual of face in the stimulus (AV-face)	20	3.93	1.14	4.57	3.29	2.49*
Perceived efficacy of gesture stimulus if provided (AV-face)	21	3.93	.18	4.47	3.71	3.13**
Attitude towards gesture in the stimulus (AV-gesture)	22	4.50	.52	4.43	4.57	.05
Attitude towards visual of face in the stimulus (AV-gesture)	23	4.00	.78	3.86	4.14	.66

Note. * $p < .05$, ** $p < .01$. Critical value to meet significance at $p < .05$ was 2.17.

The questionnaire items 19-23 involved participants' feedback on the stimuli used in this experiment; therefore each stimulus group was assigned different questions. Table 6 indicates the summary of the analysis of the responses. The table is organized in the same manner as Table 5: Mean, *SD*, Means of the higher and lower proficiency groups and *t*-value. A greater difference between the proficiency groups was found in these items. For in questionnaire item 19, half the A-only group responded that they believed they would have comprehended the content of the lecture better if they had seen the visual cues of the lecturer ($M=3.43$, $SD=1.01$). The responses seemed to divide into two positions: Agree or disagree. Even though the higher proficiency group ($M=3.86$) tended

to have a more positive response to this question than the lower proficiency group ($M=3.00$), there was no significant difference ($t=1.69$, $df=12$).

Questionnaire items 20 and 21 were given to the AV-face group. There was a significant difference between the proficiency group's perceptions of the stimulus. The higher proficiency group ($M=4.57$) had a significantly stronger preference for the presence of visual cues to facilitate comprehension of a lecture than the lower proficiency group ($M=3.29$), ($t=2.49$, $df=12$, $p<.05$). In addition, there was a significant difference between the higher proficiency ($M=4.47$) and lower proficiency ($M=3.71$) groups in terms of preference for viewing gestures in the stimulus; the higher proficiency group thought they could have performed better if hand gestures were present ($t=3.13$, $df=12$, $p<.01$). This preference of visual cues was also compatible with the result of the listening comprehension task that the higher proficiency group performed significantly better than the lower proficiency group in AV-face condition.

The AV-gesture group was assigned to answer items 22 and 23. Item 22 indicates that both proficiency groups thought that the presence of gesture in the stimulus helped their comprehension: 14 out of 14 responded either "Strongly agree" or "Agree" ($M=4.50$, $SD=.52$). In addition, in item 23, both proficiency groups felt that the presence of facial cues and lip movements was also helpful ($M=4.00$, $SD=.78$). There was no difference between the proficiency groups for either item ($t=.50$, $df=12$; $t=.67$, $df=12$).

Analysis of questionnaire items 10-23 suggested that participants had a positive attitude towards the use of visual cues in general either in perception or in production. The result was consistent with the findings of the listening comprehension task that visual cues facilitated participants' listening comprehension, and it also supports the findings of

questionnaire items 6-9 of a positive attitude towards visual cues. Moreover, this L2 learners' preference for visual cues is supported by the L2 acquisition literature mentioned above. Overall, participants in this study showed a positive attitude towards visual cues including hand gestures and lip movements. As a result, except for the responses by the AV-face group for their feedback of the stimulus, there was no significant difference between the proficiency groups, which was not as expected. It suggests that English proficiency level per se did not affect their perception of visual cues in listening comprehension. One might conclude that L2 learners prefer the presence of visual cues in listening comprehension tasks regardless of their proficiency.

Participants perceived that English speakers use more gestures than the L1 speakers from their country, which in this study were mainly Korean and Japanese speakers (38 participants out of 42). In Asian cultures, the role of gestures, facial expressions and other body language differ from that of American culture (Kagawa, 2001; Matsumoto and Kudoh, 1993; Yum, 1987). What is interesting in this finding is that even without explicit attention to gestures in the target culture, participants perceived this cultural difference, and they reported that Americans use more gestures than speakers who share the same respondents' L1. The perception of cultural difference in gesture use was consistent with the functional differences suggested by the literature (Kagawa, 2001; Matsumoto & Kudoh, 1993; Yum, 1987). In addition, participants reported that they use more gestures when communicating in English than in their L1. This tendency seemed greater especially for those who have been in the L2 culture longer. A previous study showed that children used more gestures that are closely related to the speech (Iconics and Beats) as their speaking ability developed (Nicoladis, 2000). However, in the study,

participants' LOR was an indication of frequent use of gesture because nonverbal communication elements of language can be learned through informal L2 exposure (Edward, 1980). Therefore, participants with a longer LOR might have greater ability to use gestures as one of their communication strategies.

There was individual variation in the perception of the contribution of gestures. The difference was found within proficiency groups rather than between them; in other words, there was no difference according to participants' L2 proficiency level. A similar tendency was found in the responses of the participants' with regard to attention to interlocutor's lip movements and gestures; the difference in the responses was not due to proficiency but individual variation. There was no observable trend in term of participants' LOR and perceived contribution of gestures or attention paid to visual cues of the interlocutor. Hattori (1987) noted that L2 learners with longer than 2 years of LOR reported that they were able to take advantage of facial visual cue of interlocutors although such a tendency was not found in this study. Majority of those who reported that gestures and lip movements contributed in their comprehension also reported that they pay attention to such visual cues. Therefore, one of the factors of drawing attention to an interlocutor's visual cues depends on perception in visual cue efficacy but not LOR or proficiency level. In this particular study, the participants' English exposure was mostly in a formal setting: "Doing homework" and "English use in class" were reported as the most common uses of English (see questionnaire item 6). Therefore, the participants may lack more informal English exposure where nonverbal communication is more likely to be provided.

In response to the A-only stimulus, the higher proficiency group tended towards the opinion that they would have understood better if the visual cues of the speaker had been present. The lower proficiency group's opinion was divided: Half agreed that visual cues of the lecture would have helped and the other half did not, showing individual difference.

The only significant difference in the responses to the stimuli based on proficiency was found for the AV-face condition where the higher proficiency group regarded visual cues from the speaker's face as informative and helpful in comprehension of the lecture. It seems that higher proficiency L2 learners are more aware of nonverbal cues especially lip movements, which represent visible comprehension of L2 speech sounds, and tend to notice and make use of them as an extra resource. The lower proficiency L2 learners may not be capable of doing this based on more limited L2 interaction experience. This finding was also consistent with the results of the listening comprehension task; the mean difference between the higher and lower proficiency groups was the greatest in the AV-face condition. In addition, if the visual cues in the AV-face condition were not helpful for the viewer, they could be a distraction. In fact, some students in the lower proficiency group showed their frustration in the comment and feedback section of the background questionnaire: "It's so difficult and I didn't understand the speaker's face at all". This clearly indicated that visual cues of the speaker's face were not as useful as they were for the higher proficiency participants. This particular finding was very interesting because there was no difference in responses between higher and lower proficiency groups in attitude towards visual cues of lip movements and gestures in general face-to-face communication (questionnaire items 10-12 and 17-18). The difference in the responses between the proficiency groups appeared when the questionnaire inquired about the

reaction to the AV-face stimulus; that is to say, lower proficiency learners responded that visual facial cues facilitated their comprehension but when they actually viewed the AV-face stimulus, they did not feel it was helpful.

The feedback for the AV-gesture group showed no significant difference between the proficiency groups as I mentioned above. The reaction to gestures in the stimulus was more positive than the reaction to lip movements. This response may be due to the association of gesture with semantics versus phonology and hand gestures tended to be more visually salient than the speaker's lip movements, with longer durations per gesture. Therefore, those in the AV-gesture groups responded that they felt gesture was more helpful than visual cues on the face.

Chapter Four

Conclusion

This study revealed the contribution of visual cues such as gestures and facial visual cues including lip movements in ESL learners' listening comprehension. The results of a two-factor ANOVA revealed that the AV-face and AV-gesture groups performed better than the A-only groups, and the mean scores of the higher proficiency group were greater across conditions than the lower proficiency group. However, proficiency level determined which stimulus condition with visual cues was more informative. The higher proficiency group received the highest mean score in the AV-face condition whereas the lower proficiency group received the highest in the AV-gesture. This was also consistent with the questionnaire responses to the stimulus in the AV-face condition showing significant difference between the proficiency levels; the higher proficiency group had a better reaction to the stimulus than the lower proficiency group. The results of the background questionnaire also confirmed that L2 learners of English prefer to have the visual cues of a speaker, both hand and facial gestures, in L2 listening comprehension; however the greater the proficiency level, the more informative the lip movements are to the learner.

The small sample size may limit the generalizability of the results. This study limited its lecture topic to ceramics in order to avoid participants' previous knowledge; however, it is also important to investigate the effect of a speaker's visual cues employing a wider variety of lecture topics. Examining participants' listening proficiency and performance on multiple-choice question tasks before an experiment could also help interpret the results.

The present study proposes the need for further investigations in different directions. It is important to peruse individual variation in the contribution of visual cues in comprehension and production. Linguistic experience of the participants as represented by LOR, as well as language proficiency are factors influencing the value of gestural information, whether hand or articulatory, to an L2 learner.

Another variable influencing one's attention to visual cues is cultural variation. As seen in previous studies, there is a semantic and functional difference across cultures in gesture use. Some cultures make use of more salient gestures than others. The role of gestural presence in the L1 culture may affect their comprehension in the L2.

In addition, investigation of L2 instruction on gestures is encouraged. For example, training studies using academic listening settings to develop L2 learners' listening strategies focusing on nonverbal cues could provide a broadened teachability of the nonverbal aspect of communication. Also, introducing formal gesture instruction raises questions such as when and how to integrate nonverbal communication instruction. If the training is successful, one has to consider the possibility of long-term effects on L2 language development. Furthermore, it is also necessary to determine the most useful and effective activities or exercises in order to introduce nonverbal aspects of communication in the target language.

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Appendix A

Outline of the lecture

Definition of Ceramic

- General Term—Used to describe the shaping, finishing and firing of clay.
- Origin of the Word-- The word "ceramics" comes from the Greek word "Keramos" meaning "Pottery," "Potter's Clay," or "a Potter." This Greek word is related to an old Sanskrit root meaning "to burn" but was primarily used to mean "burnt stuff."
- Technical definition-- The technical definition of ceramics encompasses a much greater variety of products than is normally realized. To most people, the word ceramics means dinnerware, figurines, vases, and other objects of ceramic art.

Ceramic Products

- Most ceramic products not generally recognized as utilitarian rather than aesthetic. Examples are bathtubs, washbowls, sinks, electrical insulating devices, water and sewerage pipes, bricks, hollow tile, glazed building tile, floor and wall tile, earthenware, porcelain enamel and glass.
- Have a number of outstanding properties which determine their usefulness. One of the most unusual of these is their great durability.

Durability can be divided into three types: chemical, mechanical and thermal.

History

Mesopotamia (the region between the Tigris and Euphrates rivers),

- Round shaped ceramics were already being made by 5000-4000 B.C. These were decorated with geometric drawings incised into clay.
- Then humans and animal figures were created (between 4500-4000 B.C.)
- Firing technique was developed.
- Wheel for making pottery was invented (during 4000-3000 B.C.)

Main features

- Used to construct buildings and cities (baked clay bricks)
- Persian (between the Caspian Sea and the Persian Gulf pottery) was a similar one to that of Mesopotamia.
- Walls of palace were decorated with colored glazed tiles.

Egypt

(approximately same period as Mesopotamia between 5000-4000 B.C.,)

- They produced pottery using clay from River Nile.
- The ceramic forms became more cylindrical (between 3230-2700 B.C.)

- They started to use the wheel (About 2700-2100 B.C.)

Main features

- Egyptian Paste (a kind of glaze)
Turquoise color—if copper was used.
Violet—if the glaze contained the mineral manganese.

Greece

- Great artistic and technical development. The Greek ceramists created perfectly formed pots, painting them with decorative themes of outstanding beauty.
- The wheel began to be used and improved upon in order to produce more sophisticated pots (At the first millennium of B.C.)
- 2 distinctive characteristics: its shape and its style of decoration. Each pot had a particular function, and its name was related to that function.

Examples;

- Amphora—medium sized rim and two handles was used for holding liquids.
- Oenochoe—having trefoil-shaped mouth, used for carrying and pouring water.
- Rhynton—a drinking cup in the shape of an animal's head.
✧ The pictorial subjects that decorated the pots told stories of the deeds of the gods, of heroes, battles and so on.

Americas

- In early history, 2 characteristics in common: All were produced using either the coiling method or by molding (rather than being made by the wheel).

Features;

- Thin-walled pitchers, jugs pots and goblets were modeled from grayish clay.
- Geometric designs or stylized animal forms decorated these objects.

Tools

- **Clay**— an earthy material that is plastic when moist but hard when fired, that is composed mainly of fine particles of hydrous aluminum silicates and other minerals, and that is used for brick, tile, and pottery;
- **Canvas**—used for slabs and strips of clay.
- **Looped tools**—used for hollowing out solid pieces of pottery removing excess clay and making the surface smooth and even.
- **Spatulas and modeling tools**—these are generally made of wood but also of iron or plastic. Used for joining pots, smoothing, clearing up and so on.
- **Ribs**—used to refine the surface when throwing pots on the wheel.

- **Cutting wire**—used to cut clay and remove pieces from the wheel. It consists of a steel or nylon wire, with a little wooden stick or ring at each end to make it easy to handle without injuring.

Basic Technique

- **Hollowing out**—hollowing out inner clay body leaving frame to make a container.
- **Pinch pots**: making a bowl—creating a clay ball to dig a whole with your thumb. Eventually pinching and drawing the clay to the edges upward and outward to form a bowl.
- **Coiling**: making a cylindrical pot—start with balls of clay and roll in order to make them longer. Coil on the top of the circular clay base to build up until it gets to the desirable height. Smooth over the surface.
- **Slab-building**: making a cube-shape box— Clay is rolled out into a flat sheet and making box with connecting the flat square clay in order to make cubic.

On the wheel

Kneading—getting rid of air from the clay

- Cut off a lump of clay
- Press hard with both hands as if kneading a loaf of bread
- Roll the clay
- Tear into 2 pieces and join them together
- Knead until they are completely together.

On the wheel

1. Place on the wheel head
2. Wet clay and hands.
3. Push downward with right hand/ pressure to the center with left hand.
4. Create a taller cone by drawing the mass of clay
5. Open up the pot with thumb pointing downward
6. Open up more with placing thumb at an angle
7. Place thumb of left hand and support with finger from outside and pull downward.
8. Make the wall thinner

Appendix B

Script of the stimulus

Clip 1

Erm...today, we are gonna be talking about the basics of ceramics. Erm...you probably are wondering where the word “ceramic” comes from since it doesn’t sound like anything like pot or clay which is generally what ceramics is used for, it comes from the Greek word *Kormanos*, which means what we were just talking about, clay, or...erm...potter. Ok, so clay maker, potter, it’s...it’s from Greek origin. Alright so, now we have some sort of basics of where the word “ceramic” comes from, because it does sound a little odd considering it has nothing to do with clay or pottery in the name.

Anyways, so the history of po... ceramics goes back all the way to the Mesopotamia era. The Mesopotamians used pottery and ceramics generally for function, that is to say they used it on their walls, for decoration, they used it to build things. It was something that was really used for a function rather than form.

In ancient Egypt...erm... ceramics was used more for form, for decoration. Erm...the colors were varied, different from the Mesopotamia era. Mesopotamia era was more earth tones, more sand tones, things of that nature, natural. Okay? Egypt, the tones that they had, the colors and shapes of their ceramics was a lot more colorful. Especially a blue and violet, it would become violet when they ki...put it in the kiln and heat it up, it would turn into a lighter hue of blue. Ok, so you can definitely tell the differences between these eras.

Another era, that ...erm... ceramics was used largely in was Greece. Greece used their ceramics mostly in natural tones but it was very decorative. Usually on urns, okay,

so if you can picture an urn, you know like something they, sometimes put dead bodies in ancient Egypt and in ancient Greece...erm..., urn shaped, a lot of decoration on the sides. Okay, they had things that were two-handled, so the urn would stand by itself sort of like a vase, but in other things like an *amphora*, they would have handles on the side. Okay, so there's a lot of different shapes and figures to the Greek era ceramics. Other than Mesopotamia which used them strictly for function and Egypt which used theirs more for ...erm... decoration. The urns had both, okay, in Greece, they were used for form and function. They could used to carry things but they are also very beautiful, and very decorative on the outside. Not as colorful as the Egyptian ceramics but ...erm...they had more ability to do more things.

Clip 2

When we're making ceramics, there's a lot of different mediums we can use and there's a lot of different tools we have to use. Of course we have to have clay. Okay, the clay starts out in a very soft form, in a ball usually. Okay and you need to mold that clay out of that ball, or that slab which you've been given. Okay, there's going to be a lot of tools you'll need to use that. Erm...some tools you use in molding the clay are canvas, this is used when hollowing out some sort of ...of ceramic object that you're trying to make. Say you're trying to make a cone. You would roll up a piece of canvas and put the clay around that cone. Okay, and then you would draw the canvas out as the clay dries. So, you would have the shape of what that canvas looked like as it was rolled.

Another tool that can be used to shape the clay is...erm... a spatula or a wiring, okay. A spatula can be used also to hollow out ...erm... a piece of clay, a piece of ceramic.

And the looped tools as well can be used. Loop tools look kind of like picks. They're shaped with triangles or circles on the top that are hollowed out by wires, okay, then they have a long narrow ...erm... shaft followed by another shape, either triangle, circle, or slightly oblong shape. That helps that you can drag down the clay, to make certain shapes and figures. So, of course, a circle shape would correspond to making a circular line all the way down the ceramic. Okay, a triangular shape would have that same sort of triangular shape down the ceramic. Okay so...erm...some other tools you can use in shaping the ceramic is wire, if you would like to ...erm... hollow it out in such a way but you would like to have indentations around the ceramic, you can use wire to ...erm... shape around, to kind of tie around, it will indent the clay and then you can remove the wire, and as you remove the wire, that indent around the clay molding around the ceramic that you're trying to make will be left in tact. So, that is used when you've already hollowed out a piece of clay and you're looking to make a hollow ceramic, but yet you want to do more decoration other than just lines used with the loop tools.

Clip 3

So, now that we've talked about some of the basic tools used to shape clay into a ceramic, we need to talk about how we can make forms outside of the basic shape. We've already talked a little bit about decoration. There's also larger tools you can use or larger objects that can be molded with clay and added to the base of the ceramic. So say you have a bowl, and you've done some decorations on the bowl with some wiring and with some loop tools, so you have a little bit of decoration. But you'd like to add balls, tiny balls around the top of the ceramic bowl. To do that, you could use a method

called coiling or rolling. Coiling just means to coil around the bowl so you could have ridges on the bowl. Or if you wanted those decorative balls on top of the bowl, you could do what is called rolling, which is basically just rolling the clay into a hardened ball, smashing it softly onto the top of the bowl and that would cause another decorative form to be created.

Erm...another very functional way of using clay is slab building, because obviously, just like the Mesopotamians, we use clay in many ways for function, to use to make things that we use in everyday life, buildings, roofs, houses, things that make up basic tools of everyday. So, slabbing is used by many constru... construction companies, slab building where you make one square slab which was used a lot in the Mesopotamian era as they put it on the wall. But today it's used mostly, it's sometimes used for wall decoration, but mostly used for function, and that for pavers,...erm...decks, or going into people's houses, or decoration on...erm...on the sides of houses, things like that used very much in Mexican architecture, and in southern California you will see these clay slabs which are usually red or orange in color on top of roofs, slabbed together to form a clay roof.

Clip 4

Erm...now, we're gonna learn how to use the wheel to form your clay into a piece of pottery or ceramic. Okay, so the first thing you have to remember is clay does not come in the shape you see it in in all the stores as it's already formed. It comes in a big ball of mush, which is basically clay, and clay is just a natural substance that comes from the

earth. Okay, and as we talked about before, that's been used over time for many different forms and functions. Today we're gonna be talking more about how to make clay for something that is more for forms, something that's aesthetically pleasing that's...erm...nice to look at okay, pots, bowls, coffee mugs, things very simple, start simple, okay.

So first you have to begin by kneading the clay. Okay, the best way to knead clay is to use your hands, get in there and get dirty. This is not something you use tools for, okay. First, you need to wet your hands, to get them in some sort of lukewarm water, okay, and then you'll proceed to kneading the clay, just like you would knead...erm...a piece of dough, just like you would roll out a piece of bread, or try to roll out dough to make bread or cupcakes or whatever it is that you make when you're home in the kitchen. Okay, so the reason for doing this is because it gets all the air out of the clay. And if there is air in the clay...erm...it can be trapped, it'll be trapped in the clay when you get it into the form you want and when baking it, it can form cracks and can actually explode. So, you need to make sure you're very diligent about kneading out all the air bubbles that are in the clay. Okay so, the clay has to be cool, your hands have to be wet, okay, it helps with the maneuvering of the clay, it'll make the clay a little more malleable, a little more squishy.

Alright so, begin by...erm...taking the ball and smashing it down onto the counter on which you're working okay, slowly begin to knead it out, use your fingers, use your hands, the heel of your hand can be used as a great tool, it's the most powerful part of your hand, that can be used to roll it out, just like a rolling pin, okay. The reason why we don't use tools in this is because ceramics has historically been thought of as something

that is hand made, okay, not something used with tools to actually do the shaping, the decorating is where the tools come in like I said earlier but for the actual shaping, it's best to use your hands. So, knead through, and depending on how big of a piece you're working with you can divide that long flat piece or that round flat piece that you've kneaded out into...erm... into different pieces, okay, to make smaller or bigger pieces. Today, we're gonna be working with the whole piece.

Clip 5

Now that you've kneaded it out and gotten all the...all of the bubbles out of the clay, you can now move to the wheel where we'll actually "throw the clay". Okay, that doesn't mean you're throwing the clay at each other, it means you're putting it on a spinning wheel and it will take the shape and form of what you want by using your hands as the tools to guide them. Okay, so you'll place the clay onto the spinning...erm...clay pot or the thrower and turn it on, and as it turns on, it's gonna spin around and it's all controlled by your foot so however fast you want the clay to spin, it's all controlled by a foot pedal. The faster, the more pressure you'll put on the pedal, the slower the less pressure, okay. So, today, we should probably start off slow. Place the clay onto the machine, start off slowly, and you'll notice that your hands will start to get dry after a little while. So, frequently re-dip your hands in the warm water to keep the clay malleable. Okay, depending on what shape you want, move your hands in all different directions just to kinda get a feel and see how the shape of where your hands move makes the clay take form, okay. You have to play around with the clay first to really get the feel for...erm...how...how quickly you can move your hand and something can go very

wrong - the clay will fall, the shape will completely disintegrate right before your eyes just from one false movement. So, take some time and get a feel for the clay. Alright, after...erm...you shape the clay, you...erm...have the shape that you want, okay, you've done any sort of decorating on it that you want, you're going to have to remove it very carefully from the thrower, alright. This is a very important...erm...task to do because at any time your clay, like...erm...some sort of quiche, can just fall flat. So, make sure you're very careful when removing, when stopping your...erm...machine, okay, do it very slowly, very gradually and make sure that your hands are right where you want the very outer part of your ceramic to end. Okay, so you don't want it to tilt any sudden movements, but you don't wanna be firm with the...erm...clay because then it will take a different shape than what you want it. So, you allow yourself to kind of gently remove the machine from the clay and slide the clay over to a...erm...piece of wax paper, whatever we're using, to put it into the...erm...oven before we actually insert it into the oven. Okay...okay, and while in the oven, you'll notice that your clay will harden, okay, and for different sizes of course it will be different ways...erm...different lengths of time that it will remain in the oven. Okay, once the clay is finished baking, you can take it out of the oven, and you'll notice that it's very hard now so there's no way you can really...erm...do any sort of functional actual...erm...indentations or anything else onto the clay. But this is the point in time where after it cools, you can be allowed to paint the clay any color you want, okay, to use, to make any sort of artistic decoration, alright, that was used a lot by the Egyptians, so you can do that sort of thing, that is only can be done after the clay cools, after the ceramic pot or bowl or mug or whatever you made has

cooled. Because if it's too warm, the paint will simply melt and fall off. Ok, that concludes our class for today, thank you for coming, and have fun making ceramics.

Appendix C

AV-face Video Stimulus



AV-gesture Video Stimulus



Frame shows the lecturer producing the rounded vowel in the word *ball* in the sentence;
“Okay, the clay starts out in a very soft form, in a *ball* usually.” (Clip 1, see Appendix B)

Appendix D

Response Sheet

1. Listening Comprehension Questions
2. Background Questionnaire

Instructions

DO NOT turn the front page until you are told to do so.

You will listen/view a lecture for 2-4 minutes. When each clip ends the investigator will tell you to turn the page and answer the questions. The listening questions are multiple-choice question; circle the choice you think most appropriate for each question. There are 5 clips total and each clip contains 4 questions. If you finish, just wait, **DO NOT** turn to the next page until you are told to do so. When you finish answering questions for all 5 clips, you may answer the background questionnaire. When you finish it, you may turn in the responses and leave the classroom.

If you want to know the result of your listening test, you may contact the investigator by e-mail at sueyoshi@msu.edu. Please keep your reference number to do so.

Thanks again for participating in this study.

Ayano Sueyoshi
MA TESOL program
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Appendix D

Listening Comprehension Questions

Clip 1

Circle the correct answer from a~d.

1. What is the topic of the lecture?
 - a. Geography
 - b. Ancient Literature
 - c. History of the Mesopotamian Era
 - d. Introduction to Ceramics
2. The word "Ceramic" came from the Greek word *Kormanos*,.....
 - a. which is the name of a Greek artist.
 - b. meaning "clay" in Greek.
 - c. which is the name of a Mesopotamian city.
 - d. meaning "decoration".
3. Which of the following is true?
 - a. Grecian ceramics were colorful and decorative.
 - b. Egyptian ceramics were more colorful than those of Mesopotamian
 - c. Mesopotamians limited their use of ceramics for decoration.
 - d. Egyptian ceramics had wider usage than those of Greece.
4. Which of the following is the characteristics of the Grecian urns that the lecturer did **NOT** mention?
 - a. They had many different usages such as transporting goods, decoration and so on.
 - b. They were less useful than Egyptian urns because they were only used for decoration.
 - c. The urn named, "*Amphora*" had handles.
 - d. They usually had beautiful decorations on the side.

Clip 2

5. The tool, canvas, is used for making which shape according to the lecturer?
- a. ball
 - b. cylindrical cone
 - c. long stick
 - d. flat circle
6. Which is the correct process for making pottery using the “molding method”?
Select the correct sequence from a~d.
- A. wait until the clay dries
 - B. roll the canvas into cone shape.
 - C. draw the canvas out
 - D. put the clay over the canvas.
- a. D – B – C – A
 - b. A – B – D – C
 - c. C – A – D – B
 - d. B – D – A – C
7. According to the lecturer, loop tool is used for what purpose?
- a. putting the clay over a canvas.
 - b. shaping and decorating the clay.
 - c. adding color to the clay.
 - d. helping the clay dry.
8. What action involves in “hollowing out” process?
- a. cutting the clay in half
 - b. tying the clay to make indentations
 - c. taking the center clay out
 - d. adding a piece of clay onto another piece of clay with a spatula

Clip 3

9. Which of the following processes about the coiling and rolling technique did the lecturer mention?
- a. Coiling is used to put balls and a bowl together.
 - b. Rolling is used to make a basic bowl.
 - c. Rolling is used to make small balls.
 - d. Coiling and rolling methods are not usually used to decorate a bowl.
10. According to the lecturer, who uses the 'slab building' method in modern society?
- a. farmers
 - b. construction companies
 - c. interior designers
 - d. china companies
11. In what aspect of ceramic use do we resemble the Mesopotamians?
- a. We use it to make artistic objects using decorative patterns.
 - b. We use it to express our emotions and feelings.
 - c. We use it for religious purposes, for example, putting dead bodies for ceremonies such as a funeral.
 - d. We use it for functions in daily life.
12. What is unique about the roofs in southern California and Mexico?
- a. They use the same material as Mesopotamians to make their roofs.
 - b. They have the same color as Mesopotamian ceramic houses.
 - c. They put ceramic slabs together to make a roof.
 - d. They sometimes put pottery on the roof.

Clip 4

13. Which of the following is true about clay?
- a. You can only get the clay from the store nowadays.
 - b. You have to store the clay before shaping it.
 - c. The clay can be formed in stores.
 - d. The clay looks like a soft ball.
14. Which one of the following is true about kneading clay?
- a. The best way to knead clay is to use tools such as a bread rolling pin.
 - b. Your hands should be dry to control the clay.
 - c. The purpose of kneading clay is to get rid of air from the clay.
 - d. If you do not knead clay quickly, your hands will get dirty.
15. According to the lecturer, which part of the hand is most powerful?
- a. thumbs
 - b. fingers
 - c. the back of your hand
 - d. the palm of your hand
16. Which statement is **NOT** true?
- a. Clay is used for a long period of time for the purpose of function and form.
 - b. You have to knead the clay on the spinning wheel.
 - c. If you do not knead clay thoroughly, the ceramic piece might break.
 - d. Clay can be found in the ground.

Clip 5

17. Which of the following is **NOT** true?
- "Throwing the clay" means shaping the clay using the spinning wheel.
 - The speed of the spinning wheel is controlled by the foot pedal.
 - You have to wet your hands frequently to keep the clay controllable.
 - It is a good idea to move your hand quickly when working on the wheel.
18. What did the lecturer suggest during the shaping of the clay?
- You should move your hands in different directions so that you can observe how the clay forms.
 - You should take time to learn how to control the speed of the spinning wheel.
 - You should always use tools to form the shape you want.
 - You should start the spinning wheel at a fast speed.
19. Which is the correct process for completing a ceramic piece? Select the correct sequence from a~d.
- the clay will be firm
 - gradually remove the clay from the spinning wheel.
 - color the clay.
 - put the clay in the oven.
- D – B – C – A
 - B – D – C – A
 - B – D – A – C
 - B – C – D – A
20. Which of the following did the lecturer mention?
- You can only color the clay when it is still warm.
 - You have a last chance to make indentations before putting it into the oven.
 - If the shape is simple, the clay will harden sooner in the oven.
 - We should paint the clay the same color as the Egyptians did this time.

Appendix E

Background Information Questionnaire

Listening Comprehension Using Visual Cues

Investigator: Ayano Sueyoshi

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Circle the one that describes you.

1. Gender

- a. Male b. Female

2. What is your native language?

- a. Korean b. Chinese c. Japanese d. Spanish e. French
f. Other ()

3. How long have you been in an English-speaking country?

() year(s) and/or () month(s)

4. Are you taking other academic course(s) this semester?

- a. Yes b. No

If yes, what course(s) are you taking? _____

5. Have you taken any classes related to ceramics or pottery?

- a. Yes b. No

6. When do you use English most often? Please rank 1, 2 and 3.

- | | |
|------------------------------|--|
| _____ watching TV/movie | _____ in classes |
| _____ listening to the radio | _____ talking to friends |
| _____ e-mailing | _____ reading magazines/newspapers/books |
| _____ doing homework | _____ others |

7. Which studying styles do you think helps improve your listening skills most effectively?

Please rank 1, 2 and 3.

- | | |
|-------------------------------------|---------------------------------|
| _____ watching TV/movie | _____ listening to the radio/CD |
| _____ talking to Americans | _____ attending lectures |
| _____ talking to friends in English | |

8. Which studying styles do you think helps improve your speaking skills most effectively?

- | | |
|-------------------------------------|---------------------------------|
| _____ watching TV/movie | _____ listening to the radio/CD |
| _____ talking to Americans | _____ attending lectures |
| _____ talking to friends in English | |

9. Which studying styles do you think helps build your vocabulary most effectively?
Please rank 1, 2 and 3.

_____ watching TV/movie	_____ listening to the radio/CD
_____ talking to Americans	_____ attending lectures
_____ e-mailing	_____ doing homework
_____ talking to friends in English.	
_____ reading magazines/newspapers/books	

Please circle the number that expresses your opinion.

10. It is easier to understand English when I can see the speaker's face.

Strongly agree				Strongly disagree
5	4	3	2	1

11. It is easier to understand English when I can see the speaker's gesture.

Strongly agree				Strongly disagree
5	4	3	2	1

12. It is easier to understand English conversations on TV than on the radio.

Strongly agree				Strongly disagree
5	4	3	2	1

13. I use gesture more frequently when I talk in English than when I talk in native language.

Strongly agree				Strongly disagree
5	4	3	2	1

14. I think Americans use more gestures than people from my country.

Strongly agree				Strongly disagree
5	4	3	2	1

15. I think my American friends or teachers understand my speech better when I use gesture.

Strongly agree				Strongly disagree
5	4	3	2	1

16. I think my friends understand my speech better in native language when I use gesture.

Strongly agree				Strongly disagree
5	4	3	2	1

17. In face-to-face communication, I pay attention to speaker's lip movements.

Strongly agree				Strongly disagree
5	4	3	2	1

18. In face-to-face communication, I pay attention to speaker's gesture.

Strongly agree				Strongly disagree
5	4	3	2	1

Only for group A (Audio only)

19. I believe I would have understood the lecture better if I had seen the speaker.

Strongly agree				Strongly disagree
5	4	3	2	1

Only for group B (Visual of a face)

20. I believe seeing the speaker's face helped my understanding of the lecture.

Strongly agree				Strongly disagree
5	4	3	2	1

21. I believe I would have understood better if I had seen the speaker's gesture.

Strongly agree				Strongly disagree
5	4	3	2	1

Only for group C (Visual of gestures)

22. I believe watching the speaker's gesture helped my understanding.

Strongly agree				Strongly disagree
5	4	3	2	1

23. I believe watching the speaker's face helped my understanding.

Strongly agree				Strongly disagree
5	4	3	2	1

For everyone

22. Please write anything you felt about this research. What part is the most difficult for you? Did you think visual helped your listening comprehension? If you didn't see the video, which part was most difficult to understand? And so on.... (Optional).

If you want to know your test score, please e-mail the investigator your reference number, which is on the first page of the response sheet.

Thank you for your participation.

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