CHAPTER III

Methodology

This chapter reports the methodology of the study. Prior to the research a pilot study was conducted to determine the use of functions in conversation. Based on the results of the pilot study, data were re-analyzed from Agar’s (1994) frame perspective. Discussed here are the steps taken to identify and compare conversational frames, toward answering the research questions raised in the first chapter.

Pilot Study

From December, 1995 to February, 1996, a series of conversations were recorded. The conversations featured the daughter playing two commercial games: Jenga (1995) and Pick Up Sticks (1992). Of the total of eight tapes collected, half included conversation between the daughter and her Chinese mother, and half included talk between the daughter and her American father. For the pilot study one recorded game was analyzed from each language.

The games ensured a similar context across both languages. Regardless of which language was spoken, game procedures and moves required that players speak about the same topics. Of the few interruptions during the recorded games, one was a telephone call and a few were requests for moving to family activities such as dinner. The recorder was hidden from the child’s view during the taping.

The game Jenga (1995) begins with a tower of colored, wooden blocks, stacked on top of each other in a crisscross pattern, three blocks for each row. The tower is approximately eighteen inches high. Play progresses as players remove blocks from middle and bottom rows, and replace those blocks on the top. Before selecting a block, a player must throw a die; the die has instructions on its sides, such as “wild” picking any colored block in the tower, “middle” for picking from a tower middle row, or “reverse” for losing a turn. The game ends when the tower topples over.

Pick Up Sticks (1992) proceeds without dice. A pile of pointed, colored sticks is strewn out on a surface top. Each player is required to remove a single stick at a time without touching or moving the sticks surrounding it. The game ends when all the sticks have been picked up; the color of each stick refers to the number of points possible for that stick. The game ends when players tally up their points and identify the winner.

The game conversations were transcribed by the researcher. Two research questions were applied to the samples:

(1) What functions were applied in the conversation between daughter and parent, for each language?

(2) How did each language compare in the number of functions for each game?
The goal of the pilot study was to establish whether or not a functional analysis of substantive speech patterns could illustrate the organization of speech episodes.

Substantive speech patterns were coded according to Halliday’s (1975) semiotic model of language. Halliday’s (1975) functional explanation of language shares similarities with Vygotsky (Wells, 1994; Foley, 1991). The two approaches are compatible: “If Vygotsky’s ultimate target is an explanation of individual mental functioning, Halliday’s might be said to be the nature and organization of language … “ (Wells, 1994, p. 45). Halliday’s model features the six general speech functions listed below.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental</td>
<td>“I want”</td>
<td>To achieve needs</td>
</tr>
<tr>
<td>Regulatory</td>
<td>“Do as I tell you”</td>
<td>To control actions</td>
</tr>
<tr>
<td>Interactional</td>
<td>“Me and you”</td>
<td>To participate in society</td>
</tr>
<tr>
<td>Personal</td>
<td>“Here I come”</td>
<td>To make/break relations</td>
</tr>
<tr>
<td>Heuristic</td>
<td>“Tell me why”</td>
<td>To manage experience</td>
</tr>
<tr>
<td>Imaginative</td>
<td>“Let’s pretend”</td>
<td>To participate creative acts</td>
</tr>
<tr>
<td>Informative</td>
<td>“I’ve got something to tell you”</td>
<td>To exchange information</td>
</tr>
</tbody>
</table>

The results of the pilot study demonstrated the dominance of two functions: the informative and the regulatory. For the English Jenga (1995) game, informative utterances took up 56% (N = 92) of the talk, and the regulatory utterances took up 26% (N = 92) of the utterances. As for the Chinese Jenga (N = 74), the informative utterances were 73% and the regulatory 18%. Differences between the languages, for each coded function, did not exceed 10%. In short, the same two functions dominated both games, and there was not a large difference between languages for either function.

The pilot study did not demonstrate a strong difference between Chinese and English in terms of Halliday’s (1975) functions. Part of the reason may be linked to Halliday’s (1975) belief that the language functions are universal: most of adult language executes the informative function, the exchange of information. Part of the problem, too, may be that the functions listed are too broad; exchanging information may cover a number of functions, such as identifying or informing. More importantly, concentrating on single substantive utterances only provides a list. It does little, though, to show how the speech activity is organized. Such speech activity requires attention to a larger unit. That unit is the frame.

**Rationale of the study**

Hymes (1974) takes the following points as working assumptions for his ethnography of speaking:
A systems approach to speech activity which examines a number of dimensions to the activity in its social setting.

- The application of speech functions differs across languages: different cultures talk for different purposes.
- Speech activity is the primary focus for investigation; we start with the conversation and its multidimensional framework.

What Hymes (1974) focuses on are patterns of speaking activity, patterns that feature a configuration of functional components within a pattern of activity.

Agar (1994) defines those components in greater detail. He takes as a general principle: “Grammar and vocabulary contain rich points that require frames for their understanding” (1994, p. 144). Grammar and vocabulary are organized in varying patterns of speech activity, these patterns combining speech function structure and conceptual contents that are expressed through grammar and vocabulary (Agar, 1994). Agar reminds us:

> The experience of culture isn’t just inspired by—maybe not even mostly inspired by—words and sentences. The experience also flows out of differences in what those words and sentences are doing, in the speech acts that give them shape.

(1994, p. 174)

To Agar, conversation is much more than a list of utterances. It is a system of activity that merges functions, grammar, and topics (Agar, 1994).

From this ethnographic perspective, frame theory poses a number of advantages for studying the interaction of thought and language. It identifies speech activity in context, toward an effort at identifying units of conversation. It looks at conversation not as a list of functions or other single components, but as a system of mutually interacting components. The system components in this case include the functions, topics, and grammar of the conversation. All three components easily lend themselves to empirical investigation, combined in units of episodic activity designated as frames.

The system outlined by Hymes (1974) and Agar (1994) offers a number of advantages for the study of a bilingual child. The authors outline an approach that is inductive, applied through ethnographic data collecting. This allows for the examination of single cases. They provide an approach that is sensitive to context, the functional structure of the frame depending on the tasks built into a context. Further, they provide a means for describing conversations and conceptual boundaries across cultures. It is for these reasons that the ethnography of speaking is employed in this study.

**Data Collection**

The study examined the same tapes as those used for the pilot study, but examined only the Jenga (1995) games played on the tapes. The selection included four games that averaged around twenty minutes per game, for each language. The recording of the Jenga (1995) games took place in December, 1995. When the daughter expressed an interest in playing a game, the researcher placed the recorder in a concealed location next to the table. The machine was left on
throughout the entire session of play. Times for starting and stopping the play were determined by the daughter, for the purpose of keeping the play as natural as possible. The mother knew about the taping.

The tapes for the study were checked for content before analysis. Only a few digressions from the game talk were observed; a phone call and a few requests for time or preparing for dinner were noted. In short, the taped contents were mostly about the game activity and thus on the same topic discussion.

The games with the Chinese mother did differ in at least one aspect: the first games were played in Chinese. Thus, the games with the father occurred after the child learned the rules of game from the mother in Chinese. So data collected from the Chinese tape represented a different context from that of the English tape, though both demonstrated similar gaming activity and interaction.

**Transcription**

Transcription followed Agar’s system (1994, 1987). Agar’s (1994) system is not as complex as other systems. It does not include many of the intonation features that would appear in a more strictly linguistic analysis of the conversation, nor does it include many phonetic symbols. The purpose of Agar’s (1994) system is to reveal the underlying structure to the conversation.

Chinese transcripts followed the same system, but with the Pinyin spelling that is now standard in Mainland China. Pinyin is a system of Roman letters that was adopted by the Chinese government in the 1950’s, as part of the educational reforms of the time. Pinyin spelling is the standard for the Mandarin Chinese or Northern dialect that is the official language in China. Mandarin Chinese is a tonal language that uses four tones; there is, though, a fifth or neutral tone that is not marked.

Instead of following the common practice of marking the tones with rising and falling lines, this study placed numbers to the right of each syllable. The word processing software used for producing the transcripts did not include tonal marks; writing such marks in by hand is prone to error. The following table compares the standard marks and their corresponding numbers.

<table>
<thead>
<tr>
<th>Tone Number</th>
<th>Descriptor</th>
<th>Standard Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High flat tone similar to that used in an English yes-no question (e.g. “Are you ready? Or “okay?”)</td>
<td>______</td>
</tr>
<tr>
<td>2</td>
<td>Rising tone that starts low and slides up (e.g. when an English speaker asks “huh?”).</td>
<td>/</td>
</tr>
<tr>
<td>3</td>
<td>Dipping and rising tone that sounds like a tonal grunt.</td>
<td>\ \ \</td>
</tr>
</tbody>
</table>

38
Falling tone that drops off sharply (e.g. an English speaker angrily saying “no!” or “stop it”)

Figure 3.2
Marking the Chinese tones.

As a result, a section of the Mandarin Chinese transcript looks like the following, with each of the tones numbered next to the pinyin syllable, and the translation below:

32 (S) ma1ma yao4 diao4 xiao4 lai2 le =
33 (M) diao4xia4lai2, jiu4 ni3 zhu1 ya(1), ah, na hao, na hao, na hao, suan4le.
34 (M) gei3 ni3 cong2xin1 + nong4 yi1 ge4, cong2xin1 nong4 (1) …
35 (S) mm (18)

32 (S) Mama, [the tower] will fall down soon=
33 (M) If it falls down, only you’ll loose (1), ah okay, okay, okay, forget it now.
34 (M) Give you more turns + take one, take more chances (1) …
35 (S) mm (18)

The word or syllable “le” at the end of the first line has a neutral tone, so it is not marked.

Constructing frames for analysis

Key to the analysis was the construction of the frames. In accordance with the principles outlined by Hymes (1974) and Agar (1994), construction of the frames included the following steps:

- Identification of frame boundaries within the transcripted game conversation.
- Removal of the frame units from the larger conversation.
- Classification of groups of frames according to frame functions.
- Completion of the frame analysis chart for each frame.
- Completion of a list of the substantive utterances within the frames.
- Identification of the conceptual frames.
- Testing frame and form class consistency by paraphrasing.

On completion of the procedure for both languages, the comparison was conducted across Chinese and English.

The first step featured the identification of frame boundaries. Frame boundaries were identified chiefly by changes in topic: transitions to new conversation topics indicated changes in framing, and consequently changes in the focus of attention as well. Besides topic changes, regulatory utterances marked the closing or ending of frames, with such expressions as mhm or oh in English. The expressions hao or mhm marked frame closure in Chinese.

Following that frames were physically removed by cutting out the portions of text from the transcripts, with frames examined and stored as separate conversations on index-sized slips.
of paper. The following transcript section is presented as an example. Look over, first, the entire section of transcript. A chart of transcript symbols is presented above the piece.

<table>
<thead>
<tr>
<th>Transcript Symbol</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>A period.</td>
<td>Full stop</td>
</tr>
<tr>
<td>A + sign</td>
<td>Pause from longer than a full stop to about a second.</td>
</tr>
<tr>
<td>(3)</td>
<td>Refers to the number of pausal seconds counted past one.</td>
</tr>
<tr>
<td>The colon or : (e.g. a:h)</td>
<td>An elongated vowel sound.</td>
</tr>
<tr>
<td>An = sign</td>
<td>Words that carry into each other without a pause or drop in pitch.</td>
</tr>
<tr>
<td>A / slash.</td>
<td>An interruption- second word overlaps the first.</td>
</tr>
<tr>
<td>A ? mark</td>
<td>Question, often marked by raised terminal pitch.</td>
</tr>
</tbody>
</table>

Figure 3.3
Agar’s (1987) transcription symbols.

01  (F)  want me to do that?
02  (S)  all right.
03  (F)  which + how do I do this?
04  (S)  hold this part an’ put it.
05  (F)  okay.
06  (S)  don’t let, let it come out (3) that’s better.
06  (F)  now, I need you to tell me first how to play this game.
07  (F)  ‘cause I never played it before.
08  (S)  first ya have to roll the dice = but +
09  (S)  you know what reverse means, right?
10  (F)  a:h + what does it mean?
11  (S)  ya don’t get your tu + turn but any two means (2)
12  (S)  if ya roll it to any two (1) it means you get, get two loose ones.
13  (F)  uh huh =
14  (S)  but you can’t two on this (1.5) all three of these on this top
15  (S)  and you can’t take them over here or here =
16  (F)  mhm.

Taking the example further, the section was broken up into the following frames, as determined by the frame boundaries. The first frame recorded is:

01  (F)  want me to do that?
02  (S)  all right.
The frame starts with a request, followed by a response in the form of regulatory response. The topic tied to the request, however, changes with the next frame, which is triggered by an information question:

03 (F) which + how do I do this?
04 (S) hold this part an’ put it.
07 (F) okay.
08 (S) don’t let, let it come out (3) that’s better.

The topic changes with the question about the game procedure or action; the frame closes with an evaluation of the action: “that’s better.”

In the third frame cut from the section, the father requests the Jenga (1995) procedure from his daughter. A transition word is attached to the request: “now.” A brief pause follows as recorded by the comma:

06 (F) now, I need you to tell me first how to play this game.
07 (F) ’cause I never played it before.
08 (S) first ya have to roll the dice = but +

The next frame that was removed from the section begins with a confirmation. The topic shifts from attention focused on the procedure of the game to instructions recorded on the side of the die. A regulatory utterance closes the frame, with “uh huh.”

09 (S) you know what reverse means, right?
10 (F) a:h + what does it mean?
11 (S) ya don’t get your tu + turn but any two means (2)
12 (S) if ya roll it to any two (1) it means you get, get two loose ones.
13 (F) uh huh =

The last frame example includes a transition following “but,” to show comparison or contrast, and ends with a regulatory phrase: mhm. The locus of attention changes again, this time from the die to the position of blocks.

14 (S) but you can’t two on this (1.5) all three of these on this top
15 (S) and you can’t take them over here or here =
16 (F) mhm.

As stated, frame boundaries are identified in this study as an initial topic shift combined (but not always) with a transition word, and a closing transition marked with a regulatory expression and drop in pitch. A long pause more than two or three seconds long may indicate a frame change, too.

Classification of the frame units was determined by the function of the entire frame, which was usually indicated by the first utterance of the frame. How the frame started typically determined its category. For instance, frames for requesting usually began with request, or
frames for reporting information typically began with an observation of a change in the game play.

After placement in their categories, frames were analyzed for their structure. Frames are patterns of speaking activity that move through time. Analysis, then, includes the frame structure as a linear organization, a pattern of turns and speech functions that progress in a straight line. Completion of the following table was used to chart the structure of the frames:

<table>
<thead>
<tr>
<th>Focus:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utterance #</td>
</tr>
<tr>
<td>Speaker</td>
</tr>
<tr>
<td>Topic</td>
</tr>
<tr>
<td>Function</td>
</tr>
<tr>
<td>Mode</td>
</tr>
<tr>
<td>Form Class</td>
</tr>
</tbody>
</table>

Figure 3.4
Frame Analysis Chart.

The following components make up the frame chart:

- Focus is what the frame conversation is talking about, the single topic that is discussed within the lines of the frame conversation.
- Utterance number is the position of the substantive utterance in the conversation.
- Speaker refers to who produced the utterance.
- Topic is the pronoun, demonstrative, or synonym that refers to the frame topic.
- Function refers to the speech function of the utterance. (See Appendix I)
- Mode designates whether the utterance was a question, statement, command, compound, or complex sentence form.
- FC refers to the form class, defined in the first chapter as the grammatical pattern that expresses the function.

Examples of the frame charts are given below. The first is an informing frame that begins with the informing function when the father informs the daughter about himself. It then moves to the fragmentary utterance (i.e. F) at the end.

<table>
<thead>
<tr>
<th>Focus:</th>
<th>Play procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utterance #</td>
<td>1  2  3  4</td>
</tr>
<tr>
<td>Speaker</td>
<td>F  F  S  S</td>
</tr>
<tr>
<td>Topic</td>
<td>Me Me You</td>
</tr>
<tr>
<td>Function</td>
<td>Complex</td>
</tr>
<tr>
<td>Mode</td>
<td>Informing</td>
</tr>
<tr>
<td>Form Class</td>
<td>Tell Before</td>
</tr>
</tbody>
</table>

Figure 3.5
Example of a completed frame analysis chart.
One difference between the English and Chinese frames was in the speakers: the mother and daughter, the topics spelled out in Mandarin Chinese, and in the language forms themselves. A second difference was found in the coordination of sentences. Chinese utterances were frequently connected by a comma, representing a brief stop. In English the pattern was recorded as a compound sentence form. Yet the pattern occurred so often in Chinese that it was easier to treat the two clauses as separate utterances. Chinese frequently fused two utterances where English marked a more complete stop.

The fifth step in the frame analysis included identification of the substantive utterances and their topics and form classes. This step compiled the concept information for the frame chart through the use of the following substantive utterance chart. The one below is an example of that used for English Jenga (1995) games.

<table>
<thead>
<tr>
<th>No.</th>
<th>Topic</th>
<th>Function</th>
<th>FC</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Block</td>
<td>Confirm</td>
<td>Push</td>
<td>So if you push a loose one out.</td>
</tr>
<tr>
<td>2</td>
<td>Block</td>
<td>Predict</td>
<td>Fall out</td>
<td>It won’t fall out.</td>
</tr>
<tr>
<td>3</td>
<td>Block</td>
<td>Contrast</td>
<td>All</td>
<td>It won’t fall all on the ground.</td>
</tr>
<tr>
<td>4</td>
<td>Block</td>
<td>Contrast</td>
<td>Do</td>
<td>But if you do.</td>
</tr>
<tr>
<td>5</td>
<td>Block</td>
<td>Direct</td>
<td>Take</td>
<td>Don’t take the loose one.</td>
</tr>
</tbody>
</table>

Figure 3.6
Example of a completed substantive utterances list.

The importance of the list was in helping to identify the kinds of form-classes tied to each function, illustrating the conceptual frame present for each utterance.

Notation of conceptual frames followed a system suggested by Wierzbicka (1997). Wierzbicka (1997) analyzes key words of different languages, toward describing the cultural-specific concepts embedded within a language. In her analysis, Wierzbicka uses the upper case X to refer the placement of a concept within particular grammar patterns. Applying the same system, whereby X stands for the topic-concept under scrutiny, the following patterns were examined for the concept of the Jenga game tower:

Here X refers to a block topic: one of the blocks removed and stacked in the Jenga game.

<table>
<thead>
<tr>
<th>Concept Frame</th>
<th>Actual Sample produced.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X won’t fall out.</td>
<td>It won’t fall out.</td>
</tr>
<tr>
<td>Don’t take the loose X.</td>
<td>Don’t take the loose one.</td>
</tr>
<tr>
<td>Here’s X.</td>
<td>Here’s one.</td>
</tr>
<tr>
<td>I got X.</td>
<td>I got one.</td>
</tr>
</tbody>
</table>

Figure 3.7
Example of English concept frames for the Jenga Game.
Here X refers to a block topic: one of the blocks removed and stacked in the Jenga game.

<table>
<thead>
<tr>
<th>Concept Frame</th>
<th>Actual Sample produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hen2 X le.</td>
<td>Hen2 gao1 le.</td>
</tr>
<tr>
<td>Bu4neng2 X.</td>
<td>Bu4 neng2 huan4 shou3.</td>
</tr>
<tr>
<td>Xian4zai4 shi4 X le.</td>
<td>Xian4zai4 shi4 ma1ma le.</td>
</tr>
<tr>
<td>Ni3 ke3yi3 X.</td>
<td>Ni3 ke3yi3 move.</td>
</tr>
</tbody>
</table>

Figure 3.8
Example of Chinese concept frames for the Jenga Game.

Both activity frames and conceptual frames were tested for accuracy through paraphrasing. In her own work Wierzbicka (1997) refers to two properties of natural languages: allolexy and polysemy. The terms mean that any element of meaning within a language can be expressed through multiple ways. We cannot ascribe one meaning to one word. Typically, a set of words applies to a single concept; thus, the idea of the conceptual frame. The frame unites words that resemble each other in meaning.

The paraphrasing procedure helps to identify form classes. Selection of a form-class word means that from four to six related words belong to the same conceptual frame. Wittgenstein (1958) also suggested the paraphrasing procedure in his outline of a method for conducting language-games. Wittgenstein (1958) describes it as a process of applying substitutions to the frame. In other words, it is a process of paraphrasing. The letter X above marks the position of a form class, where the word set may be inserted or placed within the grammar frame. Similar groups of words behave through similar grammatical patterns.

If this principle applies to the level of the word, it should also apply to a larger level such as a frame. Take one of the frames recorded in the discussion on identifying frame boundaries:

06 (F) now, I need you to tell me first how to play this game.
07 (F) ‘cause I never played it before.
08 (S) first ya have to roll the dice = but +

For checking our accuracy in identifying the unit as a frame, we refer again to the idea of multiple meaning items belonging to one set, taking a set here as a group of related words that belong to a grammar slot.

Examining the conceptual frame for the above, we see:

06 (F) now, I need you to tell me first how to play this X.
07 (F) ‘cause I never played X before.
08 (S) first ya have to __________ = but +

We may substitute for X any number of related concepts: hand (cards), position, match, person, situation. With some substitutions, then:

06 (F) now, I need you to tell me first how to play this hand.
07 (F) ‘cause I never played it before.
08 (S) first ya have deal = but +
By Substituting for different concepts we still have a unit of speaking activity that retains its cohesiveness. If a frame boundary were to begin with the second line, however, we may lack the same coherence. The paraphrasing test helps in identifying consistency: consistency at both the form class and activity frame levels.

In summary, seven steps were followed in the construction of frames for this study. The steps progressed from identification and classification of the frames, to examining their components for analysis, and finally determination of conceptual contents. At both the speaking frame activity level and the conceptual-content level, paraphrasing tests were applied to check the consistency of the frames.

**Validity and Reliability**

Construct validity is noted first. Agar’s (1994) frame theory, Bateson’s (1972) play frames, Hall’s (1977) situational frames, and Hymes’ (1980) activity routines are some contributions from anthropology. The philosopher Dewey (1922) suggests habits as organized modes of responding, while Wittgenstein (1958) developed his theory of language-games as forms of life. From psychology, both Piaget (1968) with his schemes and operations, and Skinner’s (1958) description of episodic activity, have contributed a similar construct. The term frame stems from work by Minsky (1980), who coined the term in describing data structures. The sociologist Goffman (1974) applies the term of a frame to the explanation of human activity. In conclusion, the construct of a frame has been presented a number of times throughout this century as a unit for exploring human behavior.

Toward establishing internal validity to the English frames, the author conducted a peer review. Two experts were consulted for determining internal validity. The first was a trained expert in linguistics, the other an expert in teaching English as a second language, with a background in linguistics and language teaching.

For determining internal validity, two frames were selected from each frame category, for a total of ten frames from the five English categories. The frames were presented with a single question: What did the reviewer think was occurring in the frame? Thus, the effort was made to establish agreement in identifying the general activity for each frame.

The expert in linguistics agreed with six of ten frames listed (60%). The matching responses were synonymous with the researcher’s frame category or recorded frame activity. The second reviewer noted paraphrased dialogs that she thought matched the frames. Of her paraphrase suggestions, five out of ten (50%) were synonymous with the researcher’s. The work of both reviewers, then, matched about 55% of the researcher’s identification of frames.
The researcher also relied on peer examination to check the reliability of functions listed. Three sections of the transcript were given to a colleague in education, each section about twenty lines long. The colleague was asked to list functions and possible frame boundaries. That colleague listed the gerund nouns requested for the function forms, her functions agreeing with the researcher about 40% of the time. The purpose was to compare another native speaker’s perceptions of the speech event with that of the researchers, toward establishing greater consistency for the study.

Had the researcher trained the colleague in using the functions noted for this study, the agreement would have been much higher. About five functions were suggested on the directions given to the reviewer; the functions were raised only as possible functions in the directions given to the reviewer. Yet the reviewer applied some of the suggested ones consistently. At least three functions suggested on the direction sheet, ordering, identifying and requesting, were matched 87% of the time; at least one, asserting, rarely matched as the reviewer used it in a different sense than the researcher. In short, training in the functions would have lead to a higher agreement of matching functions.

The mother who participated in the study was consulted for establishing the reliability of the Chinese transcripts. The final transcript of the Chinese Jenga (1995) game was reached by oral consensus while both mother and researcher listened to the tape of the game. Hence, the final Chinese transcript was a joint effort arrived at by researcher and study participant.

The mother was also consulted for checking the internal validity of the Chinese frames. At first mother and researcher agreed on 80-85% of frame boundaries, the mother determining frame boundaries based on the researcher’s definition of a frame as a single topic of conversation bounded between pausal and regulatory markers. Later, frame boundaries and frame categories were established by consensus with the mother, both mother and researcher reviewing the frame samples together.

In summary, the researcher’s observed frames and functions were checked against both expert and native speaker perceptions. No statistical tests were applied in this effort, since the matches were paraphrases or synonyms corresponding to the researcher’s choices. The answers did not lend themselves to exact matches necessary for statistical analysis. Still, the answers did suggest some consistency of perspectives.

**Methodology summary**

The methodology outlined here proposed a means for studying frames. An earlier pilot study had determined that a counting or listing of frame functions was not effective for determining the patterns of speaking activity. The notion of a frame was adopted as a way to explore the organized speaking activity found in conversation, in this particular study that activity was centered on the commercial game Jenga (1995). A procedure was then established for studying the conversation activity of the game, as it was played with the child’s Chinese mother and English father.