

ANALYSIS OF ATTENTION AND PERFORMANCE:
AN ETHNOGRAPHIC STUDY OF SECOND LANGUAGE ACQUISITION
PROCESSES IN IMMERSION PROGRAM FIRST GRADERS

by
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The role of *attention* in second language acquisition is increasingly becoming recognized as an important area of study. This study investigates student attention levels from observations of a Japanese Immersion School first grade class. The students were evaluated during each lesson for the number of seconds they were found being inattentive towards the lesson, from which the percent of the total time spent in inattention was calculated. The lessons are categorized as follows: lessons that center around the teacher; lessons that center around an adult volunteer; and lessons that center around the students themselves but are monitored by the teacher or the adult volunteer. Later, the students' ability levels in the Japanese class are evaluated and determined. This is cross-referenced with the attention levels found in the three lesson categories

listed above. I conclude that the female students are especially attentive during the teacher centered lessons. No distinct attention trends were found in any other lesson category, nor among the male students. Students who are attentive are generally the most academically successful in the Japanese classroom.

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This paper is dedicated to my parents, James and Taeko Selle.

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CHAPTER I

INTRODUCTION

Foreign language study has been increasingly gaining attention as an important part of education in the United States. Along with this general interest, the way in which a person learns a second language has also become an area of great interest and extensive research within the last few decades. Though hundreds of studies have been conducted concerning varying aspects of second language acquisition, most research has focused on adults learning English as a second language, and few studies have focused on children and fewer yet on English-speaking children learning another language.

This paper will present an investigation of second language acquisition in Japanese immersion program children. I have examined attention and the lack of attention as a possible predictor of success in learning Japanese as a foreign language. Data was collected from observations staged over a two-month period at a first grade class from a medium-sized Pacific Northwestern Japanese immersion elementary school.

It is well accepted by most psychologists and cognitive scientists that learning cannot occur without attention. Evidence from both selective attention studies and divided attention experiments support the position that attention is necessary for storing and processing information in the long term memory. (Schmidt, 1995) The interpretation of the data collected from this research is built on this premise. The most extensive section in this paper is devoted to reporting circumstances surrounding the eleven learning situations observed,

and the time each student present spent being inattentive in the situations described.

Through this process, I have found that those who are attentive students are, generally, the most successful students in the Japanese portion of their classes. Students who are consistently inattentive are also consistently at a lower learner level. During the course of this research, I became aware of the distinct trends in the attention patterns within the genders, particularly among the females. First of all, I found that the girls in this class were attentive students, and overall, they were more attentive than the boys. What was striking about their attentiveness is that they were especially more so when their teacher was the focus of the lesson. They were not nearly as consistent in their attentiveness when the lesson did not require them to concentrate on the teacher.

STATEMENT OF PURPOSE

An ethnographic approach was taken in this research project. The cumulative goal of this research was to examine the gender patterns that emerged from observing the first grade children's attentiveness and the degree of their academic success. Though it was not intended to profile the behavior patterns of all children learning a second language, this study validates the research of scholars in this area of foreign language learning by demonstrating that in this "medium sized Pacific Northwestern Japanese immersion elementary school" classroom, there were certain trends in gender, attention, and language learning success.

CHAPTER II

FACTORS THAT AFFECT SECOND LANGUAGE ACQUISITION

Many studies and theories have been presented regarding how second language acquisition is achieved. Researchers often point to a learner's innate characteristics and the learning environment as important factors in this unique process.

Learner characteristics may include intelligence, aptitude, personality, motivation, attitudes, learning styles, and the age of acquisition. The study of these individual learner variables is difficult, and the results always contain problematic elements or ambiguities.

This is partly because of the lack of clear definitions and methods for measuring the individual characteristics. It is also due to the fact that these learner characteristics are not independent of one another: learner variables interact in complex ways...Therefore, it remains difficult to make precise predictions about how a particular individual's characteristics influence his or her success as a language learner. (Lightbown and Spada, 1993)

These difficulties do not invalidate the pursuit of studying these factors, but they put perspective on the limits of what is reasonably possible.

Learning conditions that affect second language acquisition include the setting-- whether learning is taking place in a formal or informal setting, the amount of exposure to the second language a learner is getting, student access to modified input and error correction.

In light of the many different types of learner characteristics and learning environments that are possible, theoretical models have been developed by different scholars in order to reconcile these factors.

For example, a slightly dated theory called Behaviorism is based on the idea that all learning, language learning included, occurs from habit formation. That is to say that learning a new language means learning a new set of habits. This psychological learning theory views errors as first language habits interfering with second language habits. Behaviorism's Contrastive Analysis hypothesis claims that if the structure of the second language is similar to the first, it will be learned with more ease than if it is not similar, and that errors are made because of a misapplication of the first language structure to the second language. Other researchers challenge this theory by pointing out that second language acquisition is not simply a matter of habit formation, and not all errors that would be predicted under the contrastive analysis hypothesis are always made.

Cognitive theory, on the other hand, views language learning as a compilation of a system of knowledge that a learner refers to. With practice and experience in the language, learners are eventually able to automatically retrieve this 'knowledge system' for speaking and understanding the second language.

The creative construction theorists believe that learners internalize the target language by building a mental representation of the language in their minds. These internal representations eventually develop in order to achieve proficiency in the second language.

Finally, Interactionism is a theory that involves a close look at the modified input the learners are exposed to and views this input as a necessary element in learning a foreign language.

Researchers have also developed theories and created debate over the role of consciousness and second language acquisition. Since this paper revolves around the idea that attention is necessary for foreign language learning, it would be appropriate to explore a few of these ideas.

One view claims that language learning is a conscious process and a lack of success in a foreign language is the result of the lack of knowledge of the rules or the lack of attention paid to them. A practice of this type of learning would involve explanation of the rules of the language, comparison with the native language, practice, and error correction. A contrasting view to this is that language learning is a subconscious process. This theory claims that language learning occurs through interaction with others, without explicit focus on the technicalities of the language structure.

Another possibility is that communicative, meaning-focused instruction is necessary for language learning, but that not all language features can be acquired when the learner's attention is focused exclusively on meaning, and a focus on the form may also be essential. Interaction is desirable because input and interaction, attention, and awareness are all crucial for learning a second language.

During the first observations for this project, it astonished me that the teacher could speak endlessly on a subject in Japanese, and the children, all native speakers of English, could listen and understand her. They made it seem so simple, almost like children acquiring their first language, seemingly without consciousness of their own effort to learn the language. After more careful observations, the reality became clear; some of the children were better with the language than others in many ways, including in the areas of speaking, reading, and comprehension. My initial impression of amazement of the effortless language learners, however, did not go away.

Schmidt (1995) explains the role of consciousness in second language acquisition by pointing out that consciousness is two faceted. It can either refer to 'intentional' learning or 'attention'.

'Intentionality' denotes whether the student makes a deliberate effort to acquire a foreign language skill. The opposite of this would be unintentional learning, which occurs when L2 knowledge is acquired through exposure.

So what is 'attention'? Schmidt (1995 p.19-20) describes it as follows:

1. Attention is a limited capacity system
2. Controlled processes require attention and interfere with other control processes.
3. Attention can be viewed as three separate but interrelated networks: alertness, orientation, and detection.
4. Alertness represents a general readiness to deal with incoming stimuli.
5. Orientation refers to a specific aligning of attention (e.g., to language form or to meaning).
6. Detection is the cognitive registration of sensory stimuli.
7. Detected information is available for other cognitive processing.
8. Attention (specifically, detection) is not awareness.

Regardless of whether learning is intentional or not, Schmidt claims that a second language cannot be learned unless the learner is paying attention to features in the input. Furthermore, he must notice linguistic features in the input as well.

If Schmidt's assertion is true, then success in second language acquisition is the result of attentive behaviors. This further legitimizes the need to make quantitative observations of the second language learner's attention patterns.

In this immersion environment, and in the various observation segments described in the 'results' section of this paper, there were two different types of "input." The teacher was obviously the main and most important form of input. She was the channel of access and introduction to all features of the Japanese

language. All of the student's grammar, vocabulary, and formulaic expression knowledge originated with the teacher.

If this is true, then, according to Schmidt's assertions, in a situation in which the teacher is explaining, describing, or giving input in any way, the learner must notice the linguistic features in her speech in order to learn Japanese. In order to notice anything, they must be listening to her and paying attention to her.

In a less striking way, an assignment can be viewed also as a form of input, as input is described as a sample of the language to which the learner is exposed. Students who copy down a sentence from the chalkboard and color in a picture that explains the sentence are, indeed, receiving a form of language input. There are, however, examples in the following chapters in which students worked on a math assignment. Perhaps this does not apply as Japanese language input, unless one believes that when a child in this program works on a math assignment in which the concepts behind the operations and the methods of problem solving are explained in Japanese, the act of working on these problems reinforces Japanese explanations. For the purposes of this study, the observations of the students working on math assignments are strictly indicate the individual's inclination to be attentive to any input.

CHAPTER III

METHODOLOGY

Participants

The subjects for this study were twenty-two 6- and 7-year-old first grade students, thirteen females and nine males. They are all native speakers of English. Their teacher is a native speaker of Japanese, and was trained in Japan as an early childhood educator.

Setting

This Japanese language immersion program is designed to teach Japanese to children whose native language is English. This program was started in 1988, and presently the students in this school begin their Japanese immersion in kindergarten, and can remain in the program through the ninth grade. The elementary curriculum, as required by the larger school district, is on a two-year subject cycle, in which recurring "themes" are taught every two years. During the observations for this research the themes were "community" and "forms". For example, when the students were studying "community", they learned about the supermarket and the layout of different towns. In one observation from this study, the children were placing grocery items in their appropriate sections in the poster-grocery store. When "forms" was the theme, the recognition of various sizes and shapes of objects were often included in their assignments and classroom activities.

As its name implies, this Japanese immersion school "immerses" its students in the language as they spend half the day studying a variety of disciplines, including math, science, reading, and writing in Japanese, with a teacher native in the Japanese language. The students are expected to develop oral and comprehension skills by constant exposure, and are required to speak to and ask questions of their teacher in Japanese. The second half of the day is taught in English by a teacher whose native language is English. Only Japanese is used by the instructor during the Japanese half of the day, and the students appeared to be content with the fact that their teacher never spoke English in the classroom.

Procedures

During the months of March and April of 1998, the first grade class was periodically video taped. By carefully watching the taped lessons, I kept a record of which students were being attentive in each lesson. I timed each student to determine how long he/she was inattentive in each lesson segment.

The student's attention was monitored by using "attentiveness indicators"¹, which include:

- sitting still and remaining in one's seat
- keeping hands to oneself
- looking at the teacher, or on the object of their lesson
- remaining silent during instruction

There are eleven separate lesson scenarios, or case studies represented in this paper. For each case study, there is an explanation of the setting and situation in which a Japanese learning activity took place. A table details the times in which each learner was inattentive during the lesson, the total seconds

¹ Developed by Mariko Selle, 1998

of inattention, and notes on what type of inattentive behavior was displayed. In each scenario, there is a list of the students observed in the lesson, and the total length of each lesson segment. As each student's total seconds of inattention over the eleven case studies is considered, the total seconds in which each student was actually observed becomes important.

The first five case studies are ones in which the learning activity was *teacher centered*, or *teacher fronted*. During these lessons, the students were to quietly listen to instruction from the teacher, and the teacher is the clear focus of the setting. Following these case studies are two case studies in which the lesson was lead by an adult volunteer². The next four case studies are lessons which are *learner centered*. During these lessons, the students are expected to work independently, though in each case they were monitored by the teacher and the adult volunteer.

Asserting which students were paying attention to their work and their surroundings, and which students were not was difficult. Because a student did not pay attention to the task at hand for one moment, or even for a few moments does not necessarily mean she or he is not usually paying attention. It is only after observing many different lessons over a two month period that I was able to make some generalizations and discover some patterns in the observations. Often observing from a distance, I found it impossible to tell *exactly* which students were giving attention to their work, that is, working on the assignment as directed by the teacher, because each individual students' paper could not be seen to track progress. Furthermore, a student who is quietly sitting and staring down at his or her paper may appear to be on task, could actually be daydreaming.

² I am the "adult volunteer" in every case this term is used.

Out of consideration for these limitations, I always took note of which students were indisputably not paying attention to their work.

The second step in this process was to assign an ability rating to each learner. This ability level was determined after an extensive interview with the teacher. The teacher evaluated each student's competence in Japanese, especially by taking into account her or his performance on skills tests administered by the institution, and the scores on their end of the year grade reports. During the interview, the teacher indicated in which learner level she believed each student was performing.

I confirmed the teacher's evaluations by informally observing the students by using "challenge indicators" (Wajnryb, 1992) to detect struggle with the material. Challenge indicators include:

1. non-comprehension in facial expression
2. student wait time (silence) before response
3. first respondent does not offer the correct answer
4. a learner looks sideways at a neighbor before starting

Though I did not take detailed data by analyzing each challenge indicator detected in every student, I used the list above as a guide through which I based my impression of each learner's level.

Coordinating the student's attentiveness during a variety of lesson segments with the individual's challenge levels indicated a correlation between the level of student attentiveness and the level of Japanese language ability.

The actions I especially closely monitored were those of students who:

1. physically rose from their desks and went somewhere else in the classroom.
2. were not looking at the teacher during the teacher-centered lessons.

3. were not looking at their work during the lessons in which they were expected to work independently.

The students were sometimes categorized as inattentive when they chatted with another student. If student A turned away from the lesson at hand and spoke to student B, I concluded that student A was being inattentive. Only when student B responded or somehow clearly acknowledged the interaction did I also evaluate student B as displaying inattentive behaviors.

CHAPTER IV

RESULTS

TEACHER CENTERED LESSONS

Case Study 1

In one lesson, the students were taught from the classroom calendar, as they sat randomly on the floor. The teacher asked questions such as, '*kyo wa nannichi desuka?*' (What is the date today?); '*kyo wa nanyobi desuka?*' (What day is it today?); and '*Suiyoobi wa nanji made obenkyo shimasuka?*' (Until what time do we study on Wednesdays?) Students either answered in unison, or individual students volunteered the answer out loud.

There were eight male students observed in this lesson: m1, m2, m3, m5, m6, m7, m8, and m9. There were 11 female students observed in this lesson: f2, f3, f4, f5, f6, f8, f9, f10, f11, f12, and f13. This first part of the lesson took 6 minutes then, and the learners were lead in a song for 3 minutes, making it a 9 minute, or 540 second session.

TABLE 1. March 4- CS 1, Analysis of Attention in a Teacher Centered Setting

learner	inattentive times	total time of inattention (out of 540 seconds)	inattentive behaviors
MALES			
m1		0	no inattentive behaviors
m2		0	no inattentive behaviors
m3	0'00"-0'30" 1'12"-2'04" 2'29"-2'49" 4'09"-4'25" 4'30"-6'00"	215	looked away/talked/fidgeted

m5	4'09"-5'19" 5'51"-6'00" 8'15"-9'00"	124	looked away/talked/fidgeted
m6	4'09"-4'25" 4'35"-4'45" 8'15"-9'00"	71	looked away/talked/fidgeted
m7	4'09"-5'43" 8'15"-9'00"	139	looking away/talking/fidgeting
m8	0'39"-0'51" 1'42"-2'01" 6'00"-6'28" 7'23"-7'48"	84	stared off into the distance/sucked his thumb, remained seated when class was told to stand
m9	6'40"-6'55"	15	walked across the room to speak to another student; a quarrel began, interrupted by the teacher
FEMALES			
f2		0	no inattentive behaviors
f3		0	no inattentive behaviors
f4		0	no inattentive behaviors
f5		0	no inattentive behaviors
f6		0	no inattentive behaviors
f8		0	no inattentive behaviors
f9		0	no inattentive behaviors
f10		0	no inattentive behaviors
f11		0	no inattentive behaviors
f12		0	no inattentive behaviors
f13		0	no inattentive behaviors

As can be seen, it was only the male learners in this case that were inattentive at all for any length of time. During the entire nine-minute lesson, all the female students appeared to listen with attention to the instructor teach the calendar.

Out of the eight males observed in this lesson, six were found to be inattentive for some amount of time. The longest period of inattention was paid by m3, who was inattentive for 215 seconds, or 40% of the lesson. The shortest interval was by m9 who was inattentive for only 15 seconds, or 3% of the lesson. The average time spent in inattention for the males in this lesson was 81 seconds $((215+84+139+71+124+15+0+0)/8)$, or 15% of the entire lesson duration. Since there were no females that were inattentive during this lesson, the average time spent in inattention for the females was for 0% of the lesson.

Case Study 2

The learners were, again, gathered on the floor and this time they were introduced to the dynamics of a supermarket. The teacher showed a large wall poster that diagramed a supermarket, and flash cards representing various grocery items. As a class, the learners were expected to speak out and say the location of the store in which each item belonged. At the time 4'15", or four minutes and fifteen seconds into the lesson, the teacher asked for volunteers to identify the grocery items and place the "items" on the poster. This caused a little excitement among the students, especially as the selected volunteers gathered around the poster. There were spots of conversation occurring among those who were sitting and watching, as well as among those gathered around the poster. Because this was a natural part of this interactive lesson, the talking that occurred during this time was not evaluated as inattentive. At 7'30", the teacher collected the student's attention once again, and reviewed and corrected the proper placement of the paper grocery "items" on the market poster. There were eight male students observed in this lesson: m1, m2, m3, m5, m6, m7, m8, and m9. There were 11 females observed in this lesson: f2, f3, f4, f5, f6, f8, f9, f10, f11, f12, and f13. The lesson ended at 18 minutes and 15 seconds (1095 seconds).

TABLE 2. March 4- CS 2, Analysis of Attention in a Teacher Centered Setting

learner	times of inattention	total time of inattention (out of 1095 seconds)	inattentive behaviors
MALES			
m1	10'55"-18'15"	440	looked away talked/fidgeted
m2	1'28"-2'00" 10'40-11'42"	94	facing backwards

m3	3'30"-3'48" 7'30"-8'00" 9'35"-10'35" 14'35"-15'05"	138	talked, played crawled faced backwards and rocked
m5	0'00"-0'47" 2'41"-2'55" 3'30"-4'15" 7'30"-8'00" 10'35"-11'42"*	203	looked away talked/fidgeted
m6	0'00"-0'47" 2'41"-2'55" 3'30"-4'15" 7'30"-8'00" 10'35"-11'42"* 15'36"-18'15"	362	looked away talked/fidgeted
m7	0'00"-0'47" 3'30"-4'15" 7'30"-8'00" 9'35"-10'35" 15'36"-17'45"	311	looked away talked/fidgeted
m8	7'45"-8'00" 10'55"-18'15"	455	talked with f1
m9		0	no inattentive behaviors
FEMALES			
f1	7'45"-8'00" 8'45"-9'30"	60	talked with m8, stared off into space
f2		0	no inattentive behaviors
f3	11'05"-11'54" 12'49"-13'02"	62	
f4		0	no inattentive behaviors
f5	12'13"-12'42" 18'04"-18'15"	40	laid down, looking sideways
f6		0	no inattentive behaviors
f7	1'15"-1'30" 7'54"-8'07" 8'20"-8'30" 15'15"-15'57"	80	looked sideways got up and walked away
f8	13'38"-13'57"	20	turned around
f9	15'05"-16'40"	95	looked away /fidgeted
f10	17'35"-18'00"	25	looked away/fidgeted
f11		0	no inattentive behaviors
f12	11'13"-13'15"	122	got up and walked away
f13	1'55"-2'30"	35	talked with f10

In this scenario, out of the eight males observed, seven of them were found to be inattentive at some time. The longest time of inattention was by m8, who was inattentive for 440 seconds, or 40% of the total time. The shortest

period of inattention was by m2, who was inattentive for 94 seconds, or 9% of the total time. The average time of inattention for the males in this scenario was 250 seconds, or 23% of the total time.

Out of the 13 females observed, 9 of them were found to be inattentive at some time. The longest period of inattention was by f12, who was inattentive for 122 seconds, or 11% of the total time. The shortest period of inattention was by f8, who was inattentive for 20 seconds, or 2% of the total time. The average time of inattention for the females in this scenario was 41 seconds, or 4% of the total time.

Case Study 3

In this segment, the students were gathered on the floor as the teacher taught them how to properly play with the school clay. She used several jars of clay to demonstrate how to keep the different colors separate even after using them together to play. For example, she stuffed several different colors into the same jar, and asked, '*Kore de ii desu ka*' (Is this okay) to which the students responded, '*chigau*' (that's wrong).

There were 8 male students visible for observation: m1, m2, m3, m4, m5, m6, m8, and m9. There were 10 female students observed in this lesson: f2, f3, f5, f7, f8, f9, f10, f11, f12, and f13. This was a six-minute lesson (360 seconds).

TABLE 3. April 6- CS 3, Analysis of Attention in a Teacher Centered Setting

learner	times of inattention	total time of inattention (out of 360 seconds)	inattentive behaviors
MALES			
m1	1'12"-1'42" 2'15"-3'14" 4'05-6'00"	204	talked, turned around played fell, sat up, (repeatedly)

m2	0'00"-0'30" 0'40"-0'57" 5'13"-6'00"	94	late to join the group looked down
m3	3'05"-3'15"	10	looked away/talked/fidgeted
m4	0'00"-0'25" 1'37"-2'44" 4'05"-4'30"	177	talked to m9
m5		0	no inattentive behaviors
m6	4'25"-5'15" 5'25"-5'40"	65	put his head on the floor looked down/laid down
m8	0'55"-1'28" 1'43"-2'17" 2'50"-3'40" 5'20"-6'00"	267	played with his shoe looked backwards lay down
m9		0	no inattentive behaviors
FEMALES			
f2		0	no inattentive behaviors
f3	1'05"-1'30" 2'25"-2'30" 4'30"-4'50" 5'50"-6'00"	60	turned around talked to various neighbors
f5		0	no inattentive behaviors
f7		0	no inattentive behaviors
f8	0'21"-0'35" 1'15"-1'25" 4'15"-4'30" 4'56"-5'00"	103	looked down talked to f13
f9		0	no inattentive behaviors
f10	0'00"-0'10" 2'50"-3'05" 4'03"-5'02"	84	late to join the group played under the piano danced around and crawled
f11	4'28"-4'40"	12	talked to m6
f12	0'46"-0'50" 1'13"-1'40"	31	talked to f13
f13	0'46"-0'50" 1'13"-1'20" 4'15"-4'30"	26	talked with f12

In this scenario, out of the eight males observed, six were found to be inattentive at some time. The longest time of inattention was again by m8, who was inattentive for 267 seconds, or 74% of the total time. The shortest period of inattention was by m3, who was inattentive for only 10 seconds, or 3% of the total time. The average time of inattention for the males in this scenario was 102 seconds, or 28% of the total time.

Out of the 10 females observed, six were found to be inattentive at some time. The longest period of inattention was by f8, who was inattentive for 103 seconds, or 30% of the total time. The shortest period of inattention was by f11, who was inattentive for 12 seconds, or 3% of the total time. The average time of inattention for the females in this scenario was 32 seconds, or 9% of the total time.

Case Study 4

In this lesson, the students were at their desks as they took instruction from the teacher. The teacher named a flower, and the students were expected to try to write the flower in hiragana³ in their notebooks. After a few moments, a learner was asked to volunteer to write it on the chalkboard. The five males observed in this lesson were m1, m4, m5, m6 and m9. The six females observed in this lesson were f1, f4, f6, f8, f10, and f11. The lesson ended after seven minutes and thirty seconds (450 seconds).

TABLE 4. April 9- CS 4, Analysis of Attention in a Teacher Centered Setting

learner	times of inattention	total time of inattention (out of 450 seconds)	inattentive behaviors
MALES			
m1	2'40"-3'20" 6'50"-7'30"	80	turned around/talked to m4 looked back at m4
m4	2'40"-4'10" 6'50"-7'30"	130	fidged/talked to m1 looked up, around/fidged
m5	4'00"-5'54"	114	played/doodled
m6	0'00"-1'23"	83	looked under his desk/fidged
m9		0	no inattentive behaviors
FEMALE			
f1		0	no inattentive behaviors
f4		0	no inattentive behaviors

³ A Japanese writing system

f6		0	no inattentive behaviors
f8	1'35"-2'15"	40	walked away/ looked at f1.
f10		0	no inattentive behaviors
f11		0	no inattentive behaviors

As can be seen in this lesson, out of the four male students observed, all four of them were found to be inattentive at some time. The longest time of inattention was by m4, who was inattentive for 130 seconds, or 29% of the total time. The shortest period of inattention was by m1, who was inattentive for 80 seconds, or 18% of the total time. The average time of inattention for the males in this scenario was 80 seconds, or 18% of the total time.

Out of the six female students observed, only one was found to be inattentive at some time, and she was inattentive for 40 seconds, or 9% of the total time. This determined the average time of inattention for the females in this scenario to be about 7 seconds, less than 2% of the total time.

Case Study 5

In this lesson, the students gathered and sat on the floor as the teacher explained how to make a robot doll out of cans and boxes. She gave some general suggestions as to which materials would work well as certain parts of the robot's figure. She then gave specific and detailed instruction as to how to attach a cardboard tube arm on the robot using string and paper so that it would be securely in place. The nine male learners observed in this segment were m1, m2, m3, m4, m5, m6, m7, m8, and m9. The ten female learners observed were f1, f2, f3, f4, f5, f8, f9, f11, f12, and f13. This segment ended after 6 minutes (360 seconds).

TABLE 5. April 30- CS 5, Analysis of Attention in a Teacher Centered Setting

learner	times of inattention	total time of inattention (out of 360 seconds)	inattentive behaviors
MALES			
m1	0'00"-1'23" 3'35"-4'00" 4'45"-5'05" 5'30"-6'00"	158	crawled around talked with m5, m4 talked to m4
m2	0'00"-1'23" 3'05"-3'30" 4'15"-5'40"	193	talked to m5 lay on the floor looked away/lay down
m3	0'00"-0'30"	30	bounced/looked around
m4	0'00"-0'30" 3'35"-4'00" 5'45"-5'55"	65	watched m1 talked with m1, m5 playing with self
m5	0'00"-1'23" 3'35"-4'00"	108	talked to, looked at m2 talked with m1, m4
m6	0'00"-1'23" 3'40"-4'00"	103	looked sideways looked downwards
m7	1'17"-1'27"	10	crawled around
m8	0'00"-1'45" 1'55"-2'15"	125	looked down with head in hands/lay down
m9	0'00"-0'25"	25	turned completely
FEMALES			
f1		0	no inattentive behaviors
f2		0	no inattentive behaviors
f3	0'30"-1'23" 2'30"-2'55" 3'15"-3'30"	93	looked in a desk near her played /talked with f13/talked with f9
f4	2'40"-2'55"	15	talked with f12
f5		0	no inattentive behaviors
f8	0'28"-1'04"	36	looked sideways
f9	3'15"-3'25"	10	lay down/talked with f3
f11		0	no inattentive behaviors
f12	2'40"-2'55"	15	talked with f4
f13	0'30"-1'00" 2'30"-2'55"	55	watched f3 talked with f3

In this scenario, out of the nine males observed, all were found to be inattentive at some time. The longest time of inattention was by m2, who was inattentive for 193 seconds, or 54% of the total time. The shortest period of inattention was by m7, who was inattentive for only 10 seconds, or 4% of the total time. The average time of inattention for the males in this scenario was 91 seconds, or 25% of the total time.

Out of the 10 females observed, six were found to be inattentive at some time. The longest period of inattention was by f3, who was inattentive for 93 seconds, or 26% of the total time. The shortest period of inattention was by f9, who was inattentive for 10 seconds, or 4% of the total time. The average time of inattention for the females in this scenario was 22 seconds, or 6% of the total time.

Summary

These first five case studies were clearly teacher centered scenarios where the teacher was lecturing, and the students were expected to pay attention to her and learn the information that she presented.

There were clear trends presented in these five lessons. First of all, in all five cases, the male students were clearly more inattentive overall than the female students. In Case Study 1 (CS 1), the male students spent 15% of the lesson time not paying attention to the instructor, where as the female students were attentive for the entire lesson. In CS 2, CS 3, CS 4, and CS 5 the male averages were 23%, 28%, 18% and 25% respectively, and the female averages were much lower--4%, 9%, 2%, and 6% respectively.

From this information, it is clear that in this class, when the teacher is talking, the girls, for the most part, seem to be paying attention to a far greater degree than the boys are.

TEACHER CENTERED LESSONS ADULT VOLUNTEER AS THE TEACHER

Here, we have two lessons somewhat similar to a substitute teacher situation, where the teacher is present in the classroom, but some of the students are being lead in learning by an adult volunteer in a small group.

Case Study 6

The teacher would often break the class up into several different groups, and assign each group a different learning task, and after several minutes, the students would rotate tasks. On this particular day, the small group task observed was of students working on reading a passage with the volunteer at a table in the back of the classroom.

Group 1

This first group was lead by the adult volunteer in reading aloud in unison a passage about butterflies. After the passage was read, they were asked a few questions about the content of the passage, and the meanings of some of the terminology used in this passage. At 5 minutes, notebooks were distributed, and they were instructed to write these vocabulary words from the passage in their notebooks after the volunteer said them aloud.

M9 was the only male learner observed in this lesson. The three female learners were f4, f10, and f11. The writing exercise started at 6 minutes and 30 seconds. The session ended after 12 minutes.

TABLE 6. April 9- CS 6, Analysis of Attention in a Teacher Centered Setting, Adult Volunteer as the Teacher

learner	times of inattention	total time of inattention (out of 390 seconds)	inattentive behaviors
MALE			
m9	10'50"-11'10"	20	pencil fought with f11
FEMALES			
f4		0	no inattentive behaviors
f10	0'00"-0'29"* 4'05"-5'00" 10'00"-10'25"*	109	blank stare/ not reading head down/looked away threw her pencil around
f11	0'55"-1'25" 10'50"-11'10"	50	flipped pages pencil fought with m9

In this scenario, the one male student observed was inattentive for only 20 seconds, or 5% of the total lesson time.

Out of the 3 females observed, two were found to be inattentive at some time. F10 was the more inattentive female, with 109 seconds of inattention, or 28% of the lesson spent in inattention. F11 was inattentive for 50 seconds, or 13% of the total time. The average time of inattention for these three female students in this scenario was 53 seconds, or 14% of the total time.

Group 2

The same small group lesson as described above was conducted for this second group of learners. The four female learners observed from this group were f7, f8, f9, and f12. There were no males observed in this group. This complete session ended after 11 minutes and 15 seconds (675 seconds). No time during these minutes were any of the 4 observed learners inattentive. Of course this makes the average time of inattention for the four females in this scenario 0%.

Group 3

The teacher had the volunteer lead this third group in reading a passage easier than the one concerning butterflies that was read by the two previous groups of learners. The teacher felt that this alternative reading was of a more appropriate level for this group of students. Though the group was actually larger, f1 and m6 were the only two learners observed in this group. The lesson ended in 10 minutes and 30 seconds (630 seconds)

TABLE 7. April 9- CS 6, Analysis of Attention in a Teacher Centered Setting, Adult Volunteer as the Teacher

learner	times of inattention	total time of inattention (out of 630 seconds)	inattentive behaviors
MALE			
m6	0'00"-0'40"	40	looked away/talked/fidgeted
FEMALE			
F1		0	no inattentive behaviors

As can be seen, m6 was inattentive for 40 seconds, or 6% of the total duration of this lesson. The female student was inattentive for 0% of the lesson.

Group 4

Again, this group was assigned the same less difficult reading as the previous group. The only female learner observed in this group was f6. The two male learners observed were m1 and m3. At 2 minutes, m3 got a paper cut and the lesson halted until 3'30". The lesson ended in eight minutes (480 seconds).

TABLE 8. April 9- CS 6, Analysis of Attention in a Teacher Centered Setting, Adult Volunteer as the Teacher

learner	times of inattention	total time of inattention (out of 480 seconds)	inattentive behaviors
MALES			
m3	0'00-0'28"* 0'39-1'11"*** 1'28"-2'00" 3'40"-7'15"	369	sang out loud talked to f6 talked/looked away turned away/walked away
m1	1'00-2'00" 3'30"-4'15" 5'00"-7'15"	240	played stood up/talked to a peer pushed by m3
FEMALE			
f6	0'39-1'40"*** 3'40"-4'00" 5'00"-7'15**	216	looked at m3 talked/danced in her chair walked away

* warned by teacher to be quiet

** called on by the adult volunteer to interrupt the inattention.

During this lesson, both males were found to be inattentive. M3 was inattentive for 369 seconds, or 77% of the time, while m1 was inattentive for 240

seconds, or 50% of the total lesson time. These two times make a 63% average for the two boys observed in this group.

F6, the only represented female, was inattentive for 216 seconds, or 45% of the total time.

Case Study 7

Again, the students were broken up into small groups, and an adult volunteer lead them in reading in Japanese. On this occasion, only two groups were observed, because time ran out before the groups were able to participate in all of their rotations. In both groups, the adult volunteer lead the students in reading the passage in unison once all the way through. After that, the students were called on individually to read a few lines aloud to the rest of the group.

Group 1

The three children observed in this group were all female: f10, f13, and f4. At nine minutes and 30 seconds into the lesson, the students were called on individually. The reading lesson was over after 15 minutes (900 seconds).

TABLE 9. April 13- CS 7, Analysis of Attention in a Teacher Centered Setting, Adult Volunteer as the Teacher

learner	times of inattention	total time of inattention (out of 900 seconds)	inattentive behaviors
FEMALES			
f10	0'00"-2'55" 3'45"-10'25"* 11'15"-11'25" 13'12"-14'10"* 14'30"-15'00"	673	squirmed in seat/looked around put reading on floor/head on desk played/wiggled in seat
f13	9'55"-10'25" 12'00"-12'25"* 12'55"-13'30"* 13'45"-14'30" 14'45"-15'00"	180	played with, talked to f14 talked to f4 talked/laughed with f4 same as above same as above

f4	12'00"-12'25" 12'55"-13'45"	55	talked to f13 talked/laughed with f13
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* warned by teacher to be quiet

Out of the 3 females observed here, all three were found to be inattentive at some time. The longest period of inattention was by f10, who was inattentive for 673 seconds, or 75% of the total time of the lesson. The shortest period of inattention was by f4, who was inattentive for 55 seconds, or 6% of the total time. The average time of inattention for the females in this scenario was 303 seconds, or 34% of the total time.

Group 2

The students observed in this group were again all female: f2, f8, and f9. After 8 minutes, the students were called on to read individually. This reading lesson ended after 10 minutes (600 seconds).

TABLE 10. April 13- CS 7, Analysis of Attention in a Teacher Centered Setting, Adult Volunteer as the Teacher Analysis of Attention

learner	times of inattention	total time of inattention (out of 600 seconds)	inattentive behaviors
FEMALE			
f2		0	no inattentive behaviors
f8		0	no inattentive behaviors
f9	4'30"-5'55" 6'25"-7'50"	170	got up and left the table stared/looked around

The only female student that was inattentive during this lesson was f9, for 170 seconds, or 28% of the total time. The average time of inattention for all three of the observed females came to approximately 9%.

Summary

The clear trend that was present in the first five case studies is not present in the volunteer teacher centered lessons described in CS 6 and CS 7. First of all, the data is more difficult to analyze due to the fact that the students are broken up into small groups and only a few students were observable in each case. For the moment, if we ignore the fact that the sample sizes were small and unevenly distributed, and examine what the students were doing in CS 6, we see that in the first group, the girls were a somewhat inattentive during the lesson, with an inattentiveness average of 14% among the three of them. There was only one boy observed in this group, and he was rather attentive. He was inattentive for only 5% of the total time. We cannot compare males and females in group 2, since only girls were observed in this group, but it is interesting to see that all of these four girls were attentive during the entire lesson segment. In group 3, there was one male and one female student. They were both attentive, but the girl was attentive for the entire lesson, whereas the boy was inattentive 6% of the time. In group 4, there were two boys and one girl observed. All three of these students were inattentive for a good portion of the lesson, but the two male students, with a 63% average, were a little more inattentive than the female student, who was inattentive for 45 seconds.

In CS 7, there are 3 females in each of the two groups, but there were no male students represented at all. Examining the female students, we see that in the first group, one student was particularly very inattentive (75% of the time), whereas the other two students were attentive. In the second group, one student was inattentive for 28% of the time whereas the other two students were attentive for the entire duration of the lesson.

Between these two case studies, it is extremely difficult to make any general statements concerning the behavior pattern of the males, since only a total of four boys were observed in all of these small group meetings.

It is, however, safe to conclude that for the female students, the results were sporadic. Unlike the first five case studies where the attention averages were consistently under 10% of the lesson time, there was no consistency in the behavior patterns of the fifteen females observed in case studies 6 and 7; some girls paid attention to the lesson very well, and some paid very little attention.

INDIVIDUAL CENTERED LESSONS

The previous seven case studies outlined were lessons in which the primary focus of the class setting was on the teacher, and the students' task was to pay attention to her. In this next section, I will present four lessons in which the students themselves are the focus of the lesson, as they were responsible for quietly and efficiently pursuing the work in front of them.

The attentiveness indicators discussed before were again used. I determined that the students were paying attention to their work if they were looking down at their assignment, occasionally writing something, had their hands raised to ask a question, or if they were actually receiving help from the teacher or the classroom volunteer.

Because the nature of the lesson was different, a slightly different pattern of inattention is observed in these next four case studies.

Case Study 8

It was a part of the student's daily routine to work on an on-going assignment during the first several minutes of class first thing in the morning. In this Case Study, the students worked on a math assignment, in which they solved the addition and subtraction problems on their worksheet.

At 1'30", the teacher called the attention of the class to explain something. Many of those who were inattentive to their assignments until this time began to attentively listen to her.

The seven male children present and observed in this exercise were: m1, m2, m3, m4, m5, m6, and m7. The nine female children observed were f1, f2, f5, f6, f7, f8, f9, f11, and f12. This lesson segment ended after five minutes and 45 seconds (345 seconds).

TABLE 11. March 4- CS 8, Analysis of Attention in an Individual Centered Setting, Teacher as the Monitor

learner	times of inattention	total time of inattention (out of 345 seconds)	inattentive behaviors
MALES			
m1		0	no inattentive behaviors
m2	0'00"-0'35" 3'50"-5'40"	145	talked to self fidgeted with pen/looked around
m3		0	no inattentive behaviors
m4		0	no inattentive behaviors
m5	0'00"-1'30"	90	talked with f6
m6		0	no inattentive behaviors
m7	0'00"-0'55"* 1'07"-1'30"	78	stared at m2 looked around
FEMALES			
f1		0	no inattentive behaviors
f2	0'00"-1'30" 2'50"-3'35" 3'55"-5'25"	285	talked to f9/gave a blank stare talked to f9 gave a blank stare
f5	0'25"-1'20"*	55	looked back at f11
f6	0'00"-1'30"	90	talked with m5
f7		0	no inattentive behaviors
f8	0'00"-1'30"	90	stared at m2
f9	0'00"-0'40" 3'07"-3'35"	68	talked to f2 talked to f2
f12	0'53"-1'20"	27	looked back at f11**
f11	0'53"-1'20"	27	talked to f5 and f12

In this scenario, out of the seven males observed, three were found to be inattentive at some time. The longest time of inattention was by m2, who was inattentive for 145 seconds, or 42% of the total time. The shortest period of

inattention was by m7, who was inattentive for 78 seconds, or 22% of the total time. The average time of inattention for the males in this scenario was 45 seconds, or 13% of the total time.

Out of the nine females observed, seven were found to be inattentive at some time. The longest period of inattention was by f2, who was inattentive for 285 seconds, or 83% of the total time. The shortest period of inattention was tied by f11 and f12 who was inattentive for 27 seconds, or 8% of the total time. The average time of inattention for the females in this scenario was 71 seconds, or 21% of the total time.

Case Study 9

During this next lesson, the students were at their desks working on a math worksheet. This assignment required them to complete addition problems by coloring in a graph of the tens' place in red, and the ones' place in blue. The teacher is working the problems along with the students on the overhead projector.

The five male students in view during this exercise were: m1, m3, m5, m6, m7, and m8. The seven female students observed were f1, f2, f6, f7, f8, f9, and f11. This lesson ended after 8 minutes and 45 seconds (525 seconds).

TABLE 12. March 4- CS 9, Analysis of Attention in an Individual Centered Setting, Teacher as the Monitor

learner	time of inattention	total time of inattention (out of 525 seconds)	inattentive behaviors
MALES			
m1	8'30"-8'40"	10	talked/fidgeted
m3	7'30"-8'45"	75	looked away/talked/fidgeted
m5		0	no inattentive behaviors
m6	0'47"-2'22" 2'31"-2'45" 3'56"-4'15"	128	looked away/talked/fidgeted
m7		0	no inattentive behaviors

m8		0	no inattentive behaviors
FEMALES			
f1	4'04"-4'25"	21	looking backwards
f2		0	no inattentive behaviors
f6	5'05"-5'39" 5'52"-6'00" 7'13"-7'43"	72	talking to m5
f7		0	no inattentive behaviors
f8	1'15"-1'33"	18	looked away/talked/fidgeted
f9		0	no inattentive behaviors
f11		0	no inattentive behaviors

In this scenario, out of the six males observed, three were found to be inattentive at some time. The longest time of inattention was by m6, who was inattentive for 128 seconds, or 24% of the total time. The shortest period of inattention was by m1, who was inattentive for only 10 seconds, or 2% of the total time. The average time of inattention for the males in this scenario was 21 seconds, or 4% of the total time.

Out of the seven female students observed, three were found to be inattentive at some time. The longest period of inattention was by f6, who was inattentive for 72 seconds, or 14% of the total time. The shortest period of inattention was by f8 who was inattentive for 18 seconds, or 3% of the total time. The average time of inattention for the females in this scenario was 16 seconds, or 3% of the total time.

Case Study 10

During this lesson, the students were at their desks, and they were instructed to copy down the two sentences in the board and fill in the blank letters in their workbooks. After they finished this task, they were to color in the picture in their notebook that accompanied the spaces for these sentences. The teacher briefly interrupted the flow of the lesson at 1'56" to comment on the Easter lily on her desk. At 3'07, the class leader of the day, or the "otobansan" was called to the front, and was instructed to tell his fellow students to close their

notebooks and read the sentences on the chalkboard out loud. This made this lesson not completely an individual centered activity-- there were moments when the teacher called for the student's attention, and moments when the otobansan was the focus of the class. But because for the majority of the time the students were expected to work on the assignment, it is still categorized as an individually centered lesson.

The six male learners in view during this lesson were m2, m4, m5, m7, m8, and m9. The five female students observed were f3, f4, f11, f12, and f13. This was a 4 minutes and 20 second lesson (260 seconds).

TABLE 13. April 13- CS 10, Analysis of Attention in an Individual Centered Setting, Teacher as the Monitor

learner	times of inattention	total time of inattention (out of 260 seconds)	inattentive behaviors
MALES			
m2	2'37"-2'55" 3'30"-3'48"	36	Looked away talked/fidgeted
m4		0	no inattentive behaviors
m5	1'33"-1'44" 1'55"-2'15" 3'40"-3'57"	47	Looked away talked/fidgeted
m7		0	no inattentive behaviors
m8	0'00"-0'41"	41	staring sideways
m9	0'00"-0'47" 1'16"-2'08"	99	playing with a toy staring downward
FEMALES			
f3	0'00"-0'20"	20	looked away/talked/fidgeted
f4	2'55"-3'07"	12	Looked away talked/fidgeted
f11		0	no inattentive behaviors
f12		0	no inattentive behaviors
f13		0	no inattentive behaviors

As can be seen in this lesson, out of the six male students observed, four of them were found to be inattentive at some time. The longest time of inattention was by m9, who was inattentive for 99 seconds, or 38% of the total time. The shortest period of inattention was by m2, who was inattentive for 36

seconds, or 14% of the total time. The average time of inattention for the males in this scenario was 37 seconds, or 14% of the total time.

Out of the five female students observed, two were found to be inattentive at some time. F3 was inattentive for 20 seconds, or 8% of the total time. F4 was inattentive for 12 seconds, or 5% of the total time. The average time of inattention for the female learners in this scenario was 6 seconds, or 2% of the total time.

Case Study 11

In this segment, the learners were divided up into three small groups, and each small group worked on a particular exercise, then rotated activities after several minutes. This small group was supervised by the adult volunteer while the teacher monitored a different group of students. The group observed in this section is working on a fill-in-the-squares assignment in which they are given a picture whose sections are assigned a hiragana letter, and a legend matches each letter with a particular color. The students are to look at the key and color in the segment of the picture indicated by this key. It was an individual activity in which the students were responsible for pacing themselves throughout the task and bringing it to completion. Because this was a small group exercise, there was some natural, non-disruptive chatter as they did their work. All three groups observed below worked on their assignment in the same manner with no variation in activities among the groups.

Group 1

The three male learners observed in this first group were m2, m5, and m7. The three female learners observed were f1, f7, and f8. This was a fourteen minute session (840seconds).

TABLE 14. April 6- CS 11, Analysis of Attention in an Individual Centered Setting, Volunteer as the Monitor

learner	times of inattention	total time of inattention (out of 840 seconds)	inattentive behaviors
MALES			
m2	5'15"-5'44"	29	got up to borrow a crayon
m5	0'00"-0'40"* 2'05"-2'16" 4'08"-4'20" 5'50"-6'09" 7'45"-10'15" 12'50"-13'35"	277	gave a blank stare got up to borrow a crayon got up to borrow a crayon got up to borrow a crayon gave a blank stare gave a blank stare
m7	0'00"-2'10" 3'50"-4'20" 7'05"-7'50"	165	got up to borrow a crayon got up to borrow a crayon gave a blank stare
FEMALES			
f1	2'17"-2'49"	32	got up
f7	12'50"-13'20"	30	got up to borrow a pencil
f8	0'00"-3'30" 6'20"-7'08" 7'38"-10'15"	395	gave a blank stare/fidgeted gave a blank stare played with a toy

In this session, out of the three males observed, all three were found to be inattentive at some time. The longest time of inattention was by m5, who was inattentive for 277 seconds, or 33% of the total time. The shortest period of inattention was by m2, who was inattentive for 29 seconds, or 3% of the total time. The average time of inattention for the males in this scenario was 157 seconds, or 19% of the total time.

Out of the three females observed, all three were also found to be inattentive at some time. The longest period of inattention was by f8, who was inattentive for 395 seconds, or 47% of the total time. The shortest period of inattention was by f7, who was inattentive for 30 seconds, or 4% of the total time. The average time of inattention for the females in this scenario was 152 seconds, or 18% of the total time.

The five male students present and observed in the group following were m1, m3, m4, m6 and m8. There were two female students observed: f3 and f6. This group session lasted for 18 minutes (1080 seconds).

TABLE 15. April 6- CS 11, Analysis of Attention in an Individual Centered Setting, Volunteer as the Monitor

learner	times of inattention	total time of inattention (out of 1080 seconds)	inattentive behaviors
MALES			
m1	0'00"-2'00" 2'20"-6'20" 7'10"-17'35"	985	talked to m6, played with pencil played looked sideways, played
m3		0	no inattentive behaviors
m4	3'00"-3'20" 4'38"-4'55" 9'52"-10'20"	65	talked talked to m3/gave a blank stare
m6	0'00"-7'30" 7'40"-11'20" 14'30"-15'15"	715	played/got up wiggling/ blank stare talked with m1
m8	1'40"-7'30" 8'50"-13'20"* 14'50"-18'00"	870	played with crayon talked to f6/colored his school box
FEMALES			
f3	0'00"-2'15" 3'15"-3'50" 6'00"-9'48"* 10'55"-14'40"*	623	screeched/played stared across played with f6/looked around played/looked around
f6	0'00"-1'35" 3'00"-5'30"* 6'00"-8'45"* 10'02"-11'00" 14'44"-16'15" 16'55"-17'25"	589	yelled/talked/wiggled/ played got up/talked played with f3 blank stare/talked to m8

In this group, out of the five males observed, four were found to be inattentive at some time. The longest time of inattention was by m1, who was inattentive for 985 seconds, or 91% of the total time. The shortest period of inattention was by m4, who was inattentive for 65 seconds, or 6% of the total

time. The average time of inattention for the males in this scenario was 527 seconds, or 49% of the total time.

Of the two female students observed, both were found to be inattentive at some time. F3 was inattentive for 623 seconds, or almost 58% of the total time. F6 was inattentive for 589 seconds, or 55% of the total time. These two times, when averaged, came to 606 seconds, or 56% of the total time.

Group 3

The teacher had confidence that this group of learners could be productive without the guidance of a classroom volunteer and gave them special permission to work independently at their desks. The learners in this group were all female: f4, f5, f9, f10, f11, f12, and f13. This session lasted for 11minutes (660 seconds).

TABLE 16. April 6- CS 11, Analysis of Attention in an Individual Centered Setting, Volunteer as the Monitor

learner	times of inattention	total time of inattention (out of 660 seconds)	inattentive behaviors
FEMALES			
f4		0	no inattentive behaviors
f5	0'00"-0'27" 1'00"-1'17"	34	talked to f11 talked to f11
f9	0'50"-1'05" 1'33"-1'53"	35	walked away walked away
f10	0'00"-0'20" 5'30"-6'50"	100	walked around talked to f11 and f5
f11	1'05"-1'33" 5'09"-6'40" 6'55"-8'35" 10'35"-10'55"	239	talked to f5 looked around at her peers/talking looking around talked to f13
f12	0'00"-0'30" 1'55"-2'20" 2'50"-3'08" 4'30"-5'20" 6'40"-7'18" 11'13"-11'25"	163	talked to f4 went to/talked to f14 went to/talked to f14 went to/talked to f14 walked away walked away

f13	2'10"-2'24" 5'50"-6'50" 9'58"-10'10" 10'35"-10'55"	106	walked away stared at f11, and f5 talked to f11 talking to f13
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Of the seven female students observed, six were found to be inattentive at some time. F11 was inattentive for the longest, with 239 seconds, or 36% of the total time. F5 was inattentive for the shortest length of time, with 34 seconds, or 5% of the total time. The average time of inattention for the students in this group was 97 seconds, or 15% of the total time.

Summary

The sample sizes for case studies 8, 9, and 10, individual centered lessons monitored by the teacher, are reasonable for consideration, but the results are scattered. In CS 8, the female students were more inattentive on average than the male students with a gap of 8% in the averages between the girls and the boys. In CS 9, there was hardly a difference in the attention levels between the sexes; both were very attentive to the lesson at hand. In CS 10 the male students were more inattentive than the female students, but only by a 12% gap in the averages.

It is difficult to make a definite declaration about the pattern of inattention in these 3 case studies. However, if I had more data similar to these three examples, I would make the suggestion that there was not a great deal of difference between the genders in levels of inattention in the case where the students were working independently on assignments.

In Case Study 11, I observed 3 groups of children monitored by an adult volunteer, working individually on an assignment. As was the case in CS 6 and CS 7, the sample size for this case study was fairly small, and in one of the groups, only female students were observed. However, it is worth noting there was more consistency here than in case studies 6 through 10. In groups 1 and 2, the female students were more inattentive than the male students overall. With inattention averages of 18%, 56%, and 15% the girls were consistently more inattentive on average in these group sessions than they were in the teacher-centered lessons where the average never exceeded 9%.

SYNTHESIS

For every student, I calculated the total seconds they were observed in the teacher fronted lessons, the volunteer fronted lessons, and in the individual centered lessons. I then calculated the total seconds they were found to be inattentive in these three lesson categories. In doing this, I was able to find the total percent each student spent in inattention in each case. The following two tables are the results of these calculations for the male and female students, respectively.

TABLE 17. Percent of Total Time Each Male Student Spent In Inattention

learner	m1	m2	m3	m4	m5	m6	m7	m8	m9
Teacher Centered Lessons (CS 1-5)	31%	9%	17%	32%	18%	24%	23%	40%	1%
Volunteer Centered Lessons (CS 6-7)	44%	54%	8%	18%	18%	29%	2%	35%	7%

Individual Centered Lessons (CS 8-11)	51%	15%	4%	5%	21%	43%	12%	49%	38%
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From this table, we see that there are no clear trends in attention patterns of the male students during the teacher fronted lessons, CS 1-5, the volunteer fronted lessons, CS 6-7 and the individual centered lessons, CS 8-11.

The following table helps to interpret the previous results. It is a list of the number of male students that fit into each attention span category for the three different types of lessons.

TABLE 18. Number of Male Students in Different Levels of Attention for Three Lesson Types

	Number of Students attentive 100-90% of the time	Number of Students attentive 90-80% of the time	Number of Students attentive 80-70% of the time	Number of Students attentive 70-60% of the time	Number of Students attentive 60-50% of the time	Number of Students attentive 50-40% of the time
Teacher Centered Lessons (CS 1-5)	2	2	2	3	--	--
Volunteer Centered Lessons (CS 6-7)	3	2	1	1	1	1
Individual Centered Lessons (CS 8-11)	2	2	1	1	2	1

It can be seen from this table that during the teacher centered lessons, the number of male students are concentrated in the first four columns, with no students inattentive for more than 40% of the class time. During the volunteer centered lessons, there are two students that were inattentive for more than 40% of the time, and 3 students inattentive for over 40% of the time during the individual centered lessons. This indicates that the male students were more

likely to be attentive during the teacher centered lessons, than during the other lesson types. Though this trend can be detected in the males by observing this table, it is not nearly as clear and obvious as it is with the female learners.

The following table lists the total percent of time each female student spent in inattention during the different types of lessons.

TABLE 19. Total Time Each Female Student Spent In Inattention

learner	f1	f2	f3	f4	f5	f6	f7	f8	f9
Teacher Centered Lessons (CS 1-5)	3%	0%	9%	0%	2%	0%	5%	4%	4%
Volunteer Centered Lessons (CS 6-7)	0%	0%	26%	6%	0%	na ⁴	na	4%	19%
Individual Centered Lessons (CS 8-11)	3%	33%	48%	1%	9%	39%	2%	29%	7%

Learner	f10	f11	f12	f13
Teacher Centered Lessons (CS 1-5)	4%	0%	7%	5%
Volunteer Centered Lessons (CS 6-7)	75%	0%	3%	19%
Individual Centered Lessons (CS 8-11)	15%	15%	14%	12%

⁴ not available

The following table lists the number of female students that fit into each attention span category for the three different types of lessons.

TABLE 20. Number of Students in Different Levels of Attention for Three Lesson Types

	Number of Students attentive 100-90% of the time	Number of Students attentive 90-80% of the time	Number of Students attentive 80-70% of the time	Number of Students attentive 70-60% of the time	Number of Students attentive 60-50% of the time	Number of Students attentive 30-20% of the time
Teacher Centered Lessons (CS 1-5)	13	--	--	--	--	--
Volunteer Centered Lessons (CS 6-7) ⁵	7	2	1	--	--	1
Individual Centered Lessons (CS 8-11)	5	4	1	2	1	--

The trend discussed earlier with the male participants is made very clear from this table of the female learners. During the teacher centered lessons, all of the female participants were attentive to the lesson more than 90% of the total time. With the volunteer centered lesson, more students are inattentive, with only seven students in the most attentive category. During the individual centered lesson, there are only five learners that are in the most attentive category, and more students in the inattentive categories than in the previous two types of lessons.

LEARNER LEVELS

The following table categorizes each student in four different ability levels in the areas of speaking, reading, and writing Japanese. 1 is the highest level,

⁵ Only eleven females are represented in this category, as opposed to thirteen participants in the other two categories.

with the most competent students of Japanese, and 4 is the category for students having the most difficulties. The learner level for each student was selected upon careful consideration by the teacher and myself after many observations and an extensive interview.

Underneath each learner listed is the total percent of time each student was found to be attentive during the case studies they were observed in. The total percent was found by calculating the student's total time of attention and dividing by the total time observed.

TABLE 21. Learner Levels and Total Percent of Time Of Attention

learner level (1-highest, 4-lowest)	learner % of time inattentive							
1	f4 98%	f5 96%	f11 93%	f13 90%	m9 95%			
2	f1 97%	f2 93%	f8 89%	f9 93%	f12 92%	f10 77%	m5 81%	
3			f7 97%	m6 71%				
4	f6 79%	f3 75%	m1 60%	m2 84%	m3 83%	m4 83%	m7 82%	m8 56%

The chart above is approximately what was expected. It shows that the students in the highest learner level, level 1, are all found to be attentive at least 90% of the time. The students in levels 2 and 3 had a variety of attention levels; five of the students were attentive more than 90% of the time, two were attentive in the 80 percentile range, and two were in the 70 percentile range. In

the fourth level, four students were attentive in the 80 percentile range, two in the 70 percentile range, one in the 60 percentile range, and one in the 50 percentile range. The following chart illustrates these features.

TABLE 22. Number of Students in Different Levels of Attention for Different Learner Levels

	Attentive for 100-90% of total time	Attentive for 90-80% of total time	Attentive for 80-70% of total time	Attentive for 70-60% of total time
Learner Level 1	5	--	--	--
Learner Level 2&3	5	2	2	--
Learner Level 4	--	4	2	1

Again, we see higher learner levels associated with more attentive students. Consequently, the lowest learner levels are associated with inattentive students.

CHAPTER IV

CONCLUSION

MAJOR FINDINGS

This research project has shown that in this Japanese immersion program classroom, the female learners were more inclined, in general, to pay attention to their surroundings than the boys were. It was particularly interesting that the girls were most likely to be attentive when their attention was to be focused on the regular classroom teacher. The male students also showed this trend, but not as clearly as the female students did. In the scenarios in which the focus of attention was a classroom volunteer or their individual seatwork, learners were more inattentive, and again, the female students showed this trend more clearly than the males. It was also found that a higher ratio of girls were at a high learner level.

This assertion does not necessarily suggest a tendency to be attentive to the teacher's speech leads to a high learner level. F6 and f3, were both far more attentive during the teacher centered lessons but functioned at learner level 4, the lowest learner level. We see from Table 19, however, that every person at the highest learner level was not only highly attentive in general, but were more attentive during the teacher centered lessons.

STUDY LIMITATIONS

As mentioned before, the main limitation for this study is that this was an ethnographic study of one group of students, and the trends observed in this

study are not necessarily transferable to other classrooms or immersion situations.

In this study, it was found that there is a correlation between attention patterns and learner level. Students with low attention levels also functioned at a lower learner level. This assertion, however, is based on the assumption that the learner levels were a result of attention levels. The possibility that students were inattentive because of their inability to follow the lesson was not discussed.

Another limitation in this study was the uneven gender ratios, with 18% more female students represented in the sample size. Any problems related to this limitation were hopefully alleviated by always taking the *percent of* inattention into account.

Another methodological problem was that during each lesson segment, I was only able to observe students that were visible within the scope of the video camera's viewfinder. Students present during the lessons were sometimes unaccounted for because they were unavailable for observation. In some cases, the observed students' inattentive behavior was related to a distraction caused by an individual out of the view of the camera.

Although the lesson segments were always taken between eight-thirty a.m. and 12 noon they were not consistently videotaped at a set time during this interval. Having a lesson right before recess or lunch time may have had an effect on how tired the children were, and subsequently could have affected their ability to attend to the task at hand.

Finally, it is necessary to address the difficulty in determining how much L2 was acquired by the children. Ellis pointed out that "...language is such a complex phenomenon that researchers have generally preferred to focus on some aspect rather than on the whole of it." (Ellis, pg. 11) The accuracy to which the children's ability level was determined may be considered to be somewhat

questionable because it was not as carefully scrutinized as their attention levels. This research could have been more thorough had it involved a study of the children's language performance, perhaps by tracking improvement in the individual's ability to perform one or more language functions.

SUGGESTIONS FOR FUTURE STUDIES

Although this research closely examined student attention levels, a future research project could take a more aggressive look at improvements in second language skills in light of student attention levels.

Also, a future research project could address the question, "Which comes first--the attention level or the learner level?". As mentioned before, this study assumed that students were at a lower learner level because of their inability to be attentive, but a study designed to give suggestions as to which actually precedes the other would further shed light on this issue.

Finally, a follow up study could explore some of the reasons behind the observations that the female subjects were more responsive to the teacher centered lessons. Is it because the teacher herself was a female, and was a role model figure for the girls? Would there have been similar results had the instructor been a male? How do girls and boys respond differently to oral instruction?

Though this study did not, and could not, address all of the issues surrounding attention and second language acquisition, it was successful because it was able to quantitatively analyze student attention levels, and find distinct trends in this analysis. I believe that the relationship between attention and student performance in a second language that was established in this research validates future studies in this area of second language acquisition.

APPENDIX

A. INTERVIEW QUESTIONS

For each student:

Please comment on this student's strengths and weaknesses in the areas of listening comprehension, speaking, reading, writing, and math.

At what level overall is this student in the areas of listening comprehension, speaking, reading, writing, and math skills?

How would you evaluate this student's ability to pay attention?

Are you aware of anything in this student's personal history/background that may affect his or her behavior?

Please comment on this student's personality or unique traits.

Does this student possess any special talents, such as musical, artistic, or athletic abilities?

B. LETTER TO PARTICIPANTS

CONSENT FORM

Your child is invited to participate in a research study conducted by Prof. Ruth Kanagy from the University of Oregon, assisted by Honors College senior, Mariko Selle, who is a volunteer in the 1st grade class at Yujin Gakuen. The goal of the study is to learn how English-speaking children in Japanese immersion schools comprehend and produce Japanese and interact with their teachers and peers successfully in the classroom. Your child was selected as a possible participant in this study because she or he is in first grade, at the beginning stages of learning Japanese.

If you decide to have your child participate, your child's Japanese class will be video- and audio-taped during normal classroom activities once a week through the end of March, 1998. If requested, you can receive the results of this study. However, I cannot guarantee that your child personally will receive any benefits from this research. Any information that is obtained in connection with this study and that can be identified with your child will remain confidential and will be disclosed only with your permission or as required by law. Subject identities will be kept confidential by avoiding identification of children, teachers, and school name, and safeguarding all data by the researcher, released only to students under her supervision for research purposes.

Your child's participation is voluntary. Your decision whether or not to participate will not affect your relationship with Yujin Gakuen. If you have questions regarding this project, please contact Prof. Ruth Kanagy, (541)346-4035, or Mariko Selle, 684-0810. If you have questions regarding your child's rights as a research subject, contact the Human Subjects Compliance Office, University of Oregon, (541) 346-2510. You will be offered a copy of this form to keep.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to have your child participate, that you may withdraw your consent at any time and discontinue your child's participation in the study without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims, rights or remedies.

Date _____

Signature of parent or guardian

CONSENT AGREEMENT FOR VIDEOTAPING

I have received an adequate description of the purpose and procedures for videotaping sessions during the course of the proposed research study. I give my consent to allow my child (child's name) _____ Room _____ to be videotaped during participation in the study, and for those videotapes to be viewed by persons involved in the study, as well as for other professional purposes as described to me. I understand that all information will be kept confidential and will be reported in an anonymous fashion, and that the videotapes will be erased after an appropriate period of time after the completion of the study. I further understand that I may withdraw my consent at any time.

Date _____

Signature of parent or guardian

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