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ABSTRACT

The use of freewriting in English-as-a-Second-Language (ESL) instruction as a means of promoting communicative competence is examined, particularly as it may improve high-school-level ESL instruction in Japan. First, the educational environment of Japanese high schools is described, and some problems with the teaching of ESL writing are outlined. Recent research on brain hemisphere functions is reviewed for insights into the mechanism of language communication, especially the important role played by the right brain. Applications of this research to the teaching of writing are then explored, with particular attention given to how the process of freewriting activates right brain functions such as imagery, intuitiveness, and emotions. This section also explores ways in which the practice of freewriting can address some of the problems of writing instruction in Japan. Finally, practical applications of freewriting principles in the Japanese high school classroom are offered. Contains a 50-item bibliography. (MSE)

Freewriting

An Interhemispheric Approach to Language Communication

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Introduction

"Where does language exist in the human body?" This seemingly easy but in fact very profound question fascinates many scientists. Some medical researchers are trying to find the answer from case studies of patients with brain damage. Some computer scientists are seeking to locate the mechanism of brain function in language communication, and they are applying it to their theories of artificial intelligence. Some linguists like neurolinguists are trying to understand the process of language acquisition from the viewpoints of the neural network in the brain, and many scientists are correspondingly trying to investigate the brain as a central organ underlying language.

Also, brain research has had great influence on teaching second languages. Some methodologies like "Suggestopedia," "Total Physical Response," and "Natural Approach" appeared in late 1970s and 1980s with the excessive emphasis on right brain functions. Although the brain is still a virtually unknown world for humans, it would be very significant for language teachers to realize the present theories of the mechanism of the brain and language, and to apply them for their teaching.

This paper will discuss how writing should be taught in Japanese high schools in terms of an interhemispheric approach to language communication. First, chapter I will explain the educational environment of Japanese high schools and point out some shortfalls in teaching writing. Next, the mechanism of language communication based on recent brain research and the important role the right brain plays in language communication will be explained in chapter II. Then, chapter III will refer to how this brain research will be applied to the teaching of writing. This chapter will especially focus on how "freewriting" activates the right brain functions such as imagery, intuitiveness, and emotions. Chapter III will also indicate how "freewriting" can cover the defects of teaching wri ing in Japan. Finally, chapter IV will show practical usage of "freewriting" in a Japanese high school classroom.

I. Present Situation in Japan

The educational environment of Japanese high schools is still inappropriate for students to develop communicative competence in English although more and more communicative English is being stressed in class with the help of ALTs (Assistant Language Teachers).[1] Large class sizes, 35 to 45 students in one class, are not suitable for improving oral communication because there is not enough time for students to speak and to express themselves in English. Ironically, teachers speak a lot and students speak little in class. College entrance examinations, which have a crucial influence on the way English is taught and learned in Japanese high schools, do not usually test communicative competence in either spoken or written English. College entrance examinations generally do not depend on subjective criteria such as oral interview tests or essay tests in English because hundreds of thousands of examinees take the exams at one time. Even listening comprehension tests are not usually included on entrance examinations. On the other hand, multiple choice questions based on grammatical knowledge are most often seen in the exams. As a result, not only students but also teachers tend to give priority to grammar.

When it comes to the teaching of writing, Japanese teachers still adhere to the Grammar Translation Method. They eagerly teach the students how to translate a Japanese sentence into a grammatically-correct English sentence. In other words, they are teaching grammar through writing. Teachers as well as students seek grammatical correctness at the sentence level, while other aspects of writing such as paragraph writing and process writing are not highly respected. This is because very few teachers have knowledge of process writing and because most college entrance examinations, as mentioned above, do not require essay tests. Therefore, teachers and students find no immediate need to practice writing in paragraphs. Although the Japanese Ministry of Education puts much emphasis on developing communicative competence through writing, a

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[1] ALTs are the native speakers of English who are hired as assistant teachers under the name of the JET program (the Japan Exchange and Teaching program). In 1993, 3508 native speakers of English worked for this program.

drastic change in the teaching of writing cannot be expected as far as I could tell by looking at the newly-published textbooks in Japan.

Additionally, there are other disadvantages in applying the Grammar Translation Method to writing. First, writing fluency is not developed. A high expectancy of accuracy at the sentence level inhibits the students from expressing themselves as freely as they do when speaking and stops the natural flow of thought from their minds to the paper. Second, students' creativity is not fostered. Students have no opportunity to freely write what they want because not only the topic but also the content is already presented in Japanese to the students. All they have to do is to translate the given Japanese into English. Third, the brain function is not tapped holistically. From the viewpoints of neurolinguistics, the Grammar Translation Method mainly activates the left brain functions commonly described as "sequential," "logical," and "rational."

Given the above disadvantages of the current method, Japanese teachers of English should definitely apply new communicative methods of teaching writing so as to cover these shortfalls and to help the students acquire communicative competence.

II. Mechanism of Language Communication

Before discussing concrete ways of teaching writing, this chapter will discuss how the brain functions in language communication.

A. Neural Networks of Language Processing

The human brain contains an incredibly huge number of neurons, and our language communication is undoubtly a product of the neural network (interconnections of neurons) in the brain. Here is the explanation of the neuron by Diamond, Scheibel, and Elson (1985):

> The neuron (nerve cell) is the basic information-processing unit of the nervous system. Several hundred billion of these cells, integrated into a functional mosaic by untold billions of interconnections, make possible the recognition and interpretation of a myriad of sensory stimuli (understanding), retention of experience (memory), and the elaboration of an enormous range of responses (behavior). (p.2-1)

The question is what on earth the neural network looks like when humans produce "concepts." According to the explanation of traditional and behavioral theories by Loritz (1994), "the (semantic) definition was presumed to trigger meaning associations which would trigger initial phoneme association. These initial phoneme associations would then initiate a stimulus-response chain whose output would be the target word."(p.8-1) In other words, the so-called "semantic network" or "semantic mapping" (see Fig.1) would develop in the brain and target words would be produced. Such a semantic network would be compared to the neural network in the brain ; however, the neural network in the brain is in fact more complicated and heuristic. Recent studies show that the human brain has a parallel-computer-like architecture of neural network where two or more processes are carried out at the same time.

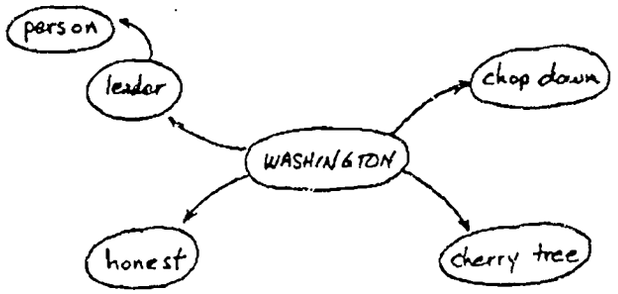

Fig. 1 Semantic network (from Lorits, 1994, Lought and Thanguage, p.8-2)

To visualize such a parallel and competitive model of the neural network, Loritz illustrated how his biological associations of "George Washington" would look using two labels "semantic" and "auditory."(see Fig.2) The semantic node "George Washington" will activate the phoneme node /washington/ as well as other semantic nodes like "honest," "chop down," and "cherry tree." Though the phoneme node /washington/ activates other semantic nodes like "Washington, D.C." and "State of Washington," the semantic node "cherry tree" inhibits the semantic node "State of Washington" because the state is not famous for cherry trees, but for apple trees. Therefore, the node "State of Washington" is weakened and will disappear from his associations. Loritz's illustration can explain how each neuron activates and inhibits other neurons and develops into a parallel and competive network. In fact, not only "semantic" and "auditory" but also other labels such as "lexical," "emotional," "visual," "rhythmical," "cultural," etc., are multidimentionally integrated into the neural network of language communication. To look more closely at the neural network, it would be better to refer to the Adaptive Language Theory (Loritz, 1994) and the Fuzzy Adaptive Resonance Theory, (Carpenter, Grossberg, & Rosen, 1991).

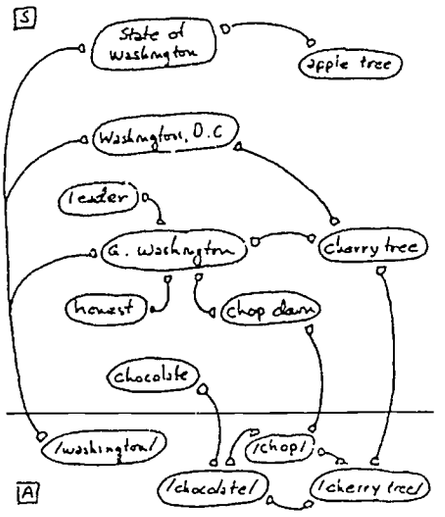

Fig.2 A neural semantic network. [S] = "semantic." [A] = "auditory." [from Loritz, 1994, Lought and Thanguage, p.8-4]

B. Language Lateralization To the Left Hemisphere

Since the French doctor Pierre Paul Broca and the Viennese doctor Karl Wernicke respectively discovered language regions in the frontal lobe and the temporal lobe of the left brain (Fig.3 A & B) from their case studies of aphasic patients (patients who had lost the ability to speak or to understand language) in the nineteenth century, the left brain has been believed to be predominatly involved in producing and understanding language. This language lateralization

to the left hemisphere of the brain and the asynmetry of the brain still have great validity.

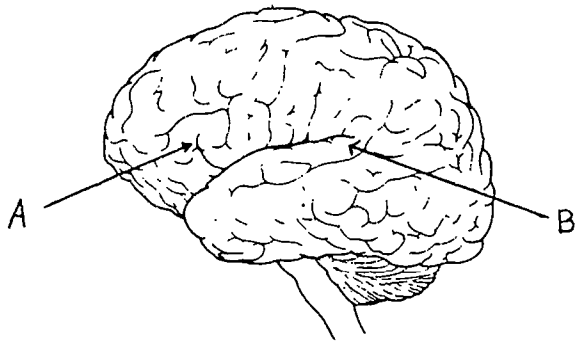

Fig. 3 The location of Broca's area, A, and Wernicke's area, B.

A TV program "The Brain: Our Universe Within" (NHK, 1993) presented the two typical cases to prove language lateralization to the left hemisphere of the brain. The first case was about a Japanese woman named Toshiko, 87, who lost her language ability and movement on the right side of her body after she had a stroke. New imaging techniques by a combination of computer graphics and MRI (magnetic resonance imaging) showed three-dimentional views of her brain, the left side of which was mostly damaged. It is clear that loss of the left brain function caused her aphasia and the paralysis on her right side.

The other case is completely converse to Toshiko's situation. A Japanese man named Tetsushi was paralyzed on his left side after he had a high fever from unknown reasons in his childhood. The technique, as in Toshiko's case, showed that Tetsushi had great damage on the right hemisphere of the brain. It should be noted that he did not lose his language ability although he had paralysis on the left side of his body. It is clear that the loss of the right hemisphere of his brain did not cause his language disability. These two cases show us that language lies in the left brain.

C. Interhemispheric Transfer of Language-related Information

What then is the role of the right brain in language communication if the left brain is dominant for language? Here is interesting evidence to answer this question. Lipcamon, et al (1992) tested 28 normal women to determine the

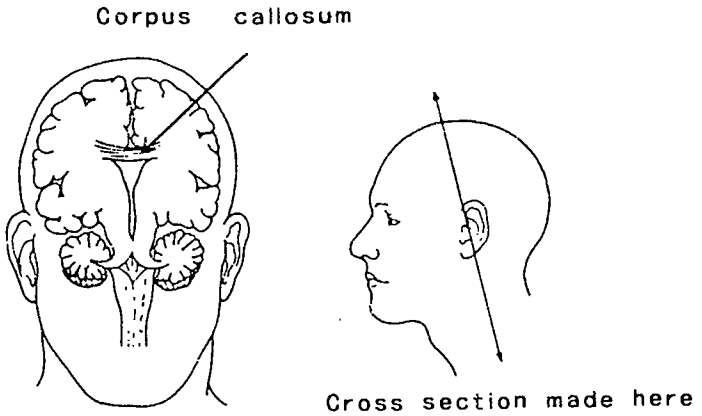

Fig.4 Corpus callosum. [from Springer & Deutsch, 1993, Left Brain, Right Brain, p.5]

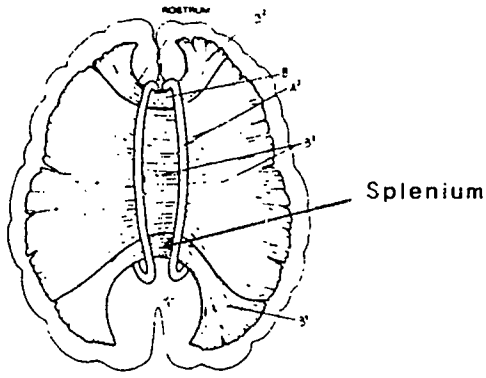

Fig. 5 Splenium. [from Diamond et al.,1985, The human brain coloring book, p.5-33]

relationship between the size of the splenium[2] in the corpus callosum[3] (see Fig.4 & Fig.5) and verbal fluency. The results showed that larger spleniums were associated with higher verbal fluency scores. Then, they suggested that "the splenium may be of particular importance in the human brain for the interhemispheric transfer of language-related information."(p.12) In short, the bigger the splenium is, the more information goes between the two hemispheres, which might facilitate verbal fluency. That is, even though the left hemisphere is dominant for language, language-related information from the right hemisphere has a crucial role in language communication.

D. The Role of the Right Brain

Split-brain research would tell us what sort of language-related information comes from the r ght brain. As mentioned in the previous part of this paper, Toshiko, a patient with critical damage on the left brain, could not

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[2] The splenium is the posterior fifth of the callosum as viewed in midsagittal section.

[3] The corpus callosum is the major nerve-fiber tract connecting the cerebral hemispheres.

use language to express herself (NHK, 1993). However, she could make some gibberish sounds to express her emotions, and she hit her husband over making gibberish sounds when she was upset. As she lost most of her left brain, it is plausible that these gibberish sounds were produced by some sort of signals from her right brain. More surprisingly, she could even sing a nursery rhyme (or she could make sounds well enough for other people to think her singing) even though she did not understand the meaning of the song. Toshiko's case would show that nonverbal information related to music and emotions comes from the right brain.

Springer and Deutsh (1993) mentioned a similar case to Toshiko's: A patient with severe speech disturbance and paralysis on the entire right side of the body could sing hymns which he had learned before he became ill. As his loss of speaking and movement on his right side would come from the left brain damage, this case also suggests that the right hemisphere is involved in music. Moreover, Springer and Deutch refered to a patient with amusia, who lost his musical ability by damage to the right brain. They report that "the right hemisphere is in some way critically involved in music."(p.16) It is plausible again to recognize the existence of nonverbal information related to music from the right hemisphere.

Nonverbal information like imagery and visuo-spatial information also comes from the right hemisphere. Sinatra (1986) quoted the EEG (elctroencephalograph) research with six-to-eight-year-old children by Kraft, et al. and explained the right brain involvement in imagery. The EEG showed that the right hemisphere was activated when the children visualized their experiences. According to Springer and Deutch (1993), "... patients with brain damage in the posterior region of the right hemisphere no longer had dreams."(p.280) They concluded that lack of the right brain function caused the loss of ability to have visual images and emotional ideas, which resulted in the loss of dreams. Springer and Deutch also refer to clinical data: "... patients with damage to the right hemisphere consistently do more poorly on nonverbal tests involving the manipulation of geometric figures, puzzle assembly, completion of missing parts of patterns and figures, and other tasks involving form, distance and space relationships."(p.14) In short, the right brain involves visuo-spatial ability.

Consequently, it is clear that a diversity of nonverbal information comes

from the right hemisphere. Furthermore, nonverbal information has an important role in language communication because our language communication cannot be separated from such nonverbal information as emotions, imagery, or visual perception. For example, even one word "yes" can be used differently in accordance with the speaker's emotion. If the speaker is very happy and is willing to do something, then his answer "yes" would be said quickly, firmly, and emphatically, with a smile. If the speaker feels unsure or worried, then "yes" would be said weakly and hesitantly with a frown. As mentioned in Neural Networks of Language Processing, if the brain is like a competitive parallel computer, verbal information from the left brain and nonverbal information from the right brain would be multi-dimentionally integrated into a complicated neural network of language commninication. Sinatra (1983) even noted that "hemispheric integration can be facilitated when the right hemisphere is given a commanding role in stimulating the verbal."(p.6) Here are some generally accepted characteristics of each hemisphere as noted by Springer and Deutch (1993):

Left Hemisphere	Right Hemisphere
Verbal	Nonverbal, visuospatial
Sequential, temporal, digital	Simultaneous, spatial, analogical
Logical, analytical	Gestalt, synthetic
Rational	Intuitive
Western thought	Eastern thought

(p.272)

E. Hypotheses About Bilinguals

There may be a critical period to acquire a second language, and as we have seen, generally, children master a second language more easily than adults. Children can acquire native-speaker-like accents, while adults usually don't. This is still a controversial issue, and more research should be done on this. However, it is interesting to think of this issue as a matter of the hemispheric involvement in second language acquisition.

Eric Lenneberg would be the first to mention the critical period for the

lateralization of the language functions. Lenneberg (1967) reported that language lateralization to the left hemisphere is postnatal, and it completes its development by puberty. Here is Danesi's remark of Lenneberg's theory (1994):

> "... the brain lost its capacity to transfer the language functions from the LH to the nonverbal RH after puberty, which it was able to do, to varying degrees, during childhood. Lenneberg concluded that there must be a biologically-fixed timetable for the lateralization of the language functions to the verbal LH and, consequently, that the critical period for the acquisition of language was before adolescence." (p.207)

Lenneberg's theory would be more fascinating with a stage hypothesis. Romaine (1995) noted about a stage hypothesis; "... right hemisphere processing is more prominent in the early stages of second language acquisition. As the bilingual acquires greater proficiency in the second language, the left hemisphere takes over."(p.85) These theories seem very plausible because children's language may be fully connected to their emotions, imagery, and visuo-spatial abilities, which may activate the right hemisphere, while adults tend to express themselves more theoretically and logically, which may activate the left brain. However, here is a big question : Don't humans use their right brains in second language acquisition after puberty? Romaine also refered to the quite opposite proposition on this matter. The EEG research by Genesee et al. showed that the late bilinguals (those who acquired the second language after age 12) use the right hemisphere more holistically than other bilinguals (those who acquired a second language before 12).

My personal experience might agree with this. I am a late bilingual doing research at Georgetown University. Before coming to the U.S, I seldom dreamt. But now, I often have dreams. If dreams come from emotional or imageric functions of the right hemisphere, then I am using the right brain more in the U.S. I recognize both my speaking ability and listening ability have improved since I came to the U.S even though I still have a foreign accent. My case shows that the right brain may play an important role in second language acquisition after puberty, besides native-speaker-like accents.

F. Summary of Brain Function Related to Language Communication

Clinical data shows that the left brain is dominant for language. However, language communication is not a product of a unilateral approach to the left hemisphere of the brain. The right hemisphere of the brain also plays an important role. Nonverbal information from the right brain related to our imagery or emotions and verbal information from the left brain are multi-dimentionally integrated into a parallel-computer-like architecture of the neural network of the brain. As a result of this interhemispheric transfer, our language communication is completed. Although the critical period for language lateralization to the left brain is still controversial, it would be useful for language teachers to think about using teaching methods to activate the right hemisphere of the brain so that students can use their brains holistically for communication.

III. Application of Brain Research for the Teaching of Writing

The mechanism of language communication was explained in the previous chapter, and we learned how nonverval information from the right brain plays an important role in our language communication even though the left brain is dominant for language. This chapter will explain how brain research mentioned in the previous chapter can be applied to the teaching of writing.

A. Two Ways of Writing

According to Peter Elbow (1981), writing calls on two skills: creating and criticizing. Writing as a creating skill is literally used to create words and ideas out of our minds. On the other hand, writing as a critical thinking skill is used to revise and edit which words to use. Here are Elbow's words:

> "...first write freely and uncritically so that you can generate as many words and ideas as possible without worrying whether they are good; then turn around and adopt a critical frame of mind and thoroughly revise what you have written —— taking what's good and discarding what isn't and shaping what's left into something strong." (p.7)

The teaching of writing should ideally take students through these two steps (creating and criticizing) in the process of writing. Unfortunately, however, language teachers in Japan are mostly concerned with the final product of writing. Few teachers have knowledge of process writing (prewriting → drafting → revising → editing → postwriting), and very few teachers notice the importance of developing students' creativity through writing. Therefore, prewriting stages such as "mapping (or webbing)," "brainstorming," and "freewriting" are undervalued in Japan. Here is an example of "mapping."(see Fig.6) This figure easily reminds us of a "semantic network" in the brain (Fig.2) According to Carrel, Pharis, and Liberto (1989)," ... categories and associations are indicated visually in a diagram or 'map.'"(p.651) Thus, using "mapping" in class would help the students visually have access to their prior knowledge or background knowledge about the topic and let them start writing

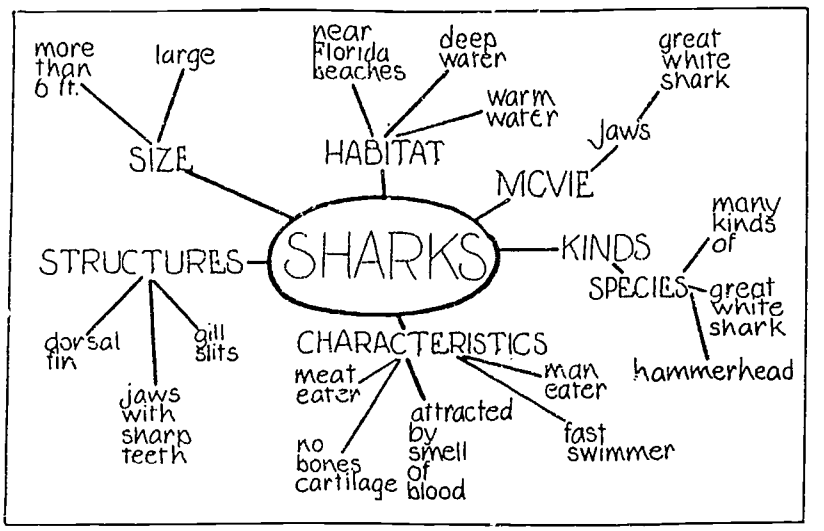

Fig. 6 Mapping [from Carrel et al., 1989, Metacognitive strategy training for ESL reading, TESOL quarterly,23(4), p.652]

easily. More neuroscientifically, Sinatra and Stahl-Gemake (1983) explained this as follows:

> "The shape of the web and the holistic presentation of the material are elements which suit the spatial and visual learning style of the right hemisphere while the words within the web's nodes appeal to the verbal processing ability of the left hemisphere."(p.7)

Therefore, prewriting like "mapping" is a good way to create words and ideas from the writer's mind by activating both hemispheres of the brain. Some disadvantages in the teaching of writing in Japanese high schools, as mentioned in chapter I, could be addressed by these prewriting activities. The reminder of this paper, therefore, is specifically going to focus on "freewriting."

B. What Is "Freewriting"?

"Freewriting" is sometimes referred to as "timed-freewriting," "quickwrite," or "quickwriting." Whatever name people use for "freewriting," the method of writing is the same: to encourage the writer to draw out what s/he has in the mind and to write as much as possible about the topic without stopping within a certain period of time. "Freewriting" belongs to the prewriting stage where creating words or ideas out of one's mind is the main focus. It would be more

helpful to refer to Elbow's explanation about "freewriting" in the book of Writing with Power (1981):

> "To do a freewriting exercise, simply force yourself to write without stopping for ten minutes. .... If you can't think of anything to write, write about how that feels or repeat over and over 'I have nothing to write' or 'Nonsense' or 'No.' .... The only point is to keep writing. .... The goal of freewriting is in the process, not the product."(p.13)

Language teachers who have never tried "freewriting" in class, as I assure there are many in Japan, would think that students would be confused in front of a blank piece of paper, and this way of writing would not work well in class. Actually, students do seem at a loss at the beginning. However, they will soon be successful with "freewriting" if proper explanation is given to them. Therefore, teachers themselves need to know the features of "freewriting" and the purpose for doing it before demonstrating this method in class.

Mullin (1987) mentioned features of "freewriting" by summarizing the claims made by Peter Elbow:

1. Freewriting helps writers write when they don't feel like writing.
2. Freewriting helps writers separate the producing process from the revising process.
3. Freewriting helps writers focus their energy while putting aside their conscious controlling selves.
4. Freewriting teaches writers to write without thinking about writing.

(pp.140-141)

As seen above, "freewriting" has emphasis on the process, not the product. Therefore, students are just required to keep writing without worrying about making mistakes. Errors are not problems in this activity. At this point, "freewriting" is the farthest from other writing activities. The purpose of "freewriting" is not to make accurate sentences, but to express oneself in writing as in speaking. That is,"freewriting" facilitates fluency rather than accuracy. Neuropsychologically, "freewriting" could be a holistic approach to activate both hemispheres of the brain. According to Davis (1992), "'freewriting' is ... a heuristic technique for invention because this free flow

of thoughts from intuition to the writer's paper stimulates natural fluency, insight, and creativity in active thinking."(p.11) "Freewriting" uses not only verbal processing of the left hemisphere, but also non-verval processing from the right hemisphere. This paper is going to explain how "freewriting" can appeal to the nonverbal processing of the right hemisphere, especially focusing on visual imagery, intuitiveness, and emotions.

C. Visual Imagery and "Freewriting"

When people do "freewriting," they may depend somewhat on imagery in their minds. For example, if you were asked to write about your pet, you might visualize your pet. If you have a dog, imagery of your dog will be in your mind and free associations related to your imagery will activate the semantic-graphemic node in your left brain, then your "freewriting" will be produced. Actually, this complicated process is done almost simultaneously on behalf of parallel-computer-like architecture of the neural network. As explained that the right brain is in charge of imagery, "freewriting" can be used as an interhemispheric approach.

Conversely, if language teachers can present materials to activate students' imagery in the right hemisphere, the students will most likely feel more at ease to begin "freewriting." Sinatra and Stahl-Gemake (1983) wrote as follows: "The more that nonverbal experience can be expressed, such as through drawing and painting, music, drama, dance, sculpture, picture taking, map and graph construction, guided imagery, etc., the more will be the schemata developed, and undoubtedly, the richer, the verbal accounting of those experiences."(p.6) "Freewriting" is not necessarily used alone. It can be used in combination with other teaching methods. For example, Sinatra and Stahl-Gemake (1983) showed a combination of guided imagery, drawing and writing. Guided imagery is a way to help students have an imaginary experience through the teacher's oral directions.

> "Close your eyes, relax, and imagine that someone has brought you a gift. It is a very special present./ In front of you, on a table, is the wrapped gift./ See the present in its pretty ribbons and paper./

> Now, slowly unwrap the gift. First remove the bows./ Now, open the paper. There is a box. See the box. Think of the size and shape of the box. ...." (p.10)

After listening to the teacher's direction, students first draw a picture of their imagery, then go on to writing. This Suggestopedic approach to the teaching of writing is very effective to facilitate the students' imagery and and to motivate them to write their personal feelings.

Language teachers could also tap the students' imagery by allowing them to express themselves in drawing as well as writing. In Dialogue Journal Writing with Nonnative English Speakers (Peyton and Reed, 1990) the students with a low proficiency level of English especially show their reliance on drawing to express themselves. This is because they don't have enough linguistic knowledge (vocabulary, grammar, etc.) to write what they want. From the viewponts of communication, writing with drawings would rather be encouraged than denied. Language teachers should recognize again that this kind of writing does not aim for accuracy, but creativity.

In addition, showing visual aids such as videos and pictures would facilitate students' imagery and help them start writing easier. I demonstrated this to 17 ESL students at Oakton High School, Va. First, the students were asked to do "freewriting" about Japan. They were required to write within three minutes as much as possible. Next, they were shown a video about Japan. Then, after watching the video, they were asked again to write about Japan as much as possible within three minutes. The result was interesting. Ten students out of 17 felt it was easier to write after watching the video, while five students felt it was easier before watching it, and two students answered that both were easy. It is noticable that five students showed a negative reaction. This may be because the five students were not motivated to write about the same subject twice. Or it may be because the content of the video was too difficult for the five students to express with their English proficiency, and the video watching inhibited their natural flow of thought. Or it may be because the audience they were writing for was unclear in this activity, and they might have felt at a loss. At any rate, more than two-thirds of the students showed a positive

reaction to writing after watching the video. Thus, it can be said that visual aids help students to write. However, language teachers should keep in mind that not all visual aids are effective to make students start writing easier, and they should be careful to decide what visual aid to present to them.

D. Speaking and "Freewriting"

Generally, writing is regarded as quite a different activity from speaking. However, "freewriting" can be seen as similar to speaking in terms of intuitiveness. As "freewriting" forces the writer to write what he has in his mind as much and as quickly as possible, "freewriting" can represent the writer's natural flow of thought as speakers do through speaking. Both speaking and "freewriting" are the same in that both activities stimulate the right brain function of intuitiveness although both have different passways of neural networks when they are represented. Therefore, it might be possible to think of relationship between speaking and "freewriting."

There are many researchers investigating the relationship between speaking and writing. Tanemura (1992) reported about his three-month modalities for the patients with Wernicke or Broca aphasia. He mentioned that his patients' writing function was facilitated by pre-stimulation of the speech modality. Ochsner (1990) wrote in his book; "... spoken language does model a pace for writing." (p.98) Conversely, Reder (1981) said that he found some evidence of the influence of writing on speaking in spoken Vai which is used in small part of Liberia. Furthermore, Johnsen (1990) mentioned from his experimental studies: "For normal children there is a strong relationship between speech development and reading and writing ability." (p.9) Thus, speaking and writing could be related to each other.

Talking about the relationship between "freewriting" and speaking, there seems to be a much closer relationship between them. Many language teachers who make use of "freewriting" in class would agree with this. I have noticed from my teaching experiences of "freewriting" in class that students who can speak English fluently can write fluently, while students who cannot write fluently cannot speak fluently. I feel there is a strong relationship between speaking

and "freewriting." Empirical studies of "freewriting" using MRI or PET scans would be desirable as well as statistical studies on the relationship between speaking fluency and writing fluency through the use of "freewriting." As mentioned in chapter I, the problem of large class sizes in Japanese high schools makes it very difficult to carry out oral communication in class. However, if "freewriting" has a close relationship to speaking and shares with speaking some parts of the neuromotor mechanism in human communication, and if continual practice of "freewriting" can facilitate the development of speaking ability, then "freewriting" should be highly recommended for use in Japanese high schools. Even if "freewriting" cannot be a surrogate for a speaking activity, it would be useful to teach "freewriting" with speaking. Anyway, it is clear that much remains to be learned about the relationship between speaking and "freewriting." I dare say that "freewriting" could be the key to solving the problem of large class sizes in Japanese high schools, where oral communication is very hard to teach.

E. Emotions and "Freewriting"

"Freewriting" can represent the writer's feelings well. When people do "freewriting," they may use their imagination, which is usually connected to their emotions. Moreover, as "freewriting" intuitively and almost simultaneously represents what the writer has in mind, the writer's feelings are produced straight to the paper. Apart from other writing tasks, "freewriting" has a "voice" like people have in their own speech. Elbow (1981) explained why regular writing usually lacks "voice";

> "... worse yet, if we were graded and judged and told all our smallest mistakes every time we opened our mouths. We'd get painfully awkward and unnatural in speech. For most people, that is how writing is." (p.290)
>
> "we have so little practice in writing, but so much more time to stop and fiddle as we write each sentence; .... ; we have been so fully graded, corrected, and given feedback on our mistakes in writing...." (p.305)

The more accuracy language teachers call for in the students' writing, the less lively and vivid expressions from their hearts come out on paper. Only frequent practice of "freewriting" would make the students' writings have "voice".

"Freewriting" can also help people to release the "affective filter" against language acquisition. As Lightbown and Spada (1993) say, "the 'affective filter' is an imaginary barrier which prevents learners from using input which is available in the environment." (p.28) That is, variety of emotions such as anger, anxiety, fear, tension, etc. interfere with the ability to acquire language. For example, a shy and introverted student seldom ventures out to speak in class for fear of making mistakes in front of his/her peers. However, "freewriting" is non-threatening to students at all because students are not required to write accurate sentences in "freewriting." In fact, shy and introverted students tend to prefer "freewriting." Furthermore, Scovel (1988) noted that only affective factors caused differences between children and adult success in language acquisition. "Freewriting" can be effective to the adult students who are sensitive to making mistakes.

"Freewriting" can be used for psychotherapy, too. Writing freely what the writer wants to write and expressing his/her feelings on paper must refresh the writer's mind. As it is scientifically proven that tears work for catharsis, "freewriting" works for reducing stress, too. Waldspurger reported at WATESOL convention[4] (1994) that journal writing could work for stress reduction of teachers themselves. "Freewriting" can be beneficial not only for students but also for teachers.

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[4] WATESOL = The local chapter of TESOL (Teachers of English to Speakers of Other Languages) in the Washington, D.C. area. The convention was held on October 14-15, 1994.

Ⅳ. Practical Usage of "Freewriting" in Japan

In chapter Ⅲ, I explained how "freewriting" activates the right hemisphere of the brain in terms of visual-imagery, intuitiveness, and emotions. This chapter is then going to mention how "freewriting" can be applied in Japanese high schools.

A. "Freewriting" as a Regular Exercise

Elbow (1981) emphasized that the best way to get "voice" into writing was to do "freewriting" regularly. It is better to regularly have at least five-minute "freewriting" sessions in class. Teachers should present an appropriate topic for the students to write. "Freewriting" would be more efficient if teachers could present helpful visual aids or reading materials related to the topic, which would visually or emotionally motivate the students to begin writing. It is also important for the teachers to set up a comfortable atmosphere to start writing. That is, teachers should assure the students that "freewriting" does not focus on the product, but the procedure, and that they don't have to worry about making mistakes. "Freewriting" aims at developing students' creativity and writing fluency. Therefore, every mistake in "freewriting" should not be corrected in red ink. If teachers do this, "freewriting" will completely lose its main purpose, and teachers will just be teaching grammar through writing and making their students "errorphobic."

Then, how are errors corrected? Whenever I insist on no correction on "freewriting," this question is always asked by Japanese teachers who have enthusiastically dedicated themselves to the Grammar Translation Method. I found from my experiences that even if teachers tried hard to correct errors in the students' writings, nothing was learned by the students without their eagerness not to repeat the same mistakes. Correcting errors would end up just as self-satisfaction for the teachers. Moreover, many teachers in Japan do not know that "freewriting" is only a way of teaching writing and it is just a part of the whole process of writing. Correction should be done in other stages of writing process such as revising and editing. In prewriting stages such as

"freewriting" and "mapping," teachers should not focus on accuracy. Furthermore, teachers should remember that learning rules does not directly lead to acquiring communicative skills. According to Krashen's monitor hypothesis (1981), "conscious learning may not initiate performance: learning may only be used as a Monitor." (p.156) That is, learning is one thing and acquiring is another. I think this difference comes from the gradient of cerebral involvement in language. As I explained in previous chapters, our language communication is due to a holistic approach to both hemispheres of the brain. However, the Grammar Translation Method seems to activate predominantly the left brain in terms of its logical, analytical, and rational feature. Therefore, teachers should activate not only left hemisphere but also right hemisphere by carrying out "freewriting" regularly in class.

B. Dialogue Journal Writing

Supposing that language acquisition results from the process of a social interaction, it would be important to set up "audience" in writing. The writer needs to decide beforehand to whom and for what the writer is going to write. However, in "freewriting" the audience is the writer him/hersef. If "freewriting" has a special audience, it may lose its advantage: a non-threatening of atmosphere free from judgement by other people. If writers become too aware of audience, they will hesitate to express themselves freely. This tendency may be prominent in adults. Rose (1985) noted; "... children are so delightfully self-centered that the audience has little effect, save for sustained, deliberately induced discouragement, particularly from adults" (p.15) In other words, the older people become, the more the idea of an audience will affect them. As a high school teacher, this is not a deniable aspect. To cover this point, dialogue journal writing would be the best way.

A dialogue journal is a kind of "freewriting," but it has a certain audience, a teacher. According to Jones (1991), "Dialogue journals are essentially written conversation between students and teacher, kept in a bound notebook or on a computer disk or file. Both partners write back and forth, frequenty, and over a period of time, about whatever interests them. Their goal

is to communicate in writing, to exchange ideas and information free of the concern for form and correctness so often imposed on developing writers."(p.3) The founders of this method, Peyton and Reed, noted (1990); "... not grading or correcting the writing, and not responding with simple platitude or evaluative comments such as 'Good!' or 'Interesting point!' The teacher is a partner in a conversation, who accepts what is written and responds as directly and openly as possible, while keeping in mind the student's language ability and interests." (pp.3-4) By limiting the audience only to the teacher, and by focusing on the content of writing, not the accuracy, the student can freely express himself. I have had this dialogue journal with two students seperately for over a year. It is difficult to analyze the results because a dialogue journal itself should not be evaluated, but I can say that these two students' writing fluency was improved through dialogue journals, and that they could be familiar with a variety of functional expressions such as apologizing, requesting, or evaluating, which were seldom seen in Japanese classes. These students told me that dialogue journal writing was beneficial because they became used to writing a lot and they could increase their vocabulary. Their vocabulary was increased by looking into a dictionary when they found difficulty in expressing themselves. New words used in their own context are retained in their memory for a long time.

Although correction should not be done in dialogue journals, teachers can let the students notice their mistakes indirectly by answering in correct usage of words and structures. Here is an example from Writing Our Lives, Peyton & Stanton (1991):

> "Mi mothar she liv en Cochabamba."
>
> "You say your mother lives in Cochabamba. Who does she live with there? My mother lives in New York City. She lives with my father, my grandmother, and my little brother."
>
> (p.13)

As you see above, the teacher implies the student's errors by repeating the student's sentence in a proper way. The point is that teacher's role is not to correct the sentences, but to give a message back to the student.

Consequently, dialogue journals are excellent ways of teaching writing. However, these activities require the teachers to spend a large amount of time to read and answer the students' writings. The more students want to do dialogue journals, the more energy and time the teacher will spend for them. Therefore, it is necessary to think of the ways to cope with this problem.

C. Computer Networks and "Freewriting"

Lastly, I would like to comment on a future style of "freewriting" using a computer network. In some Japanese high schools E-mail (electronic mail) is used for students to communicate with foreign students in other countries. This is a nice way to motivate students to write letters to foreign students and to broaden their global views. However, computer networks in Japan are still under development, and the number of users is definitely smaller than that of the U.S. Therefore, it is too early for every high school in Japan to have access to E-mail.

At any rate, it would be useful to mention how computer networks can be applied for the future use in teaching writing in Japan. What interests me most is interactive conversations across the internet.[5] Two persons living apart can simultaneously exchange interactive messages back and forth between them through the internet. The message is on the computer screen with two windows (see Fig.7) According to ACC Guide to Minicomputer Resources by Stoler, "One window is for messages from the initiator, the other is for the recipient. Users can type simultaneously. Their outputs will appear in separate windows on each screen." (p.4-7) This interactive conversation across the internet may be a desirable style of "freewriting." It has audience. If the recipient were a teacher or a close friend, the writer would not have any fear for making mistakes and feel easy to express themselves as in dialogue journal writing. It is especially

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[5] The internet is a network of networks. It is an amalgam of educational, military, governmental, and commercial networks which together provide electronic mail, file transfer, and remote login capabilities at computers worldwide.("ACC Guide to Minicomputer Resources," p.4-1)

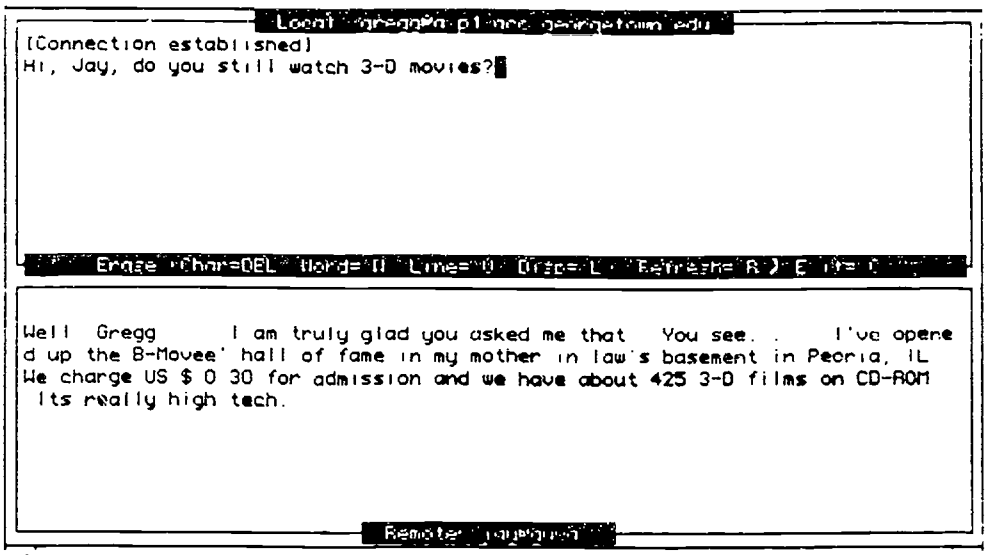

Fig. 7 Outputs in separate windows on the computer screen.
(from Stoler, ACC Guide to Minicomputer Resources, p.4-7)

noticeable that this is a written conversation done simultaneously. Simultaneous interaction makes this writing method ideal.

Now new computer programs can allow multi-users to join the text-based virtual reality and to communicate with each other. One of the programs is the Moo which was originally developed by Pavel Curtis at the Xerox Palo Alto Research Center from an initial body of code provided by Stephen White at the University of Waterloo. Unfortunately, this is too involved a subject to be treated here in detail. Anyway, I can say that more development of computer networks will enormously affect the ways of teaching writing in Japan in the future.

Concluding Remarks

Brain research has had great influence on linguists and language teachers in this century and has produced many theories and methodologies on teaching second languages. Recent studies show that although the left hemisphere of the brain is dominant for language, the less lateralization to the left hemisphere would be better for language communication. Therefore, it is important for language teachers to realize that language communication is an integration of verbal information from the left brain and nonverbal information from the right brain. However, language teachers in Japan have been totally indifferent to this brain research. They have just adhered to the Grammar Translation Method. This method, as mentioned in chapter I, is lacking in fostering creativity, developing fluency, and holistically tapping the brain functions.

However, language teachers can solve these shortfalls of the Grammar Translation Method by utilizing "freewriting" in class. "Freewriting" is a method of creating words and ideas out of one's mind, therefore, respecting the writer's creativity. "Freewriting" focuses on the process, not the product; thus, the writer can express freely what s/he wants to say without worrying about errors. Because of this, "freewriting" does not block the writer's natural flow of thought, which will in turn lead to developing fluency. Furthermore, "freewriting" activates not only the left brain functions, but also the right brain functions of "visual-imagery," "intuitiveness," and "emotions." Therefore, "freewriting" is an interhemispheric approach to language communication.

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