From Input to Intelligence Stamina

YAMAMOTO, Akio

Abstract

Input has been one of the major issues in the fields of foreign language learning, teaching, and research. There have been various kinds of learning and teaching methods that would have been thought to increase the amount of input and some theories examined in research of English as a second language, or ESL and English as a foreign language, or EFL. However, the learners of ESL and EFL may not be able to use English proficiently no matter how much input they have if they do not care about the environmental conditions and their physical condition. The environment surrounding the learners should not be ignored because it always influences their use of English. Language learning in a different environment leads to far from proficient use of language. Stamina is indispensable when they keep using English. Lack of stamina will prevent the learner from executing sustainable language communication. This paper aims to cast a spotlight on the environment of learning EFL and stamina in language use.

Keywords: Dexterity, EFL, Flow, Input, Intelligence Stamina,

1. Introduction

About 1,000 English words are introduced to the learners of junior high school in Japan in three years as per the MEXT[1]'s course of study. Surprisingly, only a small number of high school students manage to use those 1,000 words well. Even university students feel it difficult to use these basic words as they want to. Most of them have difficulty in grasping the meanings of the words that appear in a different context in reading and listening. In speaking and writing, it will be worse. Why is the input of those 1,000 words so poor?

Yamamoto (2003a) started a journey of searching the wonder of EFL beginning with the reconsideration of the Monitor Model[2] and recognizes the importance of the relationship between language acquisition and motor skills, and the one between language learners and their environment,

[1]Ministry of Education, Culture, Sports, Science & Technology in Japan.

[2]Stephen D. Krashen completed the Monitor Model, based on the five basic hypotheses in the late 1970s and the early 1980s.

proposing some new hypotheses and skills such as the Kids-pay-with-sand Hypothesis (Yamamoto, 2006a), the Beach Hypothesis (Yamamoto, 2007), a modified dual iceberg theory, the Reading Stamina (Yamamoto, 2008), and the Intelligence Stamina (Yamamoto, 2010), and introducing some new interfaces of the academic fields like affordance (Yamamoto, 2003a), microslip (Yamamoto, 2004a), dexterity (Yamamoto, 2005), and *flow* (Yamamoto, 2011a). This paper is an overview of the process of the journey mentioned above, the integration of intelligence and motor skills, the role of environment, a paradigm shift from input-output theory to affordance. There is no doubt that a numerous number of ESL researchers and teachers have relied on the concept of input and output. This challenge will be beyond input-output theory.

2. The Monitor Model

The Monitor Model has had a great influence on the research of second language acquisition (SLA), especially on language school education in the ESL and EFL contexts. Krashen stresses acquiring a second language naturally and underestimates learning through formal instruction, which has been greatly supported by a lot of teachers but has been greatly criticized by many SLA researchers.

In the Acquisition-Learning Hypothesis, 'acquisition' is a subconscious process identical in all important ways to the process children utilize in acquiring their L1 and the one the learners do in mastering an L2, while 'learning' is a conscious process that results in 'knowing about' language (Krashen, 1985: 1). In other words, 'acquisition' occurs in meaningful communication of natural settings, and 'learning' is produced in a classroom where the learner is learning about linguistic rules of the target language just like mechanical grammar drills without meanings, which the Oral Approach, one of the most influential language teaching methods based on behaviorism, recommends. Krashen distinguishes 'acquisition' from 'learning' so severely that a lot of controversy has emerged. However, his passion toward the Natural Approach, a method of learning and teaching a foreign language in natural settings just like mastering the mother tongue, has influenced the SLA field.

In the Monitor Model, 'learning' serves only as an editor called Monitor. The learners focus on form, have the knowledge of vocabulary and the rules, and have time to think about and the use of the knowledge consciously. The model is criticized because of the vague definitions of consciousness and unconsciousness and the insufficient amount of scientific supports.

According to the Natural Order Hypothesis, we acquire the rules of language, syntax or grammar, in a predictable order, some syntax rules tending to come early and others late. The order does not appear to be determined solely by formal simplicity. It is said to be independent of the order in which rules are taught in language classes. Krashen tries to stress the superiority of 'acquisi-

tion' in natural settings rather than 'learning' in a classroom.

The Input Hypothesis claims that humans acquire language in only one way – by understanding messages, or by receiving 'comprehensible input' (Krashen, 1985: 2), introducing the formula 'i + 1.' The controversial point is the vague definitions of the terminology; 'i' and '+ 1' The Input Hypothesis provides other researchers with hints of new hypotheses such as Interaction Hypothesis (Long, 1981), Output Hypothesis (Swain, 1985), comprehended input (Gass, 1988), and i – 1 (Day, 1998).

Gass and Selinker describe the difference between input and intake clearly (2008).

> Input refers to what is available to the learner, whereas intake refers to what is actually internalized. Intake is the process of assimilating linguistic material. It is different from apperception and comprehension because they do not necessarily lead to grammar formation (486).
>
> Some of the major processes that take place in the intake component are hypothesis formation, hypothesis testing, hypothesis rejection, hypothesis modification, and hypothesis confirmation (487).

Krashen would say that intake occurs when the learners can receive 'i + 1' through the process of doing with the hypothesis subconsciously.

The 'affective filter' is a mental block that prevents the learner from taking the comprehensible input. When the filter is raised, the learner may understand what he hears or reads, but the input will not be taken. Intake does not happen in this case. It is not considered 'acquisition' but 'learning.'

Krashen has been attacked by the criticisms against the Monitor Model, but he does not give up the idea of the superiority of 'acquisition' in natural settings. He cultivates a new field 'Extensive Reading' for 'acquisition' of the target language in natural settings (2004). 'Free Voluntary Reading,' one variation of ERs, is supposed to enable each of the learners with different levels to have an optimal opportunity to receive an '+ 1' theoretically.

3. Extensive Reading

Extensive reading, or ER, is recognized as one of four styles or ways of reading, the other three being skimming, scanning, and intensive reading (Day and Bamford, 1998: 6). Extensive reading has been paid attention to as one of the most effective ways of learning English in Japan, where English is a foreign language and the students do not have to use English in their daily lives. Natsume Soseki (1906), who was once an instructor of English at Gakushuin, mentioned it about

100 years ago.

> Read as many English books as possible. Skip over some minor parts unfamiliar to you. You will find out the meanings of them if you keep reading to the end. (Natsume Soseki, 1906: translated by Yamamoto, 2004)

ER is more effective in the environment of EFL than in the environment of ESL because the EFL environment offers the learners much less exposure to English than the ESL environment. ER will play a great role in showering English on them. Harold. E. Palmer, another former Gakushuin instructor, who introduced the 'Oral Method' to Japan, emphasizes on both intensive and extensive reading:

> Reading may be intensive and extensive. In the former case, each sentence is subjected to a careful scrutiny, and the more interesting it may be paraphrased, translated, or learnt by heart. In the latter case book after book will be read through without giving more than a superficial and passing attention to the lexicological units of which it is composed. (Harold. E. Palmer, 1917: 205)

> At times read intensively; at others read extensively. At appropriate moments, and for specific purposes, make the fullest use of all sorts of translation; at other moments, and for other specific purposes, banish translation entirely. (Harold. E. Palmer, 1921: 167)

Farrier (1991) believes an ER program in Japan should be done, not only at the college level, but at all levels. Although ER has long been thought a fruitful approach to improve reading ability as mentioned above, only a small number of teachers have tried to introduce ER to their schools. There is no subject like an ER course for English at high school in the Course of Study set by the MEXT. There is no textbook authorized by MEXT for ER.

There are some varieties of extensive reading. Yamamoto (2004a) overviews the varieties of ER programs. The below table shows the varieties of ER:

ER is a meaning-focused activity rather than a form-focused one and will give the learners of EFL an opportunity to use English by themselves. Generally speaking, Japanese university students seem to have a lot of knowledge of English vocabulary and grammar but cannot use them well. Reading books extensively requires not only the knowledge of vocabulary and grammar in the books but also a good command of using them. If they have little ability in using their English knowledge well while reading, they cannot read at a proper speed, 100–200 wpm, and they can't read much material. What is the command of the knowledge of language?

Table 1

Where	In the classroom or Outside the classroom
Term	Long or Short
Task	Yes or No
Evaluation	Yes or No
Learners	All or Voluntary
Choice of materials	Yes or No

(Yamamoto, 2004, modified)

4. Types of Knowledge

At the end of the 20th century, two unique machines were invented in the United States. They were totally different from each other. One was *Deep Blue*, an IBM computer, beating the world champion of chess Garry Kasparov by two wins to one with three draws in a six-game match on May 11th, 1997. It was one of the most successful computers in the type of declarative knowledge. *Deep Blue* had a vast amount of data of moves in chess and found the best move in almost every situation in chess. All the information had to be prepared in advance. The knowledge *Deep Blue* possessed was also categorized into procedural knowledge because they were the data of strategic patterns of moving chess to win. The other was *Genghis*, a robot created at MIT, the character of which was beyond declarative knowledge and procedural knowledge. It was applied in the exploration on Mars, where it was quite difficult to predict what would happen while moving there. *Genghis* had little data in it and each move was determined after interaction with the environment around it (Brooks, 1999).

In reading, people perceive the words and structures of the sentences in the paragraphs of a story, recall the information of the words and structures in their mind, match the sounds and meanings of the words, and follow the story almost at the same time. The knowledge of the words and structures in their minds and those in the story are not exactly the same, but just similar. The meanings of words are different in different contexts and if we use the input-output idea in order to explain the process of reading, the readers have to deal with many sub-tasks of reading task at the same time. Moreover, they have to adjust the knowledge in their minds to match the meanings of words appearing in the story just like *Genghis* moving on rough ground where little information is available in advance. It is a matter of fact, but it is impossible to experience the same situation for each word appearing in the book that you have not read before because you have not read it. The world of chess and the real world surrounding us are totally different. *Deep Blue* was able to prepare for everything it was going to do because it possessed all the procedures of acting in the world of chess. However, the real world surrounding us is always changing and difficult to predict.

The Japanese learners of English are considered to be rich in vocabulary and know English grammar well due to the training of intensive reading. Students at school are drilled to memorize a lot of words and grammar, and trained to translate from English to Japanese or vice versa. However, they feel uneasy when they read English without confirming the translation of it in Japanese. It seems even difficult for them to read English textbooks that are for those who are two or three years junior to them. Yamamoto (2003b) finds that 12th graders feel it difficult to read English textbooks for 8th graders if they are not allowed to access the Japanese translation of them. It will be very difficult even for university students to read high school textbooks for 10th graders smoothly for half an hour (Yamamoto, 2011b).

There seem to be three stages that EFL learners experience in class. In the first stage, the learners will think they have learned certain English words or grammar items and have confidence in solving some questions about them, but cannot use them outside the classroom. The knowledge in this stage will be categorized into declarative knowledge, or knowing *that* (Ryle, 1949). Krashen would categorize learning in this stage into conscious learning. It can be called explicit knowledge (Ellis, 2009).

In the second stage, the learners have practiced using certain expressions a lot of times to learn by heart, and they will think that they can use the expressions they learned in class, but in the same context where they learned the expressions just like some fixed expressions in the fast food restaurant. They can use the expressions automatically, but it seems difficult for them to use them in a different context. They are used just in the fixed context. The product of this learning is called procedural knowledge, or knowing *that* (Ryle, 1949). Ellis (2009: 11) mentions that implicit knowledge is 'procedural' in the sense of the ACT-R and explicit knowledge is declarative.

In the third stage, the learners can use the expressions properly in the context they encounter after the training in a real setting of language use. The product of this learning will be called conceptual knowledge (Hatano & Inagaki, 1983). The learning style is unconscious or implicit in different contexts and the product of the learning is implicit knowledge in different contexts. Hatano & Inagaki (1983) categorize the learners into three different levels. Those who are immature are categorized into inexpert. Those who possess procedural knowledge are called routine expert. Those who possess conceptual knowledge are called adaptive expert. Table 2 shows the types of learning and knowledge.

Yamamoto (2006b) finds that the wpm of the Japanese university students reading texts of high school is 57 wpm. Slow reading, around 50 wpm, will make it quite difficult to keep reading extensively. They spend more energy on identifying the meanings of words and phrases and analyzing the structure of the sentences and have difficulty in following the story of the text.

Table 2: Types of knowledge, expert, learning, and use

	I thought I learned it but cannot use it well.	I thought I learned it but cannot use it properly in the context.	I can use it properly in the context.
Types of knowledge	declarative knowledge	procedural knowledge	conceptual knowledge
Types of knowledge	knowing that	knowing how	
Types of expert	inexpert	routine expert	adaptive expert
Conscious/ unconscious	conscious learning	unconscious learning and automaticity in the fixed context	unconscious learning and automaticity in different contexts
Explicit/implicit	explicit knowledge	implicit knowledge in the fixed context	implicit knowledge in different contexts

5. Affordance

Although language learning occurs in the environment surrounding the learners, the environmental factors have been focused on far less than the internal factors inside the learners. Kramsch (2002: 1) points out that the language learner has been seen as an information processor that receives input from caretakers, teachers and peers, processes this input into intake, and, ultimately, produces output of a measurable kind. However, language should be seen as a tool for getting other things done, and the focus should be on the way language practices are organized within members of a community of language users (ibid, 2002: 2). What language learners receive is not 'input,' but 'affordances[3].'

The concept of affordance implies the complimentary nature of the creature and the environment. The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill (Gibson, 1979: 127). Van Lier (2000: 252) points out that what becomes an affordance depends on what you do, what you want, and what is useful for you. Anything around us can offer different affordances to each of us. For example, a bottle of Coke does not mean anything but trash for adults, but it can be a treasure for children. They can use it as a ship in the bath tab, an insect cage, or a tool for sand-play. However the bottle does not change at all. Affordances just exist. Some of them can be taken by some of us in a certain context, but they cannot by the same persons in different contexts. It depends on perceivers and the contexts whether affordances can afford something to the perceivers.

If the language learner is active and engaged, he or she will perceive linguistic affordances and use them for linguistic action. If the learner is not, he or she will not perceive any affordances as language. The same input cannot be the same intake.

If we apply the analogy that a forest is an environment for reading, the whole story can be

[3]Affordance is a term coined by James J. Gibson in the late 1970s.

'forest' and readers can be 'animals living in the forest.' Words can be 'leaves of trees,' 'trunks,' and 'fallen trees.' The words of the story always exist, but their meanings vary from reader to reader.

Van Lier gives us a good explanation of the relationship between language learning and its context.

> Knowledge of language for a human is like knowledge of the jungle for an animal. The animal does not 'have' the jungle; it knows how to use the jungle and how to live in it. Perhaps we can say by analogy that we do not 'have' or 'possess' language, but that we learn to use it and to 'live in it.' (van Lier, 2000: 252–253)

Edward Reed proceeds how to use affordance given from the environment. He claimed that we humans would do things before we could do them. A child's learning of actions often starts before he or she has any real autonomous ability to realize the affordances toward which the activity is directed (Reed, 1996: 149).

6. Microslip

When the situation where they learned the word is different from the one where they try to use it, it seems difficult for them to recall the meaning smoothly. When the two situations are different, the learner may not have access to the meaning of the word they learned. There might be few triggers to reach the meaning. However, it is rare to have the same context as the one where they learned the word. Even when we think we set up the same context in language use, we may not recall the word's meaning. The environment around us is always changing. We cannot expect exactly the same situation as we had. We need to adjust the knowledge and experiences we have which are similar to the new situation. Microslips occur in such situations. The more different the situation is from the one where they learned the word or expression, the more microslips they have when they try to use it.

Microslip was observed by Reed and Shoenherr (1992; Suzuki, 2001) as a sequence of minor corrections of hand movements in a situation of making coffee and identified four different types of microslips; hesitation, trajectory change, meaningless touch, and hand shape change. If we put the concept of microslip in EFL context, we may make a good explanation of the reason we can't use certain expressions we believe we 'know,' and of the reason we can use the target expressions more fluently if we have a repetition practice, we have the same situation as we learned the expressions, and use chunks.

Godden & Baddeley (1975; Takano, 1995) and Isarida & Isarida (1999) explored the effects of

contextual changes by comparing the recall rate of words which were learned in one context and were recalled in another one. Godden & Baddeley examined how many words the subjects recalled the words on the land or under water after learning those words on the land. They also tried the other way round. The results show that different contexts might reduce the recall of words. Isarida & Isarida conducted three naturalistic experiments in order to investigate the context-dependent memory induced by contextual changes between class and intermission. The results revealed clear context-dependent memory.

A different context surrounding you may affect you when you recall a target word. The more different the contexts are, the more microslips can happen. We need to contrive a way to learn words or expressions in order to reduce microslips. There are three possible ways to decrease such microslips.

One is to modify the environment surrounding you for recalling. Make the environment around you easier to recall the target word. The transformation of objects in EFL is like changing a difficult expression into an easier one.

The second way to decrease microslips is to have more repetition practices. It is a matter of course that we need to rehearse the target expressions. It may work more effectively if you consciously rehearse the practice in order to automatize the sub-tasks of one task and when we move one sub-task to the next one, there is likely to be a microslip.

In addition to that, repetition practices in different contexts may facilitate decontextualization, in which episodic memory is transferred into semantic memory (Smith, 1988; Isarida & Isarida, 1999). It is almost useless if you can only use the target expression exactly in the same environmental context as the one where you learned it. When you decontextualize the target expression, you reach the level of utilizing it. The knowledge is leveled up to conceptual knowledge.

The third way to decrease microslips is to unify subtasks into one. We may be able to decrease the possibility of microslips. Suppose you read the passage 'This is the house that Jack built' word by word like 'This – is – the – house – that – Jack – built,' and it may be difficult to remember the sentence. If you read the words 'this is the house' and 'that Jack built' just as chunks, it will be much easier.

7. Dexterity

Foreign language learning research has been done on the basis of input-output paradigm. However, this kind of research approach needs to control unnecessary factors in the environment surrounding the learner. Another problem of the linguistic-oriented research is the same as the ones of Pavlov's stimulus-response theory. Dexterity, one of Bernstein's main works, may guide us to a new type of research in order to solve the problems of environmental factors and Pavlov's

problems in EFL and ESL.

Bernstein's view in biomechanics and physiology may help us grasp the image of language skill acquisition. Dexterity is a capacity or an ability defining the relationship between the nervous systems and skills. The level of motor dexterity defines how quickly and successfully a person can develop a certain motor skill and what level of perfection he or she is able to reach. Although both exercisability and dexterity are certainly exercisable capacities, they both stay above all the skills, ruling them and defining their essential features (Bernstein, 1996: 208).

The accumulation of learning in a specific domain may allow us to acquire a skill or knowledge for a specific domain and to enable us to use it in such a specific domain, but that's not what happens. We are sometimes able to use such a skill or knowledge in different situations and become more creative (Nomura, 2002: 110).

Bernstein (1967; Newell, 1996: 412–415) proposed three stages of learning. These stages capture the change in the major qualitative categories of movement dynamics in motor learning and development. Newell (1996: 413–415) briefly outlines the framework:

> The first stage in learning is characterized by coordination solutions that reduce the number of degrees of freedom at the periphery to a minimum. This freezing strategy effectively reduces the number of biomechanical degrees of freedom that need to be coordinated and controlled.
>
> The second stage is to release the freeze on the constrained degrees of freedom. Eventually, the coordination solution of a skilled performance will incorporate all possible degrees of freedom at the periphery.
>
> The most advanced level of motor learning corresponds to the system's utilizing entirely the reactive phenomena that arise from the interaction of the organism with the environment. In this stage, the coordination solution exploits, rather than resists.

Basically learning itself is done in a specific domain in everyday life (Nomura, 2002: 110). Foreign language learning does not occur in a laboratory, either. It is quite difficult to control the learning environment if you want to know the longitudinal effects of learning and teaching. Bern stein's approach on dexterity will pioneer a new way to research. The approach tries to explain the structure of skills to be acquired and set up stages to acquire those skills. The researchers can identify the progress of learning based on the stages the learners reach. Bernstein's Level D, Dreyfus and Dreyfus's Stage 5 (1986), and Nomura's Mastery Level (1989) seem to have something in common. They all focus on performers' skills and their actions in the environment surrounding

them. The concept of affordance and microslip may help guide us in the quest of finding more similarities among those concepts and setting up a new paradigm of language skill acquisition research.

8. Kids-play-with-sand Hypothesis

Human beings are basically fond of learning and playing and children learn a lot of things they need in life through play that contains secrets to learning from the time they are born. The sandbox is the world of creativity for children. They can develop the skills of making dumpling cakes of sand according to their skill levels. No one wins and no one loses. Rather, they sometimes combine their ideas and skills and build something and make holes in the walls. They easily forget that they are hungry, thirsty, or they have to go home. The children are eager to play with sand until they are told to stop it. Children like playing with sand, the concept of which may help us understand a new learning environment where learners can master English gradually and steadily at their own pace.

The Kids-play-with-sand Hypothesis (Yamamoto, 2006a) introduces the world of creativity in EFL reading and recommends extensive reading. In the Kids-play-with-sand Hypothesis, learners will open the pages of ER books as naturally as kindergartners play with sand when they go there if they have easily accessible resources and easy to understand and interesting stories. They will be absorbed in reading ER books and it will increase their English abilities.

We teachers tend to think that learners need to learn grammar and vocabulary first and reading next, or listening and speaking first and reading and writing next. However, any kid can enjoy picture books even though they don't even know their first language. All we have to do is to take children to the sandbox, give them plenty of time, and let them play there.

Preparation of ER is easy because all you need is a paperback and time to read. However, most EFL learners cannot read a paperback by themselves due to lack of English ability. There must be a proper design of educational environment for them to acquire such abilities. There must be some teachers' roles. The Beach Hypothesis (Yamamoto, 2007) may be able to satisfy both needs.

9. Beach Hypothesis

The children know how to play in the sandbox, but we need to tell how the learners use those books in the bookshelves. The hypothesis also misses the role of the teachers in the class. The Kids-play-with-sand Hypothesis does not show how we can learn to read extensively. It does not show the design of curriculum. The teachers are to give certain help to the students when they read graded readers (GR). They are to give advice to the students such as guiding the learners to some book series suitable for them, stopping them from reading the materials beyond their levels, and

facilitating their reading a lot. It will be better for the learners not to overpressure themselves from the beginning. It will be more efficient to take the long way round to move safely.

The Beach Hypothesis offers the theoretical guideline to start an extensive reading program that highlights the advantages of the extensive reading program and how to execute it. Burton, Brown, and Fischer (1999) introduce a paradigm called 'increasingly complex microworlds' when they examine the skills of skiing. In the paradigm, the students are exposed to a sequence of environments (microworlds) in which their tasks become increasingly complex. The purpose of the sequence is to evolve the simplified skills toward the goal skill. The Beach Hypothesis encourages such microworlds to the EFL learners.

A traditional way of conducting a reading class is just like swimming in a pool where there are no waves, no ditches, and no jelly fish. The pool is designed to have fewer dangerous points. It will be easy for the swimmers to swim there because the courses are fixed. The textbook is fixed, the pace to read is fixed, and the topics are limited and there is no choice of topics for readers. That will be artificial, monotonous, and, less-natural. If the level of the reader is fairly high, it will be just like taking the students to the deep sea and putting them into the sea. Some can manage it, but some will not swim anymore. Of course we can develop our swimming skills in the pool. The traditional ways of reading are also important in the EFL curriculum. Here is the comparison between a beach and a swimming pool (Table 3).

Extensive Reading has been recognized as a good way of learning English as a foreign language. When we apply the paradigm of ER to an EFL context, it may be possible to design a new environment of learning English as a breakthrough in EFL research beyond the input-output paradigm (Yamamoto, 2005). However, it is difficult to bring it in the curriculum due to its unique shape of education. Learners learn by themselves and teachers are to take charge of designing an appropriate environment for learning English.

Table 3: Swimming and EFL contexts

Swimming context	EFL context
Swimming pool	Traditional English class
The same lanes Simple scale Almost the same depth Limited directions Basically it is safe	The same textbook The same process and speed Almost the same level of the stories: Limited topics and contents To build up vocabulary and grammar
Beach	Extensive Reading Class
Various types of land shapes Moderate incline A lot of varieties of difficulties A lot of varieties of attractions It has many dangers	Various types of textbooks that are well-graded Different contents for different tastes To experience reading Challenging

Reading English extensively may enable EFL learners to use English in real settings even for a classroom of a non-English speaking country. The world in those books of GR is full of wonders. They will attract the EFL readers and let them read for a long period of time, which will enable the readers to enter the world of English without going to stay in an English speaking country. The difficulty level of reading depends on the learner's choice, or the teacher's advice, which is theoretically close to 'i' of 'i + 1,' which Krashen proposes. Day (1998) may prefer to use it 'i − 1' in the ER context.

In the Beach Hypothesis, learners can choose ER books in accordance with their language levels and their tastes and enjoy reading them as people in the beach enjoy swimming if they have easily accessible resources and easy to understand and interesting stories. They are not demanded to read the book that their teachers choose. They are allowed to read books at their own pace. They are allowed to read picture books that have few words in the beginning. They are recommended to read a lot of books. They will get ready to read picture books that have more words and books that have more and more words with fewer pictures.

It is not how difficult to read the material is but how much you read that counts. The longer you read, the more you will become accustomed to reading and you can develop your reading skills.

The Beach Hypothesis has three propositions that will help the teachers make a design of the ER environment and what students should do there: Graded, Guided, and Guarded. The three Gs will construct a better ER environment for EFL learners.

The books in the bookshelves should be well-graded from few words per page to many, from picture books to non-picture books, from here-and-there topics to abstract ones like a beach, gradually deeper and deeper. Readers will read books that are easy enough as swimmers choose shallower places and swim according to their swimming skills.

There should be a variety of books; GR, leveled readers (LR), and picture books. The role of the teachers will be to guide their students to each series and each level so that the learners can learn what each series is, what will attract them more, and whether it will suit the present English abiliy they possess.

The teachers' role is like a lifeguard on the beach where there are some dangerous spots for swimmers, a steep drop-off, and therefore, there will be some chances of drowning if they accidentally go there. The main role is to protect their learners from the dangerous zones more than to teach them how to avoid drowning.

There are many dangers in the bookshelves. The learners need to know the dangerous places of reading. Some difficult books may attract readers with a sense of adventure. They tend to believe that they can read it or they have to read difficult books that have lots of new words and phrases they can learn. It is such 'industrious' learners that we have to protect. We need to tell them the differences between declarative knowledge and procedural knowledge. Furukawa, Kawade, and Sakai

(2003: 49) propose that Japanese learners of English, regardless of how high an English ability they possess, should use the easiest LR in the beginning, such as books in the *Oxford Reading Tree* Series[4].

The teachers' role here is to design a desirable language learning environment that facilitates the learner reading English a lot by themselves and give proper suggestions and advice to the learners who are not familiar to reading extensively. They may also have to delay starting reading more difficult books. Basically human beings cannot be satisfied with an unchanged environment with easy tasks.

Too much water drowned the miller. Do not swim for a long time at a time, or you will be drowned or you may be tired and will not like swimming anymore. In the beginning, it will be better to read five minutes to ten minutes. If you choose the easiest level of LR such as the stage 1 of *Oxford Reading Tree*, it will take less than a minute to read. If you become accustomed to reading books, you can read for a half an hour or so. If you become more accustomed to reading books, then you can read one hour or more a day. It is the pace that kills. Keeping 100 wpm or more is very important. If you can keep this pace, you may raise the level of GR books.

10. Reading Stamina

It is not as easy as we expect to read English books extensively. There are several factors that prevent EFL learners from reading English extensively.

First, the learners are not accustomed to reading English extensively because they are not trained to do this at school in Japan. They have not experienced reading for such a long time in their regular English reading class. Many EFL learners tend to lose their concentration easily somewhere along the way to comprehending the story when they start to read some pages of an English book. The Course of Study by MEXT does not prepare any courses of extensive reading. Not many schools have a regular extensive reading class. In a traditional English class in Japan, understanding one or a few paragraphs by putting it into Japanese with some explanation of the sentence structures is the main activity of reading, taking a whole lesson of about an hour, which is categorized as intensive reading. Those paragraphs usually contain many difficult words and sentence structures. They have to spend a great amount of energy to grasp the meanings of a few paragraphs. The students would feel it difficult to read those passages in one go without its model translation. Table 4 shows the list of differences between the extensive reading class and the traditional reading class.

Babies feel it difficult to keep standing, walking, or even changing their clothes. We need stamina in the cognitive activities like reading a book as well as in the physical activities. However, the

[4]Leveled Readers widely used to learn English at elementary schools in Britain.

Table 4: The list of differences between the two types of reading class

	ER class	Traditional Reading class
textbooks	LR, GR	MEXT authorized textbooks
Choice of books	Learners can choose books	Usually learners have no choice
translation	No translation task	Translation task mainly
Amount of reading	Read extensively	Read intensively
Reading pace	individually	Together at the same speed
After reading	Reading log	Quizzes or tests
Comprehension	Content-based	Structure-based

stamina used in the brain has been far from the limelight of academic study. This stamina could be discussed in the field of intelligence as long as intelligence plays a significant role in the physical activities as well as in the brain work.

Reading stamina is a new concept of reading skill that has not been perceived and discussed well in the second language acquisition field as well as in the first language acquisition field. Yamamoto (2008) defines a reading skill as a skill that enables us to read a whole book or a number of passages continuously in one block of time, not a few paragraphs or a few passages. The target length of reading time would be half an hour or more. Quite a few EFL learners tend to lose concentration easily somewhere along the way when they try to read English for such a 'long' time because they have not experienced reading for that time in their regular English reading class.

We need to define reading stamina clearly, and verify that it plays an important role in reading. There will be three sub-skills that construct reading stamina. One is to transfer textual information into semantic information. The second one is background knowledge. The third one is concentration which is the ability for a person to work on just one thing. We also have to examine the relationships between reading stamina, concentration, motivation, and English proficiency. The means of measurement also need to be refined.

How do we acquire reading stamina? The good amount of vocabulary and grammar knowledge for the reading materials would be consistent without doubt. However, there are many people who have a large amount of knowledge of grammar and vocabulary but cannot use them well while reading and hence cannot read well. They are considered to have less reading stamina. Quantity of knowledge is necessary, but it is not enough. The quality of knowledge should be taken into consideration. Conceptual knowledge (Table 2) would be required for ER because each word appearing on the book has its context that would be different from the one the reader has learned the word before.

We may find some hints of developing reading stamina through the observation of physical exercises. When you want to develop your physical stamina, low-impact, moderate, and daily aerobic

exercise will enable us to build up our physical strength (Takahashi, 2007: 18). One of the best ways to build up your strength for running a marathon is walking or light jogging. Too much burden is just painful and will lead to poor continuity. We do not seem to consume a lot of energy while reading, but brain activities consume more energy than we imagine.

A brain consumes a lot of energy though it does not seem to be doing so. Ikuta says (2002: 117–118) that the brain uses about 20% of bodily energy consumption in static conditions, and the amount of energy is as large as that of all the muscles in the body. You may remember you feel like having something sweet after struggling with difficult mathematical problems, discussing an endless tiring issue, or studying hard in any subject. Stamina is essential in the workings of the brain as well as in those of the muscles. Light reading will equate to low-impact, moderate, and daily aerobic exercise for swimming or running. Reading of less skillful readers tends to need a massive energy consumption. If you look at the image of PET of those learners while reading, it lights up like a Christmas tree (McGuiness, 1997).

Low-impact, moderate, and daily aerobic exercise in reading will be light reading. Light reading utilizes attractive and interesting materials and has few unfamiliar words and structures. Therefore it does not require us to use a lot of energy consumption on the brain of the reader. Pictures may also help the readers grasp the content of the book and lure them into the story of the book. Accordingly they can keep reading it.

What will light reading provide the reader? Light reading may not guarantee the chance to learn a lot of new words or grammar. However, some skills will be developed so that the learners will improve their proficiency of the target language. Yamamoto (2008) hypothesizes that it is reading stamina that will be developed through extensive reading like light reading. Light reading will enable the readers to be totally dedicated to building up reading stamina because the burden of processing the words and structures and following the story will be small, which means that it does not need much energy consumption.

11. Repetition

It is not an overstatement to say that repetition in learning a foreign language is indispensable. In EFL learning, drills of writing the spelling of words and sentences are typical ways of practicing through repetition. Reading a story aloud hundreds of times is more effective for learning the words and expressions in the story as well as reading skills than reading it just a few times.

Simple physical exercises like walking and running seem like numerous repetitions of stepping on the ground, but in actuality, every step is different from all the others. It is almost impossible to step in the same way as before while walking and running. Those acts that seem different from each other could be considered the same and the action of these acts could be considered 'repeti-

tion' (Yamamoto, 2007). There are a lot of variables surrounding us that will give us different contexts every moment. He claims that learners should consider every act that seems the same as different in repetition and should recognize that every act is done in a context.

You can find those above aspects of repetition in ER. ER has a dimension of repetition though it doesn't look as if it has this aspect. That dimension of 'repetition' is to transfer the forms of English to their meanings on every line in ER in EFL and keep the reader reading a book. This repetition will enhance the readers' English abilities and may enable us to develop the English input-output channel. It is true that we can develop the channel by reading the same passages hundreds of times. However, such a way of learning requires the learners to stick out the monotonous repetition. In addition, just reading the same passage hundreds of times has few different contexts, which will not build the capacities of using English in real life. By contrast, ER will attract the readers and guide them to the world of the books to the end as long as the readers follow the three rules of ER: Do not use dictionaries, skip the line you don't understand, and stop reading if you get bored (Sakai and Kanda, 2005).

12. Input-output Channel

Yamada (2006) believes that there should be a certain device that will turn CUP[5] into the surface features of EFL and vice versa. He devises a new dual iceberg analogy (Figure 1 and 2) and assumes that the input-output channel would play a role in connecting CUP to the surface features of each language. The input-output channel between the surface features and CUP is considered to be a bridge between the forms of language and the manipulation of language in decontextualized academic situations. A bridge between CUP and the surface features in English as a foreign language (EFL) could be developed through extensive reading (Yamamoto, 2009).

EFL learners may be able to learn the knowledge of pronunciation, vocabulary, and grammar without the channel. However, this kind of knowledge is a floating island that is described as part 'a' in Figure 1. It will go away easily, slipping from the learner because this part is not connected to CUP. It will be categorized into knowing *that* (Ryle, 1949). Experience shows that knowledge gained by cramming the night before the examination will not last long like a floating island. On the other hand, part 'b' is connected to CUP because the Japanese language is used at every moment in their life and the Japanese input-output channel.

The connection between 'a' and 'b' will be developed by reading through the translation of English into Japanese. The translation work of English into Japanese tends to become like a cheetah

[5]Common Underlying Proficiency, or CUP is proficiency hypothesized by Jim Cummins in 1980, which underlies the first and second languages and is developed by experience with either language (Cummins, 1980 as cited in Baker, Colin and Hornberger, 2001).

running if the passage is difficult: you cannot read for long just as a cheetah cannot run for long. This connection is weak because part 'a' is not connected to CUP.

In Figure 2, it has the English input-output channel as well as the Japanese input-output channel. The English input-output channel would be considered the products of numerous repetition of the transformation of the forms and their meanings as we have done to build the Japanese input-output channel since we were born.

There would be three factors that will enable us to keep reading English for a long time in addition to English knowledge (Yamamoto, 2009). The first one is a skill to transfer textual information into semantic information automatically. The automatic transformation between form and meaning will be built through a great number of repetition practices done while reading. Such repetition

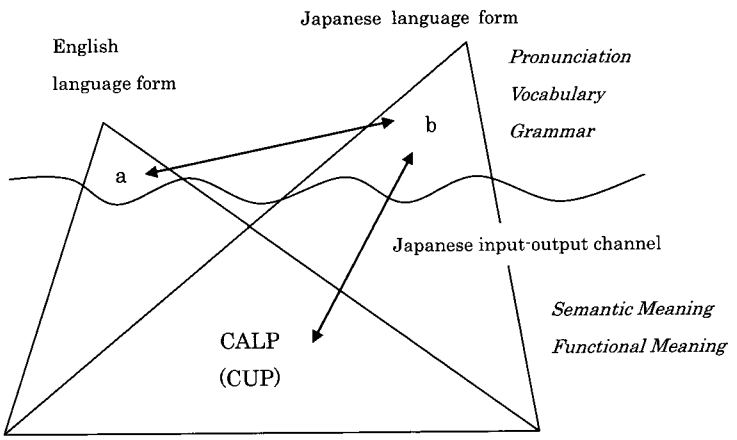

Figure 1: An iceberg analogy of a bilingual speaker of Japanese and English languages 1 (Modified and translated model of Yamada's, 2006)

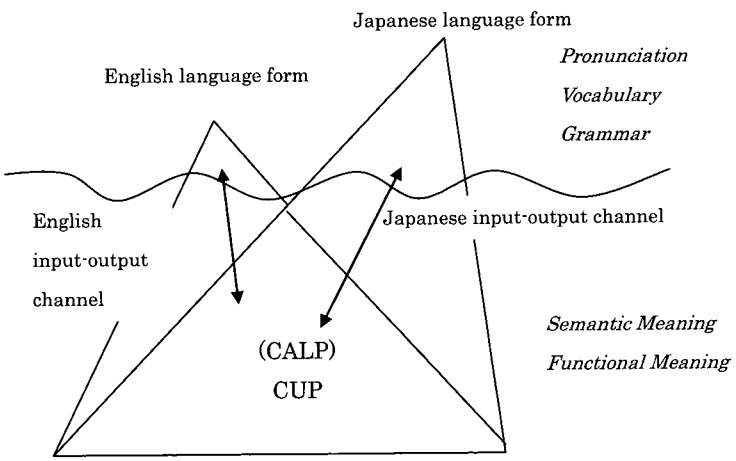

Figure 2: An iceberg analogy of a bilingual speaker of Japanese and English languages (Yamamoto, 2009)

practices in reading will develop the input-output channel between CUP and the surface feature of English. CUP is almost the same as CALP (Cognitive Academic Language Proficiency) in the context of this paper and CALP will be developed through extensive reading as Cummins mentions (Cummins, 2000).

The second factor will be the amount of background knowledge including visual aids that will support the readers to understand the content of the book. Those skillful at English may not be able to read English well in a certain field if they do not know much about that field. An article on genetics in English will be difficult to read if you are not familiar with biology. Moreover, the attractiveness of the reading texts is crucial. As long as the content of the book attracts the readers, even when it is a little difficult to understand, they want to or have to keep reading it.

The third factor will be concentration, by which you can keep working on one thing for a long time. On the surface, reading has just one route of receiving information, which is different from daily conversation, which involves various kinds of non-verbal information, such as gestures and facial expressions. Environmental settings are full of clues that will give us hints to understand what will be appropriate for the situation where we talk. On the other hand, we have to concentrate on the single way of receiving information from a book while reading. Unfortunately, however, it is difficult to focus on one single source among the sea of information. We human beings are curious about everything happening around us and tend to pay meaningless attention to every change in the atmosphere. We have to avoid such stimuli from the environment around us or to ignore those noises; some undesired sound outside, people talking, even some clattery noise of desks and chairs, others' sneezing, coughing, or yawning will prevent the reader from sustaining reading.

13. Intelligence Stamina

Lack of stamina will cause undesirable consequences of performance. Even when you have high intelligence, scanty Intelligence Stamina (Yamamoto, 2010) may affect the use of the intelligence. Intelligence Stamina is a reservoir of knowledge that enables us to work using the knowledge stored in our mind sustainably (Figure 3). The larger our Intelligence Stamina is, the better performance we can maintain for a long period of time. Reading Stamina is a sub-category of Intelligence Stamina. Computer memory can be used as a metaphor. The computer works smoothly when it has plenty of memory available. When the computer has a lack of memory, it works less effectively.

We may be able to build up our Intelligence Stamina if the task is easy and simple enough for us to keep reading just like walking, jogging slowly and light reading. Playing with sand, Origami, and playing Lego[6] building blocks are considered to be good examples of building up Intelligence

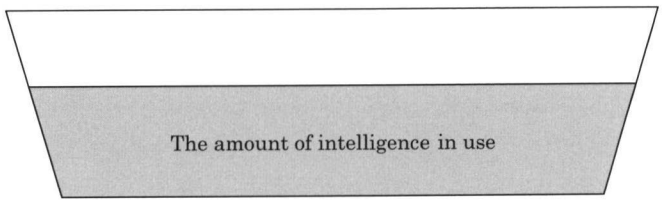

Figure 3: Reservoir of Intelligence

Stamina in childhood. In order to develop the children's Intelligence Stamina, the role of the parents will be to let their children keep reading as long as they want to. Hayashi (2007) points out the necessity of 'Morning Reading[7]' at school because the behavior of students improves when the 'Morning Reading' project works well at school. Yamamoto (2010) mentions that the project as well as ER programs for EFL learners may develop Reading Stamina, which is considered under the umbrella term, Intelligence Stamina, and therefore the students can control their behavior well.

How much can we fill this reservoir with intelligence? The amount of intelligence available for use will depend on our motivation. Even when the tennis player still has some physical stamina, the player cannot win the game if he or she does not have a strong will to win the game.

14. Flow

In the Kids-play-with-sand Hypothesis and the Beach Hypothesis, EFL readers can enjoy reading English as long as they have a chance to read English books that are easy to understand and enjoyable enough in a certain setting where the readers are apart from noises that may prevent them from concentrating on reading. The state of devoting yourself to doing what you want to do can be seen in various kinds of human activities such as playing games, rock climbing, dancing, and even operating on a patient in surgery. Mihaly Csikszentmihalyi notices that people have quite similar *flow* experiences when each of them feels happy, no matter how different they are in age, sex, fields, cultures, or countries. His examinees report that they feel happy, lose their sense of time, and do not need anything else when they dedicate themselves to doing their work. Csikszentmihalyi (1975, 2000) calls this optimal experience of these different activities *flow*.

The metaphor of *flow* (Csikszentmihalyi, 1997) is one that many people have used to describe the sense of effortless action they feel in moments that stand out as the best in their lives. Their ac-

---

[6]The LEGO Group is a privately held company based in Billund, Denmark and is engaged in the development of children's creativity through playing and learning. (http://aboutus.lego.com/en-us/lego-group)

[7]The project of 'Morning Reading' was started in a high school in Chiba 1988 and spread all over Japan. The present number of schools that have introduced the 'Morning Reading' project is over 27,000. (http://www 1.e-hon.ne.jp/content/k_46-0215.html)

tions are done as smoothly as a train runs on the rails. The degree of freedom, or unnecessary movement is almost zero. For athletes it is 'being in the zone,' for religious mystics, it is being in 'ecstasy,' and for artists and musicians it is aesthetic rapture. Athletes, mystics, and artists describe their experiences similarly when they reach *flow*, though their acts are quite different from each other. We assume that readers in ER will be in the state of *flow* as his examinees in various fields.

Csikszentmihalyi (1996) suggests that there are nine main elements of *flow*. Those elements may give us hints of success in ER: 1. clear goals every step of the way, 2. immediate feedback to one's actions, 3. a balance between challenges and skills, 4. actions and awareness merged, 5. distractions excluded from consciousness, 6. no worry of failure, 7. self-consciousness disappearing, 8. sense of time distorted, 9. autotelic.

People put themselves in the state of *flow* easily when they face a clear set of goals that require appropriate responses, such as card games, soccer, or karaoke, which have goals and rules for action. The players just try to do the right thing in the right way according to the rules for the goals. ER will be successful when the readers have clear goals and rules for ER as the Beach Hypothesis suggests. Excellent examples of ER programs are 'Yomu-bee[8]' in Yamanashi (Kanatani et al. 1990) and 'ER to One Million Words' by Sakai (2002). Nishizawa, Yoshioka, and Fukada (2010) verifies that one-million-English-word-reading is worthwhile.

The readers can receive immediate feedback if they choose slim volumes of LR. They can easily reach the end of the book and understand the story fully in a short time. Reading a book cover-to-cover gives the readers a sense of satisfaction. Keeping a reading log will also increase the chances of immediate feedback. The teachers should assist the ER learners to keep a reading log by themselves.

Csikszentmihalyi (1997) says that the *flow* experience acts as a magnet for learning – that is, for developing new levels of challenges and skills. If the challenges and skills meet ideally, a person would be constantly growing while enjoying whatever he or she did. You will be in a state of *flow* in ER English books extensively if you select the right level of English books on the basis of your reading stamina in addition to attractiveness for you, and then you will develop your reading stamina gradually. If you take thick books, you will run out of your reading stamina easily.

When the readers enter the world of the story and become like one of the characters, their reading is merged and any distractions are excluded from their consciousness. A skilled person makes the tools part of his or her body or mind and assimilates them as if they were part of the body. Ichikawa (1975; Nomura, 1989: 157–179.) calls it 'kumikomi,' or assimilation. An expert tennis player may make his or her racket a part of his or her hand and use it like his or her hand naturally.

---

[8]The learners attending the project keep their reading record based on difficulties of ER books they read like 0.2 km and the goal is of course 42.195 km.

We may apply this idea to knowing *how*. An expert reader may enter himself or herself into the story of the book while reading it and become part of the book. It is as if the reader is always becoming the last piece of the jigsaw puzzle in each scene of the story while he or she reads the book. Comprehension is completed when the last piece is put in successfully. The school library is a good place to read and facilitate access to the book world because it is basically a quiet place. The students know that they are supposed to be quiet there. The books surround the students and a silent pressure is exerted on them.

In the state of *flow* while reading, the readers are too involved to be concerned with failure. It is like a feeling of total control. If the readers read a lot of slim books and gain a lot of successful experiences, it will build their secure feeling about reading English books and make them feel that they will reach the end of another English book easily the next time too. If you choose a difficult book as an ER book, the fear of failure may increase.

The term *autotelic* literally means 'a self that has self-contained goals,' and it reflects the idea that such an individual has relatively few goals that do not originate from within self (Csikszentmihalyi, 1990). You will be in a state of *flow* if the task you have to do and your abilities for the task are well-balanced. In a state of *flow*, you do not want any extrinsic rewards but keep seeking an optical experience and you are autotelic just like a kid who plays with sand in the kindergarten. (Yamamoto 2006a). The readers will forget time when they are in a state of *flow* just as kids forget time when they are involved with sand-play.

If the readers take a glance at the clock or the watch covertly, they will not be in a state of *flow* and need to change their books because the books do not fit them at that time. The book level and their reading stamina are not balanced well. They might have overestimated their reading stamina and have chosen more difficult books than they can read. When they are just sleepy then and lose concentration easily, it is better to choose easier books. Such advice should be given to the learners but it is impossible for the teachers to give it to them if they read ER books outside the classroom. That is why it is better to have in-school ER class regularly.

Csikszentmihalyi (1997) the *flow* experience acts as a magnet for learning – that is, for developing new levels of challenges and skills. When the book level and the readers' reading stamina meet well, they would be constantly developing their reading stamina more while enjoying whatever books they read.

The nine elements of *flow* suggest what we need in order to succeed in our ER: ER books should be chosen by the students properly. The instruction of choosing books is very important. Reading stamina of the students may change due to their physical condition. If they feel sleepy, then let them choose easier books than usual. The class environment for ER should be carefully organized. The challenge and the skills should be matched. The research of investigating *flow* in ER will be a further challenge to be addressed.

15. Conclusion

The present paper is an exploratory study with a mission of examining the relationship between the EFL learners and their environment, and seeking the importance of sustainable physical factors in language use. The same context that you meet a word in does not happen again. Only similar contexts may happen or can be created artificially. This is what EFL classes create for the EFL learners. The learners have to modify their knowledge of language they acquire through the experience of language use in order to make it work in the constantly changing environment. Microslip may help us understand how we should modify our actions in order to fit ourselves in to this constantly changing world. ER classes may create the learning world where the EFL learners can practice numerous repetitions of transferring the forms into meanings naturally and effortlessly, with fun if the Kids-play-with-sand Hypothesis and the Beach Hypothesis work. ER may provide the readers with a state of *flow* and build Reading Stamina, a sub-category of Intelligence Stamina. Dexterity may help us find the best way of using English by reducing the degree of freedom. Experts make the degree of freedom close to minimum in dexterity avoiding superfluous movements and put themselves into *flow*. In *flow*, acquisition may happen because the learners devote themselves to language use naturally for a long period of time. ER may serve as such an ideal setting for acquiring English in the EFL class. ER is totally different from a traditional EFL class, which Krashen considers the place of 'learning,' not 'acquisition.' We may now understand the reason Krashen has been firmly attached to his acquisition-learning theory.

16. References

Baker, Colin and Hornberger, Nancy H. (Eds.) (2001). *An Introductory Reader to the Writings of Jim Cummins*. Clevedon: Multilingual Matters.

Bernstein, N. A. (1996). On Dexterity and Its Development. In LATASH, M.; TURVEY, M. (Ed.), *Dexerity and its development*. Hillsdale, New Jersey: Erlbaum.

Bialystok, E. (1978). A theoretical model of second language learning. *Language Learning* 28: 69–84 cited in Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford. 356–357.

Brooks, Rodney A. (1999). *Cambrian Intelligence – The Early History of the New AI*. Cambridge: The MIT Press.

Burton, Richard R., Brown, John Seely and Fischer, Gerhard (1999). Skiing as a Model of Instruction. Ch. 6 of *Everyday Cognition*. Edited by Rogoff, Barbara and Lave, Jean. iUniverse.

Csikszentmihalyi, Mihaly (1975, 2000). *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*. Jossey-Bass Publishers.

Csikszentmihalyi, Mihaly (1990). *Flow.* New York: HarperCollins.

Csikszentmihalyi, Mihaly (1996). *Creativity – Flow and the psychology of discovery and invention.* New York: Harper Collins.

Csikszentmihalyi, Mihaly (1997). *Finding Flow: The Psychology Of Engagement With Everyday Life.* New York: Basic Books.

Grabe, William (2008). *Reading in a Second Language: Moving from Theory to Practice* (Cambridge Applied Linguistics) Cambridge: Cambridge University Press.

Grabe, William and Stoller, Fredricka L. (2011). *Teaching and Researching Reading* 2nd Edition. Harlow: Pearson Education.

Cummins, Jim (1980 April). 'The Entry and Exit Fallacy in Bilingual Education.' A keynote address at the Workshop on 'Comparative Review of Identified District Continua.' At the 9th Annual Bilingual Education Conference, Anaheim, California.

Cummins, Jim (2000). *Language, Power and Pedagogy – Bilingual Children in the Crossfire.* Multilingual Matters Ltd.

Day, Richard R. and Bamford, Julian (1998). *Extensive Reading in the Second Language Classroom.* Cambridge: Cambridge University Press. 16.

DeKeyser, Robert M. (2001). Automaticity and automatization. Ch. 5 of *Cognition and Second Language Instruction.* Edited by Robinson, Peter. Cambridge University Press. 132.

Dreyfus, L. Hubert and Dreyfus, E. Stuart (1986). Five Steps to Novice to Expert. Ch. 1 of *Mind Over Machine- The Power of Human Intuition and Expertise in the Era of the Computer.* The Free Press. 16–51.

Ellis, Rod (2009). "Implicit and Explicit Learning, Knowledge and Instruction." 3–26. *Implicit and Explicit Knowledge in Second Language Learning, Testing, and Teaching.* Ellis, Rod. Et al. Bristol: Multilingual Matters.

Farrier, Glenn (1991). Establishing an Extensive Reading Course in English. *Gakushuin Women's Junior College Bulletin* No. 29.

Feigenberg, I.M. and Latash, L.P. (1996). N.A. Bernstein: The reformer of Neuroscience: *Dexterity and its Development.* edited by Mark L. Latash and Michael T. Turvey. Lawrence Erlbaum Associates, Inc. New Jersey. 247–276.

Furukawa, Akio and Kawade, Mariko (Sakai, Kunihide ed.) (2003). Reading English over One Million Words! (kyo-kara-yomimasu-eigo-100 man-go!) Tokyo: Nihonjitsugyo- shuppansha.: 49.

Gass, S. (1988). Integrating research areas: A framework for second language studies. *Applied Linguistics* 9: 198–217, cited in Ellis, R. (1994). *The Study of Second Language Acquisition.* Oxford. 349

Gass, Susan M. and Selinker, Larry (2008). *Second Language Acquisition – An Introductory*

Course. Third Edition. Oxon: Routledge.

Gibson, James J. (1979). *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin Company. 127.

Godden, G. and Baddeley, A. (1975). Context-dependent memory in two natural environments: On land and underwater. *British Journal of Psychology*, 6, 355–369. cited in Isarida, Takeo. & Isarida, Toshiko. (1999). Effects of contextual changes between class and intermission on episodic memory. *The Japanese Journal of Psychology*. Vol. 69, No. 6: 478–485.

Hatano, Gyoo and Inagaki Kayoko (1983). "Bunka to Ninchi (Culture and Cognition)" Sakamoto, Subaru. (ed.), *Gendai Kiso Shinrigaku (Contemporary Basic Psychology) Vol. 7. Shiko · Chino · Gengo (Thought, Intelligence, and Language)*. Tokyo: University of Tokyo Press.

Ichikawa, Hiroshi (1975). *Seishin-toshiteno-shintai*. (A Body as a Mind.) Keiso-shobo. Cited in Nomura, Yukimasa (1989). *Chi-no-taitoku – Ninchikagaku-heno-teigen –. (Acquisition of iIntelligence – Propositions for Cognitive Science –.)*

Ikuta, S. (2002). *No no kenko. [Brain Health]*. Tokyo: Kodansha.

Kanatani, Ken, et al. (1990). Koukou-niokeru-tadoku program – sono-seika-to-kanousei. (The Extensive Reading Program in High School – its fruits and possibility.) *KATE Bulletin*. Vol. 5.

Isarida, Takeo and Isarida, Toshiko (1999). Effects of contextual changes between class and intermission on episodic memory. *The Japanese Journal of Psychology*. Vol. 69, No. 6: 478–485.

Kramsch, Claire (2002). Language Acquisition and Language Socialization-Ecological Perspective. (eds) By Kramsch, Claire. London: Continuum. 2

Krashen, S.D. (1985). *The Input Hypothesis: Issues and implications*. Oxford: Pergamon Press.

Krashen, D. Stephen (2004). *The Power of Reading. Second edition*. Portsmouth: Heinemann/ Libraries Unlimited.

Long, M.H. (1981). "Input, Interaction and Second Language Acquisition." In Winitz (ed): *Native Language and Foreign Language Acquisition*, New York, New York Academy of Sciences, 259–278. cited in Mitchell, Rosamond and Myles, Florence (1998) *Second Language Learning Theories*. London: Arnord. 128.

McGuinness, Diane (1997). *Why Our Children Can't Read And What We Can Do About It* New York: Touchstone. 155.

Natsume, Soseki (1906). A Contemporary Way of Reading (Gendai-dokusho-ho). *Success (Seiko) Vol. 10, No. 1*. cited in Kawashima, Koki (2000). *English Teacher Natsume Soseki (Eigo-kyoshi Natsume Soseki)*. Tokyo: Shincho-sha.

Newell, K.M. (1996). Change in movement and skill: Learning, retention, and transfer. In LATASH, M.; TURVEY, M. (Ed.), *Dexterity and Its Development*. Hillsdale, New Jersey: Erlbaum.

Nishizawa, H., Yoshioka, T. and Fukada, M. (2010). The impact of a 4-year extensive reading program. In A.M. Stoke (Ed.), JALT 2009 Conference Proceedings. Tokyo: JALT.

Nomura, Yukimasa (2002). Jukutatsuka-to-jiko. (Master of Skills and Self.) Ch. 6 of *Koui-no-shinrigaku. (Psychology of Behavior.)* Edited by Nomura, Yukimasa. Kansai University Press. 157–179.

Palmer, Harold E. (1917). *The Scientific Study and Teaching of Languages*. London: George G. Harrap & Company. 205.

Palmer, Harold E. (1921). *The Principles of Language-Study*. London: George G. Harrap & Company. 167.

Reed, E.S. and Schoenherr, D. (1992). *The Neuropathology of Everyday Life; On the nature and significance of micro-slips in everyday activities.* (unpublished manuscript). cited in Sasaki, Masato, et al. (2003). *Toward an Ecological Description of Actions. –How does body movement specify the environment?– (Sasaki Group Final Report). (http://www.ynl.t.u-tokyo.ac.jp/~nakamura/RobotBrainCREST/e/results/sasaki.html)*

Reed, Edward S. (1996). *Encountering the World-Toward an Ecological Psychology*. New York: Oxford University Press. 149.

Ryle, Gilbert. (1949). *The Concept of Mind.* London: Hutchinson.

Sakai, Kunihide. (2002). *Kaidoku-hyakuman-go. (Extensive Reading over One Million Words with Fun.)* Tokyo: Chikuma-shobo.

Sakai, Kunihide and Kanda, Minami ed. (2005). *Reading English Books of one million words – Extensive Reading File [Kyoshitsu de yomu eigo 100 mango – tadoku no susume].* Tokyo: Taishukan Shoten. 46.

Swain, Merrill (1985). Communicative Competence: some roles of comprehensible input and comprehensible output in its development. In Gass and Madden (eds): *Input in Second Language Acquisition*, Rowley, Mass., Newbury House, 235–253. cited in Mitchell, Rosamond and Myles, Florence (1998). *Second Language Learning Theories*. London: Arnord.

Takahashi, Y. (2007). *Crawl Ga Hayaku Kireini Oyogeruyouninar! (You can swim freestyle fast and beautifully!).* Tokyo: Takahashi-shoten.

Yamada, Yuichiro (2006). *Eigo Ryokutoha Nanika. (What Is English Proficiency?)* Tokyo: Taishukan Shoten.

Yamamoto, Akio (2003a). A Quarter Century after the Monitor Model. *Bulletin of Gakushuin Boys' High school. Vol. 1.* 19–31.

Yamamoto, Akio (2003b). Reading English without the Help of the First Language. Gakushuin Language Education Center Bulletin No. 6.: 16–25.

Yamamoto, Akio (2004a). Microslips in EFL. *The Gakushuin Boys' Senior High School Bulletin 2.* 1–12.

Yamamoto, Akio (2004b). Two Types of Intensive Training Courses for Extensive Reading. *Gakushuin Language Education Center Bulletin* No. 7.: 26–40.

Yamamoto, Akio (2005). Dexterity and Its Development in EFL –Beyond input- output paradigm–. *The Gakushuin Boys' Senior High School Bulletin 3.*

Yamamoto, Akio (2006a). "Kids-play-with-sand Hypothesis" in EFL Reading – Plant the Seeds for Extensive Reading in Gakushuin –. *The Gakushuin Boys' Senior High School Bulletin 4*: 1–9.

Yamamoto, Akio (2006b). "Why Do University Students Have to Read Picture Books in the Beginning?" JSLS 2006 Poster Session at ICU.

Yamamoto, Akio (2007). "Beach Hypothesis and Types of Extensive Reading in EFL." *The Gakushuin Boys' Senior High School Bulletin, 5*, 15–25.

Yamamoto, Akio (2008) Reading Stamina. *The Gakushuin Boys' Senior High School Bulletin 6*: 1–9.

Yamamoto, Akio (2009). Can the Cheetah Catch the Warthog? –Reading stamina in EFL–. *The Gakushuin Boys' Senior High School Bulletin 7*: 1–10.

Yamamoto, Akio (2010). Intelligence Stamina –A reservoir of intelligence–. *The Gakushuin Boys' Senior High School Bulletin 8*: 1–7.

Yamamoto, Akio (2011a). Flow. *The Gakushuin Boys' Senior High School Bulletin 9*: 1–9.

Yamamoto, Akio (2011b). 'Measurement of Reading Stamina (Yomi-no-jikyuryoku-wo-sokutei suru)' Poster Session at The 11th annual conference of the Japan Second Language Association (J-SLA) at Bunkyo University. June 11–12.

Van Lier, Leo (2000). From Input to Affordance: Social-interactive learning from an ecological perspective. edited by Lantolf, James P. *Sociocultural Theory and Second Language Learning.* Oxford: Oxford University Press.

Van Lier, Leo (2002). An ecological-semiotic perspective. edited by Kramsch, Claire *Language Acquisition and Language Socialization.* London: Continuum.