Features of Natural and Formal Language Learning:
An Analysis of Second-Language Learning
in the Classroom

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INTRODUCTION

In the formation of our present concept of second language learning, we have been greatly influenced by two dominant perspectives on language; the naturalistic perspective of language learning and the communicative perspective of language use. In the former perspective it is claimed that a second language should be learned as naturally as a first language is. In the latter, the communicative function of language is given a primary stress in learning practice as well as in the teaching syllabus.

With the advent of psycholinguistics as an independent discipline, first language learning by children has become one of the major research concerns in the field. Coupled with concurrent shifts in the paradigms of linguistics and psychology, this psycholinguistic inquiry has opened a new door to an understanding of the process of first language learning. It has been revealed that children learning their first languages are active contributors to their task; they are not mere absorbers of linguistic input given to them from the environment. Children are considered to be constructing their languages according to their own logic.

In the field of second language learning and teaching, many researchers have turned their focus away from methodological concerns to an investigation of the nature of second language learning itself. This was motivated mainly by "the disillusionment over the teaching method debate and the inconclusiveness of the method research" (Stern, 1983: 110). It was natural that scholars, prompted by the enthusiastic research atmosphere in the study of first language learning, should turn to an investigation of second language learning in natural settings. First language research was followed, not only in the selection of research themes, but also in the methods employed. Acquisition of grammatical morphemes and structural developments of negation and interrogation (in the case of English) were typical examples of research replicated in natural second language learning. Analysis of errors in second language learning was also conducted with reference to those errors having been confirmed in first language learning. It is not surprising, therefore, that the conclusion was reached that a second language is

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learned as actively and self-independently as a first language is. To put it in Dulay and Burt's famous term, a second language is learned through the process of "creative construction" (Dulay and Burt 1975). What is implied in this hypothesis is that second language learners should be left on their own in their task and that any intentional control from outside is not conducive to their linguistic development.

Another notable feature in our conception of second language learning derives from a functional analysis of language, namely, language as communication. It has been clearly confirmed that linguistic competence alone is not enough for effective communication. To attain the functional objective of language, learners have to have "competence as to when to speak, when not, and as to what to talk about with whom, when, where, in what manner" (Hymes, 1972: 277). Without doubt, in natural language learning, knowledge of these rules of speaking is learned along with the development of linguistic competence while engaging in real communication.

In the field of second language teaching, an influential new concept of syllabus organization appeared around the same period. Notional/Functional syllabuses described the content of learning in terms of meanings and concepts (notions) to be communicated and differences of communicative functions. A social view of language, together with the concept of communicative competence, have converged to create the theoretical and descriptive framework of the communicative language teaching.

It should be noted that the creative construction hypothesis has derived mainly from an analysis of the process of natural second language learning. While admitting theoretical and methodological problems with the hypothesis, we may say that it is able to account for some essential features of second language learning in natural settings. A strong position claims that language can be learned only when learners face it in natural communication, and that, therefore, what is essential for the teacher of a second language is to reproduce natural language settings in the classroom. The best methods of second language learning, according to a leading figure of this viewpoint, are "the Input Methods" which simulate natural language learning by supplying learners with linguistic input which is comprehensible to them via extralinguistic information (Krashen, 1982, 1985). An implicit assumption of this claim is that consciously learned knowledge of language ('learned competence' in Krashen's term) does not have any direct relation to the internalization of subconscious knowledge needed for meaning-focused communication ('acquired competence').

A very important argument arises, however, when it comes to the application of the hypothesis in second language learning in formal settings. That is to say, in spite of its intuitive persuasiveness, the naturalistic position of second language learning dose not take into account the conditions that are necessary and sufficient for activating the subconscious process of learning in the class-
room. Research also has shown that the immersion program in Canada, which may be seen as an ideal realization of the naturalistic position in the language classroom, has not achieved full success (Hammerly 1985, 1987; Harley 1986; Lister 1987). Firstly, students’ productive competence in French falls far short of that of native speakers and most of their errors are the results of relying on the syntax of English, their mother tongue. Secondly, their grammatical development ceases at an early stage of the program, when they find their interlanguage sufficient for mutual communication. Thirdly, students do not respond to error correction; their errors have become fossilized. Thus, despite the favorable conditions of immersion, learners do not achieve full competence in the second language. This casts doubts on the claim of the naturalistic position of second language learning in the classroom setting.

The sociolinguistic and communicationist approach exemplified in the communicative language teaching has certainly contributed to our understanding of language and its use. But it is not without problems when it is put into use in the ordinary second language classroom. There are both weak and strong interpretations of the communicative approach. The weak interpretation stresses the importance of providing opportunities to use linguistic knowledge for communicative purposes. The strong interpretation, on the other hand, takes the position that language is learned through communication, so that “it is not merely a question of activating an existing but inert knowledge of the language, but of stimulating the development of the language system itself” (Howatt, 1984: 279).

Concerning the strong version of the communicative approach, it must be kept in mind that while admitting the claim that language is learned through communication in natural settings, it does not automatically lead to the insistence that language can be learned only through communication. It must also be remembered that the object of language learning (i.e. communication) should not be confused with the means for its attainment (i.e. learning activity). We can appreciate this point when we consider the fact that “the original motivation for adopting a communicative approach in the early seventies was remedial, an attempt to overcome the inadequacies of existing structural syllabuses, materials, and methods,” and it was designed for advanced students learning English in Britain who “had ‘already done’ the grammar at home, and were disinclined to go over it all again” (Howatt, 1984: 287).

INTRINSIC FEATURES OF NATURAL LANGUAGE LEARNING

Before commencing a discussion of second language learning in the classroom, it is desirable to consider the characteristics of natural language learning. These are the approximating nature of rule completion, the psycholinguistic nature of internalized rules, the accumulative process of rule automatization, and the simultaneous and integrative nature of total language development. These features can explain much of the process of natural language learning.
The first feature, the approximating nature in rule completion, refers to the gradual, step-by-step development of the structural rule. In learning the rule, learners attain the adult form by passing through some intermediate stages of development. For example, it has been shown that in the learning of English *wh*-question structure, natural learners go through at least four developmental stages before attaining the adult form of the structure (Klima and Bellugi 1966).

An important fact to note is that in the developmental sequence of a structural form, the intermediate structure in each developmental stage depends on the structure of the preceding stage. To put it in more precise terms, the rule responsible for the formation of the structure in one stage is composed by adding a new feature and integrating it into the rule which has already been learned in the preceding stages. It is an approximating process: the structural rule is completed in successive approximation.

The second feature of natural language learning, that is, the psycholinguistic nature of internalized rules, concerns the way learners control the internal process of utterance. Learners do not internalize the surface structures of sentences themselves but rather actively build rules that underlie the surface forms. These rules serve to encode meaning in the realization of the surface forms; they are not mere descriptive knowledge of the forms. To take the interrogative case of English as an example again; what learners internalize at each developmental stage is not the target structure itself, but rules which are utilized in the internal process of generating the structure. Rules are psycholinguistic from the start of their learning.

The third feature of natural language learning is concerned with automatization of rules. It must not be assumed that once learners have learned a certain structural rule they can use it automatically. From the perspective of human information processing, any automatic processing is preceded by controlled processing. That is to say, complex skills are learned and automatized only after the earlier use of controlled processes (McLaughlin et al. 1983). It is also claimed that automatization of a controlled process is attained through an appreciable amount of consistent experience in mapping the same input on to the same pattern over many trials (Carroll 1981; McLaughlin et al. 1983). Natural language learning is no exception in this regard. Learners have to go through an extended period of controlled processing in the operation of structural rules before they can automatize them. But natural learners have ample opportunities and abundant time to achieve this.

Another favorable condition for automatization in natural language learning can be found in connection with the approximating process of rule learning. Along with the stage-by-stage approximation, automatization of rules is completed at each developmental stage and it is accumulated progressively. Taking *wh*-questions again as an instance, the structural rule at each stage has been automatized, at least, before the next stage sets in. Therefore, when they reach the final
stage of the development, learners do not need to automatize the whole of their operation from the very beginning, since a greater part of it has been automatized through the preceding stages.

Along with these three characteristics discussed so far, natural language learning has another characteristic; that of simultaneity. Language is learned with the three characteristic processes working at the same time. That is, structural rules are always learned as psycholinguistic rules at every stage of the approximating development and the automatization of the rules always accompanies the process. If we add a sociolinguistic perspective of language to this argument, we may say that learners attain rules of speaking in parallel with linguistic development. The approximating, psycholinguistic, accumulative, and simultaneous aspects are characteristics peculiar to natural language learning, and we may say that these are factors which make it what it is.

**LANGUAGE DEVELOPMENT IN THE CLASSROOM**

These characteristics inherent in natural language learning can be explained in terms of environmental abundance of learning. These learners receive much linguistic input and it is always accompanied by abundant non-linguistic and situational information, and they have plenty of opportunity for employing the rules they have learned in authentic communicative situations. In contrast with this, formal second language learning in the classroom is most usually characterized by its limited learning environment, simply because these learners do not face the target language once they are out of the classroom. Teaching English as a foreign language in Japan is typical in this regard. Learners start receiving English lessons when they are in the seventh grade (12 years of age). In the ordinal program, they have three classes of English a week (each class lasts forty-five minutes), thirty-five weeks a year. Most normally it is taught with the Audiolingual Method. It is extremely rare that learners have a chance of direct contact with English outside the classroom. Thus, they are exposed to English for about eighty hours a year in the method.

In these poor learning situations, it is almost impossible to expect that a second language will be learned as naturally as a first is. Although it may not be impossible to simulate and reproduce natural situations in our classrooms, it is hardly believable that they will be sufficient for natural learning mechanisms to be activated with any efficiency. It should be remembered, here, the case of immersion in Canada. In spite of its ideal situation for natural learning in the classroom, it has not succeeded in attaining the full competence of the language. It has been pointed out that a lack of social pressure in the classroom can explain the fossilization phenomena in the interlanguage system.

When we take into account the great difference of time available between the typical classroom in Japan and the Canadian immersion, the possibility of natural learning in the Japanese classroom is far more restricted. We must
also notice the fact that while French and English are affinitive languages, Japanese and English are not. This adds to the difficulty of natural learning of English in Japan.

These practical limitations in classroom second language learning force us to postulate a particular process of learning for which it is not reasonable to make natural language learning a model. It is claimed in the following discussion that language must be learned not by an approximating process going through the intermediate stages of development, but in a terminating and complete manner in which complete structural rules are learned from the very beginning. This is most usually done with recourse to the pedagogical grammar. Therefore, it must also be discussed how we should cultivate psycholinguistic rules by way of the pedagogical grammar. And we also have to discuss the necessity of automatization of these psycholinguistic rules, because we can not expect it to come as an automatic by-product of learning as in natural learning.

Recognition of these is not at all new, however. It may date back as far as the beginning of second language teaching. The first of these may be termed approximative-terminative opposition, while the second is subsumed in the code-communication dilemma (Stern, 1983: 405). The third may be called automatization necessity.

Firstly, as long as the learner in the classroom can not be allowed to spend time wading through the stages of natural development, the choice of the opposition must be on the terminative side. It is natural and healthy as well, in my opinion, that a pedagogical grammar is relied upon here. The grammar represents structural rules in their terminative and complete forms. Actually this reliance on a pedagogical grammar is what has traditionally been done in the field of second language teaching. Nothing is new at all. But, concerning the second point, what must be stressed here is that rules in a pedagogical grammar do not directly describe the actual internal process of utterance. That is to say, pedagogical rules are not psycholinguistic in nature. Although many people have discussed pedagogical grammars from a variety of viewpoints, and their practical employment has produced various results, it must be made a common conception of ours that the grammar takes a fundamental distinction between its aim and its substance. A pedagogical grammar consists of structural description of sentences, which only describes final surface forms of the internal process of utterance. In contrast, the aim of employing the grammar in teaching is not to instill the grammar itself in the learner, but to help him internalize rules which directly control the internal process of utterance; rules as psycholinguistic reality. As Seliger put it (1979: 360) “pedagogical rules do have a role in language teaching and learning, not as language production devices or monitors but as cognitive focusing devices to facilitate acquisition and as mnemonic tags to facilitate retrieval under certain conditions.” A pedagogical grammar functions as a kind of catalyzer with whose help a psycholinguistic grammar is formed.
Thus it must be discussed how we can lead the learner to form a psycholinguistic grammar by way of a pedagogical grammar. I am pessimistic and optimistic at the same time on this point. Although it may be reasonable to assume a psycholinguistic grammar on theoretical and experiential bases, our current understanding of its actual manner of function in utterance is very limited. It is, therefore, very difficult or, we may say, almost impossible to describe the function of the grammar in precise terms. This leaves us in a pessimistic position: we can say almost nothing positively concerning the prescription of some effective way of promoting the function of the grammar in our teaching practice. In spite of the pessimism, it must be pointed out as a reliable fact that when an utterance is produced the grammar must always be involved there as long as the utterance is authentic. An authentic utterance is different from a mere sentence production. In the former, the main concern is with the encoding of meaning to be transmitted to others. In contrast, the latter is concerned more with the realization of some syntactic rules in a sentence. Sentence production in substitution and transformation practice of a mechanical type is nothing more than a structural practice. In utterance, structural rules are submitted for the purpose of encoding of meaning. Thus we may predict with some certainty that learners experience activation of a psycholinguistic grammar whenever they engage in utterance. The more authentic an utterance is, the more we can be sure of the certainty. Therefore, what is needed for us in the teaching situation is, after all, to make a situation in which the learner can experience encoding in the form of utterance. This can be done in some types of meaning-focused practice. Thus we can be optimistic.

The argument above is related to the code-communication dilemma. As is already pointed out, structural rules are learned as psycholinguistic from the very beginning in natural learning. Here, it is inevitable that rules are closely connected to the meaning to be encoded; they are never divorced from meaning. In the classroom learning situation, however, structural rules are learned more or less independently of the meaning they encode, whether it is done implicitly or explicitly. This divergence of development in the two learning situations reflects a dual nature of the language code. While the code is utilized for the realization of communication, it has its own systematicity. Thus when rules of the code are first learned with an emphasis on its own systematicity, they must be rendered to serve the functional role of encoding. A solution of the dilemma between code and communication can be seen as a transitional process to the attainment of the functional role of the code system, that is, psycholinguistic rules.

An accumulative attainment of automaticity following the approximative development of rules in natural language learning cannot be expected in classroom second language learning. Here, thus, arises the necessity of their automatization; the third point. There would be no other effective way to foster automatization than having much experience in undergoing encoding processes. In a learning
situation where opportunities for such experience are limited, a special emphasis
must be given on fostering automatization. Thus, this is a burden peculiar to
classroom second language learners.

To conclude our discussion so far. Second language learners in the classroom
most usually learn their target language rules in their complete forms. These
rules are more or less of a metalinguistic nature being formalized on a surface
level and learners must internalize psycholinguistic correlates of these formal
rules by undergoing encoding experience. Automatization of these psycholinguis-
tic rules is one of the major tasks for these learners.

The characteristic of simultaneity of development in natural learning discus-
sed above is an automatic by-product in the learning context. It would be very
difficult to expect learners in the classroom setting to attain a simultaneous
development of the language. Here, each process receives an emphasis more or
less independently in a stage of learning appropriate for each of them, and total
development is expected to come after integrating them.

FINAL REMARKS
Judging from the discussion in this article, it is clear that in spite of the
current enthusiasm for the naturalistic position of second language learning, it
cannot be an efficient model for the learner in the formal classroom situation.
This is especially the case in the acquisition-poor environment, most typically
in Japan. Thus, although the naturalistic model of second language learning
is interesting in itself, it must be confined to the learning situation where
natural processes of learning can be expected to occur in some efficient manner,

Regarding another current fashion of communicative language teaching, it must
be stated definitely that it is one thing to notice the social function of lan-
guage and it is another to lead the learner to attain the function of language in
second language learning. The goal of learning must not be confused with the
means to attain the goal, especially in the initial stages of learning. It should
not be allowed to put the cart (communicative competence) before the horse
(linguistic competence) (Hammerly 1985 : 170). It should be remembered again
that communicative language teaching was originally designed for advanced learners
who had already done the grammar. Thus, in the classroom acquisition-poor
situation, communicative language teaching is better seen as an effective manner
of teaching with which learners can have encoding experience. The experience is
essential for the internalization of psycholinguistic rules and their automatiza-
tion. However, it must be recognized that it is not an efficient manner of teach-
ing of the rules themselves in the learning situation. Communicative language
teaching is one of the manners which should be integrated, at some appropriate
stages of learning, in the whole activity of teaching.

More than two decades ago, Halliday remarked that language teaching needed
"to weave its own net, so as to fish out from the oceans of human experience
and natural phenomena what it needed" (Halliday 1964: 18). The time has come for us to recognize that formal second language learning in the classroom is a distinct type of learning and thus should be investigated in its own right: it must have its own net weaved.

NOTES
1. It should be noticed that in the coming reform of the Course of Study, which is set by the Ministry of Education and gives general prescriptions of teaching in Japan, English is allotted four classes a week.
2. In a country with a high technological development like in Japan, learners can easily utilize equipment such as tape recorders and TV sets. This makes it possible for them to have more input of English in addition to the classroom input. But it is not very clear to what extent the additional input can be expected to be authentic.

REFERENCES


自然的言語学習と形式的言語学習の特徴
—教室における第2言語学習の分析—

自然的言語学習と形式的言語学習を、それぞれの過程に固有な特徴から比較的に分析する。前者の特徴として次の4項目をあげる。1）規則形成の近似的特性、2）内在化される規則の心理言語的特性、3）規則の自動化における蓄積的特性、4）この3つの特徴の同時進行的特性。

形式的第2言語学習をここでは、教室外では目標言語が使われていない社会における学習と定義する。このような学習環境では、第1言語学習と似通った状況を再現することによって自然な言語学習過程をたどる方法は効果的でないことを主張する。自然な言語学習の4つの特徴と比較して、このような限定的な学習環境では、その特徴すべてにおいてそれも保証するのに十分なものがない。従って、形式的言語学習の特徴を次の4項目にまとめることができると結論する。1）学習すべき規則の完成性、2）内在化される規則のメタ言語的特性、3）規則の遂行における自動化的必要性、4）発達の同時進行的特性の欠落。