



## Methods in Second-Language Acquisition Research

メタデータ	言語: English 出版者: 北海道教育大学 公開日: 2012-11-07 キーワード: 作成者: 牧野, 高吉 メールアドレス: 所属:
URL	<a href="https://doi.org/10.32150/00002425">https://doi.org/10.32150/00002425</a>

## Methods in Second-Language Acquisition Research

Takayoshi MAKINO

Since transformational-generative grammars associated with Chomsky's have been rapidly developed, a willingness to seek universal features in human languages became again a goal of linguistics. They are, however, considered and explained in psychological terms as inherent properties of the human mind. Both the acquisition of a first language and of a second language could now be approached as a problem of cognitive learning. Moreover, the acquisition of a second language is seen as a possession of knowledge of a certain kind rather than just as a set of dispositions to respond in a certain way to external stimuli. A language user possesses a set of cognitive structures acquired through some processes, such as data-processing and hypothesis formation, in which the making of errors is an evidence of the learning process *per se*.

Research on a second language acquisition (learning, in a sense) has been taking place these past several years, and it seems to have very important pedagogical implications for the development of teaching materials and instructional methods. The aims of this paper are: 1) to discuss the language tests which are purposely made to elicit language data for adequate research on second language acquisition, 2) to scrutinize the methods in second language acquisition research which is based on error analysis, and 3) to present the implications of error analysis hypothesis already done by Dulay and Burt, and others.

### I. Theoretical Approaches to Language Tests

Carroll has distinguished two approaches to language testing from the theoretical point of view:<sup>(1)</sup> discrete-point tests (DPT) and integrative tests (IT). The first approach, which is based on structural linguistics and psychometrics (Spolsky, 1975b), attempts to measure one and only one component of the grammatical rules of the target language at a time (such as phonological, morphological, syntactic, lexical and semantic components) and one and only one skill at a time (such as listening, speaking, reading and writing). Among others, multiple-choice type tests,<sup>(2)</sup> vocabulary isolation and recognition tests, true-false tests, and matching tests are considered DPTs. Ease of administering and scoring, and a degree of reliability are the advantages of this type of test. Moreover, if the teaching of the target language is discrete-point oriented, DPTs provide diagnostic information more or less as one of the classroom devices. However, DPTs fail in most cases to faithfully reflect actual language use and they demand considerable expenditure of time and effort in writing, proofing, pretesting and revising (Oller, 1975)

In contrast to the DPTs, ITs measure all at one time various components of grammar, and

various aspects of the target language skills. This approach, which is based on transformational-generative grammar, somewhat focuses on measuring the learners' whole language proficiency and their internalized grammar in a real-life situation. Reading skills, cloze tests, dictation, and composition can be considered major test procedures. Oller (1975), among other proponents of this approach such as Spolsky, Upshur and Richards, states that scores on the test of integrative skills tend to correlate better with other IT procedures of language skills than any of the discrete-point tests, because they reflect more nearly what people do when they use the language. This may be true in terms of reliability, but it seems to be doubtful in terms of validity, because it is tremendously difficult to correlate with others, unless one procedure is proved to be valid.

The present writer believes ITs are theoretically better than DPTs in order to measure the learners' knowledge of the language, because native speakers usually have a certain system of grammar and ideas which they are going to express. This is often called an expectancy of grammar (Oller, 1975). Speakers conceive a certain meaning in a context first, then translate it into a meaningful sequence of words, articulate it and finally monitor it for meaning and articulation.

In actual situations, nevertheless, we have to consider both tests in the light of their purposes, types of instruction, length and amount of time of instruction, and also what we are trying to measure. However, if they claim to measure speakers' language proficiency, DPTs may violate the principle that the whole is greater than the sum of its parts. ITs can provide information on the learners' proficiency and deficiency, and discriminate between native and non-native speakers better than DPTs. Moreover, it seems that, in the process of learning a language, children acquire grammatical rules one by one. At a certain stage they overgeneralize and reconstruct grammatical rules. For example, the present writer's boy, at the age of three, after his one-year stay in an English-speaking community of the United States, formed *finded*, *seed* and *goed* instead of *found*, *saw* and *went*. His process of acquiring English seem to result from a discrete point (one morpheme at a time) at this stage. Therefore, we also may have to consider the levels of a speaker's performance in constructing tests in order to measure the speaker's proficiency in the language. DPTs are probably appropriate for beginners especially of a second/foreign language, although ITs may be adequate for the intermediate and/or advanced learners.

## II. Characteristics of Language Tests

In constructing language tests or selecting standard language tests for use in or out of classrooms, the following features have to be considered carefully for our purpose of eliciting language data:

1. Validity : A language test has to measure what it claims to measure and if it does so, the test has to test both the learners' knowledge of a language and their language use. If the test is found to be based on a sound analysis of the skill(s) we wish to measure, and if there is sufficient evidence that test scores correlate fairly highly with the actual ability in the skill areas being tested, we may feel reasonably safe in assuming that the test is valid<sup>(9)</sup> for our purpose. Spolsky (1975c) says, "... In searching for a test of overall proficiency, then, we must try to find some

way to get beyond the limitation of testing a sample of surface features, and seek rather to tap underlying linguistic competence." Judging from his statement above, language tests must take into account the full range of phenomena in communicative competence if language *use* is to be tested. If we fail to consider what Spolsky says, the tests can be said not to be valid to measure overall proficiency in the language.

2. Reliability: This means the stability of scores. If two tests produce similar results (that is, they have high correlation) on different occasions under the same or similar circumstances, they can be considered as reliable. The ways of checking reliability are to test and retest the same test: namely, to give one form of the test to one group of testees and then give it to them again two or three weeks later; or to split the students in half giving Form A to one group and Form B to the other. If the test is not reliable, it is considered not to be valid, either.

3. Practicality: A test should be economical in both time and money. In writing or selecting a test, we should certainly pay some attention to how long the administering and scoring of it will take. What an examiner has to do is to select an instrument which is of sufficient length to yield dependable and meaningful results.

Scoring procedures will be able to have a significant effect on the practicality of a given instrument. Particularly, when a large number of examinees are involved, we need to know whether the test is scored subjectively or is objective in nature. If we plan to use the same test over a long period of time, we will almost certainly need to have some general guidance as to the scoring of the test.

4. Instructional Value: Before writing or selecting a test, the examiner should review the purpose of his language instruction. The kind of test used should be designed to measure the learners' achievement and/or proficiency in the language, in the skills, and in the components learned in a particular language class. Generally, language tests should measure not only the learners' achievement, but also the effectiveness of the teacher's instruction.<sup>(4)</sup>

### III. Types of Language Test Items

Language tests are usually divided into four major components: listening, speaking, reading and writing. Listening and reading can be categorized as perception tests and the other two as production tests. It is not adequate nor appropriate enough to test only one or two components in a test in order to measure the learners' overall proficiency in the language. However, it is extremely difficult to combine all of these components in a single test. The present writer will discuss briefly the kinds of test items in terms of answering:

#### 1. Multiple-Choice Type Test Items

There are usually one or more blank spaces in a test item, followed by several alternatives (usually three to five) from which examinees have to choose. In other words, these tests can be applied to any single grammatical category, such as phonology, morphology, syntax and probably semantics, as well as reading comprehension, listening comprehension, writing, vocabulary isolation, and so forth.

By and large, multiple-choice tests often can be called discrete-point tests and these are

mostly based on contrastive analysis in the case of testing second-language proficiency. This type of test item is much easier and more convenient to score, and is independent of the judgment of the scorer. Moreover, as a general disadvantage of all discrete-point tests,<sup>(5)</sup> multiple-choice tests demand considerable expenditure of time and energy in writing, proofing, pretesting and revising, before they are ready for use. Another disadvantage of the test is that a learner can guess one alternative to be picked up, even if he is not sure which one is the best. He often may get a right answer by chance. Chances, of course, will be greater, if the number of alternatives is less and those alternatives are based on the appropriateness of the distractors.

## 2. Free-Response (or Open-Ended) Type Test Items

Examinees have to fill in blanks or spaces provided with oral and/or written forms whatever they can think of as appropriate under a certain condition; that is, they can write their own answers, which sometimes consist of a single word or a phrase, and other times of several or more words, but usually never more than a sentence. (Of course, tests such as dictation or free composition require more than one sentence.) In this type of test, there is usually no possibility for anybody to get the right answer by chance. These tests are often called integrative tests, and can also be applied to any single category or a set of grammatical categories. Cloze tests (Spolsky, 1975c) and dictation (Oller, 1973) are considered the best integrative tests. Therefore, these tests<sup>(6)</sup> can measure more sophisticated linguistic ability than multiple-choice type (that is, discrete-point) tests can.

The question of language tests involved is not whether the student knows a certain pattern or rule in a manipulative or abstract sense, but rather whether he can use it effectively in an actual communicative situation. To answer the latter question, free-response type test items are much appropriate. This does not mean that multiple-choice type test should never be used, but that when they are used, they should be used with an adequate purpose and a level of language instruction in mind.

## IV. Implications of Language Tests

Linguistic creativity is more than the capacity to generate an infinite number of mental objects; e.g. sentences, but entails the capacity to modify generative mechanisms. Intelligence, meaning and language result from creative interaction between an individual and his environment.

A language test should attempt to assess the learners' proficiency for purposes of learning, thinking, and communicating; and this enables teachers to plan their future teaching. The model should also be appropriate to testing communicative competence in foreign language situations. However, language tests generally measure only a small number of the combinations which make up the concept of overall language skills. The required model would test not only the learner's knowledge of the language and its contextual restraints, but also the degree to which he can communicate effectively in specific circumstances.

Although the present writer has mentioned that there are four major components in language tests, here he will focus on and discuss only speaking (oral) and writing (written) tests which

measure productive skills and are considered meaningful as an elicitation procedure to collect data for the sake of error analysis. Then, the question is what each of these two production tests implies in analyzing errors made by the learners being tested. By and large, speaking is characterized as a combination of skills requiring the simultaneous use of a number of different levels of ability which often develop at various rates. The following features are generally recognized in an analysis of speaking ability:

1. Auditory comprehension (understanding of speech)
2. Pronunciation (both segmental and supra-segmental features)
3. Grammatical structures (degree of complexity in structures and patterns)
4. Vocabulary (appropriate lexicons and usages)
5. Fluency (ease and speed of speech)

When we attempt to measure the learners' speaking ability, our major concern is with their ability to communicate orally in the target language with sufficient ease and fluency. The serious problem an oral test has is that scoring is extremely difficult and complicated. It may be fairly easy to determine whether the learners are able to approximate the speed and ease of the native speakers' speech; all of which must be evaluated at the same time. However, this is not sufficient, because there are many features involved, such as pronunciation, grammar, vocabulary, and the like. Another problem is that some foreigners are too shy to articulate in the target language. This is a cultural matter in most cases. And, some people who have disability in oral production may comprehend the target language well. We also have to pay special attention to this fact in testing speaking ability.

On the other hand, writing also does involve the simultaneous use of a number of different abilities depicting a complex of skills in analyzing writing ability. We have to recognize the following features:

1. Content (ideas expressed)
2. Organization (flow of the ideas)
3. Grammatical structures (morphology and syntax)
4. Style (choice of patterns)
5. Orthography (graphic connection of the language)

We may be able to say that writing (and composition) tests, which have been used both as a measure of achievement and of proficiency, are a set of rather formal and sophisticated skills combining a number of diverse elements in the language. Scoring is again the major difficulty with using this kind of test as a test device. It is frequently difficult to determine precisely what it is that the student is trying to express. In this sense, the present writer believes a controlled or guided composition item is better and easier to score than a complete free-response test item.

As the present writer has discussed above, examinees are forced to pay more attention and may have a chance to think over what they wish to express in written responses during the testing period, while in oral responses the examinees can easily make many more errors which are mostly called careless mistakes. Krashen and Pon (1976) report that "the fact that the vast majority of errors (made in speaking) were correctable by the subject ( a Chinese woman over 40 years old, who went to the United States in her late 20's entered a college in California several

years ago and recently graduated with an A average) suggests that she has a conscious knowledge of the rules but did not have time to apply this knowledge (in speaking)— the parentheses are inserted by the present writer. It is evident from their report that when a learner sometimes (even a native speaker) says something in the native language he makes a number of mistakes in the series of a conversation, some of which he can correct afterwards, but when he writes something in the language, he normally has enough time to manipulate the grammatical rules and other categories, or has enough time to correct the mistakes, if any, regardless of the oral articulation.

The errors in spontaneous speech (that is of course a real means of communication for human beings) are not the real errors for which we are trying to seek. It seems that these are more or less surface mistakes, while errors in written responses are a real representation of learners' competence (internalized knowledge) in the language. Of course, we cannot avoid considering time factor in speaking: probably this is a part of real competence. The present writer believes, however, the written responses are real provoked errors to be elicited, rather than spontaneous oral responses. Corder (1973) concludes that "elicitation procedures (meaning written responses) are an 'error-provoking' activity, whilst spontaneous speech (meaning oral responses) is an 'error-avoiding' one." We have to mention that it is most important for us to establish 'elicitation procedures' in order to analyze errors precisely and meaningfully.

"Error analysis" which has been advocated by Corder (1967) has the object of describing the learner's interlanguage. Error analysis is applied to what the learner produces as a 'by-product' of the learning process, composition exercises, and so forth. In other words, it is applied to what the learner chooses to say or write in the language.

As we have seen earlier, responses in production tests can be analyzed in detail through *error analysis*. In other words, instead of just looking at the total scores, it is possible to diagnose learner's characteristics with finer details. It should be possible to define the skill of a particular language learner on some operationally defined scale of language competence. Moreover, groups may be compared on the basis of summary statistics such as average scores, or they may be compared by more finely grained error analysis.

## V. Ideal Language Tests for Second Language Acquisition Research

From the discussion above, it seems appropriate to us to set up a test which is called a listening comprehension in the native language with pictures, followed by written answers in the target language. The present writer believes the pictures are very effective even in language classes, because they give us many components at a time. They enliven the lesson and give the students the opportunity to learn a structure in a more meaningful context, rather than a contextless collection of sentences, because most of second/foreign language instruction in a classroom setting is too artificial. Language instruction with the use of pictures might be more natural and it gives us more appropriate data which we can analyze.

In the process of language testing, the examiner tells a story showing the pictures to his examinees. The story will be told in the examinees' native language: of course, if the examinees' command of the target language is good enough, the target language will be used (this way is

much better for our purpose.) More than one picture is better (they can show more action and the concept of time, location, and the like.) The present writer proposes a series of four to six pictures for one unit of test. The examiner,<sup>(7)</sup> then, reads questions (either in the native or the target language) about the story and the pictures to the examinees (or sometimes the questions are written in the examinees' native language in the exam sheet), and the examinees will write their answers in the target language.

The *Bilingual Syntax Measure* (Burt, Dulay and Hernández, 1973) is designed to measure young children's acquisition of English and/or Spanish grammatical structures in a second language situation. The aim of the *BSM* seems to elicit natural speech from children, not specific responses. The problems of the *BSM* are more or less controlled in terms of questions, not of answers, and inappropriate answers to the questions may also be produced. In this sense, the test designed above must be better than the *BSM*, partly because the test tries to elicit real internalized grammatical rules in the written form of the target language, and partly because the common teaching method used in our country is grammar-translation oriented. It is appropriate to elicit written responses rather than oral responses from Japanese students at present; in this sense the *BSM* may be considered to be inappropriate to elicit data from them, because they study English as a second language with a particular curriculum in formal classroom settings, not in a natural way in the community where the target language is spoken.

## VI. The Notion of Error Analysis

All of the Dulay and Burt studies<sup>(8)</sup> are aimed at shaping a theory of second language acquisition as an alternative to the 'habit formation' theory which underlies most of the contrastive analysis studies.

The point Dulay and Burt have considered is that, while it is obvious that there must be differences between first language acquisition and second language acquisition because of the differences in the conceptual repertoire, memory span, and previous language learning experience of first language and second language learners, the discovery in second language acquisition research of the fundamental processes of 'creative construction' of speech by the child cannot be ignored by the serious student learning a second language (Dulay and Burt, 1973).

The basis of ESL (English as a Second Language) teaching techniques has been the habit formation account of second language acquisition. In other words, a second language is regarded to be learned by imitation, reinforcement of the correct associations between verbal and contextual stimuli and their responses, and immediate correction of incorrect responses by the teacher, parents and others. This is quite the opposite of the creative construction point of view in first language acquisition.

In fact, the difficulties of the learner could be predicted by a comparison or contrast between the structures of his first language and second/foreign language. Appropriate steps could then be taken to minimize the difficulty and reduce the interference. Therefore, certain kinds of errors are predicted in the speech of children learning a second language, according to the habit formation theory. These errors will appear wherever their first language and target language are different in all linguistic levels. These are literally called 'interference' errors.

In contrast, the creative construction theory predicts quite different kinds of errors. The child 'reconstructs' the rules of a new language independently of his knowledge of the structures in his first language. It is emphasized in this theory that the error types should be the result of the processing strategies the child uses to organize and produce the new rules of the target language. These would be called 'developmental' errors (Dulay and Burt, 1972 & 1973) which are similar to those of children learning that language natively.

The present writer takes into account those errors without hesitation that the creative construction process appears to be involved in second language acquisition, because any language is actually learned by making errors through first simplifying and overgeneralizing the rules of the language and then generalizing and reconstructing them with a much less degree of imitation.<sup>(9)</sup>

It now became relevant to study a learner's linguistic performance in detail in order to infer from it the nature of that knowledge and the processes by which it was acquired. From the insights gained from such investigations one might be able to adapt the teaching methods and materials in order to facilitate the process of acquisition. Central to the investigations is the analysis of the errors made by learners, since they represented the most significant data on which a reconstruction of his knowledge of the target language could be made. This is essentially the point of view presented by Corder (1967) : he speculates that the processes of first and second language acquisition are fundamentally the same, and suggests that when the utterances of first and second language learners differ, as they did already, these differences could be accounted for by differences in maturational development, motivation for learning and the circumstances of learning. The learner is seen as constructing for himself a grammar of the target language on the basis of the linguistic data in the language to which he is exposed and the assistance he receives from others. This is the process which Dulay and Burt (1973) have called 'creative construction' process following R. Brown (1973).

As the basis of this 'creative construction' process, Dulay and Burt have made explicit the assumptions on which the hypothesis must rest (1972) :

- 1 . The language learner possesses a specific type of innate mental organization which causes him to use a limited class of processing strategies to produce utterances in a given language.
- 2 . Language learning proceeds by the learner's exercise of those processing strategies in the form of linguistic rules which he gradually adjusts as he organizes well the particular language he hears.
- 3 . This process is guided in first language acquisition by the particular form of the first language system, and in second language acquisition by the particular form of the second language system.

In order to understand the learning process, the present writer would like to point out also that we must study the development of individual learners, as Corder (1973) mentions in relation to their particular learning settings, social and linguistic, while pedagogical objectives are served by the study of errors in the performance of learning groups, i. e., groups of learners, homogeneous in terms of age, sex, and stage of learning in their mother tongue.

By and large, we must note that error analysis can be seen to serve two related but distinct functions. One is a pedagogical or 'applied' function in aim, and the other is a theoretical function

which leads to a better understanding of second language learning processes and strategies.

## VII. Classification of Errors

One of the major investigations done by Dulay and Burt was their classification of errors made by the learners. In order to identify the presence and nature of errors, interpretation of the learner's utterance is necessary, but it is not always easy to know what the learner is trying to say. Many errors are potentially ambiguous even when taking the context into account. Therefore, some kind of *controlled* elicitation techniques, i. e., tests which force the learner to reveal some specific aspects of his interlanguage (Selinker, 1972), seem to be necessary to adapt for this purpose.

The technique of controlled elicitation, however, is not easy to apply in the case of young children, and consequently investigations of child second language acquisition have resorted to a technique similar to that proposed by R. Brown (1973) for the study of first language acquisition. Thus, Dulay and Burt have used a technique called the *BSM* which is an instrument designed to elicit natural speech from children, not specific responses. And, the proficiency with which the children use certain specific grammatical structures can be logged.

The variety of English elicited so far is likely to be very formal when one considers relevant sociolinguistic variables.<sup>(10)</sup> The formal testing situation, an unfamiliar adult interviewer from a different social, educational and ethnic background, the requirement for the child to use a language with which he is least familiar, and a task which involves telling the interviewer about what is in front of him, are sociolinguistic factors which are hardly conducive to the production of anything but the most formal variety of the target language. The point the present writer would like to make here is that Dulay and Burt have maximized their chances of eliciting the morphemes under investigation by producing a situation where, if the child says anything at all, he is likely to produce the most formal variety of the language with which he is familiar, and hence is more likely to include 'modified' or 'stigmatized' features. Clearly, the effect of the situation on the type of speech elicited will be worth more explicit consideration than it is given by Dulay and Burt in collecting their speech data.

Aside from the question of data collection, in their important series of investigations into child language acquisition, Dulay and Burt (1972, 1973, 1974a, b & c) have classified the errors made by children learning a second language into the following categories :

- 1 . Interference errors—errors that reflect the learner's first language structure, but not found at all in first language acquisition data of his target language.
- 2 . Developmental errors—errors that do not reflect the learner's first language structure, but are found in first language acquisition data of his target language.
- 3 . Ambiguous errors—those that can be categorized as either Interference or Developmental errors.
- 4 . Unique errors—those which do not reflect first-language structures, and are also not found in first language acquisition data of the target language.

What is significant is that they are able to show that the types and the nature of these errors

are substantially the same as those of children acquiring their mother tongue. The only difference is a very small proportion of interference phenomena. This leads them to postulate the L1 = L2 hypothesis (Dulay and Burt, 1972), which states that the acquisition of a second language is fundamentally the same process, at least in children, as the acquisition of a first language, and that sequential development of interlanguage system (Selinker, 1972) is substantially the same in both cases whatever the mother tongue of the learner is. Such research naturally led to a revival of interest in the relationship between first and second language acquisition and to its relevance for language pedagogy. Ervin-Tripp's investigation (1974) shows that older children may regress to processing strategies similar to those in first language acquisition when faced with data in a second language. These studies suggest that there may be some universal processing strategies of language learning which lead to a similar natural sequence of the approximative system in all young learners of a second language.

The questions the present writer would like to raise are whether or not older learners of a second language make the same types of errors and how a certain type of arrangement of grammatical morphemes affects the classification of errors suggested by Dulay and Burt.

### VIII. Order of Morpheme Acquisition

The greatest finding of the investigation done by Dulay and Burt is the frequencies of errors by the learners in order to determine the acquisition hierarchy of grammatical items. Using three methods—the Group Score, the Group Means, and the Syntax Acquisition Index, which are highly correlated among themselves—, Dulay and Burt (1974a) have found that the order of acquisition of eleven grammatical morphemes obtained from Spanish- and Chinese-speaking children are virtually the same among themselves, and the same sequence of acquisition of these eleven morphemes provides strong evidence that children exposed to a natural second language acquire certain structures in a universal order. In other words, Dulay and Burt (1973), studying a subset of the eleven functors which R. Brown dealt with, presented evidence that five to eight year-old children learning English as a second language also show a high degree of agreement with each other as regards the degree of accuracy of grammatical items. They have concluded that “there does seem to be a common order of acquisition for certain structures in second language acquisition” (1973); however, the actual ordering in the second language acquisition seems to be slightly different from that found in the first language acquisition study done by de Villiers and de Villiers (1973). The following is a comparative list of two acquisition orders of several morphemes :

First language learners

(de Villiers and de Villiers, 1973)

1. plural
2. progressive
3. past irregular
4. article

Second language learners

(Dulay and Burt, 1973)

1. plural
2. progressive
3. contractible copula
4. contractible auxiliary

- |                           |                          |
|---------------------------|--------------------------|
| 5. contractible copula    | 5. article               |
| 6. possessive             | 6. past irregular        |
| 7. third person singular  | 7. third person singular |
| 8. contractible auxiliary | 8. possessive            |

Dulay and Burt's research has largely been on studies of children's second language, and the circumstances in which the subjects learned the second language have generally been informal. The problems which have to be resolved are the influence of the language learning setting, the nature of the language data, and communicative functions of the second language. It seems that these morphemes influence the 'natural' sequence and the nature of the approximative systems which have developed. If there is any truth in the speculation that second language learners might have 'built-in syllabuses' in learning a second language, as infants appear to be 'programmed' to learn their mother tongue (R. Brown, 1973), the information of error analysis would certainly be of immense value for the design and sequencing of instructional materials.

The question the present writer raises here is whether or not older children and adults learning a second language have the same or similar order as the young children. By and large, older second language learners have usually acquired their first language and had longer memory spans, and therefore they are more sophisticated and experienced.

Another point the present writer is interested in is that most of the research on child language has been limited to the natural settings where his language is acquired, but not taught in ESL classroom settings at all, as a part of by-product of the communicative need. The present writer really would like to know whether or not the older children and adults who have studied English as a second language for a short time in formal ESL classroom settings show the same order of acquisition as the children in natural settings. If older children or adults in formal learning settings, and a less amount of time or their exposure to the target language, have the same order of acquisition and the same acquisition hierarchy, we will be able to predict that the Dulay and Burt hypothesis is valid to older learners, and that there is a universality in second language acquisition. Moreover, we have to note here that all the data Dulay and Burt have elicited are oral responses. What type of acquisition order and hierarchy, as well as types of errors, written responses include is a very exciting research topic to be studied.

## **IX. Implications of Error Analysis to Pedagogy**

What Dulay and Burt have not actually discussed is the pedagogical implications of error analysis. They can fall into the following three categories : the problems of correction; the design of syllabuses and remedial programs; and the writing of pedagogical grammars. It seems that it must be too early to draw any conclusion of any immediate practical sort from this preceding work in error analysis and second language learning processes.

The problem of error correction is twofold : what to correct and how to correct. The first question relates to the assessment of the gravity of the error in terms of its interference with comprehensibility or the degree of linguistic deviance. George (1972) considers that sheer fre-

quency is no criterion for decision about whether to make corrections or not. At any rate, the degree of linguistic deviance may also be an important aspect to be considered. Burt (1975) makes a point of what the correction of one global error in a sentence does more to make clear the speaker's intended message than the correction of several local errors in the same sentence. In other words, global errors, or those that affect the overall organization of the sentence, hinder successful communication; while local errors, or those that affect a single element of the sentence, usually do not hinder communication. Finally, she concludes that local errors will, to a large extent, look after themselves.

The relevance of error analysis to the designing of syllabuses<sup>(11)</sup> is based on the notion that there is some 'natural' sequence of elaboration of the interlanguage (or approximative) system of the second language learner and that when and/or, if this can be well established, it would provide a psychological logic to the ordering of materials in a syllabus (Corder, 1967), while error analysis provides us a criterion for the development of teaching materials in second/foreign language learning and teaching (Ghadessy, 1977).

Up till now little experimental work has been done in the actual trying out of teaching sequences in the light of error analysis. As far as the design of pedagogical grammar is concerned, the effectiveness of the presentation and practicing of linguistic materials ultimately depend upon what is discovered about the actual processes and strategies of language learning. Pedagogical grammars based on error analysis are mainly designed for the remedial teaching of a second language. Any explanation by the teacher which accompanies demonstration provides the child exposure to natural speech of the language. It does include a variety of topics and activities : for example, science experiments, games or arts and crafts are some of the activities which can be undertaken through simple demonstrations. This kind of exposure is what is required to activate the language learning process in the child, because teaching something through a second language, especially demonstrable principles and/or activities, will enhance the creative construction process of second/foreign language acquisition and learning.

## **X. Language Acquisition Research and Linguistic Theories**

There may be two major ways to present the subject of linguistics, the scientific study of language. One is an academic study in its own light, and the other is a science which can be of value to the community as a whole, and of specific assistance to certain professions; for example, foreign language teaching and/or learning. However, these two ways are not always distinguished clearly, but rather should be complementary to each other in some sense.

Fundamental insights about language should certainly prove valuable to anyone learning or teaching a foreign/second language. As we know, a linguistic description of some language is called a grammar of the language. A grammar is a set of statements saying how a language works. It includes a description of the principles of combining words to form grammatical sentences. The linguistic description of languages is often undertaken with no ultimate practical goal in mind. Linguists, as physicists are likely to investigate some aspects of the physical world that interest them with no intention whatsoever of turning the results of their research to practical application, are interested in one particular aspect of psychological reality, namely the psychological pheno-

menon which we call a language. A major goal of linguistics is to make clear the nature of human language. However, analyzing a language as it is is not good enough, and not the only way at least, in order to attain this goal.

The present writer, from this point of view, has dealt with second language acquisition research, because this may provide us much more information on the nature of language, and help us understand it more clearly. Therefore, one of the urgent tasks we have to do now is to test present linguistic hypotheses in some way. The major suggestion the present writer would like to make is that linguistic error data can be to test them. Analyses of linguistic errors by second/foreign language learners (and even the native speakers of the language) give us some information on how they acquire or learn a language and what components they learn/acquire earlier than others, which were discussed in the previous chapters in the present paper. This information can help to underpin the relevant linguistic principles for which we are seeking. Consequently, the present writer believes that language acquisition research based on error analysis is of great value in order to understand the nature of a language.

It should be clear that second language acquisition research is of interest not only to the linguists who are concerned with the empirical status or correctness of linguistic hypothesis, but also to anyone concerned with the mental processes involved in language behavior and the problems of construction and confirmation of scientific theories of language.

**Notes :**

- ( 1 ) Language tests may have the following purposes and/or functions in general:
  - 1 . Achievement test : used to measure a learner's progress in the target language toward some purpose defined in a course syllabus.
  - 2 . Proficiency test : used to measure one or more specific skills of the learner, or overall ability in the target language.
  - 3 . Diagnostic test : used to diagnose a student's specific strengths and weaknesses which help his teacher reconsider his own teaching method or teaching materials on an individual basis.
  - 4 . Evaluation test : used exclusively to assess the degree of success not of an individual, but of the instructional programs themselves.
  - 5 . Aptitude test : used to help predict a student's future performance from an assessment of aptitude (and probably attitude and motivation, too) and designed to serve to indicate an individual's facility for acquiring specific skills.
  - 6 . Elicitation test : intended to provoke learners into showing what they know and what their inter-language is : that is, to measure how much the learner knows of the grammatical rules of the target language, in terms of both oral and written forms, or either one of them.
- ( 2 ) Of course, all of the multiple-choice type tests are not always DPTs.
- ( 3 ) Unfortunately, as yet, no way to prove validity has been invented. The way of checking validity is to correlate one test with the others, but one of them has to be valid first. In other words, if validity is not proved in one test on its merits, no other tests can be measured as valid against it.
- ( 4 ) As the present writer mentioned in note (1), the language tests should also serve a diagnostic function in many aspects. They should show where the learners are having difficulties and provide information which should help the teacher modify his instruction. Language (especially, foreign language) tests should play an important rôle in monitoring the learners to study a language. The tests should evaluate and improve both learners' and teachers' effectiveness in the formal classroom setting.
- ( 5 ) The following is a partial list of DPTs : words in context, dialogues, vocabulary isolation, vocabulary

- recognition, lectures and statements, questions and answers, matching, definitions, true-false, completion, sentence interpretation, paraphrases, sentence alternatives, and word-sets in isolation.
- (6) The following can be considered as free-response type tests : completion, conversion, paraphrases, sentence construction, composition, and reading comprehension.
- (7) The examiner can also ask advanced learners to write a 100- to 200-word summary of the story read and the pictures shown. Their answers should be the open-ended type. We can let examinees make up their own story according to the pictures, too. At any rate, if the examiner uses this kind of method in an oral test or an interview test, rather than a written test, he can make a variety of questions from easy to difficult, or simple to more complicated, or vice versa, using the pictures, when no responses are given to a specific question.
- (8) One thing the present writer would like to point out here as to Dulay and Burt's studies is that, throughout their investigations, they did not consider any sociolinguistic factors. The account of their own research provides little evidence that potentially relevant sociolinguistic factors have been seriously considered, while their discussion of the research findings reveals inattention to the crucial role of sociolinguistic factors in the second language acquisition process. In this respect, the present writer wonders why such important research with children as that initiated by Lambert and his colleagues (1972) in Montreal is excluded from the productive research in second language acquisition. The potential relevance of such factors to speech produced in a second language is suggested by Ervin-Tripp's hypothesis that different speech situations may relate to different degrees of errors. She suggests that perhaps "we normally make greater semantic demands in testing older learners, and that they may, in free speech, make attempts at more complex communication than younger children do, learning to more apparent interference" (1974). Similarly, the large scale studies of second language learning and teaching (D. Brown, 1973 ; Schumann, 1975) have thrown light on the critical variables affecting success or failure in this field. The question of 'critical period' (Lenneberg, 1967 ; Krashen, 1973 ; Makino, 1976) has been one of the major issues of language acquisition.
- (9) John-Steiner, Vera ; Seminar class note on Linguistics and Language Pedagogy (Language Acquisition), The University of New Mexico, 1976.
- (10) Makino, Takayoshi (1977), Current Trends in Sociolinguistics. *Kurhiro Ronshu* 9.
- (11) Ghadessy, Mohsen (1977), Error Analysis : A criterion for the development of materials in foreign language education, *English Language Teaching Journal* 31 : 3.

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(August 1, 1977)

(Assistant Professor of English Linguistics Hokkaido University  
of Education at Kushiro Kushiro, Hokkaido 085 JAPAN)