THE RELATIONSHIP BETWEEN LANGUAGE FUNCTION AND LANGUAGE FORM

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THE RELATIONSHIP BETWEEN LANGUAGE FUNCTION AND LANGUAGE FORM

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ABSTRACT

In this study, the relationship between language form and language function was investigated. An operational definition of language function, that is, the various ways in which language is used, was arrived at through a review of literature in the area. Form was represented by ten morphemes which linguists had cited extensively in morpheme acquisition research.

It was hypothesized that morpheme use and acquisition were related to the functions of language. Second language learners were expected to demonstrate a significantly different competence in correct morpheme use on two different tasks, each eliciting speech in a different function.

Several hypotheses exist in the relevant literature as to how second language learners acquire a second language. Only one of those hypotheses accommodates the notion that a second language learner moves gradually from incompetence to competence as a result of systematically applying newly acquired rules. In addition, the non-static model of variable rules, which research suggested were applied in different contexts, was examined. These two concepts were combined by suggesting that the functions of language might act as differentiating contexts for the use of morphemes.

A sample of thirty-two children was constructed from a Kindergarten and Grade 1 population of learners of English as a

Second Language (ESL). None of the subjects had been exposed to formal ESL teaching. Two groups of sixteen children, one Cantonese speaking and the other Punjabi speaking, were chosen so as to contain a balance of male/female and first/not first in the family.

The subjects were asked to perform two tasks, each representing a different function. One required them to use language to label, inform, and draw rational conclusions. The other required them to use language to imagine and predict. The proportion of correct use of each of the ten morphemes, in contexts where native speakers of English would use those morphemes, was scored for the two tasks.

T-tests to compare the means of percentage correct in the two tasks revealed significantly different scores ($p < 0.1$) for three morphemes. For these morphemes, subjects performed better on the informing task than on the predicting task.

The findings suggested that a reappraisal was required of the morpheme acquisition orders proposed in second language research. Also, better performances on one task were interpreted as having serious implications for second language learning classroom activities.

It was suggested that future studies should continue to clarify further the relationship between function and form in language, in order that language teachers be able to develop more appropriate and effective curricula.

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Chapter I

Introduction

In this introduction, findings and directions pertinent to an enquiry into the relationship between language forms and language function in second language learners of English will be extracted from first and second language acquisition research.

Acquisition of Language Forms

Through the ages, one of the major preoccupations of language acquisition researchers has been the search for a theory of language acquisition. More recently, this research was pursued with the understanding that a systematic approach would emerge. The process of language acquisition, like language itself, would emerge as a describable system.

Since a language learner's competence could only be inferred from performance, a close examination of performance was carried out. Errors made by the learner were naturally considered to be failures to apply the systematic rules. The emergence of this notion can be seen in the work of Frei (1929). More recently, it was believed that the nature of the

acquisition system would be revealed by the assiduous scrutiny of errors (Corder, 1967). Bouton (1969) identified three processes which second language learners used -- abstraction, generalisation, and systematisation. These processes led to further learning, but also to further errors. Errors were classified in an increasingly rigorous way. The Contrastive Analysis Hypothesis (CAH) attempted to predict errors that would be caused by the interference of the first language (L1) in the learning of and performance in the second language (L2). Wardhaugh (1970) and Gradman (1971) questioned the predictive power of the CAH, relegating it to a descriptive role in error analysis.

Richards (1971) categorised errors as interference, intralingual and developmental, thus leading researchers to an examination of the developmental nature of language acquisition. Brown (1973) revealed an invariant morpheme acquisition order in L1 by scoring the occurrence of morphemes in obligatory contexts (90% criterion, borrowed from Cazden, (1968)). An obligatory context refers to a context where a competent speaker is obliged to use a morpheme. For example "There are two apple__ in the bag" provides an obligatory context for the plural s morpheme in English. Subsequent work by deVilliers and deVilliers (1973) substantiated Brown's claims.

The advance in L1 studies quickly gave rise to similar

research in L2 acquisition. An order of acquisition not identical to Brown's was established for L2 (Dulay and Burt, 1972, 1973, 1974; Bailey, Madden and Krashen, 1974.)

Communicative Competence and Function

While the research into morpheme acquisition was being conducted, there was in evidence a growing interest in communicative competence in teaching. In theoretical pedagogy, if not in practice, a more meaningful interaction between teacher and student was sought. That interest in communicative competence was, perhaps, a natural development. It may have grown from a disenchantment with the stimulus-response format of audio-lingual teaching, with its emphasis on mimicry and memorisation. It was claimed by Diller (1971) that language was being learned in a void and that application of acquired skills to real speech contexts was difficult. Students of this method often used memorised chunks of language in totally inappropriate circumstances, leading to, at least, embarrassment and, at worst, a complete lack of understanding. For example, the learner may have memorised the response "Please come in." on hearing the stimulus "Good morning." That is appropriate in a situation where Person A arrives at the door of Person B, but not during a telephone conversation, or when a teacher greets a class, or when an unwanted salesperson appears at the door. Language is more than a response to a

linguistic stimulus. The context of situation, speakers, time, and intent all constitute a real stimulus. Language learned in restricted circumstances will be applied with the greatest difficulty to real situations.

Secondly, the language learning process itself was slow and tedious. The extent of vocabulary that could be reasonably presented in a one year university course was estimated at approximately 1500 words. Vocabulary domains were determined by the restricted dialogue situations. Language structures to be presented were often determined by an arbitrary criterion of simplicity, not need. Thus, the learner was expected to learn a syntax and lexis artificially abstracted from a language on a very restricted basis. Learning could hardly be speedy. As a result, a new emphasis was given to using language in context, to teaching and learning the language of communication.

An alternative view of language emerged. Language was not considered a system without reference to the real world. Indeed, language and the world were inextricably intertwined. Anthropology and sociology were seen as fertile ground for linguists' investigations.

This change in emphasis was well articulated by Halliday (1973). He attempted to relate meaning to both the internal structure of language and the context in which language operates. He maintained that language development was the mastery of language functions. He traced the notion of

language function from Malinowski (1923) through Firth (1957) to show that the psycholinguistic surge of the 1960s had temporarily occluded the notion of language function. Halliday's focus was child first language, with application to first language in general. He portioned language into instrumental, interactional, personal, heuristic, imaginative, and representational functions (See Appendix A). The child was seen as using only one function at a time whereas the adult's language was an intricate web of several functions.

Several formulations of the functions of language exist (See Appendices A and B). Some confusion exists as to whether these formulations of language function fulfil sociological or psychological needs or whether they serve cognitive or intellectual ends. Such confusion does not help to improve the formulations or advance functional theory. Functions could serve various needs and ends. They could alternately, or indeed concurrently, serve various purposes. A careful examination of the underpinnings of language functions with reference to the social sciences is already underway. Halliday (1973) and Bates (1976) investigated the applications of language function to schools of thought then outside the reach of theoretical linguistics and this served to build a broader and sounder base for such theory. In no way did it threaten the validity of formulations of language function. It complemented and enhanced them.

Definitions

Form

The particular aspect of language form investigated in this study consisted of the morphemes studied by Brown (1973), deVilliers and deVilliers (1973), Dulay and Burt (1974), and Bailey, Madden and Krashen (1974). These morphemes are listed in Appendix C. Certain changes were made in the light of previous findings and added reflection.

Past Irregular and Past Regular were collapsed since it was the acquisition of ability to mark action in the past which was of interest. The child in the initial stages of language acquisition can hardly envisage the above as two separate systems. Indeed, we can see that the child sees them as one when we consider forms such as "goed" and "wented". The child's struggle is to mark verbs systematically for past tense. Thus, any verb which was marked for past tense (by irregular, regular or blended form) in an obligatory context was considered correct.

Secondly, the articles, A(N) and THE, were not investigated at all since to collapse them into one morpheme, as past investigators had done, was to presume that the child learner was learning to grasp the use of both in their complementary and exclusive uses. Evidence from first language learners suggests that the English article system in its entirety is not brought under control by the native speaker until the sixth or seventh year.

Function

Function, here, means the ways in which we use language to do things, to get things done, and to talk about things.

The Problem

This thesis was an exploration of the relationship between language function and form. The general hypothesis of the present study was that morpheme use and acquisition were related to the functions of language. This hypothesis was investigated by testing the following specific hypothesis:

> Correct usage of a morpheme is related to the function of the language in which the obligatory contexts occur.

This hypothesis led to an investigation of morpheme use within functions, a dimension which was not considered by previous researchers. Brown (1973) established a mastery criterion of 90% correct in three obligatory contexts in three consecutive samples. To establish a 90% criterion for the achievement of mastery was to ignore what Brown (1973) himself called "a considerable period, varying in length with the particular morpheme, in which production-where-required is probabilistic" (p. 257). The increase in correct usage is as fertile an area of investigation as is the setting of a mastery level.

Summary

In summary, during the 1970s two powerful schools of research grew in the field of language acquisition. One, within structural linguistics, dealt with the establishment of a morpheme acquisition order which purported to be the forerunner of other universals in language acquisition. The other, a socio-linguistic endeavour, investigated the functions of language and the uses to which speakers put that language. The aim of this thesis was to establish a relationship between these two schools of thought.

Limitations of the Study

The sample of subjects was selected from a preschool population of second language learners of English. It was not claimed that the sample was representative of all second language learners or all child second language learners. However, since the sample contained sub-groups of subjects divided according to sex, L1, and position in the family (first child/not first child), the trends which emerged were examined in the light of previous findings from similar populations and were discussed in the context of current hypotheses about second language learning. This was consistent with previous studies in that the results of linguistic investigations, while often using small numbers of subjects (often one), are generally applied to current language learning models and are

used to assist in the development and modification of language learning theories.

Significance of the Study

Many methods have been and still are used to teach second languages. It should be possible to gauge their effectiveness by the learning which takes place. It is important to distinguish between the teaching of English as a Second Language and the teaching of English as a Foreign Language (Marckwardt, 1965). The latter is an attempt to equip students with a language which is not widely used in the immediate linguistic environment. Most elementary and secondary school language teaching programs fall into this category. The former, however, is an attempt to teach the learners the language which is used in the immediate environment. Thus, non-English speaking immigrant children in the Vancouver area must learn English as a Second Language in the schools. Use of local resources and development of locally appropriate curricula help to distinguish one discipline from the other.

Since the English as a Second Language (ESL) population in Vancouver schools is fast approaching the 50% mark, it is crucial that we develop efficient instructional techniques and materials. It is important for two reasons. In the first place, ESL students should be able to benefit from instruction in our schools on an equal footing with those students who

speak English as a first language. Secondly, parents of children with English as a first language have voiced a concern about the declining standards of education in the schools. They have, on occasion, attributed this decline to the presence in the schools of a large ESL population. If their concerns are to be addressed adequately, it is incumbent on schools to demonstrate unequivocally that ESL students enhance, rather than detract from, the educational experiences offered to all students. This can only be done if ESL students learn English quickly and well enough to perform at grade level as soon as possible after entry into the school system. ESL programs, by definition, must have a strong language teaching component. We already have, in the field, several methods and a variety of content. However, at some stage, we must consider more conscientiously the real needs of the learner. How does the ESL student acquire English? What systems are discernible in the language learning process? Can we facilitate the acquisition of English by offering language input in a certain way or in certain contexts?

In order to answer some of these questions, it is necessary to investigate the early language acquisition of children learning English as a Second Language as evidenced in their language output. Such an investigation formed the subject matter of this thesis.

Should the study reveal a relationship between language

function and form, it would be necessary to investigate its immediate implications for ESL curricula. Are the functions of language represented adequately in present curricula? Could further studies elucidate the role which function might play in the learning of morphemes, or , by implication, other language forms?

Chapter II

Literature Review

Historical Overview

Prior to the 1950s, language development research tended to take the form either of diary studies or cross-sectional studies (Stern and Stern, 1907; Ronjat, 1913; Bloch, 1921; Guillaume, 1927; Leopold, 1939-49). The thrust of the latter type was to establish developmental norms through the examination of structural form in speech.

During the 1950s, there was a growing interest in the relation between knowledge of the language system and production of that language. Berko (1958) represented this new interest and her Berko test, which involved the grammatical manipulation of nonsense words, stirred great interest when five and six year olds were seen to manipulate the forms easily. It was clear that children had a metalinguistic awareness which allowed them to be creative language users.

The Contrastive Analysis Hypothesis, which grew out of the structural linguistic studies of the 1940s and 1950s, claimed that language error could be predicted by comparing the surface

forms of L1 and L2. Because L2 had to be learned through the screen of L1, differing forms would cause the greatest difficulty. The demonstrably inadequate predictive powers of this hypothesis led to its demise in the 1960s. The weak form of the CAH, which explains language errors on a post hoc basis survives in the language acquisition literature (Chu, 1978; Pollock, 1978).

While literature from L1 and L2 research has been used in this overview, it is not suggested that the two processes are the same or similar. Bouton (1974) outlined differences between the two processes on four levels; neurophysiological, psychological, intellectual, and linguistic. It is wise to maintain a clear distinction between the two processes until research indicates otherwise.

Current Hypotheses

There are three discernible current hypotheses about L2 acquisition -- Interlanguage, Creative Construction, and Approximative Systems.

Interlanguage Hypothesis

Selinker(1972) described what he termed "interlanguage". It was an intermediate language, between L1 and L2. The language learner was portrayed as possessing a Lenneberg (1967) "latent language structure" -- a genetically transmitted basis for language capacity, independent of intelligence, which was

the biological counterpart of the universals identified in all language grammars. It was then transformed by the learner into the forms of a particular language grammar in accordance with certain maturational stages. Evidence for this was inferred from the successful language learning of approximately five per cent of all adult L2 learners. They had successfully reactivated their "latent language structure".

In addition, Selinker postulated that L2 learners had a "latent psychological structure" which was activated every time the speaker produced an L2 utterance. This "latent psychological structure" again was already formulated in the brain. Within this structure co-existed interlingual identifications (language transfer, transfer-in-training, strategies of L2 communication, and overgeneralisation of L2 linguistic material). Fossilisations, fixed features of interlanguage derived from unfinished learning, were the overt indicators of interlanguage.

Further additions to Interlanguage theory by Selinker, Swain and Dumas (1975) and Tarone, Frauenfelder and Selinker (1976) have failed to define the concurrently systematic and transitional nature of interlanguages. As Adjemian (1976) pointed out, it is necessary to separate linguistic rules and learning strategies if further testable hypotheses are to be generated. If the interlanguage of the learner is not a system governed by rules, then, in the linguistic sense, it can not be

a natural language.

Creative Construction Hypothesis

The Creative Construction Hypothesis, on the other hand, as can be seen from the following quotation, posited a:

> process in which children gradually reconstruct rules for speech they hear, guided by universal innate mechanisms which cause them to formulate certain types of hypotheses about the language system being acquired, until the mismatch between what they are exposed to and what they produce is resolved. (Dulay and Burt, 1974, p. 38).

The data from which this theory emerged were the result of morpheme acquisition studies by Dulay and Burt (1972, 1973, 1974) and Bailey, Madden and Krashen (1974). Dulay and Burt elicited speech from Spanish and Chinese children learning English. The elicitation technique used was the Bilingual Syntax Measure (BSM) (Burt, Dulay and Hernandez-Chavez, 1973). Bailey, Madden and Krashen used the same instrument with adults of several language backgrounds learning English. Both studies used deVilliers and deVilliers' (1973) Group Score Method, Group Mean Method and Standard Acquisition Index for scoring. The resulting rank ordering for morphemes (eleven in the Dulay and Burt studies, eight in the Bailey, Madden and Krashen study) was similar for both adults and children. This similar rank ordering however, did not correlate significantly with deVilliers and deVilliers' rank ordering of morphemes for L1 children.

Dulay and Burt claimed from their evidence that there was a universal acquisition order of morphemes. Bailey, Madden and

Krashen claimed a universal difficulty order in morpheme acquisition.

It is necessary to take two approaches in evaluating this research. In the first place, much criticism has been directed toward the methodology involved. The method of elicitation, the BSM, has been criticised as lacking both reliability and validity (Rosansky, 1976a). She suggested that the different versions of the BSM (it was revised in 1975) might yield different results. Porter (1977) used the BSM with L1 children and his rank ordering correlated highly with the Dulay and Burt ranks but, significantly, not with deVilliers and deVilliers' ranks. This suggested that the BSM results correlated highly for child L1 learners and adult and child L2 learners. It might be concluded that the rank ordering obtained was somehow determined by the elicitation instrument and not by the subjects' language development. Rosansky's appeal for the publication of raw data (1976b) was very pertinent given her examination of comparative group means, standard deviations and variance (1976a) for the Bailey, Madden and Krashen study (1974) and the deVilliers and deVilliers study (1973). In the case of some of the morphemes (e.g., the possessive and the 3rd person) the standard deviation was almost equal to the mean (Rosansky, 1976a, p. 418). Such variance indicated, to her, problems in terms of sample size (72 and 21, respectively) and the nature of the sample itself. She considered it doubtful

whether the sample means gave a respectable estimate of the means in the population and only much larger samples would help.

In the second place, even if we accept the data as lending some support to the hypothesis that there is an invariant morpheme acquisition order for L2 learners, what are we to make of it? Dulay and Burt (1972) suggested that we did not need to teach syntax to children as they acquired it merely through exposure to L2. To jump from a consideration of a limited number of morphemes to implications about the entire syntactic system of language is premature even eight years later. But if there were an invariant order of morpheme acquisition and also an invariant order of syntax acquisition, teachers would not be the only interested parties. Linguists would certainly be spurred to ask the question "Why?" What phenomenon, linguistic or otherwise, could be at the base of a universally similar acquisition process? The Creative Construction Hypothesis did not fully address this question and therein lay its major weakness as a possible model of acquisition.

A second weakness of the model lay in its failure to define the role that L1 might play in the acquisition of L2. The Interlanguage Hypothesis accorded a significant role to L1 as a starting point in the acquisition process. The Creative Construction Hypothesis, with its emphasis on L2 guiding the acquisition and determining the nature of the interim grammar,

did not pay significant heed to the role that L1 might play, except as a previous learning experience (Tarone, 1974).

Larsen-Freeman (1978), in an attempt to explain the morpheme accuracy order of L2 learners, considered several of the factors which traditionally had been seen as having a bearing on the order. Frequency of occurrence was dismissed as instrumental by Brown (1973) but was reconsidered by Larsen-Freeman. She asserted that the frequency of occurrence in output of L2 learners on several of her tasks correlated highly with Brown's frequency of occurrence in parent L1 speech. Her assumption was not startling since obligatory contexts for morphemes are generally fixed and they do occur very frequently in speech. However, to suggest that frequency might be responsible for the order of acquisition was courageous, given the nature of the tasks her subjects performed and given the lack of alternative morpheme frequency counts in adult speech. Perceptual saliency was quickly dismissed as not being central to the acquisition order since many morphemes (e.g., possessive, s plural) do not have +syllable or +stress or +semantic weight.

Hakuta (1976), in a rigorous report on a longitudinal study of a Japanese child learning English, recapitulated on the same variables. He invoked a paradigm of internal and external consistency. Internal consistency derived from the child's rule generation and application and was in evidence in

the gradual increase in systematic morpheme use. External consistency derived from the learner's attempt to match the internal consistency with the external input. Hakuta's claim for the superiority of longitudinal studies in accounting for gradual growth in use and correctness of morphemes, and other language features, was a sobering one. If we are to understand how a sequence evolves, surely we must watch it evolving. Only then can other factors affecting the process be properly evaluated.

Approximative Systems Hypothesis

Another differentiating factor among the three hypotheses considered here is the role assigned to:

1) what is often called the "faculté de langage" or an innate mechanism for learning language and
2) the interaction between cognitive and perceptual development on the one hand and non-linguistic events on the other.

The Interlanguage Hypothesis had at its base a "latent psychological structure." This was triggered every time the learner produced L2 speech. The Creative Construction Hypothesis, though less obviously so, has been linked to "innate and universal structural properties of the mind" (Dulay and Burt, 1977). Vygotsky (1936) differentiated between biologically-based development and socio-historical development. Bloom

(1976) saw language research evolving more in the socio-historical area, particularly when it came to accounting for the variety of language output.

The Approximative Systems Hypothesis relied heavily on precisely that aspect of language. The variation in output could hardly be accounted for by innate and universal mechanisms. Rather, the use of language in varied circumstances was seen as the reason for such individual and group variation.

The learner proceeded through a series of language systems between L1 and L2. The systems were internally ordered, at least momentarily, but shifted from one to the next because of "the massive intrusion of new elements as learning proceeds" (Nemser, 1971). Various language researchers have alluded to this evolving systematicity -- Corder (1971) (idiosyncratic dialects), Richards and Sampson (1974) (learner language systems). Corder (1967) suggested that a learner's errors provided evidence of the system of language acquired and that a grammar including these errors would indicate the learner's transitional competence. Developmental errors cited by Richards (1971) illustrated the attempt of the learner to build new hypotheses about L2 from a limited experience of it.

The Approximative Systems Hypothesis requires substantiation through carefully acquired and analysed data. It is especially important that the data include the growth in competence, over a period of time, of the use of language features,

be they phonological, syntactic or semantic. The areas of phonology and syntax will be the most useful because of the ease of acquiring data on them.

Variable Rules

The concept of variable rules was designed to account in a systematic way for apparent variability in L1 performance. It will be seen that the construct was quickly applied to L2 learners. Its usefulness in this study lay in its ability, as a non-static model, to account for morpheme variability within functions.

Labov (1969) introduced the sociological construct of variable rules to the study of Negro non-standard English. His research emphasis was the use of the copula and the auxiliary BE. He extended the notion of a rule of grammar (stemming from generative grammar) to variable rules. He prepared the ground for incorporating into its structural description relative frequencies of the rule's operation. The variant forms would therefore occur under particular linguistic constraints and in particular environments. Amongst other questions which he posed were the following, pertinent to our discussion:

> ... How are the rule systems acquired? How does the individual's system of rules change and develop as he acquires the norms of the speech community? (p. 760)

His paper did not deal directly with these questions but they did instigate some subsequent relevant research.

Cedergren and Sankoff (1974) developed both theoretical

and practical aspects of Labov's work. They made a distinction between rule probabilities (in competence) and rule frequencies (in performance). They reviewed Labov's synergism/antagonism model for interaction between environmental features in determining rule probabilities and they introduced the notion of features in rule structural descriptions acting independently. They devoted a great deal of energy to developing the methodological and statistical considerations of variable rules. Finally, they saw their framework being quite easily applied to include sociolinguistic features in application frequencies.

Dickerson (1975) applied the system of variable rules to L2 acquisition. Working still in the area of phonology, she applied the variability model to Japanese speakers of English. Her three part test (free speech, reading of dialogues, and reading of word lists) revealed a spread of results governed by the level of proficiency and the rate of progress. Progress toward the target sound was systematic.

Dickerson (1976) uncovered a systematic variability moving from non-target to target production. His study concerned Japanese students, advanced in English, studying at an American university. Dickerson was careful not to label his findings as an indication of "interlanguage." Interlanguage had been defined as static and therefore did not include a grammatical model which would take into account the language learning

process as he defined it. His model fitted more neatly into the Approximative Systems model.

Gatbonton (1978) constructed a model for phonetic acquisition based on environments which she predicted would be more or less favourable to the production of correct variants. The subjects studied displayed a tendency to proceed systematically from incorrect variants in all environments through a developmental stage of supplying correct and incorrect variants in inverse proportion in defined environments. Subjects moved toward supplying correct variants in all environments. Gatbonton suggested that a thorough grammatical description of a second language system was within reach.

Variable Rules and Functions

It should be clear from the foregoing discussion that increasing attention has been given to the intermediate language systems of the language learner. What is not so clear is the nature of those systems. Wherein lies their systematicity? We have seen that the morpheme acquisition studies paid particular attention to the establishment of acquisition orders and difficulty orders. Wode, Bahns, Bedey and Frank (1978), Odlin (1978), and Huebner (1979) all pointed to the fact that much developmental information was lost if we were concerned only with mastery. The morphemes were systematically used -- included, omitted, modified -- before the learner approached

mastery level. They saw the knowledge gained from studying these early systems as more valuable in understanding the acquisition process.

Given that the learner established an early systematic use of syntactic or phonological features, what caused the learner to move toward new hypotheses? What kinds of new hypotheses were formed? Where did the learner gain the information to change, add or abandon hypotheses?

Sampson (1978) suggested that it was function switching that accounted for the change in systems. The learner perceived that a given structure was no longer adequate, and perhaps attended to the language of others in that function. The learner then formed new hypotheses and acquired new syntactic or phonological forms.

This theoretical standpoint accounted for reduced interference as language learning proceeded. The earliest "approximative systems" might be based on hypotheses that equated L1 and L2. Experience, the development of new functions within the language, and attention to new forms which fulfilled a communicative need all reduced the dependence on L1. Backsliding (Selinker, Swain and Dumas, 1975) could then be accounted for by the use of old forms in new functions. The learner had not yet learned to plug in new and required forms. Sampson, using Tough's (1977) functions (See Appendix B) investigated the use of English by Cree Kindergarteners in

Alberta. She obtained enough evidence to infer a relation between syntax and function. Her data were analysed before the refined version of Tough's functions was available and, as a result, her instruments may have lacked enough sensitivity to unfold further links between the two. It may be that there is a scale of relationship between function and form (here we are interested primarily in syntactic form).

In the present study, the variable rules, as outlined in this chapter, were applied to that relationship. The functions were considered the environments for specific syntactic features. The study, it was hoped, would reveal whether certain functions created obligatory contexts, and whether changes in function necessitated varying frequencies of occurrence. More importantly, it would investigate whether learners supply a morpheme correctly more frequently in one function than in another. A significant difference in morpheme use in different functions might suggest that function had a determining effect on language learning.

Functions

In Chapter I, function was defined as " the ways in which we use language to do things, to get things done, and to talk about things." In a sense, this broad definition is necessary because there is very little literature which attempts to describe or define the functions of language.

We know intuitively that language is an instrument which we use to do any number of things. Even the child in the early stages of acquiring a first language learns that language, used in a certain way, can make adults affectionate, effusive, or happy. Thus we could say that the child has already discovered certain functions of language which achieve largely predictable ends. The extent to which a functional framework creates a matrix for the acquisition of language forms is at the base of this thesis.

However, such early discernment of language function on the part of the child will lack completeness if only because the child lacks cognitive and intellectual maturity. Adults obviously use language in infinitely more complex and varied ways. Indeed, we could predict an exponential growth in the uses of language within functions. Such qualities as sarcasm, irony, scepticism, and cynicism, as expressed in language, are obviously not available to the child, but become progressively more available to the emerging adult. For this reason then, the discernment of function in adult language is complex, and this very quality might create some of the blocks to adult second language learning which we see all too often.

Halliday (1974) pointed out that his seven developmental functions of language (See Appendix A) were plainly available to a child learning a first language. He stated, too, that children used them one at a time for the simple reason that

children have a singleminded approach to events and things.

Halliday's functional framework was used in this study with children who were acquiring English as a second language. It was assumed that the matrix of functions was applicable to this different population of language learners.

Tough (1977), in her investigation of child language, used a similar mapping of language functions (See Appendix B). Her interests were in the extent to which children of contrasting social backgrounds used the functions of language with differing frequency.

Summary

The Approximative Systems Hypothesis could accommodate many of the observed features of second language acquisition, for example, learner variation, decreasing use of L1, interference, backsliding and fossilization, but it lacks a strong data base at this stage. Researchers need to investigate the nature of the approximative systems.

It is possible that an L2 learner's approximative system governing the use of a language item (e.g., the copula) would dictate that the learner use a correct version in one function and an incorrect version (fossilization) in another. Such a finding would link functions and approximative systems in a concrete way. It would also establish a variable rule within the learner's competence for the use of that particular

language item.

The problems associated with elicitation techniques and instruments have not been overcome, leading the researcher to the conclusion that spontaneous speech in multiple situations is still the most appropriate research site, problems of time and tedium notwithstanding.

Research into the Interlanguage Hypothesis area has been stymied because of basic theoretical restrictions, for example, latent psychological structure and the nature of systematicity. Much recent research uses "interlanguage" in the sense of "approximative system".

Research into the Creative Construction Hypothesis has been slowed by:

1) the methodological weaknesses of earlier research and
2) the overriding and premature concern with universal strategies.

The future holds great promise for second language research, but it is more likely that breakthroughs will occur in carefully designed studies of isolated language phenomena where the situations and purposes of the subjects are taken into consideration. We already have several competing models of second language acquisition, some more satisfactory than others, but their diversity probably results from a myopic view of the field. This study is an investigation into a small area of second language study, but its results may indicate why some

of the tenets of current models are unsatisfactory. It may also provide direction for other researchers towards a broader based second language acquisition theory.

Such a theory might have far-reaching implications for the teaching of languages. If language research indicated clearly that morphemes, phonemes, words or structures were acquired by L2 learners in certain contexts and under certain conditions, language teachers and curriculum writers would be greatly assisted in their tasks. The use in language teaching of mimicry, memorization, translation and direct methods, would have to be re-examined in the light of new findings.

Investigation of the natural language learning process of children could lead linguists to establish learning principles and describe learning processes which could, in turn, be incorporated in language teaching methods.

This thesis is an investigation of the L2 learning process of young children who have not been exposed to existing L2 teaching methods and procedures. The mixed status of the subjects in the study is worth establishing. They were second language learners, but they were acquiring that second language at a stage when their first language was not fully acquired. Thus, their learning strategies and capacities might well be different from older second language learners. However, their efforts could lead to the refinement of L2 curricula and thus help other L2 learners.

Chapter III

Pilot Study

A pilot study was carried out in order to ascertain whether the language tasks, as designed, would elicit sufficient language from a sample of the target population. There were two major areas of concern. Firstly, for this study, it had been decided that morphemes must occur at least five times before they could be included in the data. If the tasks did not elicit the morphemes under study often enough, the tasks would need revision. Secondly, the pilot study would indicate how many of the morphemes used in previous studies would occur in the speech samples. A list of the morphemes studied by Brown (1973), deVilliers and deVilliers (1973), Dulay and Burt (1972, 1973, 1974), and Bailey, Madden and Krashen (1974) appears in Appendix C. While it was considered unlikely that all of the morphemes would occur sufficiently frequently, it was hoped that from five to eight of them would.

The pilot study was to have other beneficial effects on the study proper. The data collector had an opportunity to

practice the data collection formats and this led to smoother, more relaxed sessions with the subjects in the final study. It also led to a clearer grasp of the required nature of the data collector's linguistic input. This input had to be as free as possible of the morphemes being studied so that the possibility of mere repetition by the subject could be reduced to a minimum. Obviously, in language studies, such problems will always exist since language is an interactional process. However, a serious attempt was made to ensure that no overt contamination took place. The procedure is clarified in the description of the language tasks.

Finally, subjects in the pilot study were asked to perform three language tasks, each designed to elicit speech in a different function. These were reduced to two in the final study. The reason for designing three tasks was to permit the elimination of the least satisfactory task. The task which caused subjects most difficulty (elicited minimal language) was to be dropped and the two more satisfactory tasks would then be performed by subjects in the final study.

It was recognised that the elicitation of language by the performance of tasks was an artificial situation and the data, therefore, were not derived from spontaneous speech.

The Language Tasks

Subjects in the pilot study were asked to perform three

language tasks which were designed using the theoretical frameworks developed by Halliday (See Appendix A) and Tough (See Appendix B). These language tasks are described below.

Task A -- Giving Information

In this task, subjects were shown a collection of pictures and were asked questions about them. The questions involved identifying, describing, comparing, and elaborating on details These pictures and questions constitute the Bilingual Syntax Measure -- English (Burt, Dulay and Hernandez-Chavez, 1975) (See Appendix D). It was selected because the pictures and questions elicited speech in the interpretative function as defined by Tough. The speech also falls within the representational function as described by Halliday.

Task B -- Predicting

Subjects were asked to predict what objects would be removed by the experimenter from a covered box containing a large variety of toys and objects. Language concerning the nature, identity, size and use of the hidden object was elicited. The experimenter elicited language by delaying revelation of the object or by indicating through gestures that the subject's prediction was not accurate. Since the subject had no stimulus to produce language except for the desire to find out what the objects were, the experimenter used prompts which, as far as possible, did not set patterns in morpheme usage for the subject. Such prompts were interjections and

comments such as -- 'Oh!'; 'Tell me more'; 'Not really'; 'How big?'; 'What colour?'. The experimenter initially explained that the box contained many things and removed a few of them to set the procedure in motion. Identification of those objects set the subject at ease. Any language produced at that stage was not recorded or analysed. This task was designed to fall within the imaginative function as described by Halliday, and the projective function as described by Tough.

Task C -- Directing

This task required the use of a dollhouse with the roof removed. From an elevated position, the subject had a clear view of the doors and rooms of the house. A mother figure was busy inside the house. Her baby, who had been sleeping in a crib outside, called for her. The subject was asked then to instruct the experimenter on how to manipulate the mother figure on her journey to the baby's crib. The interviewer could manipulate the mother figure from beneath the table with a magnet. Hesitations and misdirections of the mother figure encouraged the subject to produce more frequent and more detailed instructions. This task was designed to elicit language in the regulatory function as described by Halliday, and the directive function as described by Tough.

Environment for the Experiment

Performance of a task was estimated not to require more than ten minutes, giving a maximum total performance time of

thirty minutes for each subject. Brevity is important in keeping the attention of young children, and the play-like nature of the tasks ensured that fatigue and stress were to be avoided. In the pilot study, the tasks were performed in the daycare centres and preschools which the subjects attended. This was to ensure that the subjects felt as comfortable as they normally did, away from their homes and families.

Insofar as facilities permitted, recording of language performance took place in a quiet area where noise and distractions could be kept to a minimum. The quality of the recordings was of paramount importance when scoring the selected morphemes.

Pilot Study Sample

Subjects were chosen from two language backgrounds, namely, Cantonese and Punjabi. The final decision as to which language groups were to be represented in the final study was to be made when a survey of preschools indicated which language groups were numerically capable of providing a sufficiently large sample. It was considered important, however, to ensure that the language groups were from different language families, as in the above example (Indo-European, Chinese). This was to ensure that there would be no gross similarities in syntax between the two languages. Each subgroup was to be divided evenly into males/females (M/F), and first born/others (P1/P2).

This balance was desirable since research has indicated a time difference in verbal aptitude between males and females, and also a difference between the language production of first-borns and others (Zajonc, 1976; Zajonc and Marcus, 1975). The latter is probably due to the reduced access of later born children to adult language. The age of subjects was also recorded and a range of ages was obtained within the limits defined by the sample.

Table 1

Sample for Pilot Study

Language		Punjabi		Cantonese	
Gender		M	F	M	F
Position in family	P1	1	1	1	1
	P2	1	1	1	1

Results

Satisfactory Elicitation of Language

The tasks were generally satisfactory in eliciting enough occurrences of morphemes to reach criterion (five occurrences). The range of morphemes elicited was also satisfactory and the only morphemes which did not regularly reach criterion were 3rd person regular and 3rd person irregular.

Data Collection Formats

Data collection formats proved to be adequate and no serious problems were anticipated in the final study. In the performance of Task A, subjects were willing to provide a large amount of language rather that restrict themselves to simply answering the questions. This was an excellent outcome, since the language was still in the required function. In the performance of Task B, subjects were willing to produce a satisfactory amount of language in response to the kind of stimulus outlined in the task description.

Elimination of One Task

Task C (Directing) consistently elicited least language and was therefore omitted in the final study. Tasks A and B were performed by subjects in the final study.

Environment for the Experiment

The preschools were found to be very inadequate recording environments. Background noise came across very clearly and there was no possibility of recording in an isolated area. Recording for the final study took place in the subjects' homes.

Sample for Final Study

L1

A telephone survey of preschools and kindergartens revealed that Cantonese-speaking and Punjabi-speaking children were present in sufficiently large numbers to allow selection of an adequate sample.

Age

Data from the pilot study indicated that the younger children did not provide enough data to reach criterion on several of the morphemes. This finding was so marked that the sample for the final study was selected from a Kindergarten and Grade 1 population. Care was taken to exclude any students who had been exposed to formal ESL teaching. The clear difference between older and younger children may be attributable to syntactic maturity in L1. Also, the tasks which they were asked to perform may have been too difficult conceptually for the younger children.

Size of Sample

Because of the exploratory nature of the study, the statistical level of significance was set at 0.10. Furthermore, it was considered desirable that the design be such that differences of 20% should be detectable in percentage correct on the two tasks for a particular morpheme. The third factor affecting sample size was the power of the experiment, set at a minimum level of 0.80. Based on the variance of the results in the pilot study, a sample of size 24 was considered adequate. To allow for possible loss of subjects through inadequate responses to tasks or morphemes, the sample size was increased to 32, structured as follows:

Table 2

Sample for Final Study

Language		Punjabi		Cantonese	
Gender		M	F	M	F
Position in family	P1	4	4	4	4
	P2	4	4	4	4

Chapter IV

Methodology

Environment for the Experiment

Performance of the tasks took approximately twenty minutes per subject. Recording took place in the subjects' homes and this resulted in a relaxed atmosphere. In accordance with procedures set out by the University Research Ethics Review Committee, parents and guardians were informed of the nature and purpose of the research, and their consent was obtained before subjects were interviewed. In addition, the experimenter was accompanied by a bilingual assistant so that any queries could be dealt with in the parents' first language. Subjects were also advised of the nature of the tasks they would be asked to perform, and were told that they could stop at any time. These precautions paid off well since all subjects participated willingly. The subjects' homes provided an ideal recording environment for the experiment, and none of the problems of the pilot study recording recurred.

The Sample

A list of potential subjects was constructed through the experimenter's contact with immigrant families in the Surrey area. Subjects' parents or guardians were initially contacted in order to ascertain whether they would be willing to have their children participate in the study. Having obtained preliminary permission, the experimenter then provided parents and guardians with necessary information about the study, and obtained their formal consent. This process continued over a period of three weeks until the required number of subjects in each language group and sub-group had been interviewed.

Recording of Data

Subjects performed the tasks in varying order. Their utterances were audio-recorded. The experimenter subsequently scored each of the selected morphemes (See Appendix C) for correct usage in obligatory contexts. Thus, a subject who used a past tense correctly in five of the ten occasions where it was required by the context, was given a score of five out of ten for that morpheme.

In cases where there was some doubt as to whether a morpheme was used correctly or not, the evidence was submitted to a second party who made an independent judgement and then conferred with the experimenter. When the two decisions were identical, the data in question were included. Otherwise the

data were excluded. In all of the data, there were fourteen instances of unclear data, and the second party reached the same decision as the experimenter in nine of the cases.

For the Copula contractible and the Auxiliary contractible, the problem of back to back S (She's singing, he's sick) was avoided by eliminating those data from the final count. There were seven instances of this.

Each subject's age, identity, L1, gender, and position in the family were recorded, and then scores on each morpheme in both functions were noted. When this task was completed, the information was punched onto computer cards, one for each subject. Morphemes had to occur in at least five obligatory contexts in order to be included in the data for statistical analysis. This criterion was adopted from the morpheme acquisition studies of the seventies.

Statistical Analysis

The data were run through the computer using the BMDP3D program (Brown and Dixon, 1979). This program permitted the comparison of two groups with t-tests. T-tests are robust (insensitive to violation of assumptions) when samples are of equal size and sufficiently large. Since the sample was the same for both functions, and since the pilot study indicated what a satisfactory sample should be, the t-test could be used with confidence. The program initially tested simultaneously

the equality of the means of several variables using Hotelling's T^2. The use of this statistic guarded against incorrect rejection of the null hypothesis on individual tests. It is hazardous to test the individual mean differences by a univariate t statistic because the possibility of finding significant differences by chance increases with the number of variables considered. The two groups in the program were the two tasks based on different functions. The multiple variables were the morpheme scores. Scores were entered in the form x/y, indicating that, on y obligatory occasions, the morpheme was supplied correctly x times. The t-tests were two-tailed since there was no evidence to suggest a direction for the hypothesis. For this study, the probability level to claim significance was set at $p < 0.1$. This probability level was chosen because of the exploratory nature of the study.

A further problem arose from the fact that the program permitted the use of all data or the data for selected variables. After analysing the data from the final study, two decisions were made. In the first place, the two morphemes, 3rd person regular and 3rd person irregular, were excluded from the analysis because there were too many missing scores, or scores which did not reach criterion. Thus, there were eight morphemes left for the final analysis. In the second place, six subjects were excluded from the final analysis because they had not reached criterion on several of the morphemes (five

obligatory contexts). Since those six did not share the same attributes, the balance of the sample was not disturbed unduly. They were Subjects 9, 26, 27, 30, 31, and 32.

In addition, sample size varied from morpheme to morpheme because of the decision to exclude scores for those subjects who used a particular morpheme on fewer than five occasions.

All the data from the final study are provided in Appendix F.

Chapter V

Results, Discussion and Conclusions

Results

The p value of the Hotelling's T^2 statistic was 0.00, indicating that there were one or more significant t-statistics in the collection of variables.

T-tests on individual variables then revealed that there were three morphemes with a p value less than or equal to 0.10. Table 3 contains the complete results of the statistical analysis.

Table 3

Results

morpheme	sample size	mean difference	standard deviation	probability
auxiliary contractible	23	0.06	0.23	0.216
auxiliary uncontractible	21	0.04	0.25	0.524
copula contractible	21	0.16	0.26	0.013
copula uncontractible	20	0.08	0.34	0.298
past	25	0.10	0.27	0.069
plural	25	-0.05	0.22	0.264
possessive	19	0.09	0.36	0.292
present progressive	24	0.14	0.23	0.006

Thus it emerged that performance on three of the eight morphemes analysed by the computer was significantly different for Task A than for Task B.

Furthermore, for those three morphemes, performance for the group was significantly better on Task A than on Task B.

Discussion

It was decided at the outset that, for this study, the probability level to claim significance would be $p < 0.1$. At that level of probability, we have determined significant differences in the correct usage of three morphemes by subjects in two tasks. The tasks were designed to represent two functions (Task A -- representational/interpretative, Task B -- imaginative/projective) outlined by Halliday (See Appendix A) and Tough (See Appendix B).

Tables 4 and 5 contain the morpheme acquisition orders established by Brown (1973), deVilliers and deVilliers (1973), Dulay and Burt (1974), and Bailey, Madden and Krashen (1974).

Table 4

Morpheme Acquisition Order for L1 Speakers

Brown 1973		deVilliers and deVilliers 1973	
1	Present progressive	1	Present progressive
2	on	2	Plural
3	in	3	on
4	Plural	4	in
5	Past irregular	5	Past irregular
6	Possessive	6	Articles
7	Copula uncontracted	7	Possessive
8	Articles	8	3rd person irregular
9	Past regular	9	Copula contractible
10	3rd person singular	10	Past regular
11	3rd person irreg.	11	3rd person regular
12	Auxiliary uncont.	12	Copula uncontractible
13	Copula contractible	13	Auxiliary contractible
14	Auxiliary uncont.	14	Auxiliary uncontractible

Table 5

Morpheme Acquisition Order for L2 Speakers

Dulay and Burt 1974		Bailey, Madden, and Krashen 1974	
1	Article	1	Progressive
2	Copula	2	Copula contractible
3	Progressive	3	Plural
4	Plural short	4	Article
5	Auxiliary	5	Auxiliary contractible
6	Past regular	6	Past irregular
7	Past irregular	7	3rd person singular
8	Plural long	8	Possessive
9	Possessive		
10	3rd person singular		

While it is difficult to relate the findings to the morpheme acquisition orders in Tables 4 and 5, it is possible to argue that better performance in one function than in another would suggest that mastery of specific language forms might appear earlier in one function than in another.

Previous studies on morpheme acquisition (Brown, 1973; deVilliers and deVilliers, 1973; Dulay and Burt, 1974; Bailey, Madden and Krashen, 1974) have attempted to establish a morpheme acquisition order in both L1 and L2 learners. While results have been generally mixed, there is some indication that L2 learners follow an approximate order of acquisition when learning English.

The data from this study were not analysed in such a way as to establish a rank order of acquisition of the morphemes studied. While the data would allow this to be done, the major aim of the study was to establish a relationship between language function and morpheme use for child ESL learners.

One explanation for the obtained results is that the nature of the population chosen in this study, combined with the language elicitation tasks in two functions, has revealed heretofore hidden trends in morpheme acquisition. The results of this study support the notion that child L2 learners apply their command of certain morphemes differentially among different functions. It is possible, as an extension of this finding, to speculate that the findings in Table 5 above are an

artefact of the elicitation task used, since we know that the BSM was used in both studies quoted. Both Brown (1973) and deVilliers and deVilliers (1973) used language produced spontaneously by their subjects and so it is difficult to make a similar criticism of the acquisition order in Table 4. However, we do not know what functions the analysed language could be attributed to, and it is conceivable that much of the language could fall into one function. These suggested explanations for the difficulty of relating the three significantly different performances on morphemes revealed in this study point the way to future investigations in the area. The positive means for the performance on the three morphemes (Table 3) indicate that the subjects were performing consistently better on Task A than on Task B. To understand the implications of this finding better it is necessary to reconsider the nature of the tasks.

Task A, that is, the BSM, required the subjects to respond to visual stimuli and answer questions. Those questions did not require that the subjects leave the stimuli to find answers. It was sufficient for the subject to make rational deductions or simply to pass on information.

Task B, on the other hand, demanded imagination. The subject had to create in his or her mind possible outcomes of the situation. The stimulus consisted only of a hidden object. The only visual aspects of the task were the presence of a box

of objects, and removal by hand of those objects.

Now, it could be reasoned that children perform many tasks in the nature of Task A, when they respond to questions, discuss pictures, or label the elements in pictures. Much preschool and elementary school language development work consists of just such tasks. Children are considered to be engaged in learning activities while performing such tasks. Indeed, this is often considered to be a creative and constructive activity. Much less time is spent on activities similar in nature to Task B. The child is not often required to create or imagine without a visual stimulus. Such activities could be considered difficult or even frustrating by both children and the adults responsible for their learning.

The different performances on the two tasks suggest that we should think seriously not only about the nature of tasks that we ask language learners to perform, but also about the possibilities for future research into language performance in different contexts. No educator would deny the value of having children exercise all their mental faculties in the course of learning. No language educator would deny the usefulness of having learners engage in activities which require different mental and cognitive strategies.

Conclusions

Brown (1973) stated with some confidence:

> With grammatical morphemes we are in a somewhat better position. This is because the grammatical morphemes are obligatory in certain contexts, and so one can set an acquisition criterion not simply in terms of output, but in terms of output-where-required. Each obligatory context can be regarded as a kind of test item which the child passes by supplying the required morpheme or fails by supplying none or one that is not correct. This performance measure, the percentage of morphemes supplied in obligatory contexts, should not be dependent on the topic of conversation or the character of the interaction (p. 255).

The results of this study would suggest that the topic of conversation and character of the interaction may be important in the measurement of performance. The sample of children learning English as a Second Language performed better with one topic of conversation than with another. The percentage of morphemes supplied correctly was greater on one task than on another for three of the eight morphemes analysed. The task did therefore make a difference. Furthermore, since the tasks were designed to fit within different functions, it can be claimed that the subjects had more trouble supplying morph-

emes in one function than in the other. This exploratory study, therefore, suggests that further exploration of the effect of function on language learning is very important.

Secondly, the morpheme acquisition studies of the 1970s, because of the kind of confidence demonstrated by Brown (1973), depended excessively on a cross-functional view of morpheme acquisition. It was assumed that performance in supplying morphemes would be evenly spread across functions. This study has shown that this is not the case. Child second language learners have been shown to perform at a significantly different level on two different tasks.

Thus, language testing devices which rely on language elicitation in one function alone can not be trusted to give a clear or accurate picture of a child's language acquisition. A child who has performed at a certain level of proficiency on the BSM (See Appendix D), cannot be assumed to be equally proficient in other tasks, especially if those tasks fall within other functions.

Furthermore, morpheme acquisition orders, difficulty orders, or accuracy orders (all three names have been used for essentially the same thing) established by testing within only one language function should not be presented as an overall picture of a language learner's performance. It would be necessary to elicit speech in several functions by language learners before a trustworthy picture of language performance

emerged.

Thirdly, since the three morphemes which the subjects in this study produced with significantly different correctness were produced more accurately in the BSM than in the predicting task, it is necessary to consider carefully the nature of language and language teaching programs in our schools. If we test language in only one function, we must not claim that the established level of proficiency will hold true for all functions. We must rather devise language testing instruments which attempt to determine overall language performance.

It is even more pertinent to realise that we test children most often in the language function which is probably the most widely used in schools, namely, the representational (Halliday) or interpretative (Tough). While it is clearly essential to test children in a function which will be of great use to them within the school system, the dangers of restricting testing to that function are twofold. In the first place, a child may very well perform adequately in that function and not in others, or vice versa. Are we then to claim that the child is doing well or poorly in language learning? In the second place, it is conceivable that children from varied cultural or linguistic backgrounds could use language more in one function than another at home, and might thus encounter particular difficulty with language in certain functions. Tests based on one function could not then reflect accurately the child's

total linguistic achievement.

Finally, in our efforts to teach language, especially to the large non-English speaking population in the Greater Vancouver area, it is of paramount importance that the language of the classroom embrace a range of functions. While the urgency of teaching children to count and label is recognized, we should remember that children must be enabled and encouraged to use language in concert with the varied and innumerable skills of the brain.

Chapter VI

Possibilities for Future Research

This study lends support to the hypothesis that second language morpheme acquisition and use are related to the functions of language, and further research is required to investigate in depth the following areas.

Since the study indicates that some subjects who are in the process of acquiring a morpheme supply it correctly in one task and incorrectly in another, further studies should elicit spontaneous speech in other functions, using the frameworks created by Halliday (1974) and Tough (1977). Investigations should attempt to determine:

a) whether morphemes tend to be introduced first in a particular function by subjects, and

b) whether there is a systematic increase in the correct use of a morpheme within various functions.

Studies into a) above could be cross-sectional initially until it became clear whether or not there was a pattern. Should it be determined that all or many students introduced

certain morphemes first in certain functions, further investigations should attempt to document those patterns, since it might be the case that certain functions lend themselves to the acquisition of certain morphemes. Longitudinal second language acquisition studies could then investigate the use, and increase in use, of morphemes in second language learners. For example, when does the morpheme first appear, and in which function? Is it correctly or incorrectly used?

The importance of such studies for second language teaching would be significant. If either a) or b) were documented, then teachers would do well to introduce a morpheme in an environment where studies showed it to be first acquired. Existing data could be examined since there are in existence studies of language acquisition in children and adults with enormous amounts of recorded spontaneous speech. A warning is appropriate here, however. In language data collected by an instrument such as the BSM (See Appendix D), it is possible that the subjects may be using only one function, for example, the interpretative function (Tough, 1977). Furthermore, the subjects may only be using one strategy within that function, for example, labelling. The researcher would do well, when using existing data, to reflect on the instruments and tasks used to collect language.

Studies should not be restricted to a consideration of morphemes. Phonology and language structures would be items of

great interest. Gatbonton (1978) has already outlined possible applications in the field of phonology. Language structures such as comparatives, negatives, imperatives, superlatives, passives, subordinate clauses, and conjunctions could be investigated.

Caution makes it wise to consider child and adult second language acquisition separately. It may be, however, that a second language acquisition model based on the mastery of language functions would account for many of the observed differences.

It is necessary to discuss the fact that, in this study, significant differences were found only for three morphemes out of the eight documented. Apart from a new look at morpheme acquisition orders, it is also possible to envisage a different sample for future studies. For example, if the subgroups of L1, gender, position in the family, and age were large enough to permit adequate subgroup analysis, it might become apparent that different subgroups yielded more complete results. It will be remembered that the subgroups in this study were designed to control for some of the known variables in language acquisition. While this made for a balanced sample, it did not permit adequate subgroup analysis.

Apart from a review of the sample, an increase in the number of tasks might reveal some pertinent information. The functional frameworks outlined by Halliday and Tough are

largely untested and may require further development and amendment. Some utterances, for example, might not fit into any of the functions as outlined. It might be necessary to collapse two functions, or to add new functions. If children used a lot of speech in a practice function where they appeared to be developing metalinguistic awareness or rehearsing and reviewing speech, then it might be necessary to include a metalinguistic function which could include rehearsing, repeating, and reviewing strategies.

Finally, the value of research into spontaneous speech in multiple situations was pointed out. It would be best to resort to longitudinal studies of single subjects using only spontaneous speech in an effort to find new directions for investigation. The continuous recording of a second language learner's production during the active syntax acquisition phase would be the ideal research site for further study of the problem. Such a study would require several years of assiduous work. Encouraging results from exploratory studies such as this one might tempt second language researchers to do just that.

APPENDIX A

Halliday's Functions of Child Language

Excerpt from Halliday, M. (1974), pp. 9-21

INSTRUMENTAL

Language used to fulfil material needs

REGULATORY

Language used to regulate the behaviour of others

INTERACTIONAL

Language used to mediate the interaction between the self and others

PERSONAL

Language which creates and develops a sense of individuality

HEURISTIC

Language used as a means of investigating reality

IMAGINATIVE

Language used to create an environment separate from the world of direct experience

REPRESENTATIONAL

Language used to convey messages by way of specific reference

APPENDIX B

Tough's Functions of Language

Excerpt from Tough, J. (1977), pp. 68-69

FUNCTION	USES OF LANGUAGE	STRATEGIES
Directive	1. Self-directing	i monitoring actions
		ii focusing control
		iii forward planning
	2. Other-directing	i demonstrating
		ii instructing
		iii forward planning
		iv anticipating collaborative action (self or other)
Interpretative	1. Reporting on present and past experiences	i labelling
		ii elaboration of detail
		iii association and comparison
		iv recognizing incongruity
		v awareness of sequence
		vi recognition of associated actions and events
		vii absence of conditions

		viii	recognition of a central meaning
		ix	reflecting on the meaning of experiences
	2. Reasoning	i	recognizing dependent and causal relationships
		ii	recognition of a principle or determining conditions
Projective	1. Predicting	i	forecasting events
		ii	anticipating consequences
		iii	surveying possible alternatives
		iv	forecasting related possibilities
		v	recognition of problems and predicting solutions

	2.	Empathetic	i projecting into the experiences of others
			ii projecting into other people's feelings
			iii anticipating reactions of others
	3.	Imaginating	i renaming
			ii commentary on imagined context
			iii building scene through language
			iv language of role (strategies of the directive and interpretative functions will be used within imagined contexts)
Relational	1.	Self-maintaining	i referring to needs
			ii protection of self-interest
			iii justification
			iv criticism
			v threats

2. Interactional
   i self-emphasising strategies
   ii other-recognizing strategies

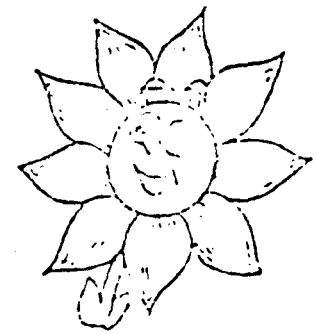
APPENDIX C

Morphemes from Other Studies and in this Thesis

Brown(1973) deVilliers and deVilliers(1973)	Dulay and Burt(1974) Bailey, Madden and Krashen(1974)	in this thesis
Articles	Articles	
Auxiliary -	Auxiliary -	Auxiliary -
contractible	singular	contractible
uncontractible		uncontractible
Copula -	Copula -	Copula -
contractible	singular	contractible
uncontractible		uncontractible
In		
On		
Past -	Past -	Past
regular	regular	
irregular	irregular	
Plural	Plural -	Plural
	short	
	long	
Possessive	Possessive	Possessive
Present prog. -ing	Present prog. -ing	Present prog.-ing
3rd person -	3rd person -	3rd person -
regular	singular	regular
irregular		irregular

BILINGUAL SYNTAX MEASURE

Marina K. Burt
Heidi C. Dulay
Eduardo Hernández Ch.



CHILD RESPONSE BOOKLET

THIS BOOKLET CONTAINS ALL THE SPECIFIC DIRECTIONS AND QUESTIONS FOR ADMINISTERING THE BSM-E.

Please fill in this information before administering the BSM-E.

CHILD'S NAME _____

AGE: years _____ months _____ BOY _____ GIRL _____

TEACHER _____ GRADE _____

SCHOOL _____ CITY _____

DATE _____ EXAMINER _____

CHILD'S ENGLISH DIALECT (Optional) _____

SCORED AGAINST: STANDARD ENGLISH ___ OTHER _____

TEST RESULTS: Check appropriate Level below:

LEVEL: 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

NOTES AND OBSERVATIONS: (retest, special diagnosis, etc.)

_____

_____

_____

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B-016107

DIRECTIONS

The administration of the BSM is like chatting with a child about some pleasant pictures. To cue the child that the "chat" is to be in English, speak only English with the child before and during the administration of the BSM-E. A good way to start is to say: "Hi,..(child's name). Let's look at some pictures." Let the child see the cover of the Picture Booklet. To further establish rapport, it may be necessary to chat a little before starting. Use the cover of the Picture Booklet to "break the ice." Simple comments or questions about the cover such as "Isn't that a fat house!" or "Do you see a flower?" usually put the child at ease.

Instructions to the examiner are always in green. Questions to ask the child are always in black. When the examiner must point to some part of a picture, instructions are given above that question. Record responses only where lines are provided.

Open the Picture Booklet to the first picture and begin the BSM-E.

Show the child PICTURE 1 only. Then ask questions a. through e. in order.

PRELIMINARY QUESTIONS (Do not record.)

a. **DO YOU SEE A FAT MAN? . . . SHOW HIM TO ME.**
b. **AND SHOW ME THE SKINNY MAN.**
c. **AND THE BABY BIRDS UP IN THE TREE?**
d. Point to FLOWERS
   AND WHAT ARE THOSE?
e. Point to SANDWICHES
   AND THOSE?

TEST QUESTIONS (Record responses on lines provided.)

1. Point to BABY BIRDS
   WHAT ARE THOSE? _____ 1. ◯

2. Point to MAMA BIRD and WORM (Do not record response.)
   WHAT'S THE MAMA BIRD GOING TO DO WITH THE WORM?

3. Point to BABY BIRDS
   WHY DO THEY WANT FOOD? _____ 3. ◯

4. Point to FAT MAN
   WHY IS HE SO FAT? _____

5. Point to SKINNY MAN
WHY IS HE SO SKINNY? _____

STOP HERE IF CHILD HAS NOT RESPONDED TO AT LEAST 3 TEST QUESTIONS. CHECK BOX AND FILL IN BLANK BELOW. (See *Manual*)

☐ BSM-E discontinued because _____

Otherwise, continue the BSM-E and say: LET'S LOOK AT ANOTHER PICTURE.

Show the child PICTURES 1 and 2 TOGETHER.

PRELIMINARY QUESTIONS (Do not record.)

a. SHOW ME THE FAT HOUSE. b. AND THE SKINNY HOUSE? c. WHERE ARE THE WINDOWS? d. AND THE DOORS?

TEST QUESTIONS (Record responses on lines provided.)

6. Point to BOTH HOUSES using whole hand to point
WHAT ARE THESE? _____ 6. ☐

7. Point to NOSES ON BOTH HOUSES AT ONCE
AND WHAT ARE THESE TWO THINGS? _____ 7. ☐

8. Point to DOORS OF BOTH HOUSES AT ONCE
AND THESE? _____ 8. ◯

9. Point to FAT MAN and FAT HOUSE
WHY DOES HE LIVE HERE? _____ 9. ◯

Now turn to the next picture and say: HERE'S ANOTHER PICTURE!

Show the child PICTURE 3 ONLY

PRELIMINARY QUESTION (Do not record.)

a. WHERE ARE THE FISH? b. AND THE MOP? c. AND WHERE ARE THE MAN'S SHOES?

TEST QUESTIONS (Record responses on lines provided.)

10. Point to MAN (Do not record response.)
WHAT'S HE DOING TO THE FLOOR?

11. WHY IS HE DOING THAT? _____ 11. ◯

12. Point to MAN'S SHOES (Do not record response.)
WHAT DID HE DO WITH HIS SHOES?

13. WHAT WOULD HAVE HAPPENED TO HIS SHOES . . . pause . . . IF HE HADN'T TAKEN THEM OFF? _____ 13. ☐

14. Point to EYES OF BOTH GREEN FISH
WHY DO YOU THINK THEIR EYES ARE CLOSED? _____ 14. ◯

15. Point to EYES OF BOTH RED FISH
AND WHY DO YOU THINK THEIR EYES ARE OPEN? _____ 15. ◯

6. a. ARE THE FISH WET?
   b. HOW COME? (WHY?) _____ 16. ◯

17. a. IS THE MAN ALL WET?
   b. HOW COME? (WHY?) _____ 17. ◯

18. Point to MOP
   TELL ME, WHOSE MOP IS THAT? (If child just points, say "I didn't hear you.") _____ _____ 18. ☐

Now say to the child: HERE COMES ANOTHER PICTURE! And turn to the next picture. Show the child PICTURE 4 ONLY.

TEST QUESTIONS (Record responses on lines provided.)

19. a. Point to GIRL
   WHAT'S THE GIRL DOING? _____ 19a. ◯
   b. DO YOU THINK SHE'S HAPPY? (Do not record response.)
   c. HOW COME? (WHY?) (Do not record response.)

20. Point to GIRL'S FLOWER
   WHOSE FLOWER IS THAT? (If child just points, say "I didn't hear you.") _____ 20. ☐

Now say to the child: LET'S LOOK AT THE LAST PICTURES, and turn to the next pictures. Show the child PICTURES 5, 6, and 7 TOGETHER.

PRELIMINARY QUESTIONS (Do not record)

a. Point to PICTURE 5
WHERE IS THE KING IN THIS PICTURE?

b. Point to PICTURE 6
WHERE'S THE DOG IN THIS PICTURE?

c. Point to PICTURE 7
AND WHERE'S THE KING IN THIS PICTURE?

TEST QUESTIONS (Record responses on lines provided.)

21. Point to DOG (PICTURE 5)
WHY IS THE DOG LOOKING AT THE KING?
(Do not record response.)

22. Point to PLATE (PICTURE 7)
WHAT HAPPENED TO THE KING'S FOOD?
_____ 22. ☐

23. WHAT WOULD HAVE HAPPENED IF THE DOG HADN'T EATEN THE FOOD?
_____ 23. ☐

24. Point to APPLE ON FLOOR (PICTURE 7)
WHAT HAPPENED TO THAT APPLE?
_____ 24. ☐

25. WHY DID IT FALL DOWN?
(Do not record response.)

Now say to the child: THAT'S ALL THERE IS. DID YOU LIKE THAT? . . . I DID TOO . . . THANK YOU, (child's name)

PROCEDURE FOR DETERMINING BSM-E PROFICIENCY LEVELS

Consult section on scoring in the Manual for more complete instructions.

A **Level 1**

If the child answered fewer than 3 questions out of first 5, in any language, check Level 1 below. If 3 or more questions were answered, go to B-Level 2.

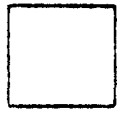
B **Level 2**

If the child answered at least 3 questions in any language, but fewer than 13 questions in English, check Level 2 below. If 13 questions or more were answered in English, go to C-Level 5.

Check the appropriate level at the bottom of this page.

C **Level 5**

Score questions 6, 7, 13, 18, 20, 22, 23, and 24 as grammatically correct or incorrect after reading the questions. These questions are followed by a ☐ in the booklet. Enter the number correct in the square below.

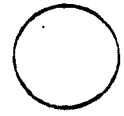


Check Level 5, if 6 or more of these questions are correctly answered.

If 5 or fewer of these questions have been answered correctly, proceed to D—Levels 3 and 4.

D **Levels 3 and 4**

Score questions 1, 3, 8, 9, 11, 14, 15, 16, 17, and 19 as grammatically correct or incorrect, after reading the questions. These questions are followed by a ○ in the booklet. Enter the number correct in the circle below.

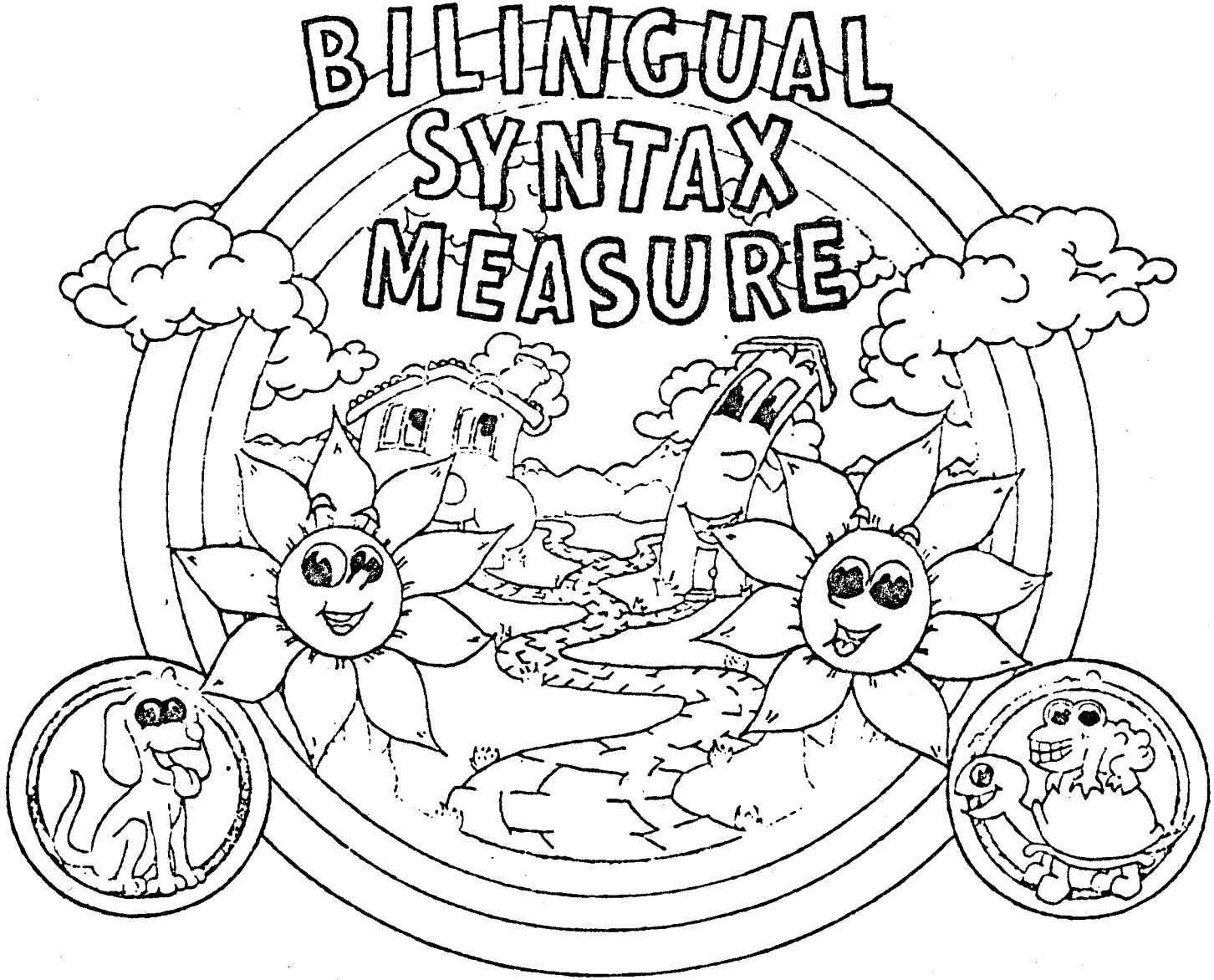


Check Level 4, if 7 or more of these 10 questions are correctly answered.

Check Level 3, if 6 or fewer of these questions are correctly answered.

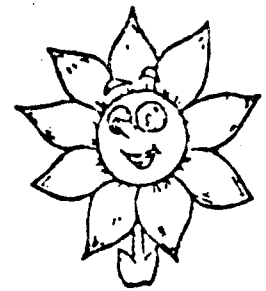
Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Level 5 ☐

Check the appropriate level on the front cover of this booklet.


BILINGUAL
SYNTAX
MEASURE

BILINGUAL SYNTAX MEASURE

MEDIDA de SINTAXIS BILINGÜE



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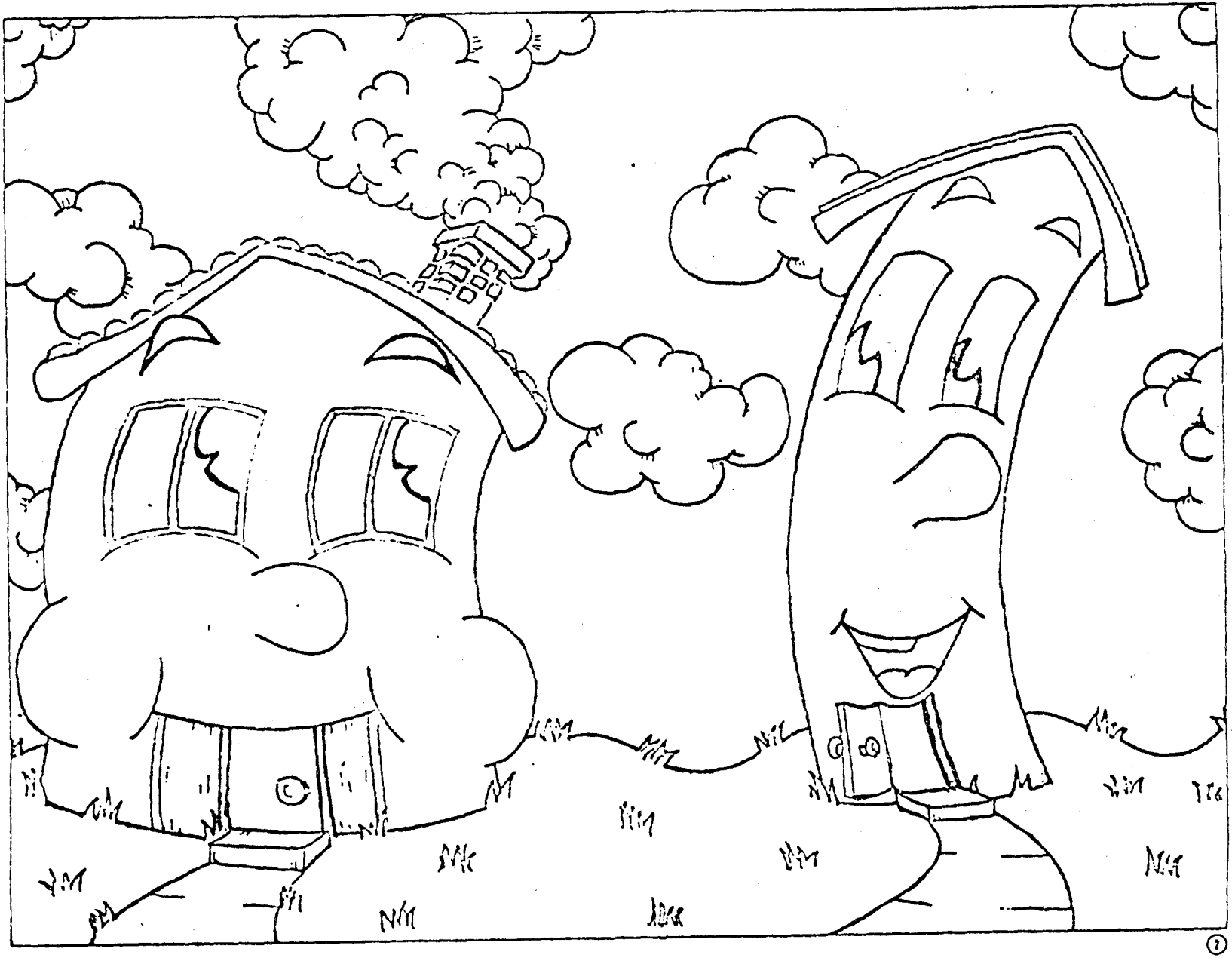

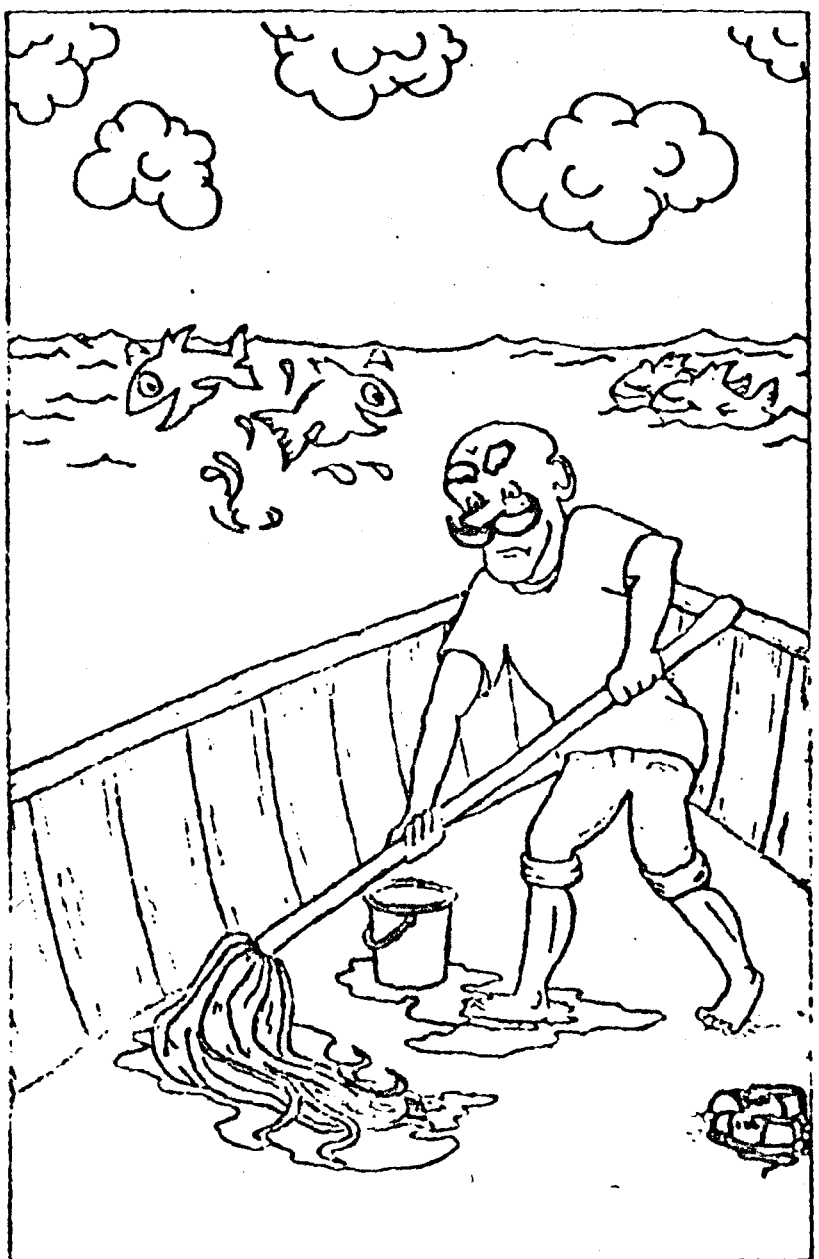

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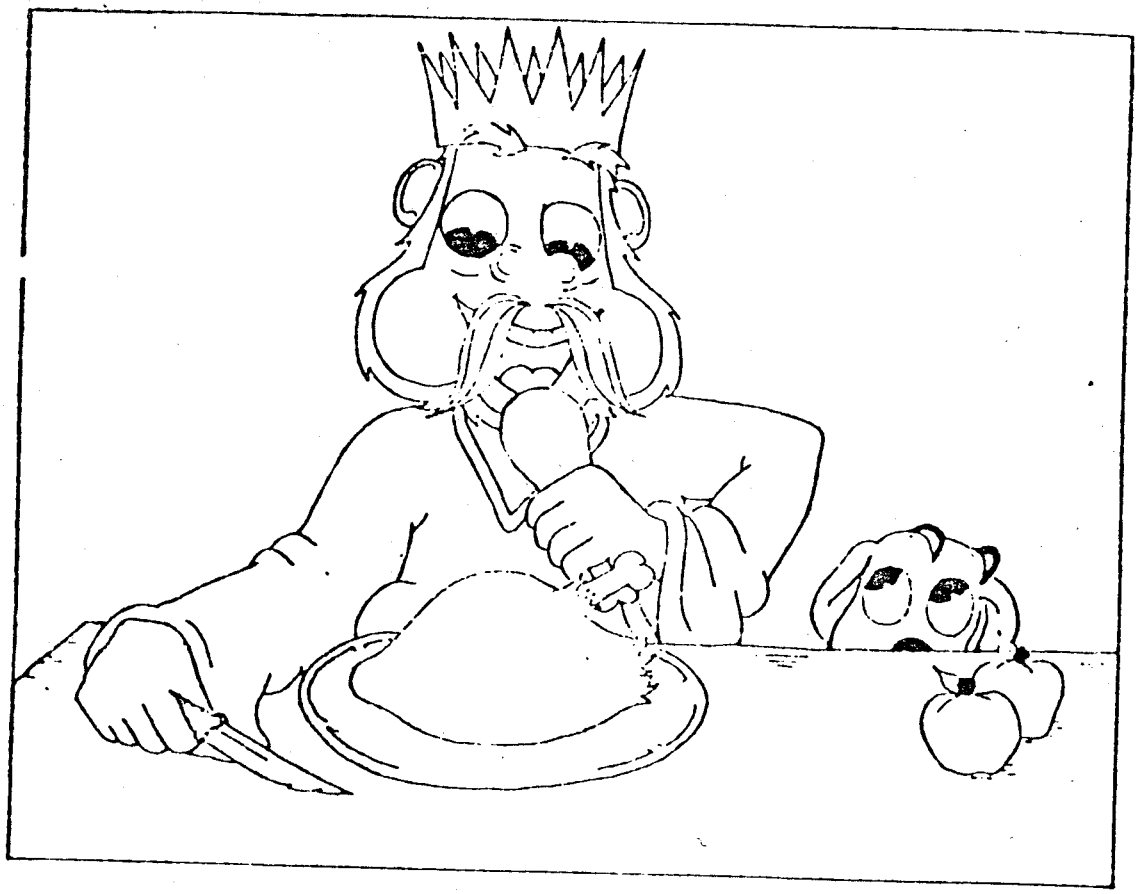

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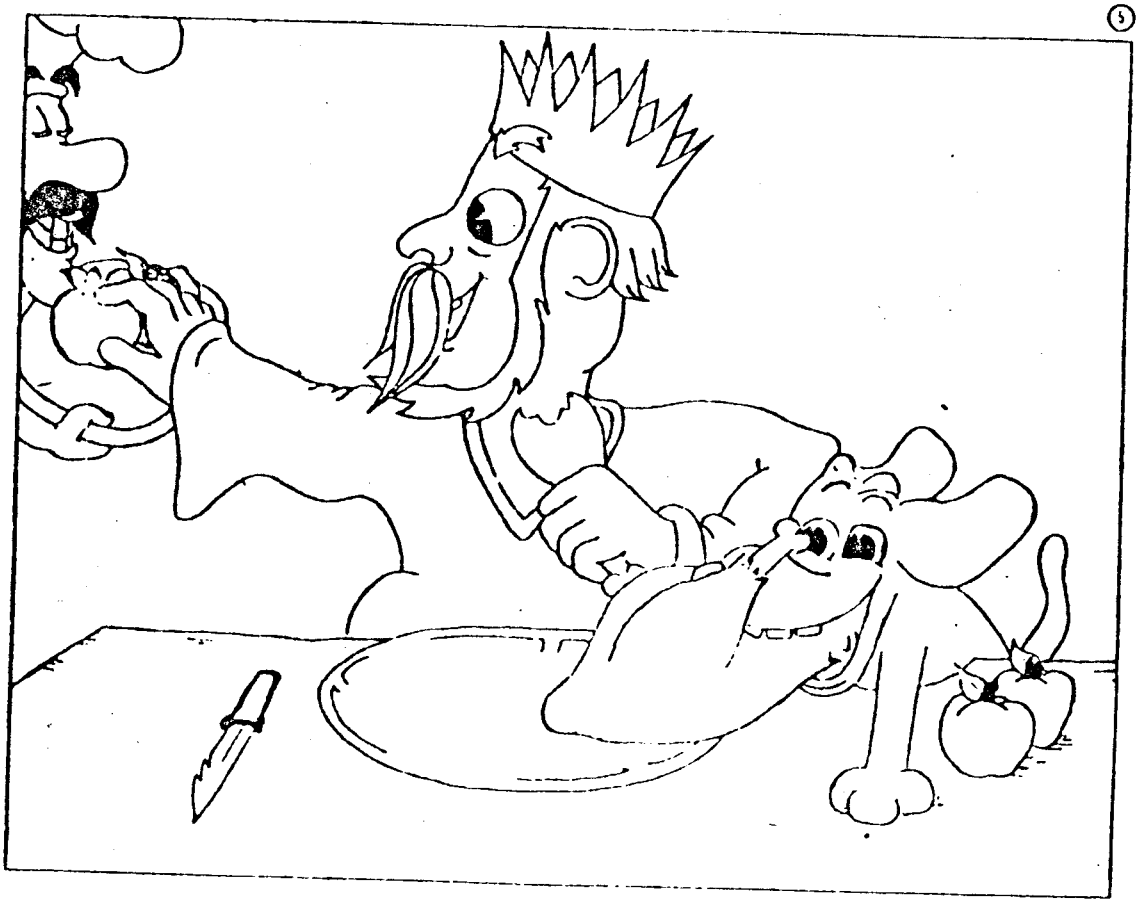

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APPENDIX E

Raw Data from Pilot Study

subject number
gender
first language
position in family
age in months

Task A Predicting
Task B Giving Information
Task C Directing

subject	gender	first language	position in family	age in months	morpheme	auxiliary contract. A	auxiliary contract. B	auxiliary contract. C	auxiliary uncontract. A	auxiliary uncontract. B	auxiliary uncontract. C	copula contract. A	copula contract. B	copula contract. C	copula uncontract. A	copula uncontract. B	copula uncontract. C	past A	past B	past C
task																				
1	F	C	1	52	correct		2			0			1			1		0	0	
					possible		6			4			6			7		1	3	
2	M	P	1	64	correct	8	8	2	2	3	2	5	2		7	3		1	3	
					possible	11	15	4	15	7	2	2	3		7	8		10	10	
3	M	P	2	60	correct		3			0	1	2	5		1	3	2	3	0	
					possible		5			1	1	2	8		6	11	2	10	2	
4	M	C	1	48	correct		2	0	3	0	0		3			1				2
					possible		7	5	3	5	1		3			1				2
5	F	C	2	54	correct	6	10		3	5		10	5		3	1		2	3	
					possible	5	12		3	9		13	8		7	5		7	5	
6	F	P	1	60	correct	12	2	1	1	1			2			1			1	
					possible	13	3	1	1	1			8			3			1	
7	M	C	2	54	correct							2	3	0	4	6				
					possible							2	3	1	9	9				
8	F	P	2	44	correct															
					possible															

APPENDIX E

Raw Data from Pilot Study

subject number
gender
first language
position in family
y age in months

Task A Predicting
Task B Giving Information
Task C Directing

subject	gender	first language	position in family	y	age in months	morpheme	plural A	plural B	plural C	possessive A	possessive B	possessive C	present prog. -ing A	present prog. -ing B	present prog. -ing C	3rd person regular A	3rd person regular B	3rd person regular C	3rd person irregular A	3rd person irregular B
1	F	C	1	52		correct		6	0		5			4			0			
						possible		15	2		9			5			2			
2	M	P	1	64		correct	15	10	3	2	5		5	7	4	0	4		3	3
						possible	15	14	3	4	5		11	10	4	2	12		3	3
3	M	P	2	60		correct	5	6	1	0	4		1	3			0	1		0
						possible	5	8	1	3	7		1	9			3	1		2
4	M	C	1	48		correct	1	10			2			5	0					
						possible	1	12			8			5	2					
5	F	C	2	54		correct	5	10		4	3		2	7			1			
						possible	5	10		7	3		2	7			1			
6	F	P	1	60		correct	1	9	1		0		8	3	1	1	1	1		
						possible	3	11	1		2		12	3	1	1	1	1		
7	M	C	2	54		correct	2	7			1									
						possible	2	7			4									
8	F	P	2	44		correct	1	3						7						
						possible	1	8						7						

A P P E N D I X F

Raw Data from Final Study

Subject no.	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
Task	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Auxiliary Contract.	9 11	5 8	3 3	3 5	12 12	13 13	5 9	7 9	11 13	11 11	4 8	3 7	9 11	7 9	13 15	3 7	7 8	5 9	11 11	6 6	0 4	2 6	8 11	8 15	5 8	3 5	0 5	2 7	6 8	10 12	12 13	5 8
Auxiliary Uncontract.	3 8	2 5	2 5	3 3	9 12	12 12	8 12	3 6	7 7	8 11	3 5	0 2	10 10	6 6	7 7	4 6	8 8	6 6	3 8	2 7	0 2	3 5	2 10	3 7	1 1	0 0	3 6	2 5	3 5	5 9	6 8	3 6
Copula Contract.	5 10	8 10	3 6	3 9	13 15	7 12	8 8	7 7	7 8	2 7	8 10	5 5	11 13	12 16	5 7	5 7	2 6	3 3	5 9	2 6	5 8	1 6	5 5	3 4	2 6	5 8	0 0	3 6	10 13	5 8	9 9	4 6
Copula Uncontract.	9 9	3 9	8 12	7 9	9 9	12 13	3 10	3 5	3 5	6 7	5 8	7 7	7 10	6 8	5 5	3 7	2 7	3 5	2 4	2 2	2 5	1 7	7 7	3 8	1 6	3 11	0 0	1 1	2 7	1 5	4 6	0 2
Past	7 7	6 10	3 9	5 8	7 8	3 7	3 12	1 8	7 9	7 10	8 12	2 6	9 12	3 5	3 7	2 6	3 7	0 6	1 10	2 7	3 6	4 5	1 10	3 10	3 10	0 6	4 8	3 6	5 6	6 6	3 8	2 5
Plural	10 13	15 21	8 11	15 16	17 18	12 13	15 17	10 14	3 10	5 16	16 19	8 9	15 15	7 8	7 7	7 7	10 10	4 5	4 9	4 5	8 13	7 9	15 15	11 14	5 5	7 7	10 11	9 12	4 7	3 8	10 12	7 10
Possessive	5 9	7 10	2 4	3 5	5 10	2 3	2 5	3 3	6 6	2 8	3 6	2 5	4 5	4 7	2 6	1 7	2 5	3 3	3 5	1 6	3 6	5 9	2 5	4 6	0 3	4 7	4 6	2 7	2 5	6 7	4 6	3 7
Present prog. -ing	10 10	8 11	10 14	15 16	10 13	8 8	12 13	2 4	5 7	5 12	12 12	7 8	10 10	5 10	7 7	5 8	5 12	12 15	5 8	6 12	6 6	7 8	5 11	7 10	7 7	5 9	5 5	6 8	5 5	7 9	8 8	6 6
3rd person regular	5 8	6 8	6 6	2 2	3 3	0 2	8 8	3 7	1 5	3 5	5 8	2 2	2 8	0 5	3 10	3 7	2 5	2 2	3 8	4 6	0 4	3 6	0 2	4 6	1 1	0 3	4 6	3 3	5 8	4 10	7 8	5 9
3rd person irregular	2 3	3 5	3 5	5 6	1 4	2 2	0 0	2 3	2 2	0 3	3 5	2 6	2 2	3 7	4 5	2 4	2 2	0 0	4 7	2 8	2 5	0 6	3 3	0 1	0 0	0 2	1 4	0 3	2 6	6 8	3 5	4 5

APPENDIX F (continued)

Raw Data from Final Study

Subject no.	17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32	
Task	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Auxiliary Contract.	6	5	8	6	5	7	4	2	8	6	3	4	12	13	4	6	12	11	4	4	2	0	6	10	3	5	10	5	3	1	2	3
	8	6	14	8	5	10	8	6	12	8	5	6	12	16	8	10	13	11	9	7	6	4	8	12	3	9	13	8	8	5	7	5
Auxiliary Uncontract.	2	2	3	5	3	2	5	1	4	3	3	3	9	11	8	3	8	9	3	0	1	1	3	4	3	4	1	2	4	3	1	0
	5	7	8	6	6	4	7	4	8	5	5	6	13	13	11	7	8	10	5	2	6	7	8	5	6	7	6	6	7	3	5	0
Copula Contract.	3	2	3	5	8	4	10	4	5	6	3	3	14	6	8	7	7	2	8	5	0	0	5	10	4	3	2	7	4	3	2	7
	5	2	3	7	9	6	12	8	11	9	5	8	15	11	8	9	8	7	10	5	1	3	5	10	7	3	5	8	7	6	2	8
Copula Uncontract.	4	3	4	3	3	0	3	2	9	3	9	7	8	12	3	3	2	6	5	7	0	6	4	0	2	4	2	1	5	3	5	
	8	6	6	4	3	2	5	6	9	8	10	9	8	15	10	5	5	7	8	7	2	15	5	0	6	7	2	6	5	7	4	8
Past	8	3	7	2	6	4	8	4	7	6	4	5	7	3	3	1	6	5	7	8	5	4	0	2	0	6	5	3	2	0	4	2
	10	7	7	5	10	8	11	7	7	11	8	6	9	7	12	7	8	10	10	8	9	5	8	8	4	5	8	6	9	7	2	6
Plural	9	10	10	11	11	6	1	4	2	3	0	2	8	10	15	8	6	4	5	6	3	2	10	6	5	2	9	7	4	2	6	0
	9	10	12	13	15	6	8	5	9	5	6	5	8	12	15	8	9	7	5	8	8	6	15	8	9	4	14	10	11	5	6	0
Possessive	6	3	4	3	4	2	4	3	6	6	2	3	5	2	2	3	6	2	3	0	5	2	4	5	6	3	0	1	2	5	3	
	6	3	5	5	7	5	8	5	8	9	4	6	11	5	2	5	6	8	4	0	5	4	5	7	5	6	3	0	4	3	8	6
Present prog. -ing	10	6	11	9	10	6	9	3	9	8	10	14	10	7	11	3	5	5	4	0	3	7	8	2	8	2	2	3	5	2	7	3
	10	6	14	9	10	6	9	5	10	11	13	16	12	9	13	6	7	12	4	2	6	9	11	4	15	15	2	7	5	3	7	8
3rd person regular	8	9	9	3	5	4	6	5	5	6	5	2	3	0	6	2	3	4	2	0	5	6	8	2	2	3	5	2	3	4	2	1
	11	9	9	3	8	5	6	7	8	9	6	4	3	2	7	5	6	9	2	5	7	6	11	6	15	6	5	2	8	6	5	6
3rd person irregular	5	3	4	4	3	2	0	3	1	3	5	1	2	0	1	2	0	3	1	2	3	0	4	3	2	2	1	3	7	0	1	2
	9	5	6	5	6	2	0	6	2	4	6	5	4	3	3	6	5	6	4	3	2	5	8	5	2	4	6	8	2	2	5	6

List of References

Adjemian, C. On the nature of interlanguage systems. Language Learning, 1976, 26, 297-320.

Bailey, N., Madden, C., & Krashen, S. Is there a natural sequence in adult second language learning? Language Learning, 1974, 24, 235-243.

Bates, E. Language and context: the acquisition of pragmatics. New York: Academic Press, 1976.

Berko, J. The child's learning of English morphology. Word, 1958, 14, 150-177.

Bloch, O. Premiers stades du langage de l'enfant. Journal de Psychologie, 1921, 18, 693-712.

Bloom, L. Language development. In R. Wardhaugh and H. Brown (Eds.), A Survey of Applied Linguistics. Ann Arbor: The University of Michigan Press, 1976.

Bouton, C. Les mécanismes d'acquisition du français: langue étrangère chez l'adulte. Paris: Librairie C. Klincksieck, 1969.

Bouton, C. L'acquisition d'une langue étrangère. Paris: Editions Klincksieck, 1974.

Brown, M. and Dixon, W., (Eds.) Biomedical computer programs: P-series, Berkeley, LA: University of California Press, 1979.

Brown, R. A first language/The early stages. Cambridge, Massachusetts: Harvard University Press, 1973.

Burt, M. Dulay, H., & Hernandez-Chavez, E. Bilingual Syntax Measure. New York: Harcourt Brace Jovanovich, 1973.

Cazden, C. The acquisition of noun and verb inflections. Child Development, 1968, 39, 433-448.

Cedergren, H. & Sankoff, D. Variable rules: Performance as a statistical reflection of competence. Language, 1974, 50, 333-355.

Chú, C. A Semantico-syntactic approach to contrastive analysis -- some "BE" and "HAVE" sentences in English and Chinese, IRAL, 1978, 16, 273-296.

Corder, S.P. The significance of learner's errors. IRAL, 1967, 5, 161-170

Corder, S.P. Idiosyncratic dialects and error analysis. IRAL, 1971, 9, 147-160.

deVilliers, J. & deVilliers, P. A Cross-sectional study of the acquisition of grammatical morphemes in child speech. Journal of Psycholinguistic Research, 1973, 2, 267-278.

Dickerson, L. The learner's interlanguage as a system of variable rules. TESOL Quarterly, 1975, 9, 401-408.

Dickerson, W. The psycholinguistic unity of language learning and language change. Language Learning, 1976, 26, 215-231.

Diller, K. Generative grammar, structural linguistics, and language teaching. Rowley, Mass.: Newbury House, 1971

Dulay, H. & Burt, M. Goofing: an indicator of children's second language learning strategies. Language Learning, 1972, 22, 235-252.

Dulay, H. & Burt, M. Should we teach children syntax? Language Learning, 1973, 23, 245-258.

Dulay, H. & Burt, M. Natural sequences in child second language acquisition. In Language Learning, 1974, 24, 37-54.

Dulay, H. and Burt, M. Remarks on creativity in language acquisition. In M. Burt, H. Dulay, and M. Finocchiaro (Eds.), Viewpoints on English as a Second Language. New York: Regents, 1977.

Firth, J. The technique of semantics. Reprinted in Papers in Linguistics 1934-1951. London: Oxford University Press, 1957, 7-33.

Frei, H. La grammaire des fautes. Paris: Geuthner, 1929.

Gatbonton, E. Patterned phonetic variability. Canadian Modern Language Review, 1978, 34, 335-347.

Gradman, H. The Limitations of Contrastive Analysis Predictions. Paper presented at the Pacific Conference on Contrastive Linguistics and Language Universals, Honolulu, 1971.

Guillaume, P. Les débuts de la phrase dans le langage de l'enfant. Journal de Psychologie, 1927, 24, 1-25.

Hakuta, K. A case study of a Japanese child learning English as a second language. Language Learning, 1976, 26, 321-351.

Halliday, M. Explorations in the function of language. London: Edward Arnold, 1973.

Halliday, M. Learning how to mean: Explorations in the development of language. London: Edward Arnold, 1974.

Huebner, T. Order of acquisition vs. dynamic paradigm: A comparison of method in interlanguage research. TESOL Quarterly, 1979, 13, 21-28.

Labov, W. Contraction, deletion and variability of the English copula. Language, 1969, 45, 715-762.

Larsen-Freeman, D. An ESL index of development. TESOL Quarterly, 1978, 12, 439-448.

Lenneberg, E. Biological foundations of language. New York: Wiley, 1967.

Leopold, W. Speech development of a bilingual child (4 vols.). Evanston, Illinois: North Western University Press, 1939-1949.

Malinowski, B. The problem of meaning in primitive languages. In C. Ogden and I. Richards (Eds.), The Meaning of Meaning. London: Routledge and Kegan Paul, 1923, 293-336.

Marckwardt, A. English as a second language and English as a foreign language. In H. Allen (Ed.), Teaching English as a second language. New York: MacGraw Hill, 1965.

Nemser, W. Approximative systems of foreign language learners. IRAL, 1971, 9, 115-124.

Odlin, T. Variable rules in the acquisition of English contractions. TESOL Quarterly, 1978, 12, 451-458.

Pollock, S. English prosodics: A contrastive approach. Modern Language Journal, 1978, 62, 410-413.

Porter, J. A cross-sectional study of morpheme acquisition in first language learners. Language Learning, 1977, 27, 47-62.

Richards, J. Error analysis and second language strategies. Language Sciences, 1971, 17, 12-22.

Richards, J. & Sampson, G. The study of learner English. In J. Richards (Ed.), Error Analysis: Perspectives in second language acquisition. London: Longman, 1974.

Ronjat, J. Le développement du langage observé chez un enfant bilingue. Paris: Librairie Ancienne H. Champion, 1913.

Rosansky, E. Methods and morphemes in second language acquisition research. Language Learning, 1976a, 26, 409-425.

Rosansky, E. Morpheme studies and second language acquisition: A question of methods. Paper presented at 19th TESOL Conference, New York, 1976b.

Sampson, G. A model for second language learning. The Canadian Modern Language Review, 1978, 34, 335-347.

Selinker, L. Interlanguage. IRAL, 1972, 10, 209-231.

Selinker, L., Swain, M., & Dumas, G. The interlanguage hypothesis extended to children. Language Learning, 1975, 25, 139-152.

Stern, C. & Stern, W. Die Kindersprache. Leipzig: Barth, 1907.

Tarone, E. A Discussion on the Dulay and Burt studies. In Working Papers in Bilingualism, 1974, 4, 57-70.

Tarone, E.; Frauenfelder, J.; and Selinker, L. Systematicity /variability and stability/instability in interlanguage systems. In H. Brown (Ed.), Papers in second language acquisition. Ann Arbor: University of Michigan, 1976, 93-134.

Tough, J. The Development of meaning (A study of children's use of language). London: Allen and Unwin, 1977.

Vygotsky, L. Thought and language. Cambridge, Mass.: M.I.T. Press, 1936.

Wardhaugh, R. The contrastive analysis hypothesis. TESOL Quarterly, 1970, 4, 123-130.

Wode, J., Bahns, J., Bedey, H., & Frank, W. Developmental sequence: An alternative approach to morpheme order. Language Learning, 1978, 28, 175-185.

Zajonc, R. Family configuration and intelligence. Science, 1976, 192, 175-185.

Zajonc, R., & Marcus, G. Birth order and intellectual development. Psychological Review, 1975, 82, 74-88.