

On the Role of Prefabricated Speech in L2 Acquisition Process: An Information Processing Approach

KYUNG-SOON BOO
Sogang University

This study focused on the role of prefabricated speech (routines and patterns) in the L2 acquisition process. The data for this study consisted of spontaneous speech samples and various observational records of three Korean children learning English as L2 in a nursery school. The specific questions addressed here were: (1) What routines, patterns, and creative constructions did the children use? (2) What was the general trend in the three children's use of routines, patterns, and creative constructions over time? The data were collected over a period of one school year by observing the children in their school. The findings were discussed from the perspective of human information processing.

This study found that prefabricated speech played a significant role in the three children's L2 acquisition. The automatic processing of prefabricated speech appeared to enable the children to reduce the burden on their information processing systems, which allowed the saved resources available for other language development activities. Also, the children's language development was evident in their increase in the use of patterns. The children were moving from heavy dependence on wholly unanalyzed routines to increased use of partly unanalyzed patterns. This increased control was the result of an increase in procedural knowledge.

Despite growing interest in second language (L2) acquisition research, prefabricated speech, routines and patterns, is among the phenomena whose role in the acquisition process is not fully explained in any existing models of L2 acquisition. Routines refer to unanalyzed whole phrases or sentences used as single items (e.g., "I don't know"), while patterns refer to partly fixed and partly analyzed phrases or sentences with an open slot (e.g., *Where's _?*). They are structures which are learned *en bloc* as unanalyzed units in appropriate situations and which are far beyond the level of the learner's developing rule-governed system of L2. Studies (Fillmore 1976, Hakuta 1974, 1976) have shown that L2 learners employ them heavily from the beginning stages of linguistic development.

Fillmore (1976) suggested that prefabricated routines and patterns constitute the data base for L2 acquisition and that early use and memorization of them is central to the acquisition of rule-governed language. However, her suggestions have been ignored for the most part due to the current tendency to view language development in terms of steadily increasing sentence length and the hegemony of the transformational view of language development, i.e., the prevalence of the Chomskyan view of LAD and the concomitant disfavor of behavioristic processes. As a consequence, many studies have only mentioned the appearance of prefabricated speech without including it in the analysis of their subject's L2 development (e.g., Hanania and Gradman 1977), or without looking further at its relationship to creative speech (e.g., Wagner-Gough 1978), as indicated in a suggestion for researchers: "analyze routines and patterns separately, or omit them from analyses that focus on describing the acquisition of productive rules" (Dulay *et al.* 1982:257). Research in L1

acquisition in the 60s and 70s also overlooked children's early use of unanalyzed multi-morphemic words or multi-word sentences by imitation and repetition (e.g., Brown and Hanlon 1970), apart from few studies (e.g., Clark 1974).

Over the years some consensus has been built up in the research literature as to the *en bloc* nature of prefabricated speech, the concomitant function it serves for the learner, and the factors encouraging its acquisition. However, there is substantial lack of agreement regarding the importance of prefabricated speech in language acquisition and the relationship between prefabricated and creative, rule-governed speech.

Dulay *et al.* (1982) have argued that prefabricated speech is the result of a process "that is separate from the process generating rule-governed, propositional language" (p. 235) and such speech does not become creative speech. They have their argument on several considerations such as language learner's correct production of routines and patterns from the beginning rather than showing a gradual increase in accuracy over time (Brown and Hanlon 1970), neurological evidence of automatic speech of aphasics (van Lancker 1975), and the generalizability of Fillmore's finding (1976). However, other evidences (Huebner 1982, Peters 1983, Gleason *et al.* 1984, Coulmas 1981) are considered, they are not convincing enough to draw a line between prefabricated and creative, rule-governed speech.

More inquiry into L2 learner's use of prefabricated speech is needed in order to deal with a controversy as to its role in the acquisition process. For reasons stated earlier, actual data on routines and patterns are sparse and fragmentary. Moreover there have been few criteria for identifying structures as routines, patterns, and creative constructions. Even studies that have dealt with this issue have focused on a two-way distinction, i.e., prefabricated vs. creative speech. In other words, routines and patterns have been lumped together and treated as a unit, which may obscure developmental change within prefabricated speech.

THE STUDY

The present study addresses these issues. The specific questions addressed here were: (1) What routines, patterns, and creative constructions did the subjects use? (2) What was the general trend in the three children's use of routines, patterns, and creative constructions over time?

METHODS AND PROCEDURES

The research design

The present study was a longitudinal one. The data for this study consisted of the spontaneous speech samples and various observational records of three Korean children learning English as L2.

The subjects

A girl, JE (4;11), and two boys, NY (3;10), and BJ (3;4), participated in this study as subjects. They were attending a public nursery school in Austin, Texas. They were all born in Korea and came to the U.S. with their families while their fathers were studying for advanced degrees at the University of Texas at Austin. The subjects did not speak English or play with English-speaking children

before going to school for they lived in a neighborhood with many Korean children.

The setting

The subjects lived with their parents at one of the university housing areas where many married Korean students lived. Korean was the only language for communication and English was rarely heard among the Korean residents in this apartment complex. The nursery school attended by the subjects was one of non-profit day-care centers in Austin. When the study was in progress, 72% of the students (36) were Korean.

Data collection

The data were collected over the period of one school year by observing the children in their nursery school. They were occasionally supplemented by audiotaping and videotaping. The weekly observation schedule began in the third week of September and continued through the last week of April. There was a month break in March.

Data analysis

In order to answer research questions, I needed first to define routines, patterns, and creative constructions as they are used in this analysis.

The routines used by the subjects in this study were basically of four types: (1) Native-like routines that are conventionally fixed, unanalyzed recurring utterances which are used as routines by native speakers also, e.g., "Happy birthday to you!" They are acquired as wholes and may remain so throughout one's lifetime. Many of them are community-wide formulas (Fillmore 1976). (2) Single-word routines that are recurring utterances which are—necessarily—syntactically unanalyzable, but which are appropriately placed within the social situation, e.g., "Here!" and "Look!" (3) As yet unanalyzed routines that are fixed utterances which—though analyzable—the subject has not yet analyzed. They are acquired as wholly unanalyzed sentences after frequent hearings of them. They may be analyzed later once the learner figures out which parts could be varied. For example, "Did you taste it?" is a routine in this study, which was frequently heard during lunch time in the nursery. It may be subsequently analyzed into *Did you taste _ (particular food)?, Did you _? or Did _?* This type of routine has more grammatically advanced internal structure than the creative constructions in the subject's current speech. In most cases, they are grammatical. However, they may be ungrammatical if mishearing or mislearning occurs during the course of acquisition, e.g., "Don't broke mine." (4) Idiosyncratic chunks that are repeatedly used by the subjects in exactly the same form (Peters 1983), e.g., JE's "My first!"

Patterns are recurring grammatical frames with an open slot where a variety of forms can be put. Thus they are partly fixed and partly analyzed. Substitutability of forms in a grammatical frame is the main criterion. For example, various verb phrases can be put in an open slot in patterns *Lemme _ or I'm gonna _*. The frame may include ungrammatical elements such as (person) *is not sharing with (thing)*.

Creative constructions are those which are produced as a result of the learner's rule system. They can be either grammatical or ungrammatical. They are analyzable or decomposable into component parts. They include noun phrase sentences (including one-word sentences) and sentences with freely chosen subjects and predicate phrases. Included in this category are

sentences with a subject or a predicate phrase that was previously an intact routine for the child, e.g., "I clean up" is a creative construction in which "Clean up" had itself been a routine. Some important criteria can be summarized as follows in Table 1.

Table 1: Criteria for identifying routines, patterns, and creative constructions

	Grammaticality	Substitutability	Analyzability
Routine	May be either grammatical or ungrammatical	No substitutability; Occurs as a fixed unit	Either not analyzed yet or unanalyzable
Pattern	A grammatical frame but may include ungrammatical elements within the frame	Substituted part in an open slot within the frame	Analysis evident in an open slot within the frame
Creative construction	May be grammatical or ungrammatical	Substitutability in all major constituents (also can be a fixed part of prefabricated speech)	Analysis evident in subject and/or predicate of sentence

In order to answer the first research question, I examined all the speech samples and observational records to identify each utterance as routine, pattern, or creative construction according to the above criteria. I grouped the data into four time periods and listed one set of routines, patterns, and creative constructions occurring in each time period for each child.

In order to answer the second research question, I found the percentages of routines, patterns, and creative constructions for each time period for each child. Then I drew the developing curves for the three children, which were obtained by a curve fitting method.

FINDINGS

1. What routines, patterns, and creative constructions did the subjects use?

Routines: NY

During Period I NY produced very few routines but they comprised the majority of the utterances he produced. They were everyday routines in the school and NY used them as invariant forms in appropriate contexts. Single-word routines were exclamatory and they seemed to punctuate action such as "Go!" and "Wait!" Some routines were social involving 'me' and 'you' such as "Me, too!" "You, too!" and "Me, first!" He used them when participating in activities with English speakers. Other routines included negatives such as "Don't fight!" and "I don't know." Period I routines were short utterances which were easy for him to pick up and to produce. They permitted NY to begin speaking in English while he continued to use the first language and non-verbal means for real communication.

NY's Period II routines were longer and included a wider variety than

Period I routines. They served various functions for NY in his interactions with L2 speakers. There are presentatives such as "Here," "Over here," "I'm over here"; comments such as "I can do it," "I like it," "You did it," "You hurt me"; commands and requests such as "Lemme do it," "Be quiet," "Come on"; routines for play activity such as "Let's go," "I'll catch you," "I'm first"; negative requests such as "Don't do that, please"; responses to questions such as "I don't want." Many of them (e.g., "I can do it," "You did it," "I'll catch you," "I don't know.") were used long before NY figured out how they were structured, evidenced by the fact that his creative constructions in the same period were mainly verbless and did not have an auxiliary, past or future tense.

During Period III NY continued to add new routines to his repertory for commands and requests such as "Gimme," "Hurry," "Stop," "Get out," "Look at this," "Wait a minute"; for responses to comments or questions such as "I know that" and "I don't care." Politeness routines such as "Please" and "Thank you" also frequently showed up in his speech samples.

During the last period, NY employed a wider range of useful routines than before. Most of them were used when playing: for urging activity from the partner as in "Push," "Kick really hard," "Catch me," "Touch me," "Do like this"; for commenting on play activity as in "You broke mine," "I did it," "See, I told you so," and "I'm not playing"; for responding to comments as in "Really?"; for presenting something as in "Here you are." He used more elaborate expressions to claim ownership in Period IV than in Periods I and II: "I got first" and "I got it first" replaced his earlier "Me, first" (Period I) and "I'm first" (Period II). He learned to use more specific negative routines such as "I don't play with you," "I don't want it," and "Don't push me," which helped him express more specifically what he intended to say than his earlier global "No." He also used adverb phrases such as "Here," "Right here," "Like this," "Like that" which could function both as independent routines and as elements of other unanalyzed routines as in "Here you are," "Kick right here," "Do like this," "Not like that." With a variety of useful routines on hand, NY could easily play with peers in English. His routines helped him maintain social relationships with the second language speakers.

Patterns: BJ

BJ quickly figured out that some utterances could be put into an open slot within the prefabricated pattern. He found the recurring parts in the utterance and depended on them from the beginning. During Period I he produced 41 utterances, 18 (44%) of which used the five patterns: *Gimme _*, *I got _*, *I make _*, *Let's make _*, *Where's _?* The eighteen uses of these five patterns all occurred during his play on the playground. The following observation shows the way BJ employed patterns in his interactions. Even though he did not mark sentences for tense, he successfully communicated his messages using his patterns as demonstrated in his use of *I make _* and *Let's make _* in the following example (Week 8):

(BJ is playing in the sand box with a friend.)

BJ: *I make* cake, O.K? (= I'll make)

(After making sand cake) *I make* cake. (= I made)

(To a friend) *I make* you cake. (= I'll make cake for you.)

- F: I make it.
 BJ: *I make* cake. (= I'm making)
 No, this cake.
Let's make one more cake.

During Period II, BJ added more patterns such as *I am _/You are _*, *I'm/He's gonna _*. He learned to use *I have _* and employed the pattern more than *I got _* in this period. Also new were the presentatives and parallel talk expressions such as *Here is _*, *This is _* and *I give you _*. The inclusion of the auxiliary verb *can* in the pattern *I can _* shows BJ's development in his verb phrases.

During Period III, BJ added some more patterns such as *I like /I want _*, *I want to _*, *Look at _*, *You can _*, the question form *Do you want _?* and a few negative patterns to his repertory. Also included during this period was the pattern *That's _*. However, he seemed to assume that *That's* was a single word because he put the copula *is* in the pattern as in "That's *is* mountain," "That's *is* red."

However, during the same period he was also using the pattern without the copula after *That's*, as in "That's not car" and "That's too sticky." His understanding of *That's* as a single word may be the result of his constantly hearing *That's* and rarely hearing *That* in his environment. The final sibilant sound of *This* (in the pattern *This is _*) might also have affected his perception of *That's*. On a few occasions he produced *That's is* and *This is* together as if he were engaging in language play:

That's is . . . This is mountain.
This is . . . That's is yum.

Therefore utterances without copula *is* in this pattern, such as "That's not car" and "That's too sticky," may be verbless sentences for BJ. During this period, "Don't!" functioned both as an independent routine and as a pattern *Don't _!* It also functioned for BJ as an invariant negative unit in the pattern *I don't _* because he did not use alternate forms of *doesn't* or *didn't*. He also used patterns that were phrases, such as *Too late to play _* and a comparative *Bigger than _*.

During the last period BJ was mainly using patterns he already knew in his interactions with peers. He added only *I hate _* (to comment) and the request form *Can I _?* to his repertory. His Period III question pattern *Do you want _?* went to *Do you* plus verbs other than 'want' (such as like and hate). During this period, BJ used *That's* without a following copula as in "That's a fish," in contrast to his usual use of *That's* plus copula *is* in Period III.

Creative constructions: JE

JE's Period I creative constructions were not impressive compared with her prefabricated speech. The expression of *come rain* in the sentences "It *come rain* " and "It *gonna come rain* " reflects the influence of JE's structure being similar to a semantically equivalent sentence in her first language, Korean. She had figured out an element for future tense *gonna* from prefabricated speech such as "I'm gonna play" and used it in creative constructions such as "It gonna turn dark" and "It gonna broke." *It gonna* was categorized as her creative attempt rather than as a pattern (even though it was recurring) because she did

not omit the auxiliary *be* in other instances when they were prefabricated speech.

During Period II, it was apparent that JE had been going through the stage of trial and error in figuring out the rule system of the second language. Not only was she making common errors such as omission of copula or failure to attach *-s* in the third person singular, but she was also producing equivalent structures in two ways, correctly one time and incorrectly the other time in several categories, as the following examples from her monologue when she was playing with Lego blocks show (Week 17) :

I hurt <i>my</i> eyes.	This whole thing is <i>mine</i> home.
<i>He's</i> very new.	<i>He are</i> big.
He <i>have</i> gun.	But he <i>has</i> the robot.
You have to get <i>his</i> face.	Don't change <i>her</i> face.
He's <i>bigger</i> right now.	He's <i>more bigger</i> .
Gas <i>goes</i> like this.	His gas <i>is go</i> like this.
Mine's <i>gonna</i> be more big one.	This hot dog <i>gonna</i> be yummy.
Mine <i>is</i> always <i>breaking</i> .	Mine <i>is</i> always <i>break</i> .
<i>He's</i> always <i>broking</i> .	<i>He are</i> always <i>broking</i> .

During Period III, many of JE's creative constructions employed prefabricated speech in whole or in part. For example,

What are you think?
Are you hear me?
Mommy *don't have to* have a baby.
He *don't know how to speak* English.
I just *think about it*.

JE showed the greatest development in her use of negatives during this period. Period II negatives were constructed by putting *not* or *no* before the sentences as shown above. Otherwise negatives within the sentence were dependent on the patterns such as *I'm (not) gonna* _, *It's (not)* _, and *That's (not)* _. However, during Period III, she freely inserted *not* within the sentence as in "Apple is not a food." In addition, she was using *don't* with a variety of pronouns including common nouns, indicating that she really had learned to use *don't* as a negator in this period as in "*I don't* make a sharp snail" and "*He don't* know." "It was analyzed from the well-formed negatives that were present from the beginning in her repertory of prefabricated speech such as "I don't like you." As in Period II, she continued to use ungrammatical forms in the comparative as in "This *more bigger*" or "BJ is *silly* than me"; and also in gender distinctions and number agreement as in "Now *your mommy* could, because *he* already *have* one baby and *he need* to get more of the baby" or "*He* likes *her* school." Some of her verbless sentences resulted from attempts to break up the pattern *This is* _ as in "This +++ yours" and "This +++ more bigger." Even though JE's prefabricated speech had several past forms, she did not know the past forms of 'make' or 'want' as in "Long time ago we *want* to play it" and "I told you when I *make* it."

During the last period, JE acquired several past forms of verbs: irregular

forms as in "I *found* this much flowers" and "John *gave* this to me"; and a regular form "You *dried* the grape outside." She showed that she had learned to use present progressive by this point. In addition to the singular *I'm/You're/He's _ing* (which were categorized as patterns), common nouns and third-person plural pronouns were employed as subjects in her present progressive constructions: "The boy is thinking about the elephant," "They are cutting the woods."

2. What was the general trend in the three children's use of routines, patterns, and creative constructions over time?

NY

Routines

NY relied heavily on routines in the beginning (74%). NY's use of routines decreased to 49% during Period II. A considerable amount (57%) of his production in English was routines during Period III. Routines constituted 48% of NY's utterances during Period IV, indicating that NY was using a lower proportion of routines in his utterances by the end of study.

Patterns

NY started with only one pattern *I'm _*, which comprised the total percentage (10%) of his pattern use during Period I. The percentage of NY's use of patterns increased to 29%, then dropped to 22% during Period III. It constituted 39% of NY's utterances in Period IV.

Creative constructions

NY's use of creative constructions was 16% during Period I, then increased to 22% during Period II. Creative constructions constituted 21% of NY's utterances during Period IV. Though NY's proportion of creative constructions is lowest (14%) during Period IV, there was an interesting qualitative change in that during the last period he produced more advanced creative constructions formed with a subject and a predicate such as "He hurt eye" and "We can make police car."

BJ

Routines

BJ's proportionate use of routines during the study was erratic, showing considerable fluctuation. Only 24% of BJ's utterances collected during Period I were routines. However, BJ's use of routines almost doubled to 46% during Period II, decreasing to 31% during Period III and rising to 40% during Period IV.

Patterns

BJ relied on a small number of patterns such as *Gimme _*, *I/He got _*, *I make _*, *Let's make _*, *Where's _?* to produce more than half (57%) of his utterances during Period I. BJ's use of patterns decreased to 33% during Period II and then increased to the level of 43% during Period III and 46% during the last period.

Creative constructions

BJ's proportionate use of creative constructions increased slightly from Period I (19%) to Period III (26%). However, in Period IV he used proportionately fewer creative constructions (14%) than in the previous periods.

JE

Routines

Routines comprised 42% of the utterances collected during Period I. JE's use of routines decreased to 32% during Period II and seemed to level off there: 33% in Period III and 31% in Period IV.

Patterns

JE's proportionate use of patterns in her speech increased as time passed, from 40% (Period I) to 53% (Period IV). Exactly half of JE's production of English used patterns during Period II. Though her proportion of patterns dropped in Period III to 45%, the variety of patterns she used in this period was impressive.

Creative constructions

JE's proportionate use of creative constructions increased slightly up to 22% during Period III from 18% in the first two periods. Though there was little quantitative change in JE's proportionate use of creative constructions, there was a qualitative change in that she produced more complex and more diverse creative constructions by the end of this study.

Figure 1 shows the general trend in the three children's use of routines, patterns, and creative constructions during the study period. The odd numbers on the x axis indicate the initial period for each child and the even numbers the final period. The children appear in the reverse order of their exposure to English: NY had the least exposure, followed by BJ and then JE.

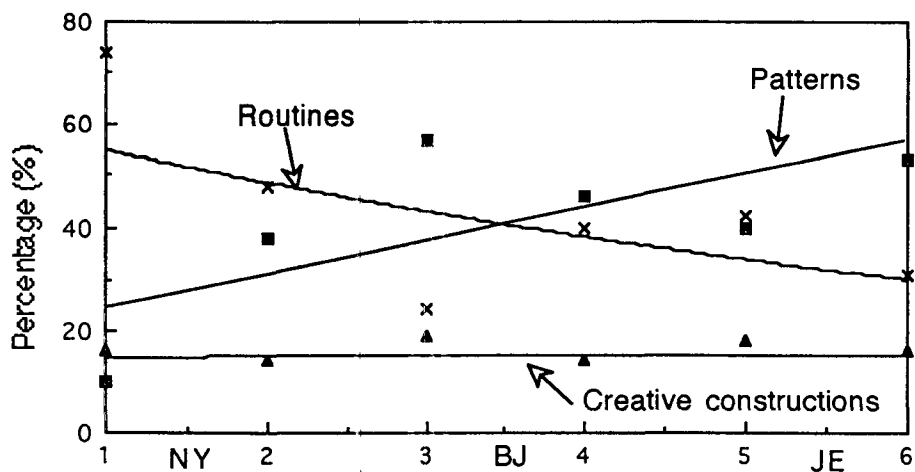


Figure 1
Developing curves of routines, patterns, and creative constructions for the three children

The curves were obtained by a curve fitting method. This figure shows that the use of patterns overall increased from approximately 15% to 63%, while the use of routines overall decreased from approximately 54% to 32%. The production of creative constructions remained at the level of 17% throughout the study.

DISCUSSION

The present study supported the findings of Fillmore and others, that is,

prefabricated speech played an important role in the children's development of L2. The children gradually analyzed them into their constituents and used these constituents in creative constructions. Some routines evolved into patterns to substitute elements. Further, some existing prefabricated speech in whole or in part was incorporated into creative constructions. Even though Dulay *et al.* (1982) have argued that prefabricated speech is the result of a process that is different from the process generating creative language, it appears that "the simple dichotomy between memorized routines and acquired generative systems is a false model both for language processing/production and for language learning," as Gibbons (1985:263) points out.

One way to approach the issue of prefabricated speech is to consider it from the perspective of human information processing. It is a well-known fact that human beings have limited information processing capacities (Miller 1956, Simon 1974). Since the children in this study were learning language, possibly the most complicated of cognitive skills, automaticity can be helpful in this complex processing. It would appear that they employed routines and patterns as devices to reduce the burden on their information processing systems.

In an information processing perspective, component skills have to be gradually integrated and accumulated as automatic processes in long-term memory in order to save resources (McLaughlin *et al.* 1983). Unlike fluent speakers of L2, these children had not yet accomplished this integration of interdependent subskills that should be handled automatically in order for the speaker to perform effectively at the higher levels of processing. Further, the children were under pressure to communicate with peers and teachers in L2, beyond their present level of understanding. The effect was a processing limitation; they had to put enormous burdens on their already-limited information processing systems, in terms of processing time and effort, working memory space, etc. Before information handling capacity became overloaded and eventually turned off (McLaughlin *et al.* 1983), the children needed some kind of device to minimize the workload involved in L2 production and reception. The device that served this purpose was a body of ready-made expressions requiring a minimum of processing time and effort which the children could use while they were facing the tasks of both learning L2 and establishing relationships with the speakers of the language. Prefabricated routines and patterns were ready-made expressions that could "kill two birds with one stone," helping the children to learn the language and to socialize in it. These expressions allowed the children to produce more than their system would otherwise allow. The children used them as unanalyzed expressions long before they understood the meaning of individual words or grammatical morphemes.

The frequency of occurrence in input doubtless played an important role in establishing routines and patterns as automatic processes, for it was through constant exposure to them in meaningful situations that the children internalized them. Further, the children were getting constant practice and feedback which are necessary to achieve automaticity (Gagne 1985) in producing them in real communicative settings. As a consequence, the children produced routines and patterns in a fast, automatic way whenever the situations arose in which they were called for. This production indicated that they were well learned and had been rehearsed to a level of automaticity which allowed the children to

handle L2 more routinely, thus lessening the cognitive effort required. In contrast, the children's production of creative constructions tended to be laborious and poorly organized, and marked by pauses, corrections, and omissions. Even for JE, who had achieved more automaticity in L2 than the other two subjects had, creating a sentence according to her own rules was not an easy task, as shown in the following example produced during Period III:

(JE was trying to respond to a comment her brother made on the broken playdough. She had previously assured him that it would not break.)

JE: That's what---that's---that---that---shocked, truly shocked---that--- broken--- truly shocked.

On the same day JE produced several pattern utterances in which there were also pauses and corrections. However, her utterances were noticeably different. Whereas the pauses in the creative constructions recurred throughout the sentence, in the pattern sentences pauses occurred only before or after the pattern portion (*italicized*), which portions of the sentences were fluent, as in the following examples:

I'll make ---I'll show you how to make star.

I think ---this is more pretty.

Who wanna ---Who wanna ---Who wanna eat candy bar?

It appears that, for JE, as Dechert (1983) put it, "formula-like linguistic units of various lengths and syntactic structures provide the material for building islands of reliability. They may serve as anchoring points for the implementation of sub-processes which deal with left-over, lower-level processing problems such as lexical search" (p. 193).

An information processing theory suggests that the resources saved by automatic processing are then available for other purposes. According to Schneider and Shiffrin (1977), if processing of certain information is automatic, then capacity is released for the controlled processing of other information. This appears to have been the case with the children in this study. Since routines and patterns involve a high degree of automaticity in that they are received, stored, and retrieved as prefabricated forms, and not generated from scratch each time they are needed, they are efficient for processing and thus may relieve attention, time, and effort to be used in other aspects of language. For example, the children gradually analyzed some routines and patterns that had previously been used as unanalyzed wholes, produced increasingly complex creative constructions, and were able to allocate more time for working on pattern-recognition procedures and grammatical details. As time passed, all three children gradually increased the use of patterns and they began to produce better-formed creative constructions by the end of the study.

It is also important to note that some routines and patterns need not be analyzed for efficiency of processing, although they may eventually be analyzed as one's knowledge of the language gradually increases. These prefabricated expressions are efficient and economical ways of representing knowledge in the human information processing system. The finding that the proportion of the children's creative constructions remained constant during the data collection

period is relevant here. The production of new utterances was costly in terms of information processing. If the children had been constantly engaged in creative construction, the information processing burden might have been overwhelming. While it is likely that they had not developed the rule-system of the language enough to construct creative expressions on the spot, it is also possible that "language production may be much less the result of creative construction processes than we have thought for a long time" (Dechert 1983:184). Dechert assumes that production of any language, L1 or L2, is to a large degree based on "islands of reliability" built on prefabricated expressions. He states that "if we did not have particular knowledge sources from which to retrieve formulae as anchoring points, we could not activate the procedures to develop and test the hypotheses which are needed [to understand and produce speech]" (1983:184).

CONCLUSIONS

From this investigation, it appears that routines and patterns that occurred as single units for the children before they recognized them as combinations of units played a significant role in the children's L2 acquisition. Not only did these ready-made constructions permit the children to maintain social relationships with L2 speakers until they grasped the rule system of the L2, but they also constituted important linguistic input for the children's development of L2. The children began to develop their L2 mainly through routines and patterns. Routines and patterns included many elements which the children eventually analyzed and used productively in their creative constructions. Moreover, from an information processing perspective, it appears that the automatic processing of routines and patterns enabled the children to reduce the burden on their information processing systems. The frequent and repeated use of them in routinized situations allowed the children to produce them more automatically and without as much cost in information processing capacities as when they produced creative constructions. The resources saved by automatic processing were then available for other purposes such as the gradual analysis of some routines and patterns that had previously been used as unanalyzed wholes.

In the three children's increase in the use of patterns their language development was evident. The children were moving from heavy dependence on wholly unanalyzed routines to increased use of partly analyzed patterns. The change indicated that they were gaining control of the L2 system by experimenting with various syntactic possibilities. This showed an increase in their analytical ability for patterns are constructions that are partly creative, requiring knowledge of constituent types to fill in the open slots. From an information processing perspective, this increased control was the result of an increase in procedural knowledge (pattern-recognition skills, Gagne 1985). By not requiring the creation of whole utterances from scratch, patterns saved the children processing time and effort and working memory space. The children were able to produce many sentences with minimal effort by varying elements in the slots. At the same time changing various elements in the open slot may have satisfied the children's need for creativity in language use. For these children, more pattern use meant more production of language.

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