SSLA, **21**, 49–80. Printed in the United States of America.

INTERROGATIVE CHUNKS IN FRENCH L2

A Basis for Creative Construction?

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This paper explores the relationship between formulaic language and creative construction in SLA by examining the production of interrogatives in an extensive naturalistic corpus of L2 French produced by early classroom learners. The paper first analyzes the production and breakdown of such formulaic language over time, before exploring the development of more creative structures. The interaction between the two processes "rote learning of formulas and creative construction" is then investigated. This interaction is shown to be a dynamic two-way process, with learners being driven forward in the development of their L2 system by their attempts to resolve the tension between structurally complex but communicatively rich formulas on the one hand, and structurally simple but communicatively inadequate creative structures on the other hand.

Formulaic language has not figured prominently in SLA research over the last 20 years. Studies have tended to focus instead on the importance of creative, rule-governed processes in SLA and, to a large extent, have dismissed formulas as a peripheral phenomenon playing no part in this creative process. They tend to be seen as mere crutches that enable learners to enter into communication and that will be discarded when creative processes take over.

We would like to thank the Economic and Social Research Council in the UK, who funded the research project on which this study is based (grant no. R000234754), as well as the other team members in the project (Peter Dickson, Judy Hawker, Cynthia Martin, and Luciana O'Neill). We would also like to thank the teachers and children in the two schools that took part in the project. Thanks are also due to *SSLA*'s anonymous reviewers for their comments on an earlier version of this paper.

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https://doi.org/10.1017/S0272263199001023 Published online by Cambridge University Press

It would be misleading to suggest that this phenomenon has been totally ignored, however. The existence of chunks as a significant feature of early classroom learners' L2 production has gained recognition in various practical assessment schemes, figuring for instance in elementary level definitions both in the American Council on the Teaching of Foreign Languages (ACTFL) Proficiency Guidelines (ACTFL, 1986) and also in the assessment model proposed for the British National Curriculum in Modern Foreign Languages (Department for Education/Welsh Office, 1995).

In both L1 and L2 research, formulaic language has been explored under a variety of labels: prefabricated routines and patterns, imitated utterances, formulas, and formulaic units (e.g., L1: Clark, 1974, 1977; Hickey, 1993; Peters, 1983; Pine & Lieven, 1993; Plunkett, 1993; Snow, 1981; L2: Hakuta, 1974; Huang & Hatch, 1978; Pawley & Syder, 1983; Raupach, 1984; Skiba & Dittmar, 1992; Towell, 1987; Vihman, 1982; Weinert, 1995; Wong-Fillmore, 1976). The varying terms embrace the notion of (rote learned or imitated) chunks of unanalyzed language that are available for learner use without being derived from generative rules. A central focus of the debate is the part played by such chunks in language acquisition, particularly the extent of their role in contributing to the development of creative language use, and these issues are reviewed below. First, however, the vexing issue of the definition and identification of such chunks, which also figures prominently in the discussion of formulaic language, will be briefly summarized.

BACKGROUND

Identification of Chunks

Identifying chunks in learner language (as opposed to utterances generated by rules) can be quite difficult. How do we know whether a particular construction has been retrieved by the learner as an unanalyzed whole or whether it is derived creatively from a rule or, indeed, whether and to what extent both processes can coexist in the learner's interlanguage at any one time? Although there is a good deal of overlap in the identifying criteria used by both first and second language researchers (see, for example, Peters, 1983, and Weinert, 1995, for extensive discussion), the issue is by no means clear cut, and chunk identification retains an irreducible intuitive dimension (Bahns, Burmeister, & Vogel, 1986).

What gives some learners' L2 utterances the feel of formulaic language? One important reason is the overextension of these utterances in use (whether syntactically, semantically, or pragmatically). For example, our French data from classroom learners abound in second person question forms, overextended in some way:

(1) **Quel âge as-tu that one?*
how old are-you that one
"How old is that one?" (Pupil 24, R2)[1]

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(2) **Mon petit garçon euh où habites-tu*?
my little boy umm where live-you
"Where does your little boy live?" (Pupil 45, R2)

(3) **Comment t'appelles-tu la fille?*
How yourself-call-you the girl
"What's the girl's name?" (Pupil 51, R5)

The criteria we propose for L2 chunk identification are based closely on those commonly suggested in the literature (see Peters, 1983, 1985; Weinert, 1995). They embrace the notion of an invariant multimorphemic phrase or sentence, fluently but perhaps inaccurately produced, and used at times with overextended semantic or pragmatic functions, compared with target language norms. More formally, we believe that formulaic L2 utterances usually have the following characteristics:

1. Greater length and complexity of sequence compared with other learner output (Weinert, 1995, p. 182):

   (4) *Quel âge as-tu?*
   what age have-you
   "How old are you?"

   (5) **Il âge frère?*
   he age brother
   "How old is your brother?" (Pupil 02, R1)

2. Phonological coherence, that is, fluent, nonhesitant encoding without a break in the intonation contour (Weinert, 1995, p. 182):

   (6) *Quelle est la date de ton anniversaire?*
   what is the date of your birthday
   "When is your birthday?"

   (7) **Es . . . elle bon anniversaire?*
   is . . . she happy birthday
   "When is your birthday?" (Pupil 02, R4)

3. They tend to be used inappropriately (syntactically, semantically, pragmatically), as numerous examples of overextensions clearly show:

   (8) *Mon petit garçon euh où habites-tu?
   my little boy umm where live-you
   "Where does your little boy live?" (Pupil 45, R2)

4. They are generally used in the same form, with no parts substitutable, that is, learners are not able to change any elements in the sequence, such as the second-person reference in:

   (9) *As-tu des frères ou des soeurs?*
   have-you any brothers or any sisters
   "Do you have any brothers or sisters?"

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There is no evidence elsewhere in the data of the *as-tu* construction being used in another context.

5. They tend to appear well formed and to be grammatically advanced compared to the rest of the learner's language (i.e., unrelated to productive patterns in the learner's speech):

(10) *Comment t'appelles-tu?*
how yourself-call-you
"What's your name?"

(11) **euh une nom?*
umm a name
"What's your name?" (Pupil 45, R5)

6. They usually occur in situationally specific ways or are predictable in context; the classroom situation is particularly rich in routines that are heavily context dependent, such as:

(12) *Ouvrez vos cahiers.*
open your exercise books
"Open your exercise books." (at the beginning of a lesson)

We believe that, taken together, such criteria form adequate grounds for inferring that the utterance in question has been memorized and recalled as a whole, rather than generated by the application of linguistic rules.[2]

The Role of Chunks in L2 Learning

As outlined in the introduction above, the central focus of the debate as to the role of formulaic language is whether L2 learners gradually unpack the initially unanalyzed utterances and begin to use parts of them productively in the generation of new utterances, or whether they merely drop such rote learned or imitated utterances from their speech repertoire as their creative rule-governed competence develops along a different route.

Weinert (1995) outlined three possible functions for chunks. First, the use of formulaic language may be seen as a communicative strategy allowing learners entry into communication, when they lack appropriate L2 rules. Second, its use may be seen as a production strategy, in which resorting to formulas allows fluency in production and faster processing (Raupach, 1984). In both first and second language acquisition research, however, the debate has largely centered on a third issue: whether unanalyzed utterances contribute to the development of an emerging grammatical competence and, if so, how. In L1 acquisition, Pine and Lieven (1993, p. 551) argue that, for some children, entry into structured language involves their "gaining productive control over 'slots' in previously unanalyzed phrases." In L2 acquisition, some researchers argue that the task facing learners is also to find out which slots can be filled by other lexical items in the many formulas they are confronted with in every-

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day speech (Pawley & Syder, 1983). Wong-Fillmore (1976) claimed a central role for formulaic speech in second language learning, arguing that imitated utterances provide material for eventual analysis by the learner, the resulting pieces themselves becoming part of the developing linguistic system. More recently, Ellis (1996a, 1996b) has argued for sequence analysis being the underpinning of the acquisition of both phonology and syntax:

> Language is a complex, hierarchical, behavioral structure. Its acquisition is rich in sequential dependencies: syllables and formulaic phrases before phonemes and features, holophrases before words, words before simple sentences, simple sentences before lexical categories, and lexical categories before complex sentences. (1996a, p. 362)

He argues (1996b) that language sequences serve as the database for the acquisition of language grammar and that much of language learning is the acquisition of memorized sequences of language.

Elsewhere, the case has been made for a relatively minor role for the learning of unanalyzed chunks; Krashen and Scarcella (1978), for example, concluded that formulaic speech is a means of outperforming competence but does not feed into the creative construction process, which evolves quite independently. More recently, others have argued once again that the role of formulaic language may have been underestimated in L2 development and needs to be better understood (e.g., Nattinger & DeCarrico, 1992; Towell & Hawkins, 1994).

Whether there is any interaction between chunks and creative construction is a crucial issue from a theoretical point of view. It can contribute to our understanding of the different kinds of knowledge L2 learners use, and whether or how they interact. If, on the one hand, creative competence is seen as the result of the interaction between linguistic input and universal principles of language (whether accessible directly or only via the L1), a process over which learners have no control, and if formulas are, on the other hand, the result of more general learning mechanisms that are not language specific, then clarification of the relationship between the two is of crucial importance to our understanding of the L2 learning process. Both types of processes have been acknowledged as playing a vital part in L2 learning, although different researchers tend to downplay the importance of one in relation to the other. L2 teachers and learners alike will be familiar with the initial reliance of classroom learners on chunks in the early stages of L2 learning, and our data confirmed the fact that formulas do indeed represent an important part of learner productions in the early stages. That there also are universal processes at play over which the learner has no control is evident, as we could not account for the learner systematicity well documented in the literature, across learners and across L1 backgrounds, without appealing to them.[3] Within recent models of SLA, however, the relationship between the different types of linguistic knowledge (competence vs. learned linguistic knowledge, as analyzed by Schwartz, 1993) remains unclear. For example, Schwartz argued that there

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is no relationship, whereas Towell and Hawkins (1994) suggested that the relationship between the two needs to be much better understood.

Research Questions

In this paper, we pursue the issue of the relationship between chunks and creative construction in SLA by examining the production of interrogatives in an extensive naturalistic corpus of L2 French produced by early classroom learners. Specifically, we aim to address the following research questions:

1. What is the evidence for classroom learners' use of L2 interrogative chunks, and how do these chunks evolve over time?
2. What is the evidence for classroom learners' creative construction of L2 interrogatives, independent of chunk use?
3. What is the relationship (if any) between the use of chunks and creative construction in learners' developing ability to ask L2 questions?

THE STUDY

The data used for this study are drawn from a larger corpus of classroom learner French, recorded within the context of a three-year project, "Progression in Foreign Language Learning," in secondary schools in southern England.[4] The broad aims of the project were to document the rate and route of progression of classroom learners of French as a foreign language in the lower secondary school.[5]

The main project tracked 60 pupils (30 in each of two south-coast secondary schools) during six terms of classroom French (from their second term of French language study to their seventh term, inclusive). Lessons in which the pupils participated were observed at biweekly intervals and, on six occasions spread over two years (i.e., once per school term), individual pupils' progress in spoken French was monitored through a program of individual and pair interviews and problem solving activities. The resulting corpus of audio recordings was transcribed so as to produce a complete file for all pupils of all tasks in which they participated, and a subset of the data forms the basis of the present study of interrogative development.

The Subjects

The subjects in the present study comprise a subset of the Progression Project cohort, a group of 16 learners (8 boys, 8 girls). All were age 11 or 12 at the start of the Progression Project (i.e., in Term 2 of Year 7); like the rest of the main project cohort, they had started their first formal study of National Curriculum French one term before.

We had designed the Progression Project sample to represent the full school population, exclusive of pupils formally deemed to have special educa-

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tional needs; however, we also excluded any children with sustained previous contact with French. The 16 subjects in the interrogatives study were drawn randomly from the main sample (but excluded pupils who had missed more than one round of data collection).

The Learning Context

Foreign language learners in southern England typically have little routine contact with their target language outside school. The main exceptions are the possibility of family holidays abroad, school exchange trips, and, in recent years, some growth of informal language classes and clubs for primary-school–age children. However, there is no doubt that the secondary school classroom was the prime source of French language experience for all 16 children in the interrogatives study reported here. The 16 children were spread across a range of classes and most experienced at least one change of teacher over the two years of data collection. The style of teaching that predominated in these classrooms was both strongly oral and strongly teacher centered, with considerable emphasis on the rehearsal and memorization of conversational exchanges, often involving question-and-answer sequences (Mitchell & Martin, 1997).

For example, pupils might work in pairs on information gap activities with text or picture cues, taking turns at asking and answering questions such as *qu'est-ce qu'il aime faire?* "what does he like to do?" and *qu'est-ce qu'elle n'aime pas faire?* "what doesn't she like to do?," or *comment t'appelles-tu?* "what's your name?" and *quel âge as-tu?* "how old are you?" Such activities typically followed from similar whole-class practice, in which the teacher modeled and rehearsed the target expressions globally, with little variation or analysis. That such complex interrogative expressions, typically involving *wh*-fronting and inversion, were being learned and produced as chunks in the context of classroom interaction seemed likely from the beginning.

Data Elicitation

On six occasions, here called *rounds*, all Progression Project subjects were extracted from their normal French class and participated in a range of data-elicitation activities with members of the research team. On each occasion, individuals took part in 2–4 audio-recorded activities, for approximately 1 hour altogether. The research team had devised and piloted a range of oral elicitation activities, some to be undertaken face to face with a French-speaking adult, others to be undertaken by pupil pairs or groups. These used a variety of stimulus materials and were designed to complement the very controlled language productions documented in the classroom and elicit more spontaneous and creative language from the learners. It was particularly important to us that these tasks could not be completed successfully merely by the recitation of complete, memorized dialogues.

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Activities undertaken with an adult included Talk-about-Photos (based on researchers' family photographs), a Story Retelling task, and a one-way information gap task, Landscape-with-Figures (the learner had a landscape picture and had to find out from the adult where to sketch in various figures and what they looked like). Activities undertaken in pairs included other one-way information gap tasks (e.g., Pupil B drew a person described by Pupil A) and also two-way tasks (e.g., planning an outing using complementary, partially completed diaries). Group activities included a formal vocabulary test and a classroom role play. Several tasks were repeated, over longer or shorter cycles (e.g., Talk-about-Photos happened in rounds 1, 2, and 4; Story Retelling in rounds 3 and 6).

The resulting audio recordings were transcribed by one member of the research team using an orthographic transcription system with a minimum of specially devised conventions.[6] All utterances judged to have an interrogative function on intonational or interactional grounds, or both, were tagged "?," regardless of whether they included a structural interrogative form. A second member of the team checked all transcriptions and reconfirmed all interrogative taggings. Extract 1 gives a flavor of the resulting transcripts, which make up data files for all subjects.

Extract 1: Round 1, Task l D (exchange of personal information).
Note. <s r> = researcher, <s p> = pupil's partner, <s 26> = Pupil 26
<s r> task 1 . . . commencez
<s p> . . . quelle est la date de ton anniversaire?
<s 26> . . . le twenty-first le octobre
<s p> . . . /tu, où/ habites?
<s 26> . . . je habite à . . . Gosport
<s p> . . . euh . . . tu âge?
<s 26> . . . j'ai douze an*s* [/s/ sounded]
<s p> . . . nom?
<s 26> mm?
<s p> . . . nom?
<s 26> je m'appelle Katie
<s p> . . . prénom?
<s 26> mm?
<s p> . . . [whispers, indistinct]
<s 26> I can't hear what you're saying
<s p> [whispers, indistinct]
[quiet laughter]
<s p> [indistinct question, in French?]
<s 26> . . . umm j'ai une hamster
<s p> . . . hamster s'appelle*s* [/s/ sounded]
<s 26> . . . mm? . . . je m'appelle Boris [?]

Procedure

For the purposes of the interrogative chunks study reported here, all individual data files for the 16 chosen subjects derived from all pair tasks (adult-child or child-child) were analyzed. This meant that data from a total of up to 13 tasks per learner were analyzed. (Three tasks in round 1 were specified for

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analysis, two tasks in all subsequent rounds. Missing data means that subjects actually completed an average of 11.7 tasks each; just two subjects missed a complete round.) Using concordancing software (Oxford University Computing Service, 1988), a total of 2,084 interrogative utterances were extracted from these data files.[7] This represents an average of 130 interrogatives per subject overall and an average of 347 interrogatives per round of elicitation. (It should be noted that the Landscape-with-Figures task administered in round 5, which had been specially designed to elicit learner questions, contributed 622 interrogative utterances to the total, or 30%.)

From the beginning, it was obvious that the interrogative data included a good number of possible chunks. For example, in round 1, the following forms were produced by a majority of the 16 subjects, within a single information-exchange pair task: (a) *où habites-tu?* "where do you live?" (14 subjects); (b) *comment t'appelles-tu?* "what's your name?" (13 subjects); (c) *quel âge as-tu?* "how old are you?" (12 subjects); (d) *as-tu un animal?* "do you have a pet?" (11 subjects). These questions all involved second-person (singular, familiar) reference, as the task involved exchange of personal information.

Applying the criteria outlined in the introduction to this paper, these seemed to be good candidates for chunks, given their relative syntactic complexity (involving *wh*-fronting and subject-verb inversion). These formulas contrasted sharply in our learners' data with other utterances that were syntactically very simple (e.g., single noun phrases: *la fille?* "the girl," Pupil 12, R 5) and less fluent (e.g., full of hesitations and pauses: *j'ai oh no . . . il soeur?* "I have oh no . . . he sister," Pupil 02, R 2). Indeed, we had documented all of these forms being actively taught as such, in all observed classrooms, so their reuse during the data-elicitation sessions was not a surprise. Also, the frequency with which questions about names, ages, and so forth recurred throughout further rounds of data collection meant that the reuse and evolution of such items could in principle be traced over time, and offered a testing ground for our more general investigation of the role chunks play in the creative construction process.

Following sections of this paper will present findings in relation to the three research questions formulated earlier. First, we investigate the development of one particular interrogative chunk over the six rounds and analyze the way in which it breaks down. We then outline the development of other interrogative constructions—that is, those for which learners do not have ready made formulas at their disposal. Finally, the relationship between formulas and creative constructions is briefly explored.

RESULTS 1: USE AND BREAKDOWN OF INTERROGATIVE CHUNKS

The Case of *comment t'appelles-tu?*

As we saw earlier, a number of L2 interrogative chunks appear as early as the first round of elicitation. They are formulas dealing with the exchange of personal information such as age, name, and hobbies.

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In this section, the development of one such formula—*comment t'appelles-tu?* "what's your name?"—is traced in detail, across subjects and across rounds. There are a number of reasons for focusing on this particular chunk. It was taught in all classrooms from a very early stage, with its companion reply *je m'appelle NAME* "my name is NAME." Second, it was very commonly used across the various data-collection rounds, both with targetlike (second person) and with extended (third person) reference. We saw that 13 out of 16 subjects used it in the first round and, contrary to the *où habites-tu?* "where do you live?" formula that they produced even more often at that point, questions about people's names persist throughout the rounds whereas questions about where people live tend to fade out as our subjects venture into a wider range of communicative domains. Another reason for choosing this particular formula is that it is particularly complex structurally, involving both *wh*-fronting and inversion as well as a reflexive pronoun, and we would not therefore expect our subjects to produce it creatively in the early stages of learning French. We were therefore confident that this item met the earlier stated criteria for a chunk, even when used with correct second-person reference.

The way in which this structure is constructed is as follows:

(13)	*comment*	*t'*	*appelles*	*tu*
	how-*wh*-fronting	yourself-2.sg.refl.	call-verb.2.sg.	you-2.sg.subject
	"What's your name?"			

It should be noted that in contemporary spoken French a range of variants on this structure are permissible, minus the subject-verb inversion—for example, *comment tu t'appelles* "how you yourself call," *tu t'appelles comment* "you yourself call how," *c'est comment que tu t'appelles* "it is how that you yourself call," and *comment est-ce que tu t'appelles* "how is it that you yourself call" (Coveney, 1996; Coveney, 1997, pp. 88–89). Topicalization may also be achieved through prefixing or suffixing the demonstrative second-person pronoun *toi,* as in *toi, tu t'appelles comment* "you, you yourself call how." In equivalent third-person patterns, various NPs may precede or follow the verb phrase with its clitic pronoun, as may other stressed pronouns—for example, *et lui, comment s'appelle-t-il?* "and him, how he himself calls?," *elle s'appelle comment, cette dame* "she calls herself how, this lady?" However, the teachers observed in our study limited their early teaching mostly to *comment t'appelles-tu,* occasionally using *comment tu t'appelles* as an alternative.

Quantitative Analysis of Naming Questions

As a first step in our analysis of *comment t'appelles-tu*, all individual utterances in which pupils were asking somebody's name, whether by using this chunk or not, were extracted from the interrogatives data set; these comprised 194 items, or 9% of the total. Analyzed by elicitation round, there was considerable variability in the frequency of naming questions, which was clearly task

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Table 1. Raw frequencies of main *s'appeler* chunks used in naming questions, by round

Chunk Type	Round 1	2	3	4	5	6	Total Number of Tokens
Comment t'appelles-tu/comment tu t'appelles (second person)	18	2	0	0	1	2	23
Comment t'appelles-tu/comment tu t'appelles (+NP) (third person)	0	9	1	7	14	1	32
Comment t'appelle (+NP) (third person)	0	6	2	9	1	0	18
Comment s'appelle (+NP) (third person)	2	7	2	12	13	0	36
il/elle s'appelle (+NP) (third person)	1	7	0	5	3	0	16
(NP) *il/elle s'appelle comment* (third person)	4	0	0	11	4	0	19
Other *s'appeler* chunks	2	1	3	4	7	0	17
Total	27	32	8	48	43	3	161

dependent. Thus rounds 3 and 6, which centered on the Story Retelling task, elicited few examples of naming questions; however, round 5, which included the Landscape-with-Figures task, elicited the highest number (60 tokens).

Of the 194 tokens elicited altogether for naming questions, 161 (or 83%) included some part of the reflexive verb *s'appeler* "to call oneself"; thus, the mean number of *s'appeler* questions produced was 10.1 per pupil, whereas the range was from 18 to 1. The remaining interrogative utterances comprised:

1. Utterances consisting of an NP only, identifiable as questions on pragmatic grounds, from the conversational context (21 utterances or 11%; e.g., *et le garçon?* "and the boy?")
2. Utterances using some unrelated chunk, for the same purpose (7 utterances or 4%; e.g., *qu'est-ce que c'est le garçon?* "what-is-it the boy?")
3. Utterances involving another *wh*-question word plus NP (6 utterances or 3%; e.g., *quel nom?* "what name?").

Table 1 shows the raw frequencies of occurrence of the *comment t'appelles-tu* chunk across all six rounds of data gathering, together with frequencies of a number of related forms used for other *s'appeler*-based questions. Table 2 shows the numbers of pupils using these forms, across the various rounds.

Comment t'appelles-tu: Second-Person Reference

As can be seen from Table 2, during data-elicitation rounds 1 and 2, 13 out of the 16 pupils used the chunk *comment t'appelles-tu* in one or more tasks requiring interactive second-person reference. (One pupil used the uninverted variant *comment tu t'appelles*, taught as an alternative chunk by a minority of

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Table 2. Number of individuals using various *s'appeler* chunks in naming questions, by round ($N = 16$)

Chunk Type	Round 1	2	3	4	5	6	Number of Users
Comment t'appelles-tu/comment tu t'appelles (second person)	13	3	0	0	1	2	13
Comment t'appelles-tu/comment tu t'appelles (+NP) (third person)	0	2	1	3	4	1	7
Comment t'appelle (+NP) (third person)	0	2	1	2	1	0	4
Comment s'appelle (+NP) (third person)	1	2	1	5	4	0	7
il/elle s'appelle (+NP) (third person)	1	2	0	2	3	0	6
(NP) *il/elle s'appelle comment* (third person)	2	0	0	1	1	0	2
Other *s'appeler* chunks	2	0	1	1	4	0	3

teachers.) Tasks used in subsequent rounds rarely required the name question with second-person reference; however, up to and including round 6, whenever such a question was asked, the inverted *comment t'appelles-tu* chunk was used.

Asking Naming Questions with Third-Person Reference

Table 1 shows that, from round 2 onwards, subjects started to ask naming questions about third parties with increasing frequency. We knew from lesson evidence that at least some of them had been exposed in class to the parallel third-person inverted interrogative expression *comment s'appelle-t-il/elle* "what's he/she called." However, only one subject (Pupil 09) had apparently internalized this particular form; although he used it fairly consistently from round 1 onwards, no other subject ever used it.

Lacking control of the correct target language chunk for third-person naming questions, the subjects resorted to a variety of different tactics, summarized in further lines of Tables 1 and 2. Seven out of the 16 subjects resorted at some point to extending the *comment t'appelles-tu* chunk, without internal alteration, to encompass third-person reference (see Row 2, Tables 1 and 2). As can be seen in example (14), this was often disambiguated by affixing a topic NP:

(14) **Comment t'appelles-tu un garçon?* (Pupil 51, R 5)
how yourself-call-you a boy
"What's your name?"

Some evidence for analysis of this particular chunk can be seen in Table 2, Row 3, which shows a small number of subjects starting to make use of the

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question form *comment t'appelles* (+ NP); we believe this reflects some growing awareness that at least the final clitic pronoun *-tu* is an identifiable and separable element. Subjects using this form have evidently not yet figured out that the preverbal reflexive pronoun is also a substitutable element.

Row 4 shows another relatively common solution to the naming question problem (used by 7 subjects): *comment s'appelle* (+ NP). However, given the co-occurring forms just reviewed, we do not believe this constitutes clear evidence that subjects can generate the appropriate reflexive pronoun by rule. One possible source for this item is the third-person chunk taught to but apparently not fully memorized by most pupils: *comment s'appelle-t-il/elle.* It seems that the learners may have recognized that the final element is separable (as in the previous case) and resorted to a lexical NP to indicate reference, in the absence of a pronominal system. Another possible source is the declarative chunk *il/elle s'appelle NAME* "he/she is called NAME," also taught and learned from the very beginning of the French program.

Row 5 shows yet another solution: the extended use of the declarative statement chunk *il/elle s'appelle* (+ NP) with a question function. (This solution was commonly adopted by those subjects who ceased to produce any question forms starting with *comment* after rounds 1 and 2; these subjects, it seemed, had not permanently memorized any of the question chunks and had to fall back on a variety of alternatives.) Finally, Row 6 shows how just two subjects figured out that *comment* could be combined with a declarative order PRO + V. (Row 7 covers a range of idiosyncratic uses; e.g., overextension of the first-person declarative statement chunk *je m'appelle* [+ NP].)

Inverted and Declarative Word Order

Given the wide variety of forms used by the subjects in order to patch together the questions they wanted to ask in a pragmatically acceptable way, it is hard to trace any clear collective developmental patterns in the group data. Two points are worth noting, however. The first concerns the issue of question inversion commonly hypothesized to be a complex phenomenon not normally acquired in the early stages of naturalistic L2 learning. In our case, where learners had been force-fed a diet of interrogative chunks involving inversion, it was interesting to see whether, as they became more creative and less reliant on unanalyzed chunks, there would be a shift in their production towards canonical declarative order. This question is interesting because L1 learners of both French and English initially use declarative order in order to ask questions. Clark (1985, p. 700), in her review of the L1 acquisition of French, writes that "early questions are marked by intonation alone for yes/no forms," and that "neither question-type appears with any inversion of the subject and verb." For English, there is also abundant evidence that both types of questions (yes/no and *wh*-questions) first appear without inversion in L1 acquisition (for a review, see Foster, 1990, pp. 97–101). This is also true in the L2 acquisition of English:

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> Second language learners learn to form questions in a sequence of development which is similar in most respects to first language question development . . . . What is perhaps most striking however, is that even learners whose first language has subject-auxiliary inversion for questions go through a phase of using declarative word order. (Lightbown & Spada, 1993, p. 64)

Would creative construction in our learners be similar to that of L1 learners of French and English and to that of L2 learners of English and follow the declarative order initially, or would they use both the interrogative input (consisting almost exclusively of inverted forms) and their L1, in which inversion is obligatory in interrogatives, in order to produce inverted forms in their L2 from the start?

Table 3 presents an analysis of the proportions of naming questions with declarative and inverted word order for those rounds with the most abundant question tokens. A clear trend across time is evident, such that by round 5 more than half the interrogatives produced had a declarative order. This shows that, even though subjects were still relying quite substantially on (partly analyzed) chunks, the way in which they modified them tended to make them fit the canonical order hypothesized to be most natural to their developmental stage. A chi-square analysis just fails to reach significance at the 5% level, $\chi^2\ (3, N = 150) = 7.5502, p > .05$.

Use of Third-Person Pronouns

The naming question data was also examined for possible school effects, and one notable difference was found (see Table 4). In School 1, seven out of the eight subjects used the third-person clitic pronouns *il* "he" and *elle* "she" as components of their naming questions at some point. In School 2, however, only two out of eight subjects did so (just once each, in round 4). It seemed that full NPs were the only resource available to this group, for example, for reference when inquiring about the names of the characters in the round 5 Landscape task. This is a striking effect and must relate to patterns of instruction and classroom practice. Some confirmation of this was found in a later study of instructional patterns for selected teachers from Schools 1 and 2. In the School 1 lessons analyzed, there was indeed a greater emphasis on the explicit teaching of clitic pronouns, compared with School 2 (Mitchell, Hooper, Martin, & Myles, 1997).

Qualitative Analysis of Naming Questions

In order to examine more closely how subjects' use and adaptation of interrogative chunks develops over time, it is necessary to look in more detail at the data for selected individuals. We have chosen for examination three different learners (all boys, as it happens), selected from among those for whom

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Table 3. Proportion of naming questions using declarative word order or inversion, selected rounds

	Round			
Word Order	1	2	4	5
Inverted				
n	19	23	28	19
%	70	72	58	44
Declarative				
n	8	9	20	24
%	30	28	42	56
Total				
n	27	32	48	43
%	100	100	100	100

Note. Rounds 3 and 6 have not been included because the number of naming questions they provided was too small.

Table 4. Pupils producing naming questions with third-person clitic pronouns *il* (masculine), *elle* (feminine)

	Round 1		Round 2		Round 3		Round 4		Round 5		Round 6		All
Pupil	*il*	*elle*	*il*	*elle*	*il*	*elle*	*il*	*elle*	*il*	*elle*	*il*	*elle*	Rounds
School 1													
02	–	–	–	–	–	–	X	X	X	X	–	–	X
03	–	–	X	X	–	–	–	–	X	X	–	–	X
09	X	X	X	–	X	X	X	X	X	X	–	–	X
12	X	X	X	X	–	–	–	–	–	–	–	–	X
24	–	–	–	X	–	–	X	X	–	–	–	–	X
25	–	–	–	–	–	–	–	–	–	–	–	–	–
26	X	–	–	–	–	–	–	–	–	–	–	–	X
27	X	X	–	–	–	–	X	X	X	X	–	–	X
School 2													
34	–	–	–	–	–	–	–	–	–	–	–	–	–
38	–	–	–	–	–	–	–	–	–	–	–	–	–
43	–	–	–	–	–	–	–	–	–	–	–	–	–
45	–	–	–	–	–	–	–	X	–	–	–	–	X
51	–	–	–	–	–	–	–	–	–	–	–	–	–
52	–	–	–	–	–	–	–	–	–	–	–	–	–
57	–	–	–	–	–	–	–	X	–	–	–	–	X
60	–	–	–	–	–	–	–	–	–	–	–	–	–

Note. The dashes indicate nonproduction, X indicates production.

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the richest data is available, to illustrate different kinds of progress in chunk breakdown. The target French structures they are aiming for are as follows:

1. Second-person reference: *Comment t'appelles-tu?* (second-person reflexive pronoun, second-person subject pronoun)
2. Third-person reference: *Comment s'appelle-t-il/elle?* (third-person reflexive pronoun, third-person subject pronoun); *Comment s'appelle la fille/le garçon?* (third-person reflexive pronoun, lexical subject NP)

Our first example is a subject from School 1 who has succeeded in internalizing the starting chunk *comment t'appelles-tu* but makes limited progress in analyzing it thereafter (Pupil 25). All naming question types produced by this subject are shown in Extract 2.

Extract 2: Naming questions, Pupil 25, all rounds.

Round 1	*comment t'appelles-tu?*[8]
Round 2	**comment s'appelle-tu?* (third-person reflexive pronoun; second-person subject pronoun; used four times for third-person reference, twice feminine and twice masculine)
	**eu . . . comment t'appell- euh s- s- comment s'appelle-tu?* (as above, but with hesitation on the choice of reflexive pronoun: second person then third person; used for third-person masculine reference)
Round 4	**comment t'appelles-tu?* (third-person masculine reference)
	**comment t'appelles her tu?* (third-person feminine reference)
	**comment t'appelles-tu?* (third-person masculine and feminine reference)
Round 5	**comment tu t'appelles un garçon?* (second-person subject pronoun; second-person reflexive pronoun; lexical NP subject)
	**comment tu t'appelles l . . . madame?* (as above)
	**comment tu t'appelles l . . . monsieur is it?* (as above)
	**comment tu t'appelles le fille?* (as above)
	**comment s'appelle-tu?* [twice] (third-person reflexive pronoun; second-person subject pronoun.)
	Note. All round 5 examples refer to a third person.

We can see that, for this subject, although the move towards targetlike production is limited, a certain amount of analysis is taking place. The second-person interrogative chunk *comment t'appelles-tu?* is apparently influenced by the third-person declarative chunk *il/elle s'appelle NAME* as early as round 2. This subject seems to realize that reference is an issue and modifies the reflexive pronoun to third person, although he seems to be struggling to decide how to change subject reference from second to third person and again resorts to the second-person chunk in round 4. He is still aware that reference is a problem (as shown by his attempts at modifying it) and inserts *her* before *tu* in order to make clear who he is referring to. Finally, in round 5, reference is established via a lexical NP that is simply added to the original second-person chunk.[9] This is a very common strategy adopted by our subjects who, for the most part, are aware early on that these second-person interrogative chunks are inadequate from the point of view of reference but who are unable as yet to change reference pronominally.

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Our next example is Pupil 57 from School 2, an example of a subject who makes rather more progress in chunk analysis than Pupil 25 but who is not yet using interrogative chunks and utterances involving third-person clitic pronouns with any regularity (see Extract 3).

Extract 3: Naming questions, Pupil 57, all rounds.
Note. Translations in each case provide the learner's intended meaning, as interpreted from context.

Round 1 *comment t'appelles-tu?* (*wh*-fronting; second-person reflexive pronoun; second-person subject pronoun inverted)

Round 2 **euh . . . une g- euh . . . comment t'appelles le garçon?* (second-person reflexive pronoun; lexical subject NP [*the boy*] inverted "what's the boy's name?")
**comment t'appelles le . . . fille?* (as above, with lexical subject NP [*the girl*] "what's the girl's name?")
**comment t'appelles euh . . .* (as above, but masculine subject reference is missing)
**comment t'appelles le garçon?* (as first example of round 2)
Note. In the same round, he also uses *euh . . . s'appelle Olive* "uh . . . name is Olive"; third-person reflexive pronoun.

Round 4 **euh . . . la fille comment . . . s'appelle?* (lexical subject [*the girl*] fronted; third-person reflexive pronoun)
comment s'appellent leurs copains? (third-person reflexive pronoun; lexical subject NP [*their friends*] inverted "what are their friends' names?")

Round 5 *comment s'appelle le garçon?* (third-person reflexive pronoun; lexical subject NP [*the boy*] "what's the boy's name?")
comment s'appelle la fille? (as above, with "the girl" replacing "the boy")
**comment no umm . . . s- elle s'appelle . . . quelle?* (third-person subject pronoun fronted; third-person reflexive pronoun, "what's her name?")

Examination of the data presented in Extract 3 demonstrates clear progression in Pupil 57's L2 productions. In round 1, the *comment t'appelles-tu* chunk is used as a single unit (with second-person reference). In round 2, the first part of the chunk is intact, but this subject has analyzed the chunk sufficiently to be able to delete the inappropriate subject pronoun and substitute a lexical NP to make the third-person reference clear. In round 4, the reflexive pronoun has been changed to third person, but the subject is still a lexical NP. It is possible that the new *comment s'appelle* chunk derives from a partly memorized (but undocumented) third-person chunk *comment s'appelle-t-il*; however, it once more seems more likely that *comment s'appelle* results from partial analysis or combination of the attested chunks *comment t'appelles-tu?* and (*il/elle*) *s'appelle . . .* "s/he calls her/himself . . . " (i.e., "his/her name is . . . ") that make an appearance in round 2. This new interrogative form *comment s'appelle* + NP is consolidated in round 5, where we see the first attempt at replacing the lexical subject by a pronoun, albeit unsuccessfully as yet.

Pupil 57 clearly shows signs of progression based on the analysis and putting together of the chunks he has at his disposal. However, his productions are limited by the apparent nonavailability of third-person pronoun forms.

As a final example, we will consider a School 1 subject, for whom these items were becoming available (Pupil 03: see Extract 4).

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Extract 4: Naming questions, Pupil 03, all rounds.

Round 1 *comment t'appelles-tu?* "what's your name?" [twice]

Round 2 **il s'appell . . . co- comment t'appelles-tu?* (third-person declarative chunk + second-person interrogative chunk; "what's his name?")
**il . . . elle s'appell . . . no umm comment t'appelles-tu?* (as above; "what's her name?")
**comment t'appelles-tu?* "what's he called?" [4 times], "what's her name?" [once]

Round 4 **comment t'appelle(s)?* (second-person reflexive pronoun; subject pronoun dropped; "what's her name?")
comment s'appelle . . . umm . . . un garçon? (third-person reflexive pronoun; lexical subject NP; "what's the boy's name?" [twice])
**il y a s'appelle?* (*il y a* = "there is . . . ," "what's his name?")
**il y a comment?* (literally "there is how?" "what's his name?")
**il y a . . . il y a? comment? elle y a* (it was unclear from the photo whether the child was a boy or a girl; "what's his? . . . her? name?")

Round 5 **elle . . . comment t'appelles . . . elle comment t'appelles-t- oh . . . umm . . .*
**comment elle t'appelles-tu?* (third-person feminine subject pronoun fronted; second-person reflexive pronoun; second-person subject pronoun inverted)
**comment il t'appelles-tu?* (as above, but masculine reference)
**il est comment t'appelles-tu?* ("he is" + second-person chunk)

We can clearly see this subject struggling with reference. Although he apparently realizes early on that *tu* is inappropriate for the third person (see round 2 reformulations), he has as yet no productive rules at his disposal for formulating the equivalent third-person interrogative nor does he seem to have memorized *comment s'appelle-t-il* as a chunk. At first (round 2), the third-person pronouns *il* and *elle* together with the verb in declarative order (*il/elle s'appelle*—most probably another chunk at this stage) precede the interrogative chunk. By round 4, however, the chunk shows definite signs of being unpacked in the need to establish third-person reference, with the dropping of the pronoun *tu* and the use of *comment* independently from *t'appelles-tu*. A further indication of the disassembling of the chunk is its recombination with a quite different chunk, *il y a* (impersonal "there is/are") for third-person masculine reference. The learner's awareness of the need to be precise in establishing reference is further shown by his idiosyncratic use of *elle y a* for third-person feminine, presumably by analogy with *il y a*. Finally, in the round 5 data, the appropriate third-person pronouns are inserted in the original chunk, strongly suggesting that, although the learner does not yet have a targetlike productive rule for forming interrogatives, further analysis of the chunk is being driven by the development of the subject pronoun system. Moreover, the fact that the subject pronoun precedes the verbal element of the chunk may also be a reflection of the appearance of the first full sentences that respect the canonical order of the French language, namely SVO, in this learner's interlanguage. We will see in the following section that a move away from the use of interrogative chunks (which involve *wh*-fronting and inversion) towards the use of more creative rules in order to form interrogatives also relies initially on a declarative SVO order.

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As the foregoing examples show, the way in which individual learners establish reference varies in detail, depending on how much of a pronoun system they have established, and this seems to have a direct impact on how far they have analyzed the *comment t'appelles-tu?* chunk. However, our subjects seem to be progressing along a common general route, at variable rates, that can be summarized as follows:

1. Chunk inappropriately used, over extended; for example, **comment t'appelles-tu?*
2. Chunk over extended, but with lexical NP tagged on; for example, **comment t'appelles-tu le garçon?*
3. Chunk starting to break down: subject pronoun omitted or replaced by a NP; for example, **comment t'appelles (la fille)?*
4. Further breaking down: reflexive pronoun changes to *s'*: subject pronoun is omitted or replaced by a lexical NP; for example, **comment s'appelle?; comment s'appelle . . . garç- un garçon?*
5. Third-person pronoun is used; for example, *comment s'appelle-t-il?* (Pupil 09 only)

It is also interesting to note how the *comment t'appelles-tu?* chunk and the *il/elle s'appelle* chunk seem to be interacting in order to help our learners sort out the subject pronoun system; some of the learners quite obviously latch on early to the fact that pronominal reference is different in each one and that this fact must be reflected in the differences they can observe between the two. Until a pronominal system emerges in these learners, however, they have to rely on a number of strategies in order to overcome production problems. This interaction between the two chunks is a first indication that learners do not simply discard chunks when creative competence takes over, as has sometimes been claimed, but compare them and use them as a database to work on.

RESULTS 2: CREATIVE CONSTRUCTION OF INTERROGATIVES

It should be clear from the above sections that formulas play an important part in the early production of questions by classroom learners. This is not surprising, given the fact that interrogatives are structurally complex—especially the type of interrogatives used in the classroom that typically involve *wh*-fronting and inversion—and therefore well beyond the creative competence of our learners. What is also of interest to us in this paper, however, is the interaction between the breakdown of interrogative chunks and the development of the linguistic competence that is necessary for generating interrogative constructions. Does the creative construction process evolve independently, therefore making reliance on formulas increasingly unnecessary? In other words, do learners gradually drop chunks from their repertoire as their internal grammars produce rules for asking questions? Or is the process of chunk breakdown actively feeding into the creative construction process?

In this section, we explore what happens when no chunks are available to learners. We examine all the interrogatives produced by our subjects in which

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there is no trace of any possible unanalyzed chunks of language. This category includes not only the kind of interrogative chunks explored above but also all declarative chunks that are used in the asking of questions. For example, interrogatives such as **la garçon j'aime les cricket?* "the boy I like cricket?," that is, "does the boy like cricket?" (Pupil 12, R4) or **le monsieur okay . . . euh c'est grand? c'est petite?* "the man OK . . . umm . . . it is tall? it is small?," that is, "is the man tall or small?" (Pupil 52, R5), in which *j'aime* and *c'est* can be argued to be unanalyzed chunks, are excluded from our investigation. What is of interest here is what learners do when they choose not to rely on any of the chunks available in their interlanguage at the time, for whatever reasons.

It is important to note that the number of interrogatives we are left with after this elimination process is certainly much lower than the actual number of creative interrogatives produced; this is because, as we saw in the above sections, a number of learners have gone a long way down the road of analyzing chunks and are probably producing creatively towards the end of the period of data collection the same structures that were produced as formulas at the beginning. However, because it would be almost impossible to decide exactly when this shift from reliance on a chunk to creative construction of that same structure occurs, all structures that can be traced back to formulas, interrogatives or not, have been deliberately omitted. Our purpose here is to investigate creative construction when not influenced by the breakdown of chunks. The interaction between the two processes will be the subject of the final section.

So, what do our subjects do when they want to ask a question about something for which they have no chunk? Remember that most of the routines L2 learners have to perform in the classroom enable them to safely produce well-rehearsed formulas. This was not always the case in our battery of tasks. As we saw in the discussion of chunks, for example, we forced them into changing reference from the familiar second person to the third, with the results discussed above. Quite often, we also required them to venture into areas for which they had no chunks that would fit the situation appropriately. In those cases, they used a number of strategies:

1. They used the nearest chunk or part of a chunk, even if sometimes totally inappropriate; for example, **où habite /un, une/ salon?* "where lives a living room," that is, "where is the living room?" (Pupil 02, R4) or **elle s'appelle âge?* "she's called age," that is, "how old is she?" (Pupil 12, R1).
2. They isolated the question word in a chunk and used it productively. For example, the *où* of *où habites-tu?* "where do you live" was identified early on by many learners as the question word for location and was often used with an NP in order to question the location of that NP; for example, **où la piscine?, *où la plage?* "where the swimming pool?," "where the beach?" (Pupil 24, R4), **où la maison?* "where the house?" (Pupil 26, R4).
3. They resorted to utterances lacking a VP, mostly in the shape of NPs and PPs (but also APs, quantifiers, and combinations of all these), either on their own or pasted together, hoping the message would get across; for example, **quelles activités . . .*

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Table 5. Frequency and percentage of different interrogative types (V-less, V-headed creative, V-headed chunks), by round

	Round					
Interrogative Type	1	2	3	4	5	6
V-less						
n	41	129	53	235	287	182
%	22	31	48	49	46	69
V-headed creative						
n	2	25	11	34	74	42
%	1	6	10	7	12	16
V-headed chunk (or possible chunk)						
n	143	264	47	214	261	40
%	77	63	42	44	42	15
Total						
n	186	418	111	483	622	264
%	100	100	100	100	100	100

Note. Round 3 needs to be considered with caution, as it only contains 111 interrogatives overall.

à la Belleville? "which activities . . . at the Belleville?" (Pupil 26, R6); **jaune?* "yellow?" (Pupil 27, R3); **la dame à la stade?* "the lady at the stadium?" (Pupil 51, R5); **les umm . . . les grande-mère et les enfants euh en bateau on a lake?* "the umm . . . the grandmother and the children umm in a boat on a lake?" (Pupil 52, R3). These V-less utterances were extremely common, and we will look at them in more detail further on.

4. In the later stages, some of our subjects started forming sentences containing a VP, initially (and mostly) untensed, with a few learners managing sentences with a finite verb. Examples of utterances classified in this category include: **je manger douze heures?* "I eat$_{INF}$ 12 o'clock?" (Pupil 02, R4);[10] **tu . . . tu et . . . tu et moi visiter le cinéma?* "you and me visit$_{INF}$ the cinema?" (Pupil 02, R6); **et il jouer au foocricket? *j'aller à la musée . . . samedi . . . dimanche?* "and he play$_{INF}$ cricket?" "I go$_{INF}$ to the museum Saturday . . . Sunday?" (Pupil 09, R4), and so on.

We do not need to concern ourselves here with the first two strategies, as we analyzed the use of chunks in detail in the previous section. Instead we will concentrate on the last two, which, because they cannot be traced back to chunks, are the best illustration of our subjects' creativity. At this point we analyze the complete corpus of 2,084 interrogative utterances produced by our 16 subjects, not just the naming questions that have been considered up to now. Table 5 shows the breakdown of this corpus into a number of broad categories: V-less interrogative utterances, interrogatives involving VP chunks or possible chunks, and creatively constructed V-headed interrogatives.

A chi-square analysis confirms that the difference between the proportion

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of V-less, V-headed creative, and V-headed chunk questions is very highly significant over time, χ^2 (10, N = 2,084) = 236.9534, $p < .001$.

Trends in Production of V-less Interrogative Utterances

First, we examine the production of V-less utterances as a proportion of all interrogatives, broken down by individual rounds. The data from Table 5 indicate that, overall, our learners increasingly resort to such V-less utterances over time in order to ask questions, so that these form over two-thirds of all questions in round 6. This can be linked to the fact that learners generally rely on chunks less and less as time goes on and as their communicative needs increase.

Although this is a strong overall trend, it conceals some variability within the group. Table 6 presents more detailed information on the use of V-less interrogatives by individual subjects over time. At one extreme are Pupils 03, 09, and 57, whose production of V-less utterances moves in the opposite direction from that of the group as a whole. For these three subjects, the percentage of V-less utterances produced drops below 30% in rounds 5 and 6; as we shall see below, the prime cause is these particular subjects' developing ability to creatively construct original utterances that include a verb. At the other extreme are Pupils 26, 34, and 45, who produce 100% V-less interrogatives in round 6; for these pupils, neither chunks nor creatively constructed utterances centering on verb forms are present, and they rely mostly on pragmatic means to signal that fragmentary NPs et cetera are functioning as interrogatives. The remainder of the subjects conform to the general trend of an increase in V-less sentences accompanying a decrease in the reliance on interrogative chunks.

We can link these findings to Kellerman's (1985) "U-shaped" behavior, with learners starting with well-formed V-headed, but formulaic, interrogatives, then producing V-less utterances, before finally producing V-headed interrogatives again, but this time creatively. The above discussion shows our learners to be at various positions on the U, with some having started the right-hand climb up.

Trends in Production of Creative V-headed Interrogative Utterances

Next, we examine the fourth strategy used by our subjects when no ready-made formula is available to them—that is, the creative construction of V-headed interrogatives. Table 5 also shows the overall frequency of V-headed utterances in the interrogatives corpus, which could not be traced to any memorized chunk (e.g., **tu et moi visiter le cinéma?* "you and me visit$_{INF}$ the cinema?," Pupil 02, R6).

From Table 5, we observe a steady increase over time in the overall proportion of V-headed utterances that could be judged creative, although absolute

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Table 6. V-less interrogative utterances as percentage of all interrogative utterances, all subjects, by round

	Round						
Subject	1	2	3	4	5	6	Total
02							
n	7	25	3	10	14	14	73
%	28	62	50	36	38	56	45
03							
n	5	3	2	17	4	3	34
%	33	7	67	34	12	27	22
09							
n	4	2	1	6	6	2	21
%	20	4	5	12	10	12	10
12							
n	1	4	4	23	16	10	58
%	12	15	100	57	67	48	47
24							
n	0	12	1	5	1	10	29
%	0	37	33	38	3	67	26
25							
n	0	4	1	5	26	–	36
%	0	17	100	28	46		34
26							
n	1	4	0	4	15	7	31
%	17	44	0	18	58	100	44
27							
n	2	2	2	23	4	7	40
%	13	17	40	51	16	78	36
34							
n	0	5	–	6	–	3	14
%	0	16		40		100	26
38							
n	1	19	7	27	33	8	95
%	12	34	54	93	82	61	60
43							
n	4	1	3	27	35	–	70
%	40	50	75	73	53		59
45							
n	1	1	6	17	41	25	91
%	11	9	55	81	84	100	72
51							
n	2	5	5	6	29	25	72
%	25	42	100	40	64	83	63
52							
n	6	22	12	21	33	47	141
%	37	63	50	70	70	85	68
57							
n	7	10	2	14	8	3	44
%	37	50	50	48	25	27	38

(*continued*)

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Table 6. Continued

	Round						
Subject	1	2	3	4	5	6	Total
60							
n	0	10	4	24	22	18	78
%	0	42	67	56	47	78	52
(Total)							
n	41	129	53	235	287	182	927
%	22	31	48	49	46	69	44

Note. A dash indicates that the pupil was absent.

numbers remain small. (It is important to reemphasize at this stage that these figures are almost certainly conservative, as they exclude any instances of V-headed interrogatives that could be traced back to a chunk, even if they were produced creatively by some of our learners by the end of our study.) Many utterances included here are characterized by V_{INF} forms, as exemplified above. An interesting characteristic of these utterances is that they all exhibit declarative order, none of them following the inverted interrogative model provided by most chunks or expected if obligatory *wh*-fronting and inversion were transferred from English L1.

Table 7 provides information on the production of creative V-headed utterances by individual subjects. Although overall figures are low, it is worth noting here that the three subjects discussed above (03, 09, 57) whose use of V-less utterances actually decreased over time, against the general trend, are also among the ones who eventually make the most use of creative V-headed utterances.[11] The table shows that by round 6, for Pupils 03, 09, and 57, in each case over 35% of their V-headed interrogative utterances—that is, more than double the overall percentage—were judged to be creative; this was also true for Pupil 12. This is a clear sign that their grammar is becoming more complex, and they have gone beyond the V-less stage of the V-less $\rightarrow V_{INF} \rightarrow V_{FIN}$ continuum that is characteristic of emergent systematic sentence construction.

Summing up interrogative development on the creative construction side, then, our subjects can be seen progressing through the following stages:

1. A verbless stage; for example, **je grand maison?* "I big house?" (Pupil 12, R2); **et activités soi . . . la . . . cinéma?* "and activities evening . . . the . . . cinema?" (Pupil 24, R6)
2. An infinitival stage, at which verbs are introduced in creative constructions but are typically untensed; for example, **euh . . . la . . . mère regarder la magasin?* "umm . . . the . . . mother look-at$_{INF}$ the shop?" (Pupil 38, R3); **umm . . . euh . . . jouer au tennis?* "umm . . . umm . . . play$_{INF}$ tennis?" (Pupil 03, R4)
3. A finite verb stage, at which verbs are marked morphologically; for example, **la mère regarde euh lire euh la petite frère et soeur euh fêchent?* "the mother looks$_{FIN}$

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Table 7. Creative V-headed interrogative utterances as percentage of all interrogative utterances, all subjects, by round

	Round						
Subject	1	2	3	4	5	6	Total
02							
n	0	0	1	5	3	3	12
%	0	0	17	18	8	12	7
03							
n	0	0	0	4	2	7	13
%	0	0	0	8	6	64	8
09							
n	0	1	4	8	8	6	27
%	0	2	19	17	14	37	13
12							
n	0	3	0	0	2	10	15
%	0	11	0	0	8	48	12
24							
n	0	5	0	1	11	2	19
%	0	16	0	8	29	13	17
25							
n	0	0	0	3	16	–	19
%	0	0	0	17	29		18
26							
n	0	0	0	0	0	0	0
%	0	0	0	0	0	0	0
27							
n	0	0	0	3	4	1	8
%	0	0	0	7	16	11	7
34							
n	0	0	–	0	–	0	0
%	0	0		0		0	0
38							
n	0	6	4	1	6	3	20
%	0	11	31	3	15	23	13
43							
n	0	0	0	0	2	–	2
%	0	0	0	0	3		2
45							
n	0	0	0	2	4	0	6
%	0	0	0	9	8	0	5
51							
n	0	5	0	0	3	2	10
%	0	42	0	0	7	7	9
52							
n	0	2	2	3	9	1	17
%	0	6	8	10	19	2	8
57							
n	2	1	0	4	3	4	14
%	10	5	0	14	9	37	12

(*continued*)

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Table 7. Continued

	Round						
Subject	1	2	3	4	5	6	Total
60							
n	0	2	0	0	1	3	6
%	0	8	0	0	2	13	4
(Total)							
n	2	25	11	34	74	42	188
%	1	6	10	7	12	16	9

Note. A dash indicates that the pupil was absent.

umm read$_{FIN}$ umm the little brother and sister umm fish$_{FIN}$?" (Pupil 38, R6); **une journalist . . . dit est le . . . monstre de Lac Ness?* "a journalist . . . says$_{FIN}$ is$_{FIN}$ the . . . Loch Ness monster?" (Pupil 03, R6).

Even by round 6, however, only a minority of subjects could be said to have securely reached stage 3. As we have seen, a few subjects (26, 34, 45) are still firmly in the V-less stage, and a majority are still making a tentative entry into the second stage.

Pienemann, Johnston, and Brindley (1988) have proposed a developmental scale for the acquisition of interrogatives, shown below:

Stage 1: Single words or formulas

Stage 2: Declarative word order

Stage 3: Fronting

Stage 4: Inversion in *wh*- and yes/no questions (with copula and auxiliaries other than *do*)

Stage 5: Inversion in *wh*-questions (with *do* and other auxiliaries)

Stage 6: Complex questions (question tags, negative questions, embedded questions)

On this scale, some of our learners have reached stage 2, but there is little evidence of them having entered stage 3 or any later stage.

RESULTS 3: INTERACTION BETWEEN CHUNK BREAKDOWN AND CREATIVE CONSTRUCTION

In this final results section, we address our last research question, which concerns the existence of interaction between chunk use and chunk analysis, and the learners' developing capacity for creative construction.

At one extreme in our cohort, we have subjects such as Pupils 26, 34, and 45, who appear not to retain their early memorized chunks and who also seem to miss out on creative construction; as we have already seen, by the end of our study this combination resulted in heavy reliance on V-less expressions,

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at least for asking questions. For such subjects, our conversational tasks could be accomplished only with extensive interlocutor scaffolding and support, and meanings were expressed through lexical and pragmatic means only.

At the other extreme are subjects such as Pupils 03, 09, and 57, who by the end of the study are developing a genuine capacity for creative construction. However, it is clear from data about these pupils presented earlier that this development by no means involves the abandonment of chunk use. Instead, it runs alongside a sustained struggle to analyze and restructure previously learned chunks. For example, when we examined subjects' use of various *s'appeler* chunks, we saw how Pupil 03 was using the *comment t'appelles-tu?* chunk as a context to explore the workings of the pronoun system. In round 5, for instance, he was experimenting with utterances such as **comment il t'appelles-tu?* and **il est comment t'appelles-tu?* It is quite clear that early learned chunks were still a live and dynamic part of his repertoire at this late stage in the study.

If we now look at Pupil 09, a similar pattern emerges for *s'appeler* chunks, although he is clearly more advanced:

Round 1 *comment t'appelles-tu?; comment s'appelle-t-il?; comment s'appelle-t-elle?*
Round 2 *et comment s'appelle-t-il?* [twice]
Round 3 **comment t'appelle-t-il?; *comment t'appelle-t-il?*
Round 4 **comment t'appelle . . . t-elle?; *et comment t'appelle-t-il?*
Round 5 *comment s'appelle . . . euh le garçon?; et la fille comment s'appelle-t-elle?; *et la femme comment t'appelle-t-elle?; *et l'homme comment t'appelle-t-il?*

Unusually, this pupil seems to have been able to memorize three interrogative chunks as early as the first round. We would argue that they are chunks at this stage, rather than being generated productively, because they undergo a number of changes thereafter; although the subject pronoun seems to be used accurately from the start, the reflexive pronoun is still being worked on in round 5. Another interesting feature is that, in the later round, a lexical subject NP is added in front of the chunk, in keeping with the emerging creative utterances following the canonical SVO order that is concurrently produced by this subject. Far from dropping these chunks from his repertoire, this pupil is using them and working on them all the time.

Finally, as we saw earlier in Extract 3, Pupil 57 also uses chunk-based constructions in the later stages:

Round 1 *comment t'appelles-tu?*
Round 2 **euh . . . une g- euh . . . comment t'appelle le garçon?; *comment t'appelle le . . . fille?; *comment t'appelle(s) eu . . . .* [masculine reference]
Round 4 **euh . . . la fille comment . . . s'appelle?; comment s'appellent leurs copains?*
Round 5 *comment s'appelle le garçon?; comment s'appelle la fille?; *comment no umm . . . s- elle s'appelle . . . quelle?*

In the last round 5 example, we see him trying to replace the lexical NP with a subject pronoun, although not yet with success.

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So, in fact, it is clear from our study that, far from inhibiting progress in our learners, ready-made chunks or formulas provided by the classroom context were instrumental in the learning process. At one extreme, we have learners who do not seem to be able to retain a store of memorized chunks and soon become stuck in a pregrammatical stage in which they are only able to string simple V-less phrases together. At the other extreme, we have learners who memorize a large number of chunks in the early stages and who use this linguistic database as a springboard for creative construction. They do not drop chunks but seem willing to keep working at them over sustained periods of time, presumably until they merge entirely with an evolving grammatical competence.

DISCUSSION

In conclusion, creative construction and chunk breakdown clearly go hand in hand. We have seen that interrogative chunks form the basis for subsequent analysis and creativity. For example, learners start with the more complex *wh*-fronted interrogatives with inversion and only subsequently modify these unanalyzed formulas to make them fit their basic canonical order; they do not abandon them as such when their creative competence becomes greater, but instead they work on them, modifying certain aspects. These chunks provide a large quantity of rich linguistic data that the learners exploit. They first overextend them to inappropriate contexts, but they are often aware of the inappropriateness and resort to a number of strategies in order to overcome it. The need to establish reference correctly is a strong driving force behind their analysis of the pronominal system within chunks. Because the chunks they learn in the early stages typically contain verbs and their pronominal subjects (not just interrogatives but also declaratives of the type *je m'appelle, j'aime/je déteste/j'adore* + NP "I am called," "I like/I hate/I love + NP") and because reference is crucial in the kind of information-gap classroom activities they typically engage in, subject clitic pronouns seem to be particularly salient and are the first items to be dropped or added to when they are inappropriate.

In our classroom data, it seems that the learners who are able to memorize formulas successfully, and who were still working on them by the end of the study, are also the learners who were earliest to engage in creative construction and who progressed farthest along the developmental continuum during the course of our two-year study (e.g., Pupils 03, 09, 57). At the other end of this continuum we find learners who had abandoned formulas by the end of our study and who seem to be stuck in a pregrammatical V-less stage (e.g., Pupils 26, 34, 45) in which they are only able to paste together NPs and PPs. This can be linked to recent claims that there is a correlation between the phonological STM (Short Term Memory) of learners and their grammatical ability (Ellis, 1996b). This first group of learners seems to be able to successfully automatize formulaic routines, thereby enabling them to free up

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controlled processes to attend to the form of language rather than being constrained by processing limitations to concentrate on the purely semantic and pragmatic concerns that are characteristic of the very early stages. On the creative construction side, we have seen how our classroom learners start with a pregrammatical stage (our V-less stage), similar to the ESF project's nominal utterance structure (e.g., Klein & Perdue, 1993; Perdue, 1996).[12] However, our learners differ from the uninstructed adult learners studied by these researchers, in that they spend considerable effort in rehearsing and memorizing relatively complex chunks, which are explicitly taught to them. Once automatized, these formulas provide classroom learners with rich and complex linguistic input that is beyond their present linguistic capabilities and that is readily available for analysis: Our subjects can be seen to start unpacking these formulas and their analysis actively feeds into their creative construction hypotheses. This is of course a two-way process, but this very fact has important implications for our understanding of how the different kinds of linguistic knowledge (competence vs. learned linguistic knowledge) are stored and what the interaction between the two might be. Learners do not drop chunks from their repertoire as their creative competence takes over, as Krashen and Scarcella (1978) claimed; rather, they use them in order to test hypotheses generated by internal mechanisms. Our data support Towell and Hawkins' (1994) claim that:

> [interaction with external data] . . . provides a mechanism whereby formulaic language can be retained so as to allow the learners to achieve an immediate interactive capability on the basis of an implicit knowledge of utterances. That knowledge is then available as a basis for subsequent mental reorganization. As the learner develops greater awareness of the linguistic system, it may be possible to reexamine the formulaic utterance and reinterpret its internal structure as part of the learning of the language system. (p. 254)

We see, on the one hand, chunks becoming simpler and more like other constructions present in the grammar at a given time and, on the other hand, creative constructions becoming more complex as elements from the chunks feed into the process. It is as if, at any one time, learners are attempting to resolve the tension between complex but communicatively rich chunks on the one hand and simple but communicatively inadequate structures on the other hand. This is a dynamic tension that drives forward the overall development of the L2 system.

(*Received 21 November 1997*)

NOTES

1. Below the example is a literal translation and its intended meaning (as interpreted by the researcher given the context), followed by the number allocated to individual subjects in our study (1–60) and the round of data elicitation (1–6).

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2. These criteria obviously need to be applied in the context of the whole data corpus, as it is only by comparison with other productions that it is possible to classify a given construction as a formula. Not all criteria need necessarily apply at the same time; criterion 6, for example, does not always apply.

3. What these "universal" processes might be is not the subject of this paper; for discussion, see for example Vol. 12 (4) of *Second Language Research*, White (1989), Eubank (1991), or Huebner and Ferguson (1991).

4. The project was codirected by Rosamond Mitchell at the University of Southampton and Peter Dickson at the National Foundation for Educational Research and was funded by the Economic and Social Research Council, grant number R000234754. The project team whose work is drawn upon here also included Judy Hawker (NFER), Cynthia Martin, and Luciana O'Neill (University of Southampton).

5. This is now known as Key Stage 3 in UK educational parlance and comprises the three school years from ages 11–14. Since the introduction of the present National Curriculum in British schools in the early 1990s, all children must study at least one foreign language during Key Stage 3; French is the most commonly taught language. Little empirical evidence exists as to the degree and nature of learning that can be expected over this phase, in the UK school context, and the Progression Project was designed to fill this gap (Mitchell & Dickson, 1997).

6. Our transcriptions generally follow French orthographic conventions and have been kept as simple as possible to facilitate readability. However, where serious ambiguity exists as to the intended form, possible alternatives are shown between slashes; for example, /est, et/.

7. Certain categories of interrogative utterance were excluded from the investigation. These included all-English utterances; the one-word utterances *oui?* "yes?," *non?* "no?," and *pardon?* "pardon?"; and utterances that repeated the immediately preceding utterance.

8. Following our decision to use French orthographic conventions in our transcription of data (see note 6), we have decided to make the verb agree with the reflexive pronoun that precedes it, rather than the subject pronoun that follows. Such differences in spelling are not audible and must therefore be seen as purely arbitrary, in order to facilitate ease of reading.

9. The second-person chunk is uninverted because the subject has just been provided with this form of the chunk by the researcher-interlocutor and has temporarily appropriated it. Although much less frequent than the inverted form, the declarative form of this chunk is sometimes used by some of the teachers in the study.

10. The choice here to spell verbs ending with the phoneme /e/ in their infinitive form *-er*, for example *manger* (to eat_{INF}), rather than with other possible spellings (e.g., past participle *mangé*), is to reflect the untensed nature of the verb. The symbol $_{INF}$ is used by opposition to the symbol $_{FIN}$ (finite), which indicates a tensed verb. This corresponds to Klein and Perdue's (1993) infinite utterance organization that precedes the finite stage (see note 12) in their crosslinguistic study of L2 utterance structure, and to the findings reported by Clark in the L1 acquisition of French, in which "the earliest verb forms seem to be based on infinitival forms" (1985, p. 699).

11. In the case of Pupil 09, who is a particularly high achiever and who most probably produces chunklike utterances creatively, the figures given in Table 7 are lower than might be expected. The reason is that this subject most probably produces creatively an unknown proportion of his accurate chunklike utterances, which are excluded from the table. In fact, Pupil 09 is the only subject in our sample who shows clear signs of having entered the finite stage V_{FIN}.

12. Klein and Perdue analyze the development of utterance structure in their naturalistic learners as follows:

> Development goes from nominal via infinite to finite utterance organisation. All learners started with what we call "nominal utterance organisation" (NUO). At this stage, spontaneous utterances (i.e., those which are not just rote forms) mainly consist of seemingly unconnected nouns, adverbs and particles (sometimes also adjectives and participles). What is largely missing in NUO is first any functional morphology, and second, the structuring power of verbs such as argument structure, case role assignment, etc. This is different in what we call "infinite utterance organisation" (IUO). At this level, non-finite verb forms are attested. . . . What we do not find is the distinction between the finite and non-finite component of the verb, a distinction fundamental to all languages involved in the study. This distinction characterises the next level, called here "finite utterance organisation"(FUO), which is not attained by all our learners. (1993, p. 25)

https://doi.org/10.1017/S0272263199001023 Published online by Cambridge University Press

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