Effects of focused instruction of formulaic sequences on fluent expression in second language narratives: A case study

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While knowledge of what constitutes fluent speech has developed over the past several decades, it is still unclear how language teachers can facilitate its acquisition by second language learners. Fluency is generally accepted as being a function of temporal variables of speech such as rate of speaking and the number of words or syllables uttered between hesitations. A considerable amount of evidence exists that formulaic sequences, multi-word phenomena such as collocations, idioms, phrasal verbs and so on, play a role in the production of fluent speech. The present study is an investigation into the effects of focused instruction of formulaic sequences and fluency on the performance of a Japanese learner of English in spontaneous narratives in English. Results indicate a strong increase in fluency after six weeks of focused instruction, and a relationship between the instruction and the fluency and use of formulaic sequences in the learner speech samples.

Une meilleure connaissance des composantes de la facilité de parole au cours des dernières décennies n'a pas permis aux professeurs de langue de se faire une idée claire de la façon dont les étudiants de langues secondes peuvent se l'approprier. On s'accorde à considérer la facilité de parole comme fonction de variables temporelles du discours telles que le débit et le nombre de mots ou de syllabes entre les hésitations. Une quantité considérable de données ont mis en évidence le rôle que jouent les unités de langue formulaïques, les phénomènes pluritermes tels que des collocations, idiomes, verbes syntagmatiques, etc., dans la production du discours fluide. La présente étude examine les effets de l'instruction focalisée des unités de langue formulaïques et de la fluidité du discours d'une étudiante japonaise de l'anglais langue seconde dans des récits spontanés en anglais. Les résultats indiquent une augmentation forte de la facilité de parole après six semaines d'instruction focalisée, et un rapport entre l'instruction, la facilité de parole, et l'utilisation des unités de langue formulaïques dans les échantillons de discours de l'étudiante.

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Introduction

For the past four decades, researchers have been interested in the study and teaching of formulaic sequences, multi-word lexical strings or frames which are processed mentally as if single words. Formulaic sequences serve a wide variety of uses and functions in discourse, and are a generally agreed upon means of expressing concepts and relationships which facilitate efficient and effective communication, and particularly fluent speech. A very limited body of research exists which examines the link between the use of formulaic sequences in speech and effectiveness of oral communication. In research in second language acquisition in particular, there have been few attempts to uncover how learners may use formulaic sequences to facilitate fluent speech and how learners may employ formulaic sequences for particular discourse purposes. Wood (2006), in a longitudinal investigation of the link between use of formulaic sequences and second language (L2) fluency in a group of mixed L1 learners, determined that formulaic sequences played a role in facilitating fluent speech over time. The learners in the study tended to employ formulaic sequences in certain ways to maintain fluency in monologic speech. However, the study of how L2 learners use formulaic sequences to realize particular discourse functions is still largely uncharted territory.

The present study is an examination of the ways in which a learner of English as a second language (ESL) in an intensive study abroad situation made use of formulaic sequences before and after a six-week fluency development workshop which included a focus on native speaker models. Specifically, the learner speech was analyzed for the presence of certain fluency markers and the use of particular formulaic sequences which were taken from native speaker narrative models used in the fluency workshops. Before describing the study, it is important to look at the existing research into speech fluency and formulaic sequences.

Fluency

Empirical research focusing on fluency has generally involved the elicitation of a speech corpus and analysis of its temporal and qualitative aspects. Some studies have attempted to link clusters of performance variables with rater assessments of fluency (Lennon, 1990b; Riggenbach, 1991; Freed, 1995); others have compared first and second language speech performance (Deschamps, 1980; Raupach, 1980), or conducted longitudinal examinations of the development of aspects of second language spoken fluency (Dechert, 1980; Towell, 1987; Lennon, 1990a; Hansen, Gardner and Pollard, 1998). Across all of the studies of spoken fluency and its development, there has been a remarkable degree of agreement on the types of temporal variables to be tracked. These are rate of speech, measured as syllables uttered per minute, amount of pauses and

the length of runs, measured as number of syllables uttered between pauses (see Wood, 2001 for a review). In the present study, the two most salient measures, rate of speech and length of runs, were used as indicators of fluency gain.

It seems likely that fluency is greatly enhanced by the control of large numbers of formulaic sequences. Pawley and Syder (1983) refer to the need for mastery of a body of lexicalized sentence stems to achieve fluency:

> A lexicalized sentence stem is a unit of clause length or longer whose grammatical form and lexical content is wholly or largely fixed; its fixed elements form a standard label for a culturally recognized concept, a term in the language. (p. 191)

Thus, a string or frame is needed for expression which links to the concept to be expressed. These prefabricated pieces are often strung together in a way appropriate to the communicative situation, allowing the speaker's energy or attention linked with single lexical units in the speech run to be freed up to plan larger stretches of speech. Many of the most familiar concepts and speech acts can be expressed formulaically, and, if a speaker can pull these formulas readily from memory, that is, if they are proceduralized or automatized, fluency is enhanced. This reduces the amount of planning, processing and encoding needed within clauses. It gives the speaker time to pay attention to the multitude of other tasks necessary while speaking, such as generating specific lexical items, planning the next unit of discourse, syntactic processing of novel pieces and so on.

Since speech is therefore not produced word-for-word, the speaker can focus on rhythm, variety, combining memorized chunks or producing creative connections of lexical strings and concepts. It is possible that the degree of novelty in expression is often due to the proportion of use of two-word lexical units or collocations and the use of entire clauses which are formulaic.

Formulaic language

As long ago as 1983, Pawley and Syder pointed out a link between formulaic language and fluent language use, and that speakers tend to ignore the potentially infinite lexical and grammatical options available. Instead, the norm is to use standard predictable phrases such as *How are you?* or *Will you marry me?* rather than grammatical but communicatively unlikely ways of expressing the same meaning or function such as *What is your current state of well being?* or *Are you inclined to become my spouse?* This observation was one of the first steps toward our current understanding that speech production may be only partly based on rule-based creation of utterances from lexis through syntax, morphology and phonology. In spontaneous speech, such a laborious

means of production seems highly unlikely, particularly in light of the fact that short term memory and attention resources are finite.

Over time, the development of computer technology, corpus study and phraseology have provided discourse-based evidence of how words tend to collocate and cluster. Phraseologists have pointed out that collocations cross a wide spectrum, and can include phrasal verbs, prepositional phrases and more (Mel'čuk, 1998). Researchers on the acquisition and use of formulaic sequences have utilized a range of research methods, including ethnographic types of investigations and case studies (Fillmore, 1979; Hakuta, 1974; Fillmore, 1979; Peters, 1983), conversation analysis (Manes and Wolfson, 1981; Tannen, 1987) and quantitative investigations of the use of multi-word units (Kjellmer, 1991; Sinclair, 1991), among others. Some researchers focused on idioms in which the meaning or function of the whole unit is greater than the sum of its component lexical parts (Chafe, 1968; Moon, 1998), while some focused on multi-word phenomena which are used as fixed expressions, particularly as linked to particular speech events or which facilitate fluency (Yorio, 1980; Coulmas, 1981; Wood, 2006).

Studies based on corpus analysis have generally followed two approaches. The first approach entails searching for expressions which have been identified prior to the study (Nattinger and DeCarrico, 1992) because they are familiar to native speakers or because they feature strongly in the literature. The second approach involves identifying lexical co-occurrences of different lengths, at different frequency cut-off points (Altenberg, 1998; Biber, Johansson, Leech, Conrad and Finnegan, 1999). The first approach appears to work well with smaller corpora, particularly those comprised of spoken language, in particular second language speech, and for identifying the discourse functions of formulaic sequences.

Formulaic sequences constitute a large proportion of spoken discourse (Schmitt and Carter, 2004). Erman and Warren (2000) reported that different types of word combinations made up 58.6% of the spoken corpus analyzed in their study. Altenberg (1998) found that 80% of the words in the London–Lund corpus of spoken English form part of formulaic sequences, remarking that "what is perhaps the most striking impression that emerges (. . .) is the pervasive and varied character of conventionalized language in spoken discourse (. . .) from entire utterances operating at discourse level to smaller units acting as single words and phrases" (p. 121). The links between formulaic sequences and pragmatic competence have also been researched. Coulmas (1979, p. 241) states that "[a]s they provide the verbal means for certain types of conventional action, their meanings are conditioned by the behavior patterns of which they are an integrated part," and goes on to note that formulas help to facilitate unambiguous communication. Bygate (1988), in a study of adult learners of

English L2, found pragmatic uses of formulas to include repetition, questioning, agreeing, confirming, clarification and focusing attention.

Nattinger and Decarrico define lexical phrases, a pragmatically specialized subset of formulaic language, as a sort of bridge between lexis and grammar, with specific discourse functions:

> ... lexical phrases [are] form/function composites, lexico-grammatical units that occupy a position somewhere between the traditional poles of lexicon and syntax; they are similar to lexicon in being treated as units, yet most of them consist of more than one word, and many of them can, at the same time, be derived from the regular rules of syntax, just like other sentences. Their use is governed by principles of pragmatic competence, which also select and assign particular functions to lexical phrase units. (p. 36)

They outline two large categories of the phrases, strings of specific lexical items and generalized frames. Nattinger and DeCarrico see a great deal of variety and diversity in formulaic sequences, and their comprehensive taxonomy covers a large proportion of the types of utterances which are produced in a language.

Studies of the role of formulaic sequences in L2 speech fluency development have been few and far between to date. Wood (2007, 2008) conducted longitudinal studies of Japanese and Chinese L1 learners of English in study abroad situations. It was found that improvements occurred in L2 speech fluency as measured by key temporal variables, and that increased use of formulaic sequences appeared to play a role in the fluency gain. No studies have been published which analyze the spoken discourse of L2 learners in detail with regard to the nature and functions of formulaic sequences in fluency gain or other aspects of effective or proficient production.

Teaching formulaic sequences

Formulaic language has been a focus in language teaching for some time, although the efforts made to date have produced mixed results. An early advocate of teaching formulaic language is Lewis (1993, 2000), whose lexical approach is geared toward encouraging learners to notice formulaic sequences in the input they receive in instruction. Colleagues of Lewis (2000) report that learners appeared to benefit from the various noticing activities they developed and implemented, although little concrete data exists to confirm the efficacy of such pedagogical interventions. Boers, Eyckmans, Kappel, Stengers and Demecheleer (2006) made an effort to put the concept of noticing of formulaic sequences to the test, finding that learners exposed to a range of noticing activities directed at formulaic sequences were judged to be more proficient in oral skills, including fluency, than a control group, and that they also showed

evidence of using more formulaic sequences in talk. This may be an indication that drawing learners' attention to specific formulaic sequences has positive effects for oral proficiency, although the measure of fluency used in the study by Boers *et al*. (2006) was subjective and not a specific measure of temporal variables. As well, it may be that formulaic sequences are difficult for learners to notice in input. Bishop (2004), in an investigation involving L2 readers, found that the learners tended not to notice formulaic sequences in text and that strategies such as making them typographically salient had weak benefits which tended not to last over time. He attributed this to the fact that learners may be unable to match a sequence of words with a single meaning, along with the need to recognize formulaic sequences as well as a large number of similar-looking but grammatically generated word sequences (Bishop, 2004, p. 18). When formulaic sequences were typologically enhanced in a text, according to Bishop (2004), learners tended to look for glosses of the sequences, but this did not lead to greater comprehension. Perhaps there is a need for more explicit and rigorous classroom activity involving formulaic sequences if they are to become a useful part of the language repertoire of learners.

Explorations of the link between developing automaticity of language use through task-based and communicative classroom practice have yielded some promising results. De Ridder, Vangehuchten and Seseña Goméz (2007) found that learners attending a task-based Spanish language course produced higher scores for automaticity than a control group who attended a more traditional course. In the task-based course, the learners were exposed to more "structured repetition and creative transfer of knowledge items" (p. 310), and they were evaluated at the end of the course on the basis of a simulated video shoot of an advertisement and an oral test involving a presentation. Their automaticity was rated on a range of criteria drawn from the Common European Framework of Reference for Languages (2001), including a holistic criterion of fluency. Gatbonton and Segalowitz (1988, 2005) have explored the interface between classroom tasks encouraging repetition of linguistic material, including formulaic sequences, and the development of automatization of language, developing a methodology involving three phases: creative automatization, language consolidation and free communication.

While it seems that there is a fluency benefit to pedagogy which involves noticing of formulaic sequences and the encouragement of automatization, other recent work points to a place for memorization as well. One experimental piece of evidence is a study by O'Brien, Segalowitz, Freed and Collentine (2007), building on earlier research showing a facilitating role for phonological memory in vocabulary development. In the study of O'Brien *et al*. (2007), phonological memory was significantly associated with L2 fluency development in adult L2 learners as measured by temporal variables such as speech

rate and length of runs, suggesting that the ability to store phonological sequences or multiword utterances in short term memory is an important factor in language learning.

Two innovative studies by Wray (2004) and Wray and Fitzpatrick (2008) explore the efficacy of memorization of formulaic sequences for L2 learners. Wray (2004) studied the performance of a beginner learner of Welsh who performed a cooking demonstration in her L2 after four days of instruction, finding that the memorization of a lengthy text supported the learner's performance. Wray and Fitzpatrick (2008) discovered that memorizing and rehearsing conversational turns in their L2 assisted learners in real-life interaction to a great extent.

The development of L2 speech fluency might be expected to occur with increased contact and experience with L2, although research shows that opportunities for contact with native speakers is not always optimally available to learners. Research into study abroad learning settings, in which a high degree of L2 contact is expected, has found some interesting trends. Segalowitz and Freed (2004) found that study abroad students of Spanish L2 made greater gains in temporal aspects of speech fluency but that language contact, initial proficiency and cognitive abilities played vital roles as well. Collentine (2004) found that study abroad in Spanish L2 may have facilitated ability to tell extended narratives and produce semantically dense language. Increased use of formulaic sequences may have played a part in the improved narratives and semantic density of the study abroad group. Not all L2 learners will have or take advantage of opportunities for increased L2 content, however. Derwing, Munro and Thomson (2008) found that adult newcomers to Canada sometimes found difficulty making contact with native or nativelike speakers of English due to their lack of initial fluency. The authors suggest focused classroom tasks to aid in the development of a repertoire of formulaic sequences, among other things (Derwing, Munro and Thomson, 2008, p. 376).

Focused instruction of formulaic sequences in order to further L2 speech fluency can draw on these pedagogical and empirical bases. Learners can be exposed to L2 models of usage of formulaic sequences, and participate in memorizing, rehearsing and automatization tasks leading to free or real-life performance. The fluency workshop used in the present study was designed with these aspects in mind.

Method

The current study is a case study of the use of formulaic sequences in spontaneous communication by a female Japanese L2 learner of English in two monologic speaking situations separated by a six-week interval. During the interval, the learner participated in a series of weekly fluency workshops which

focused on the key facilitating role of formulaic sequences. Her monologic speech was analyzed with respect to the length of runs between pauses and the speech rate, as well as the use of formulaic sequences. A discourse analysis of the productions focused on the possible effect of the pedagogical intervention of the fluency workshop on developments in her performance, specifically, whether the workshop provided her with a repertoire of formulaic sequences which could have contributed to improved fluency.

The participant was a female Japanese learner of English in a university intensive study abroad context, Sachie (pseudonym). She was enrolled in intermediate-level classes in the program, had been enrolled for a previous 12-week period and was living in a homestay situation with native speakers or native-like speakers of English. Sachie was in her early twenties at the time of the data collection and was studying English in Canada for a year, having completed her undergraduate university degree in Japan.

She was instructed to produce narratives spontaneously in the university language laboratory on topics of personal relevance, with no preparation time or use of notes to prepare for the talk. The first speech sample was produced on the first day of the series of fluency workshops, before the start of the activities, and the second was produced a week after the end of the workshops.

The recordings were transcribed and hesitations marked in the transcripts. Speech rate (SR) was calculated as the number of syllables uttered per minute, and mean length of runs (MLR) was calculated as the total number of syllables uttered divided by the number of runs in a sample. Single word runs were counted as such, as were non-lexical utterances or filled pauses such as *mm* and *ah*. In determining the lower cut-off point for pauses, 0.3 seconds was used. Anything less than 0.3 seconds is easily confused in a spectrogram with other speech phenomena such as the stop phase of a plosive sound, and anything longer can omit significant pause phenomena. Given that native speakers seldom hesitate longer than 0.5 seconds in mid-clause or 2 seconds at a clause juncture, 0.3 seems a reasonable cut-off. As well, the tradition in fluency research has been to use 0.25 to 0.3 seconds as a lower end cut-off (Towell *et al*., 1996, p. 91).

Identifying formulaic sequences in native speaker and L2 learner speech

Multi-word phenomena which appeared to serve fluency or discourse functions in the native speaker models were marked as formulaic sequences. In addition to this initial application of intuition, five general criteria were applied in deciding whether a sequence was a formula, based largely on Wray and Namba's (2003) comprehensive examination of judgement criteria for formulaic sequences in speech corpora. It is important to stress that no particular

criterion or combination of criteria were deemed as essential for a word combination to be marked as formulaic, and judgements were made based on one, several or all of these.

1. *Phonological coherence and reduction*

   Formulaic sequences may be uttered with phonological coherence (Coulmas, 1979; Wray, 2002), without internal pauses and a more or less intonation contour. Phonological reduction may also occur, involving phonological fusion, reduction of syllables and deletion of schwa, all of which are common in the production of most high frequency phrases in English, but much rarer in lower frequency or novel utterances, according to Bybee (2002). Phonological reduction can be seen as a sign that "much of the production of fluent speech proceeds by selecting prefabricated sequences of words" (p. 217).

2. *The taxonomy used by Nattinger and DeCarrico (1992)*

   The taxonomy includes syntactic strings such as NP + Aux + VP, collocations such as *curry favor* and lexical phrases such as *how do you do?* that have pragmatic functions (p. 36). While these categories may not cover all possible formulaic sequences, they provide a guide or possible framework to help in determining possible formulaicity in combination with other criteria.

3. *Greater length/complexity than other output*

   This criterion was applied mostly to the speech samples of the L2 participant in the study. The use of sequences such as *I would like* … or *I don't understand*, while seldom using *would* or negatives using *do* in other contexts, would tend to indicate formulaicity. It was possible to see and hear the entire output of the participant, which helped in the application of this criterion.

4. *Semantic irregularity, as in idioms and metaphors*

   Wray and Perkins (2000, p. 5) state that many formulaic sequences are often composed holistically, like idioms and metaphors, and not composed semantically. Examples might include *straight from the horse's mouth*, or *to pull someone's leg*.

5. *Syntactic irregularity*

   This criterion was readily applied to some sequences, but it was necessary to check syntactically irregular sequences against other criteria on this list.

The criteria were used in a holistic manner and no one criterion was used as necessary for the judgement of formulaicity, nor were all criteria required to be applicable to all cases.

In the case of the L2 learner, idiosyncratic and non-canonical formulaic sequences were accepted, as it was deemed possible that the cognitive stresses of the production of the narrative, including recall of events to be relayed, could lead to slips in articulation or expression. Prodromou (2007) and Wray and Fitzpatrick (2008) have examined the ways in which L2 learners may deviate from native speaker norms in expressing formulaic sequences, finding that the deviations have little link to fluency measures, but instead are linked with difficulty in realizing pragmatic intentions (Prodromou, 2007), or gaps in lexical, morphological or phrasal competence (Wray and Fitzpatrick, 2008).

Fluency workshop

The participant produced the narratives before and after a six-week set of fluency workshops. The workshops consisted of sessions of 90 minutes per week for a total of nine hours over six weeks, following the input — automatization — practice and production — free talk sequence outlined below. The activities and the sequence were grounded in the existing literature on noticing, automatization and memorization, as well as the use of native speaker models and students as ethnographers (see Riggenbach, 1999 for background and applications to teaching spoken discourse).

While the tasks in the workshop were centred around monologic speech, the focus on narrative has strong links to conversational interaction, especially in light of Wray and Fitzpatrick's (2008) findings that memorization of sequences can assist in real life conversation.

Input stage

The learners listened to a recording of native speakers telling personal stories, the first being a reaction to an item the speaker had read in the newspaper, the second a childhood memory of summer cottage vacations. Each of these was used as the beginning of a full round of workshop activities. After discussing content and the speaker's attitudes and feelings, the learners then listened to them again while following a transcript and marking hesitations. The instructor then drew their attention to formulaic sequences which occurred between the marked hesitations and commented on the linguistic and discourse functions of the sequences.

Automatization stage

The learners shadowed the recording with the transcript in the language laboratory at least eight times. Shadowing is a technique often used in pronunciation

teaching, in which a written text is read aloud while simultaneously listening to a recorded model. They were encouraged to pay close attention to the formulaic sequences and hesitation patterns, with instructions to repeat the more challenging stretches of discourse as many times as they felt necessary.

Later, the learners participated in activities designed to further automatization of the formulaic sequences. First, students listened to a dictogloss of sentences containing key formulaic sequences, taken from the input text. Dictogloss (Wajnryb, 1989) is a procedure which has rich potential for fluency teaching. Originally developed as a grammar awareness activity, it requires that a brief text be read aloud at normal speed to the class, with students taking notes and jotting down key words. They work together in teams to reconstruct the entire text as heard, compare their reconstruction with the original text and note differences in structure and phrasing. Dictogloss texts rich in formulaic sequences can raise awareness of their functions in speech, a step in the direction of mastery or automatization of them.

A mingle jigsaw (Wood, 1998) was also used. The procedure involves repeated information delivery by learners to peers, while listening to the information the peers have to convey. Learners were given slips containing a key formulaic sequence from the original transcript and instructed to remember it verbatim, then mingle and share their assigned formulaic sequence with others one by one and listen to the others telling theirs. No papers were carried around the room during the procedure, and learners returned to their seat and jotted down what they heard after each encounter when they were ready. The mingling continued until every learner had a chance to record every formulaic sequence.

This was followed by a chat circle, in which learners were arranged standing in two concentric circles, the inner circle facing out, the outer circle facing in. Each of the resulting face-to-face pairs took turns talking spontaneously for two minutes on a topic from a brainstormed list related to the original input text. When both had spoken, the outer circle stepped one partner to the left. A new topic was assigned and learners talked spontaneously for the same amount of time as in the previous round. This continued until every outer circle member had spoken with every inner circle member, always on a different topic. The partners took time to comment on their production and reflected on the speed, hesitations and "rough spots."

Practice and production stage

After exposure to the phrase patterns and formulaic sequences of a native speaker model, the learners were given a chance to prepare a brief narrative of their own. In preparation for this talk, they were guided through Nation's (1989) 4/3/2 procedure, which requires learners to tell their stories to partners, first with a four minute time limit, then to another partner with a three

minute limit, then finally to a third partner with a two minute limit. After this, they recorded their talk without using notes or other support. The recordings were collected, and, at the end of the program, the learners reviewed their own and each other's performances and commented on aspects which they felt had shown development from the first to the third production.

Free talk stage

At the end of the cycle outlined above, learners formed groups and generated topics related to the theme of the original native speaker model. The topics were then distributed randomly to individual class members, and small groups took turns listening to individuals speaking spontaneously about the topics they had drawn. They commented on the productions and reflected on the speed, hesitations and "rough spots" in their own productions.

Results

The spontaneous narrative monologues were analyzed for temporal measures of fluency: speech rate (SR), measured as syllables uttered per minute; mean length of runs (MLR), measured as mean number of syllables uttered between hesitations. Analysis of the data reveals some trends in the development of SR and MLR, the nature of learner use of formulaic sequences and the efficacy of focused instruction in formulaic sequences.

Sachie's first narrative was about her experience attending a concert in Osaka by Celine Dion, and her second narrative was a reminiscence on her summer vacations as a child in Kumamoto.

As Table 1 indicates, there were strong gains in fluency measures from the first sample to the second, after the six-week fluency workshop. MLR showed a 26.3% increase in the second speech sample, and SR an improvement of 13.8%.

Table 1: Speech rate and mean length of runs

	Sample 1	Sample 2	% change
Speech Rate (syllables per minute)	123.2	140.2	13.8
Mean Length of Runs (total syllables/# of runs)	5.1	6.4	26.3

The marked increase of MLR and SR for Sachie clearly indicates she was more readily able to produce faster speech and longer runs between hesitations after six weeks.

Table 2: Use of formulaic sequences

	Sample 1	Sample 2
Formulaic sequences	18	52
Formulaic sequences from NS models	2	18
Syllables	530	760
% syllables from formulaic sequences	11.3	12.5

As shown in Table 2, in Sachie's initial narrative production, before the fluency workshop, she produced 18 formulaic sequences, 2 of which were present in the native speaker models of the workshop. In her second narrative, six weeks later, she produced 52 formulaic sequences, 18 of which were present in the native speaker models. That is, 11.8% of the formulaic sequences in the initial speech sample were from the workshop, while 36% of those in the second speech sample were from the workshop activities. The first sample consisted of 530 syllables overall, 60 (11.3%) of which were from formulaic sequences. The second sample consisted of 760 syllables overall, 95 (12.5%) of which were from formulaic sequences.

From the numerical data, it appears that Sachie was able to speak with increased fluency after the workshop, as well as produce a greater quantity of speech. She produced more formulaic sequences in the second sample, many of which came from the native speaker models in the fluency workshop. A closer look at the nature of the sequences taken from the models will help shed light on how they may have facilitated her improved performance in sample two.

Formulaic sequences taken from the models

A summary of the formulaic sequences which Sachie used in her speech samples are listed in Table 3, with those taken from the native speaker models in italics.

The most immediately obvious characteristic of the formulaic sequences taken from the native speaker models is their relative length and, in many cases, their complexity and nativelike semantic aspects. The mean length of the formulaic sequences in sample two is 4.46, while that of the first sample is 3.17 — an increase of 40.7%. This is greater than the overall increase in length of runs from sample 1 to sample 2, and no doubt plays a role in the overall increase. The longest formulaic sequences in the second sample come from the fluency workshop.

The formulaic sequences in the first sample are, for the most part, two or three word collocations with straightforward functions. The two sequences which match those in the fluency workshop models are *I think* and *you know*, two fluency devices which are not by any means novel or specific to this type of discourse.

Table 3: Formulaic sequences in the speech samples

	Sample 1	Sample 2
Temporal marking	And then, for more that two hours, the end of this year	*when I was a little girl, every summer, it took about ten minutes, almost every day (2), in the daytime, in the nighttime, stayed up late, still now,* until I graduate, every summer, in summer, every day, until very late, after my grandma died, two years ago
Quantity marking	Most of them, almost all, almost the all	*a lot of, lots of (2),* tons of (2), a lot, most of us, some of them, almost all
Spatial marking	Came back to	In that place, around there, South part of Japan
Fluency device	*I think, you know*	*you know*
Personal stance marker	I don't know, I am wondering, give up	Very sad story, I want to go (2)
Textual function	My name is, I want to, talk about	*the interesting thing is that* (8 syllables)
Phrasal verb/ verb+preposition	Give up (2)	Try to get out, complained about, broken down, had to eat, instead of
Cause and effect		that's why (3)
Comparison and contrast		*in some ways very much the same* (8 syllables), the same things
Sentence builder		*one of my most vivid memories, one of my most important memories*
Other	Her name is	*kind of*, by the way, things like that, one of my cousins, kept talking, would go swimming, of course,

In the second speech sample, there is a wider range of functions and types of formulaic sequences used, particularly those taken from the workshop models. In terms of temporal marking alone, Sachie has 16 in total, with 9 taken from the models. These show greater length, detail and complexity than the first sample, particularly those taken from the models — *when I was a little girl, it took about ten minutes, in the daytime/nighttime, still now*. These are more nativelike, add textual bulk to promote longer runs and fluency, and show greater range than the first sample. Sachie's sample 2 did not have proportionally more formulaic sequences, but did have longer ones.

It is worth mentioning that the majority of the formulaic sequences which Sachie borrowed from the native speaker models from the workshop were

taken from the second model. Of the 18 formulaic sequences taken from workshop models used in sample 2, 2 were from model #1, 15 from model #2, which was more similar in genre. The second native speaker model was a reminiscence on childhood memories, which is the narrative genre Sachie chose for her second sample. The topic Sachie chose for the second sample may have been of more immediate relevance to her life, and she may have engaged more with the themes she found herself conceptualizing and formulating into speech. In a sense she took flight in the second sample and produced speech which was delivered at a faster rate, was more complex in terms of formulaic sequences, and displayed a greater range of emotion and depth than her first sample.

In any event, it appears that Sachie was able to borrow the formulaic sequences from the workshop models, work them into her own repertoire and fit them into her own narrative quite effectively for the most part. While she did not borrow large chunks of narrative wholesale from the workshop models, she certainly does appear to have worked some useful sequences from the workshops into her own narrative. The result is increased fluency, particularly as measured by mean length of runs between pauses.

Conclusion

What do the temporal and discourse data in this study tell us about the use of formulaic sequences and the fluent expression of personal narrative when a learner has had focused experience in analyzing and practicing, based on native speaker models? It is difficult to generalize from this one brief case study, but it appears that increased use of formulaic sequences was a help in increasing fluency of expression in many cases for this learner. A clear fluency gain was seen in the measures of speech rate and mean length of runs from sample one to sample two, and overall use of formulaic sequences was more extensive and complex in the second narrative. A significant proportion of the formulaic sequences in the second sample were from the models used in the fluency workshops, which allowed Sachie to extend runs of speech between pauses, express some functions in a more complex way and approach more native-like expression.

The important results are the increased and more complex use of formulaic sequences in the second sample, perhaps a result of the experience of the fluency workshop, which exposed the learner to samples of native speaker narrative discourse, with its conventionalized ways of expression. It remains unclear exactly to what extent this can be attributed to the fluency workshop, but it is unlikely that these changes can be attributed solely to other aspects of her English language experience over six weeks. The experience of the fluency workshop involved a high degree of repetition and practice of formulaic

sequences relevant to particular types of narrative expression, and it is possible that this led to increased facility with the sequences as they became less of a load on working memory and cognitive processing, and became an easily accessed part of the learner's repertoire. It may be that the circumstances, her attitudes and feelings, and the topics she chose to talk about influenced her performance more than any external factor such as class experience or language contact outside of class.

The study highlights the complexity of human speech. The actual data here are samples of real-time, real-life performance under the constraints of cognitive load, external situational factors and sociocultural issues. The nature of the speech task in this study, and the circumstances under which the speech was produced, may have influenced the results. A certain amount of cognitive load no doubt occurred as the participant attempted or struggled with the task of recall of the events, while producing the narratives at the same time.

The fact remains that a substantial fluency gain can be measured from the first to the second sample and that the participant used more and more complex formulaic sequences in the second sample. There is strong evidence that the fluency workshops provided Sachie with samples of language which she added to her repertoire and used to help with fluent expression in English. Further research in this area would benefit from a large cohort of participants and a longer timeline between focused instruction and production of speech samples. As well, the addition of dialogic tasks rather than just narrative monologues, together with some ethnographic investigation of real life language use, would help clarify whether such fluency training is broadly transferable to L2 speech performance outside of a controlled research context.

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