The Use of Formulaic Sequences and Perceived Fluency

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Abstract

The present study was conducted to examine whether EFL learners who are perceived to be fluent use a wider variety of formulaic sequences (FSs) than those who are not, and if so, what types of FSs are used by fluent speakers. A one-minute monologue was collected from 191 EFL learners, who were all university students in Japan. The monologues were then assessed by nine judges with regard to fluency using a five-point scale. The results revealed that the use of a wide variety of FSs can help L2 speakers come across as fluent speakers. On a closer observation, it was found that fluent speakers had a tendency to utilize discourse devices to organize their ideas and guide their listeners effectively. This may have played a part in producing coherent speech, which may be an essential factor in fluency.

Keywords

discourse device, EFL, fluency, formulaic sequence, lexical phrase

1   Introduction

In recent years, there has been a growing number of studies conducted in the field of SLA to investigate the role of ready-made chunks and prefabricated forms, otherwise known as formulaic sequences (FSs), in developing L2 fluency (e.g. Boers et al. 2006; DeJong & Perfetti, 2011; Schmitt, 2010; Stengers et al., 2011; Wood 2006, 2009a, 2009b, 2010). However, we have yet to understand how different kinds of FSs may impact listeners' perceptions of fluency. Finding out what types of FSs most saliently affect perceptions of fluency has significant pedagogical implications, particularly in EFL classroom situations where fluency development is a central goal.

1.1   The benefits of formulaic sequences

Formulaic sequences, an overarching term for standardized phraseology, is often defined as:

> A sequence, continuous or discontinuous, of words or other elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar (Wray 2002, p. 9)

To put it another way, FSs are multi-word expressions which are stored and retrieved mentally as if they were a single word. They include many types of multi-word expressions such as phrasal verbs (e.g., *run into; come across*), idioms (e.g., *raining cats and dogs*; *back to square one*), routine expressions with social pragmatic functions (e.g., *Have a good day*; *How are you*), discourse markers (e.g., *on the other hand*; *in summary*), proverbs (e.g., *Let's make hay while the sun shines*), binomials (e.g., *cut and bruises*; *research development*), standardized similes (e.g., *clear as crystal*) and simple fillers (e.g., *sort of*; *you know*).

FSs are an essential part of everyday language. In fact, it has been noted that they may make up as much as 30 percent (Foster, 2001) to 60 percent (Erman & Warren, 2000) of L1 spoken production. It can be said that part of being proficient and competent in language is possessing a large stock of prefabricated units and utterances that are automatized and are ready to be pulled out for particular situations (Bardovi-Harlig, 2012).

One of the reasons speakers rely heavily on FSs is because it is cognitively less onerous to chain

together automatized chunks rather than to assemble utterances or sentences in a word-by-word manner. Furthermore, while uttering ready-made sequences, speakers are able to free up attention for other areas such as discourse organization and thinking about what to say next (Skehan, 1998). It has also been found that skillfully stitching together FSs can allow speakers to maintain a certain pace and rhythm to speech (Pawley & Syder, 1983) which can enhance fluency. Wood (2015) explains a possible role for FSs in fluency by stating that:

> A repertoire of formulaic sequences can help speakers to produce phrases and clauses more or less as wholes, without internal pausing, which would account for the less frequent pausing and the longer runs of speech between pauses which appear to be key indicators of fluency (p. 88).

1.2   FSs and L2 learners

Needless to say, L2 learners can also enhance L2 fluency from acquiring a wide range of FSs (e.g., Pawley & Syder, 1983, Skehan, 1998; Wray, 2002). While the amount of empirical research is still limited, there is a general consensus that the L2 learners' use of FSs can influence fluency in terms of utterance fluency (i.e., fluency measured objectively) and/or perceived fluency (i.e., fluency measured subjectively) (Boers et al., 2006; Forsberg, 2010; McGuire & Larson-Hall, 2017; Wood, 2006, 2010). For example, Boers et al. (2006) conducted a study to investigate whether the use of FSs has an impact on how L2 speakers come across as having better speaking proficiency, including better fluency. In their study, the experimental students (n = 17) underwent 22 hours of instruction in which learners' awareness to FSs was raised. After the treatment sessions, the students' oral production was assessed by two judges. Both judges perceived the students in the experimental group, who produced a greater repertoire of FSs, to be more fluent than the students in the control group. The researchers noted that being able to use FSs with ease may have helped speakers in the experimental group to sound more nativelike considering the idiomatic nature of FSs.

Similarly, McGuire and Larson-Hall (2017) conducted a study in which students in the experimental group (n = 11) practiced speaking and listening using a task-based approach during which deliberate attention was made to FSs. After five weeks, it was found that students in the experimental group, who had acquired a wider range of FSs, outperformed the control group in both utterance and perceived fluency. Specifically, the results showed that students in the experimental group were assessed to be more fluent by sixteen native speaker judges and were found to produce higher speech rate (i.e., syllables per minute) and longer mean length of run (i.e., number of syllables found in the longest stretch with no pauses).

These studies clearly show that there is a relationship between how a wider variety in the use of FSs can help L2 learners improve their fluency. However, what studies of this kind are yet to do is to pinpoint what types of FSs are most frequently used by highly fluent speakers. This is what the present study purports to do.

2   Research questions

The present study was conducted to examine whether L2 speakers who are perceived to be fluent use a wider variety of FSs than those perceived as less fluent, and if so, what types of FSs are most strongly correlated with higher degrees of fluency.

3   Method

3.1   Participants

A one-minute monologue was collected from 191 EFL students enrolled in universities in Japan. Seven NS and two NNS judges, who are all English teachers in universities, were recruited to assess the monologues with regard to fluency on a five-point scale. Multiple judges were recruited to assess the same students in order to achieve a high level of inter-subjectivity. The judges were unaware of the purpose of the study. Another NS who did not take part in the fluency assessment, along with the researcher who is a NNS, detected FSs arising in the monologues.

3.2   Procedures

The data collection proceeded in three stages. First, the students met with the researcher individually. They were given the following instructions in both English and Japanese:

1) You have 30 seconds to look at the prompt on the card and think about what to say. (The prompt on the card read: "Should parents limit children's use of the Internet?")
2) After the 30 seconds have passed, you will have one minute to talk about the topic on the card.
3) Your monologue will be recorded on the IC recorder.

Once the recordings were collected, the researcher then met with the nine judges. Before asking them to assess the monologues in terms of fluency, the judges first took part in a training, in which they were provided with guidelines for how to assess the monologues using a five-point scale. The simplified guideline is provided in the Appendix (Appendix A). Having a training session prior to the assessment was a necessary step in obtaining an acceptable level of reliability since fluency can be interpreted very differently by individuals. Finally, using the transcription of the monologues, the researcher along with the other native-speaker judge detected all correctly produced FSs which fit the traits of lexical phrases. The operationalization of lexical phrases is provided next.

3.3 Lexical phrases

One of the difficulties in FSs studies is determining what constitutes a FS in speech. For the purpose of the present study, a specific subset of FSs called lexical phrases was the focus of research. Lexical phrases, according to Nattinger and DeCarrico (1992), must perform certain pragmatic functions. Table 1 explains the three types of functions and some examples of lexical phrases that fall into each of the functions. The examples and definitions are taken from Nattinger and DeCarrico (ibid: pp. 60-66).

Table 1: Functions and Examples of Lexical Phrases

Category	Function	Examples
Social interaction	Markers that describe social relations. They can be either (a) categories of conversational maintenance or (b) categories of functional meaning relating to conversational purpose.	How are you (doing)? What I'm trying to say is X. See you later. Of course (not).
Necessary topics	Topics about which learners are often asked, or ones that are necessary in daily conversations.	My name is How do you say/spell____? How far is____? Lots of
Discourse devices	Markers that connect the meaning and structure of the discourse.	As a result And then You know Not only X but also Y

As indicated in the examples provided in the table above, lexical phrases come in all shape and sizes. It can be in the form of: (a) polywords, which operate as single words, allowing no variability or lexical insertions, and including two-word collocations (e.g. *for that matter*; *so far so good*); (b) institutionalized expressions, which are sentence-length, invariable, and mostly continuous (e.g. *a watched pot never boils*; *long time no see*); (c) phrasal constraints, which allow variations of lexical and phrase categories, and are mostly continuous (e.g. ____ *as well as* ____; *the* ___*er the* ___*er*); (d) sentence builders, which allow construction of full sentences with fillable slots (e.g. *Let me start by*____). For more detailed information on these categories, refer to Nattinger and DeCarrico (ibid, pp. 38-47). In this paper, the umbrella term, formulaic sequences (FSs), will be used to refer to all multi-word phrases which fit the characteristics of lexical phrases.

3.4 FS counts

In this study, sequences were counted by type instead of token. This means that sequences that recurred in a student's discourse were counted only once. Furthermore, as mentioned previously, erroneous FSs were excluded from the data. The student in Example 1 uttered one type of FSs while the student in Example 2 uttered eight types of FSs. The FSs is underlined. (…) represents a long pause.

Example 1:
I think all parents should limit children's use of internet. (...) There are (...) one reason. I think (...) parents must protect (...) theirs children (...) from (...) danger. (...) Parents must (...) must (...) parents (...).

Example 2:
I believe that parents should limit children's use of the internet because (...) I personally think that the internet has a negative influence on children. For example, these days children just focus on using their phone so they don't have much time to spend with their ah with their siblings and family. And also it will ah influence their academic grade um they would be using it all the time meaning that they won't have enough time to study and then they will be they will do poorly poorly at school so I personally think that parents should definitely limit children's use of the internet.

4 Results

4.1 Inter-subject agreement

Kendall's W was run to determine if there was agreement between the nine judges' assessment of the students' fluency. The judges statistically significantly agreed in their assessment, $W = 0.817$ $p < 0.001$.

4.2 FS counts

In order to confirm whether students who use a wider variety of FSs receive a higher fluency score, the Spearman rank correlation coefficients were calculated. The test revealed that the correlation of the FSs counts with all nine judges' scores was found to be significant at $p < 0.001$ (rs (189) = .767), meaning that the more types of FSs students use, the more likely they are to be perceived as fluent speakers.

Summarized in Table 2 is the mean number of FS types uttered by students who were given a mean score of less than two by the nine judges (i.e., Level 1), a mean score of two or more but less than three (i.e., Level 2), a mean score of three or more but less than four (i.e., Level 3), and a mean score of four or more (i.e., Level 4). It can be seen that students who were perceived as highly fluent (Level 4) used approximately five different types of FSs while students perceived as lacking fluency (Level 1) generally could not utter a single FS.

Table 2: Mean Number of FS Types in Relation to Different Scores

Levels	Fluency rating	FSs types
Level 1 (n = 23)	< 2	0.7
Level 2 (n = 82)	2≧, < 3	1.33
Level 3 (n = 47)	3≧, < 4	2.4
Level 4 (n = 39)	≧4	5.36

In order to determine whether this difference in FS count is statistically significant, a Kruskal-Wallis test was conducted. The results of the test revealed that the median FSs counts was significantly different between the proficiency levels, $\chi2(3) = 112.873$, $p = 0.000$. The post hoc analysis revealed significant differences in median FSs counts between all level combinations but Levels 1 and 2. This is summarized in Table 3.

Table 3: Post Hoc Analysis

	Level 1	Level 2	Level 3	Level 4
Level 1 (Mean rank = 40.83)		$p = 0.135$	$p = 0.000$	$p = 0.000$
Level 2 (Mean rank = 69.75)			$p = 0.000$	$p = 0.000$
Level 3 (Mean rank = 111.12)				$p = 0.000$

4.3   Types of FSs

The transcription of the students' speech was examined to understand how the variety of types of FSs related to overall fluency ratings of speakers. Due to space limitations, all of the FSs appearing in the transcripts will not be mentioned; however, Table 4 lists some of the FSs that were used by multiple students in each level.

Table 4: Frequently used FSs

Level 1	*I (don't) think (that) …(because) / for example*
Level 2	The phrases listed in Level 1 plus the following: *and so on /of course / a lot of / such as / I (don't) think so / when I was years old / these days / I agree with*
Level 3	The phrases listed in Levels 1 and 2 plus the following: *I agree with / and also / nowadays / in my opinion / kind of / One of the reasons is / in the future / From my point of view*
Level 4	The phrases listed in Levels 1, 2, and 3 plus the following: *you know / first of all / How do you say it? / I don't know / it depends on / something like that / I guess / as opposed to / I feel like / the thing that surprises me is that / that's all / I mean / as I said earlier / to some extent / as well as / I believe that / this is the reason why*

As can be inferred from the table, the main difference between speakers who received a high score and those with low scores could be attributed to how effectively discourse devices, i.e., markers that connect meaning and structure of the discourse, were used. How the use of discourse devices may play a role in perceived fluency will be discussed in the next section.

5   Discussion

As predicted, there was a correlation between the use of FSs and perceived fluency: The more types of FS speakers used, the more they were perceived to be fluent. In this section, the transcripts of speakers at different fluency scales will be examined to understand how they differ in their use of FSs.

The following are transcripts of a Level 1 student (Example 3) and a Level 2 student (Example 4).

Example 3: Student at Level 1
I (…) I usually (…) use internet. The internet is (…) bad eyes (…) so children (…) don't use all the internet.

Example 4: Student at Level 2
I think parents should limit children's use of the internet (…) because (…) internet is (…) good good (…) good use tool but (…) internet is (…) bad (…) internet is (…) many information. Children (…) is difficult to collect (…) collect information and (…) internet is unknown people (…) unknown people use children (…) were is attacked by unknown.

The use of multi-word phrases by students at these levels was rare. As can be seen, because they are constructing sentences one word at a time, there are frequent pauses and hesitation, which lead to disfluency. Furthermore, there is a disjointed structure to the monologue, making the speaker sound incoherent. Now, observe below a transcript of a student at Level 3 (Example 5).

Example 5: Student at Level 3
I think parents should limit the use of internet for children because on the internet, there are some bad effects such as (…) for adult sites or ill illegal movie site or (…) fake news or (…) so I think they are (…) they have no (…) they have so bad damage on children's thinking and they have (…) they can't have natural way of thinking. So I think (…) and I (…).   So to sum up, I think parents must limit the use of internet for children.

While there are still frequent pauses, there seems to be more cohesion in the monologue. This may be

due to the use of discourse devices like exemplifiers (i.e. *such as*) and summarizers (i.e. *so to sum up*). Such discourse devices, known as macro-organizers, can help indicate the overall direction and organization of the information content of the discourse, making it easier for listeners to follow. It must be noted, however, that while the use of FSs does become more frequent, students at this level are nevertheless still limited in its repertoire. As suggested by other researchers, L2 learners use certain FSs which they know well and tend to overuse them (Granger, 1998; Foster, 2001). For example, the following student repeats the use of "to some extent."

Example 6: Student at Level 3
I think to some extent parents should limit children's use of the internet ah because um some um (…) website of internet (…) it has (…) bad effect on children (…) but um internet has a lot of um (…) very good point to children studies and growing up so parents should not limit completely but (…) but parents have um (…) should protect children to some extent.

Finally, observe the transcript of a student at Level 4 (Example 7).

Example 7: Student at Level 4
I think parents should limit the use of the internet because what children see on the internet becomes their norm and sometimes that can become something that is not necessary. For example, what they see on Instagram like the pictures of their friends going abroad or their friends, you know, having some nice shoes or nice bag, and that becomes their norm. But it's not. And then, but then, because it becomes their norm, they they feel like need that shoes or they need to be in that trend or they need to go to that place that their friends are going. And I don't think that pressure is necessary. So I think internet can give them information that is not good for their, I don't know, just not good for them to live however they want to. Yes, so I think children, yeah, they should limit the use of the internet.

Most of the sentences in this student's monologue begin with a macro-organizer, and she has used them efficiently to organize the level of information. For instance, the speaker begins by stating her position (i.e., *I think [. . .] because [. . .]*). She then supports her position by providing an example with a FS "For example" and further presenting a cause-and-effect relationship using the phrase "but then because." The following is transcript of another student at Level 4 (Example 8).

Example 8: Student at Level 4
I think parents should at some point limit children's use of the internet but um I don't think they should limit completely like entirely. Um for one I think parents should control the use of children's internet because sometimes they have un inappropriate contact for children. But at the same time, because of the advancement of technology, um there are some things that we can learn from the internet we can easily googles whatever you want to know easily by just using the internet so I think it's useful but like I said earlier, um it might not be you know appropriate for children in some cases so I think ah to some extent they should limit the use of the internet.

This student has organized her idea in the argumentative style. After stating her position (i.e., *I don't think*), she then states one viewpoint (i.e., *for one*) and then immediately refutes that point (i.e., *But at the same time…*). At the end, she sums up her opinion by using a variety of FSs (i.e., *I think [. . .], but like I said earlier, it might not be [. . .] in some cases, so I think to some extent [. . .]*). Clearly, these students have, in the short time they were given, successfully organized their monologue logically with the use of macro-organizers so that there is cohesion in their speech.

This ability to utter longer responses in which the topic is developed with an efficient use of discourse devices may be an indication that speakers at this level are cognitively fluent (Segalowitz, 2010). Besides utterance fluency and perceived fluency, Segalowitz mentions a third type of fluency called cognitive fluency, which refers to "the fluid operation (speed, efficiency) of the cognitive processes responsible for performing L2 speech acts" (p. 7) or "the fluency that characterizes a speaker and has to do with the speaker's abilities to efficiently plan and execute his speech." Cognitively fluent speakers, like the students in Examples 7 and 8, are able to talk at length without hesitation as they are better able to operationalize the logical structure in their mind as they speak.

Another notable trait of speakers in Level 4 was their use of fluency devices. In Example 7, phrases such as "you know" and "I don't know" are such devices. Whether they are used consciously or subconsciously, the use of fluency device can be beneficial when needing to fill pauses. It seems that students like the one presented above, used fluency devices effectively to buy time for what to say next.

6   Conclusion

The results of the present study support findings from previous studies: The use of a wide variety of FSs can help L2 speakers come across as fluent speakers. Furthermore, it was found that fluent speakers rely on the use of discourse devices, especially that of macro-organizers, to organize their ideas. There was also a tendency for proficient speakers to use fluency devices to buy time to plan subsequent discourse so that they could minimize pauses and silence. Because the present study was designed to collect a one-minute monologue, the data comprised mainly of FSs which are commonly used in transactional discourse. In the future, it would be interesting to do a similar study designed to see how FL learners use FSs in interactional discourse.

The findings from this study provide an important pedagogical implication: Coherence may play an essential factor in fluency. In this study, the speakers who were perceived to be fluent were able to express and develop thoughts and ideas coherently and spontaneously, which can be seen as prominent traits of cognitively fluent speakers. And as cognitive fluency to some extent may depend on the speaker's access to FSs such as discourse devices and the ability to use them efficiently, our findings highlight the importance of teaching common macro-organizers used in speech such as those to add information (e.g. *another thing that comes to mind is; and one more thing*), to indicate opinions and attitude (e.g. *as a matter of fact; if you ask me*), and for generalizing (e.g. *it is often said that; on the whole*). When EFL learners become accustomed to using such FSs, it may help them convey information more coherently and confidently. It is also important to teach students some fluency devices which can be used to fill pauses such as "Let me think about that" and "I haven't thought of that before" so that they can come across as more fluent. As language teachers, it is important to raise students' awareness to such discourse devices, and the role they play in judgements of fluency, so that students can notice how often they are used in everyday speech. Furthermore, FL teachers should implement activities which give students ample opportunities to practice using FSs so that they are able to use them in spontaneous communication with minimal conscious effort.

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Appendix

Appendix A: Fluency Scale

5	Speaks at a natural speed Rare repetition and/or self-correction Hesitation is content-related rather than to find words or grammar The speech flows in a logical and coherent manner
4	Occasional repetition and/or self-correction May demonstrate language-related hesitations at times Overall coherent Speech is not always smooth
3	Speaks slowly Produce simple speech fluently but more complex one causes fluency problems Noticeable repetition, self-correction, and/or hesitation noticeable Demands some patience from listener Lacks coherency
2	Speaks very slowly with long pauses Frequent hesitation, repetition and/or self-correction Demands great patience from listener Frequently unable to convey basic message Frequently unable to make complete sentences
1	Pauses lengthily before most words Unable to convey basic message

Notes: The rubric is adapted from IELTS Speaking: Band descriptors (Public version)