A qualitative analysis of perceptions of fluency in second language French

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Abstract

In the field of second language (L2) fluency, there is a common adherence to quantitative methods to examine characteristics and features of speech. This study extends the field by reporting on an investigation that analyzed native-speaker listeners' perceptions of L2 fluency in French from a qualitative perspective. Three untrained judges rated students' performance on speech tasks varying in cognitive demand and provided justifications for their perceptions of fluency. The goal of the research was to examine the factors that affect raters' evaluations of fluency in response to three oral performances from 40 adult learners of French of varying proficiency. Qualitative analysis revealed that the main speech features that influenced native listeners' perceptions of L2 fluency were speed, rhythm, pause phenomena, self-correction and efficiency/effortlessness in word choice, but also in targetlike rhythm and prosody. The results of using such qualitative methodology highlights the important role that rhythm plays in fluency judgements in syllable-timed languages such as French, a factor which has not always been given much prominence in previous L2 fluency quantitative research.

1. Introduction

While a number of cross-linguistic studies have used a systematic research approach to evaluate L2 fluency, using temporal variables and native-speaker judgements within the quantitative paradigm (Derwing, Rossiter, Munro, and Thomson, 2004; Freed, Segalowitz, and Dewey, 2004; Ginther, Dimova, and Yang, 2010; Kormos and Dénes, 2004; Lennon, 1990; Riggenbach, 1991; Towell, Hawkins, and Bazergui, 1996), an approach to investigate perceptions of fluency using qualitative data can provide important insights to account for the complexity of how L2 fluency is perceived by native speakers. Such methods thus complement both mixed-methods research (Bosker, Pinget, Quené, Sanders, and De Jong, 2013; Préfontaine, Kormos, and Johnson, 2015) and the aforementioned purely quantitative studies. In the present study, we extend the scope of fluency research in several directions by examining native speakers' perceptions of the fluency of L2 speech. This research proposes a novel alternative methodology to enquire into the nature of L2 fluency and advocates adopting an introspective approach to account for the complexity of L2 perceptions of fluency.

2. Perceptions of fluent speech production

In the second language acquisition (SLA) and language testing literature, definitions of fluency are generally linked to qualitative features of ease, naturalness and appropriateness but more often make mention of more quantitative temporal aspects, such as pause phenomena, speed and the ability to produce fluent runs of speech (Brumfit 1984/2000; Ejzenberg 2000; Fillmore 2000; Kormos 2006; Pawley and Syder 1983; Sajavaara 1987; Schmidt 1992; Segalowitz 2010). With these considerations in mind and for the purposes of this study, L2 fluency will be defined as L2 skilled performance, referring to "rapid, smooth, accurate, lucid, and efficient

translation of thought or communicative intention under the temporal constraints of on-line processing" (Lennon 2000, p. 26). This definition is appropriate because it considers the automaticity of both speech production and perception processes between speaker and listener. With regard to *perceived fluency*, we refer to Segalowitz's (2010: 48) definition of this within his three-part model of fluency, as the "inferences listeners make about a speaker's cognitive fluency based on their perception of utterance fluency". While cognitive and utterance fluency are not the subject of this article, the former refers to the listener's "ability to efficiently mobilize and integrate the underlying cognitive processes" (p. 48) while the latter refers to the "oral features of utterances that reflect the operation of underlying cognitive processes" (p. 48).

Regardless of which definition one subscribes to, there is a common feature underlying most, but not all, characterizations of L2 fluency. There is a widely held notion of speech rate or speed being the main qualifier of L2 fluency. In other words, the faster you speak, the more fluent you are. While the intent of this study is not to review the extensive quantitative L2 fluency research using temporal variables, we argue that these measures do not take full account of the range of differences L2 speakers show in the fluency of their speech and do not offer detailed insights into the wide variety of impressions listeners hold about fluent performance.

Examining issues of L2 fluency in speech production involves the detailed analysis of quantitative and qualitative features that correspond to the intuitive and subjective perceptions of listeners. Speech perception is inherently tied to speech production because human listeners are sensitive to articulation and speech sounds and they process this information to understand language. In the context of L2 perception, rhythmic and prosodic aspects interfere with how listeners process speech

(Delattre 1961; Freed 2000; Pell 2001; Wennerstrom 2000, and Wennerstrom 2001). In particular, stress patterns in the L2 speech stream play a critical role in crosslinguistic speech perception and in the encoding and decoding of sounds whereby speech perception processes dynamically adjust to L2 output. Given cross-linguistic differences between many languages in stress patterns and other prosodic aspects, e.g. between French and English, such factors could significantly affect the ease of communication beyond other temporal measures such as pausing and other phenomena more commonly studied. Thus, in the context of L2 fluency, it is vital to understand the interrelation between listeners' perceptions of speech and aspects of production, with varying degrees of fluency invariably influencing communication and others' evaluation of speech competence.

Qualitative studies of L2 speech production and perception exploring French fluency are scarce within the SLA research literature. In fact, the only study to investigate L2 fluency in French from both a speech production and a perception perspective was conducted by Freed (2000). Seeking empirical support for the belief that students who study abroad make more fluency gains, Freed analyzed two groups of French learners, one that went to study in France and another that studied at home. In this study, six native French speakers rated 30 French language learners' speech samples for fluency on a Likert scale of one (not fluent at all) to seven (extremely fluent). The speech samples were based on data collected from oral proficiency interviews (OPIs) in a pretest and posttest format. The results show that the study abroad students increased their OPI scores between Time 1 and Time 2. The untrained raters were asked to justify their observations and to rank the importance of the features of fluency specified, namely, amount of speech, rate of speech (pruned), unfilled pauses, frequency of filled pauses, length of fluent speech runs, repairs and

clusters of dysfluency. More than half of the raters chose 'rate of speech', 'smoother speech with fewer false starts', 'fewer pauses/hesitancies' and 'better grammar and vocabulary' (p. 254) as crucial to their perceptions of French fluency. Freed also found that the raters sometimes did not use fluidity as the basis for their fluency evaluations, but rather individual speaker attributes, such as tone of voice, accent, confidence in speech and richness of vocabulary. Although overall fluidity was the most noticeable characteristic observed by the raters, L2 fluency ratings were also influenced by factors beyond temporal and hesitation phenomena.

The goal of our study was to compile and analyze three raters' qualitative perceptions of fluent performance produced by L2 learners of French on a set of oral narrative tasks. The research aimed to uncover the linguistic processing experience of listeners when they evaluate L2 speech. Our study sought to answer the question: What are the features of L2 learners' oral production that influence perceptions of L2 fluency in French? As the research in perceived fluency in L2 French is sparse, our study sought to contribute to the existing literature by focusing on perceived fluency with regard to speech features of rhythm particularly, as well as speed, pauses, lexical retrieval, self-correction and efficiency/effortlessness. The study thus offers a novel methodology for gathering qualitative data as a means of providing a framework for understanding the source of fluency perceptions in planning and encoding L2 speech.

3. Method
3.1 Participants

The context for the study was a 5-week French immersion programme at a large francophone university in Québec, Canada. The L2 speaker participants were 40 volunteer undergraduate and graduate learners registered in beginning, intermediate and advanced French courses. There were approximately 13 participants per level,

ranging in age from 18 to 69 years (M = 26 years, SD = 10.57). The participants comprised 26 Canadian, 13 American and one British student, of whom 21 were female. The sample was not homogenous in order to allow for sufficient variation and to characterize the different skill levels in spoken French. The participants were all native speakers of English and varied in their exposure to French language study and the francophone world. They had an average of six years of French instruction in a regular classroom setting with the exception of 10 participants who had attended for an average of nine years in a French immersion setting in another Canadian province outside Québec. While there are several different options of French immersion programmes available in Canada, the 10 participants aforementioned started in Kindergarten and completed in Grade 12.

The rater participants were three native speakers and French language instructors from the same university who were recruited to judge L2 speech production qualitatively. Although the raters had many years of experience in teaching French to non-francophone students, none had previously been involved in any L2 fluency rating projects. The three raters had no contact with the speaker participants inside or outside the classroom and all the L2 speech production was effectively anonymous to the raters.

3.2 Instruments

The study design sought to employ different task types and degrees of task difficulty by varying the cognitive processing load, as Segalowitz (2010) suggests as L2 fluency varies according to task. Thus, the L2 speaker participants were asked to respond to three narrative speech tasks ranging in task complexity, demand and scope. In the first task, participants narrated a story based on six random pictures. The

second task, a story retell, entailed retelling a story based on a short text in English about a horseback riding accident. In the final task, participants narrated a story based on an 11-frame cartoon strip presented in chronological order (for more details on the tasks see Préfontaine and Kormos (2015).

Next, the three raters listened to each of 120 speech performances and gave their written qualitative impressions in which they described the features that most influenced their perceptions of L2 fluency in French. In the qualitative research conducted, the raters were intentionally untrained and were not provided with a definition of fluency to serve as a guide. This procedure was implemented in order to avoid imposing a particular self-fulfilling construct of L2 fluency on the raters. Rather, they were informed of the overall goal which was to reveal what native speakers "perceive in the real world as a listener" when they hear L2 spoken French and what personally influences their perceptions from both qualitative and quantitative perspectives. This open-ended approach allowed the raters to make their own judgments about what constitutes L2 fluency in French, while still providing considerable qualitative detail.

3.3 Procedure

During a one-hour face-to-face data-collection meeting, the speaker participants completed three different narrative speech tasks, for each of which they were allotted three minutes of planning time. Their speech production lasted from two to five minutes. In order to manipulate the task effects on L2 production, the three tasks were administered in a counter-balanced design to control for task-order effects.

The speech-rating project was conducted online using Google Drive. Each participant's three speech productions were uploaded in a randomized order to ensure

that the raters refrained from rating the same student equally across tasks. The raters provided written qualitative comments describing the fluency features that most influenced their evaluations of perceived fluency. All the qualitative comments were provided in an Excel spreadsheet in French and translated into English by the first author.

3.4 Data analyses

Impressions of fluency were analyzed to identify the speech features that most influenced their evaluations of L2 fluency. Following Rubin and Rubin's (2005) guidelines, we took a miner approach to code, extrapolate and analyze the qualitative data.

4. Results and discussion

4.1 Speech features influencing perceptions of L2 fluency

Table 2 shows the major themes that emerged from the qualitative analysis. Although a number of important issues pertaining to L2 speech perception were identified, such as the expressivity and grammatical competence of L2 speakers and their native-like use of oral discourse features, in our detailed analysis, we focus on the speech features of speed, pauses, lexical retrieval, self-correction, efficiency/effortlessness, and rhythm. These features thus provide data to compare with previous studies and also signal the influence of perception issues arising from French prosody specifically. An examination of the themes indicates that a combination of quantitative and qualitative fluency features appears to be at work when native speakers evaluate the fluency of L2 speech. As the data reveal, listeners' perceptions are determined by a number of dimensions, not all of which are merely temporal.

Table 2

L2 Perception Fluency Themes, Descriptions, Frequency and Raters' Comments across Tasks

Theme	Description	Frequency
Speed	Rapidity or rate of speech	81
Pause Phenomena	Temporary interruption to the stream of speech	172
Lexical Retrieval	Accessing words or expressions in the mental lexicon	60
Self-correction	Perceived deficiencies in one's own language output (Dörnyei and Kormos, 1999)	48
Efficiency/ Effortlessness	Reference to speaking ease or difficulty and underlying speech planning and processing efficiency in L2 communication	406
Rhythm	The regular, patterned beat of stressed and unstressed syllables and pauses in an utterance.	201
Expressivity/ Psychological state	Expressivity or inner psychological state of the interlocutor conveyed in the voice	190
Grammatical competence	Reference to the structural and syntax rules that govern a language	140
Native-like oral discourse features	Native-like speech manifestations in spoken discourse	136

4.2 Speech rate

Previous cross-linguistic research has shown the importance of speech rate and mean length of run as predictors of L2 fluency and as a means to differentiate between proficiency levels (Bosker et al. 2013; Cucchiarini, Strik and Boves, 2002; Derwing et al. 2004; Freed 2000; Freed et al., 2004; Ginther et al. 2010; Iwashita, Brown, McNamara, and O'Hagan, 2008; Kormos and Dénes 2004; Lennon 1990; Préfontaine 2013; Préfontaine et al. 2015; Riggenbach 1991; Towell et al. 1996). In these studies faster speech rate and longer length of run was consistently found to be related to higher fluency scores and levels of proficiency. Compatible with these findings, the qualitative data revealed that speed is a salient quality of speech perception, but it also showed that relationship between perceived fluency and speed might be more complex than indicated in previous quantitative research.

> The speed of delivery (you can hear a machine gun) and uncertain pronunciation make the message almost completely incomprehensible. She is not aware that her message will not be understood. (Rater 1, Participant 1)

While speech rate is an important feature of L2 fluency, for these listeners, the faster the speech rate, the lower the comprehension (see also Schwab and Grosjean 2004). The connection between speech rate and raters' impressions of L2 fluency is further exemplified below, where we see that speaking too slowly is not without its problems either:

> Her slow speech puts me to sleep. This candidate wants to perform well but at the expense of a normal speech rate. (Rater 3, Participant 6)

From a speech-perception perspective, the raters report slow speech as problematic because it does not catch the listener's attention. These comments are in line with Lennon (2000), who argues that "a good touchstone of acceptable fluency is the degree to which

listener attention is held'' (p. 34). In a study of ESL learners, Munro and Derwing (2001: 455) report that "the relationship between speaking rate and other L2 dimensions of speech may be curvilinear, rather than linear". In other words, optimal comprehensibility is related to a moderate speech rate. Clark (2002) argues that the most effective messages are delivered 'on time', i.e. with respect to the temporality requirements of the listener.

Moreover, perceptions of fluency are formed not only in relation to speed, but also based on the number of words between pauses. For example:

> Sometimes his word choice managed to impress me (il s'est rendu instead of il est allé) [he travelled instead of he went], and the same for his speech rate. He tells a part of the story pretty quickly, pauses, then another part, then pauses. The information relayed between pauses is fairly quick and the words seem to come easily. (Rater 1, Participant 17)

> The student's speech is not really spirited: it is staccato (3-4 words, a pause; 3-4 words, a pause), ums ... a lot of ums ... that allow her to find the time to invent a sequel. I noticed a long pause in which she seeks the word 'ring', I think. She chose to break her rhythm of narration to try to meet a criterion for correctness of vocabulary. (Rater 2, Participant 34)

As mentioned previously, research has also confirmed the importance of mean length of runs measured quantitatively (Freed et al. 2004; Raupach 1980 and Raupach 1987; Towell 2002; Towell et al. 1996). It is noteworthy that our data also show how listeners qualitatively describe speech features that are quantitative in nature. Furthermore, the comments reveal that the temporal measures of speech rate and fluent runs are closely observed by the raters, and that they often consider these measures jointly rather than in isolation.

4.3 Pause phenomena

Whether in L1 or L2, pausing is an observable and natural occurrence in

spontaneous speech and fulfils an important linguistic processing and social function (Clark and Fox Tree 2002). Depending on their place, length and frequency in the L2, pauses can be seen as psycholinguistic indicators of planning processes and speech encoding difficulties (Kormos 2006). The raters' observations in our study with regard to pausing can be divided into two major groups: comments related to filled pauses and unfilled pauses.

In relation to filled pauses, the raters identified the use of the French filler "euh" as contributing to more native-like language use and perceptions of fluency, for example:

> Of course, this students hesitates, makes a lot of 'uh' sounds, but he often adds a conjunction (et, euh, mais, alors, donc) [and, um, but, so, therefore] to ensure the link with the preceding sentence. His hesitations seem normal because francophones use the same filler trick. (Rater 2, Participant 9)

The use of fillers such as 'euh, enfin, c'est à dire, bon, alors etc.' in learners' speech production is highly idiomatic and enhances the degree of L2 fluency because these same fillers are associated with L1 use (Raupach 1980). As demonstrated by the comments, the use of French fillers leaves a favourable impression on L1 listeners. In relation to problem-solving mechanisms, the use of fillers as a communication strategy can compensate for resource deficits in L2 processing (Dörnyei and Kormos 1998). As this rater comments, actual speech planning can be inferred:

> I think she is trying to form sentences in her head before saying them, which is why she hesitates so much. (Rater 1, Participant 33)

Disfluent speech, as indicated by excessive pausing, has previously been reported as being one of the major impediments to L2 intelligibility and a source of negative perceptions of French speech performance (Olynyk, D'Anglejan and Sankoff 1990). The data reveal that hesitations, especially at inappropriate junctures, tend to be viewed

unfavourably:

> The discourse organization is ok and I can follow the story quite well, but some of the pauses are not in the right place. (Rater 2, Participant 19)

Previous L2 fluency perception research in English has also reported that frequent speech hesitations, especially in the middle of a clause rather than at the end, sound disfluent to native speakers (Ejzenberg 2000; Pawley and Syder 2000; Riggenbach 1991; Wennerstrom, 2001).

As regards unfilled pauses, the data show that in some cases unfilled pauses are seen as natural and acceptable to the listener:

> The pauses sound natural ... like he is looking for his thoughts rather than searching for words or checking grammar. (Rater 3, Participant 17)

The raters' comments reveal that they are sensitive not only to the location of pauses but also to their purpose. If pauses are used by L2 speakers to plan their messages and if they are placed at appropriate junctions, they are not evaluated as signs of dysfluency.

Nevertheless, there were also comments which reflected the raters' uncertainty about the speaker's intent behind pausing. In the quote below the rater describes her own internal debate as she tried to evaluate the purpose of pausing.

> I don't know if this student is interrupting his narrative to search for words in French or to organize his thoughts. (Rater 3, Participant 6)

This indicates that raters may not always be able to judge whether pauses are associated with difficulties in lexical retrieval or if, rather, the speaker is in the process of conceptualizing the storyline. The data presented here about raters' perceptions of L2 learners' pausing behaviour might elucidate why the findings of previous quantitative studies on the role of the frequency of pauses in fluency judgements are contradictory. For example, Kormos and Dénes (2004) found no link between fluency ratings and the

frequency of unfilled pauses in L2 English, whereas Lennon's (1990) and Foster and Skehan's (1999) studies demonstrate the existence of such a relationship.

4.4 Lexical retrieval

Closely related to pause phenomena is the issue of lexical retrieval in speech processing. As Lennon (2000) emphasizes, efficient lexical retrieval is one of the most important factors in L2 fluency. In the data collected, the raters commented on topics pertaining to the ease and difficulty of lexical retrieval and the communication strategies used to overcome problems with lexical access. First, the raters' reports include some comments about their perceptions with regard to the ease of lexical retrieval:

> The very few hesitations sounded natural, as if he were catching his breath. It didn't sound as if he was looking for words or didn't know what to say.
> (Rater 3, Participant 37)

As the excerpt shows, inherent to perceptions of lexical retrieval is the notion of pausing. Therefore, not only ease of lexical retrieval but also apparent stability in lexical knowledge in language processing is paramount to perceptions of L2 fluency.

Second, comments in relation to reduced skills in word retrieval generally pertain to overall difficulty in lexical encoding:

> She is looking for words and good structures but unfortunately this makes her errors even more noticeable! (Rater 2, Participant 18)

Thus, obvious searching for words and expressions does not go unnoticed and marks their unavailability in the mental lexicon (Levelt 1989). In these examples, difficulties with efficient lexical retrieval might have been managed by deploying lexical problem-solving strategies (Dörnyei and Kormos 1998; Poulisse 1993). The raters' qualitative comments

also highlight the importance of reverting to communication strategies as an alternate means to convey the intended message:

> She is searching for words and structures but does not use strategies to circumvent these difficulties. (Rater 3, Participant 35)

Whether for self-correction or as fillers or paraphrasing, using successful communication strategies was very much appreciated by the raters:

> I really appreciated his strategy for getting around the words 'to land'. He uses a paraphrase, and although it contains errors, it illustrates well the action of landing a plane (aller en bas et mettre son avion la où il doit aller) [go down and put the plane there where it must go]. (Rater 1, Participant 7)

4.5 Self-corrections

The inclusion of self-corrections in this study was psycholinguistically motivated, because they are often regarded as a marker of dysfluency (Tavakoli and Skehan 2005). Self-corrections, a type of problem-solving mechanism related to one's own output, fall within the realm of communication strategies (CS) (Dörnyei and Kormos 1998). As the term implies, self-corrections are self-initiated and are deployed to help the learner repair a problem arising in their own speech-production processes (Kormos 2000). Three main themes relating to self-corrections are identified in the raters' comments. First, when perceiving L2 fluency in French, the raters reacted favourably to learners who made an effort to self-correct in their oral performances, whether this was effective or not, for example:

> In terms of self-corrections, yes, he makes a lot, but they are not the right ones (nous avons découvré? nous avons découru?) and even he seems to doubt his own corrections. He is conscious of his grammatical errors and the fact that he puts so much effort into correcting them makes him instantly likeable. (Rater 2, Participant 21)

The raters' comments indicate that native speaker listeners are sensitive to self-correction efforts and appreciate them in L2 spoken French.

Second, the raters detected oral performances in which no effort to self-correct was made. As a consequence, perceptions of L2 fluency in French were often unfavourable:

> Pauses are strangely long. She stocks up on ideas then outputs it all out, leaving no room for self-corrections. This student could have easily corrected « il était soif » [he was thirsty] and « il faisait de l'éclairage » − [there was lightning].
> (Rater 1, Participant 5)

Thus, self-corrections are not only valued and appreciated, but were also expected by the native-speaker raters. Previous research shows that by raising awareness of communication strategies such as self-corrections, learners not only smooth out 'trouble spots', but also improve their confidence and self-efficacy and control their speech performance better in oral testing (Dörnyei 1995; Lam 2006; Nakatani 2005 and Nakatani, 2010).

Third, the findings also seem to suggest that self-corrections are not a specific L2 marker, and may not negatively impact on perceptions of fluency. In fact, in several cases, the data indicate the view that self-correction sounds more native-like:

> There are false starts, reformulations to reorganize ideas, and self-corrections, and they are all fine. We do the same in our first language.
> (Rater 2, Participant 38)

These findings are consistent with the results of Lennon (1990), who found that the ability to self-correct is an important aspect of fluency because it resembles native-speaker performance. Other studies have also demonstrated that the presence of repairs per se is not indicative of a lack of fluency (Freed 2000; Olynyk et al. 1990).

Although there exist four major types of self-correction (see the taxonomy Dörnyei and Kormos 1998), the raters did not make specific comments pertaining to them. Rather, they generally acknowledged the fact that L2 speakers who initiated repairs were more favourably perceived. Therefore the use of a number of repairs as a dysfluency marker may be problematic in terms of the operationalization of fluency. As the results suggest, a higher frequency of repairs might not be indicative that speakers are perceived to be less fluent. Rather, repairs seem to support perceptions of fluency.

4.6 Efficiency and effortlessness

The raters' comments consistently highlight the fine balance that must be struck between speech rate, rhythm, pausing and lexical retrieval, as these are central to perceptions of efficiency and effortlessness in French. In the context of the raters' observations, the psycholinguistic processes of speech planning and encoding are particularly salient because their efficiency, or whether they operate easily and effortlessly, seem to have a direct impact on listeners' perceptions of L2 automaticity as demonstrated by the qualitative perceptions.

With regard to perceived efficiency and effortlessness, four kinds of pattern emerge from the qualitative data. First, a key notion qualifying L2 efficiency and effortlessness in French is continuity, meaning the ability to 'keep going' or to 'hold the floor', for example:

> There was continuity ... and the whole story was coherent from start to finish. I wanted to keep listening. He did more than share a story, he shared an experience. (Rater 3, Participant 36)

In the above example, the rater describes the speaker's remarkable ease of linguistic expression in delivering L2 speech. As we have seen, speakers who are evaluated

favourably are able to deliver longer messages with efficiency and without effort and are successful at catching the listener's attention. These findings are reminiscent of Freed (2000) where raters noted 'ease', 'confidence in speech' and 'comfort in the ability to converse' as speech qualities representative of higher fluency ratings.

Second, efficiency and effortlessness are represented in the raters' comments in terms of overall spontaneous language processing, for example:

> "Her anecdote was clear and she was able to include all the pictures in her story. She didn't hesitate, nor correct herself. She was quick to synthesize the information. She was a competent speaker. She sounded spontaneous". (Rater 3, Participant 25)

From the raters' comments it appears that spontaneity in spoken discourse is the speech feature underlying perceptions of effortless language processing. The data also illustrate the opposite effect of spontaneity on speech perception, despite apparent fluency features in the learners' speech:

> She's fluent, but lacks spontaneity ... sounds as if she's looking for the right words rather than just speaking. (Rater 1, Participant 30)

For these raters, the emphasis on a lack of spontaneity is perceived as disengagement on the part of the speaker. Thus different degrees of efficiency and naturalness in linguistic processing in the speaker's oral performances are detected in listeners' perceptions.

Third, the listeners also attend to naturalness as another beacon of efficiency and effortlessness, for example:

> Very fluent speaker. She's clearly very comfortable speaking and using French. She speaks almost like a native. I felt she was sitting in front of me, she was not just a recording. (Rater 3, Participant 43)

In these references, naturalness is suggestive of authenticity and consistent with giving one's full and undivided attention to the person or matter at hand.

Finally, excerpts referring to the overall organization of speech were another feature the raters considered when reflecting on efficiency and effortlessness, for example:

> While the student may be able to speak French, there was no story as such, just a string of elements put together in a narrative which lacked relevance. He was just filling time and his story was incoherent. (Rater 3, Participant 13)

According to our data, demonstrating spontaneity, naturalness and organization of speech, or coherence seem to be critical to perceptions of L2 efficiency and effortlessness. Interestingly, these three qualifiers often appear as descriptors on various qualitative L2 speaking-ability scales. For example, the Common European Framework (CEF) (Council of Europe 2001) includes the following descriptors of spoken fluency: "Can express him/herself fluently and spontaneously, almost effortlessly" (CEF Table 3, pp. 28–29). The Canadian Language Benchmarks (CLB) (2012) also take a similar stance by placing emphasis on learners' ability to "give descriptions in coherent narratives" (p. 73). The American Council on the Teaching of Foreign Languages (ACTFL) (2012) proficiency guidelines qualify a distinguished level speaker as "able to use language skillfully, and with accuracy, efficiency, and effectiveness" (p. 4).

4.7 Rhythm

Rhythm is generally understood as the regular, patterned beat of stressed and unstressed syllables and pauses in an utterance. The three raters consistently displayed sensitivity to this specific acoustic quality of speech from different perspectives. A

regular rhythm seems to have considerable impact on perceived fluency in general, in terms of catching and maintaining the listener's attention:

> This student's speech sample really interested me, not her story, but specifically her rhythm and lack of hesitation. (Rater 2, Participant 31)

Second, from a cross-linguistic perspective, it is widely acknowledged that the rhythmic patterning in English and French differ substantially (Abercrombie 1967; Pike 1945; Vaissière 1991; Walker 2001). Contrary to the stress-timed language of English, French is often described as a syllable-timed language (Abercrombie 1967; Vaissière 1991; Walker 2001). In French, all syllables within one rhythmic group have approximately the same duration, excluding the final syllable, which gets lengthened but without an increase in loudness (Wenk and Wioland 1982). In English, the accented syllable is towards the beginning of the rhythmic group and has variable lengthening, but there is an increase in loudness. This contrast in the duration of sounds is a major contributor to the impression of musicality and perception of rhythm in French as there are no stress marks on words, but rather on the rhythmic group (Price 2005).

The substantial rhythmic difference between English and French and the acoustic targetlike correctness of the speakers' rhythm was a noticeable feature, as this rater explains:

> Her rhythm is not French; she's telling her story with an English rhythm, but using French. (Rater 3, Participant 5)

5. Conclusion and implications

Understanding fluency within the context of L2 speech production and perception is a critical challenge facing language assessment and second language acquisition research. The goal of this study was to demonstrate the extent to which certain factors impact on speech perception and affect raters' qualitative assessment of fluency in L2 French. All of the accounts chosen have a common goal: they try to explain how the auditory system of native-speaker listeners perceives speech output and how they try to match it to the input stored in their internal language representation of French. The data suggest that a fine balance must be struck between speed, pausing, lexical retrieval, self-correction, efficiency/effortlessness, and particularly rhythm, to qualify as a fluent L2 French speaker. However, as the excerpts from the qualitative comments indicate, these speech features and concepts are inherently intertwined and cannot easily be distinguished from each other.

While numerous comments refer to speed of delivery, in general it is mentioned less often than rhythm, indicating that it might be secondary to rhythm in L2 French. In principle, according to the raters' reactions, an L2 speaker is considered fluent when they can combine all these features to speak easily, relatively quickly and with pauses at appropriate junctures. While all these factors together weave an intricate pattern in the fabric of L2 fluency, the speech features that were most frequently commented on by the raters in this dataset were speech rhythm, efficiency and effortlessness. This may be due to the fact that speech rhythms and efficiency/effortlessness are easily perceived features, and given the L2 French immersion context to which the raters are accustomed, they may be more conscious of these speech characteristics in L2 learners. Nonetheless, speech

rhythm appears to be an overarching characteristic of fluent L2 speech in French. This one very pertinent comment summarizes well the essence of the powerful effect of rhythm as the underlying quality that must be achieved for favourable perceptions of fluency in French:

> This student borrows words from the language of Molière and sings them with the music of the English language. The melody of French spoken by a francophone is very different, not only in the melody, but also on the stress placed on the word. She speaks like an anglophone.

The conclusion here is that the language of Molière must not be spoken as if it is the language of Shakespeare. In other words, it is not enough simply to produce French utterances, learners also need to learn the rhythm of the language. Like in music, speech rhythm in French is structured and anticipatory. In this regard, teaching students what constitutes a French rhythm could facilitate both the timing of speech production and its perception. A further conclusion from the qualitative analysis might also be that rhythm in French is a continuum, and that special attention must be paid to the durational properties of syllables.

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