Aligning out-of-class material with curriculum: tagging grammar in a mobile music application

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Abstract. The time available for classroom language learning is often insufficient for attaining reasonable levels of proficiency in the target language. For this reason, optimising time in the classroom is contingent upon what students are able to do outside of class time. In this paper, we introduce Bande à Part, a mobile application (app) that uses music as a pedagogical tool, developed for learners of French as a second or foreign language. As an out-of-class tool, the proposed app has the potential to increase the quantity (and possibly the quality) of the exposure to the target language, thus addressing the time constraint mentioned above. Specifically, we describe the recent addition of grammatical information to the app, which is now tagged to individual songs. With this addition, songs can be better aligned with curricula and individual needs. Aligning the application to a curriculum helps bring continuity between the classroom and learning outside of the classroom.

Keywords: French as a second language, mobile-assisted language learning, grammar.

1. Introduction

As any language learner knows, it is not difficult to find target language input online. Nevertheless, as one begins learning a new language, the majority of the available material is incomprehensible and is not appropriate to one's level of proficiency. To demonstrate how access to these materials can be facilitated, we developed a mobile music application for L2 French learners called *Bande à Part* (BàP). This web-based application was realised by drawing on research on the effects of L2 language input (and its relation to output and interaction; e.g. Nation, 2013). BàP heeds Engh's (2013) recommendation to incorporate music into

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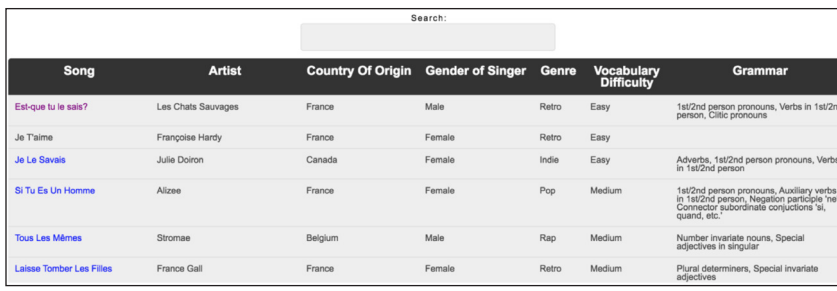
language learning, and adapts the concept of graded readers (wherein vocabulary is controlled in 'grade' levels to make content accessible to learners). This student-centred application allows learners to choose material based on a number of criteria which enable them to learn according to their interests and proficiency level, in an effort to extend learning beyond the classroom.

During the pilot testing of the app, French teachers (and students) asked for the ability to choose songs based on grammatical features. Their rationale for this suggestion was to align the application with their current curriculum and to allow students to receive extra practice with the features with which they struggled. This echoes the principles outlined by Doughty and Long (2003), who recommend that new language learning technologies be aligned with L2 learning curricula and student needs. The current study reports these developments in the design of BàP in which songs are organised in terms of grammatical categories. Figure 1 illustrates the new version of the song selection database that displays the 'Grammar' column and some of the searchable criteria that learners can use to select music.

Figure 1. BàP: song selection



In the next section, we introduce BàP and outline the procedures adopted for tagging the grammatical categories in the corpus. The method for creating the app and the grading of vocabulary have been reported in Sundberg and Cardoso (2015).

2. BàP: the addition of grammatical categories

BàP is a database of songs consisting of a variety of genres (so that learners can select songs according to their interests), and artists from a variety of regions (to expose students to different accents). Once the database was compiled and the lyrics analysed by frequency bands (for details about this process, see Sundberg &

Cardoso, 2015), videos were created and uploaded onto a website so that learners could access them via a mobile device or computer.

To contextualise the current study, Figure 2 illustrates the interactive screen used by learners to play a song in BàP once they have made a selection. This interactive video-based interface allows learners to slow down the music, navigate at a phrase level to repeat troublesome lines, read along to the lyrics of the song and display a translation if they are struggling to understand a word or a sentence. In addition, textual enhancements are present to increase the saliency of language features (e.g. liaison, gender, the subjunctive form).

Figure 2. BàP: the interface

For tagging the grammatical categories in the corpus, Open Xerox's 'Part of Speech Tagging (Standard)' tool was used, which is part of their linguistic tools web app (Open Xerox, 2016). By 'grammatical category', we refer to the part of speech categories set out by Open Xerox, which include parts of speech as well as further delimitations such as number and person agreements.

The grammar in the lyrical content of the songs was analysed in three ways with the goal of tagging each song with at least three prominent features. For the first analysis, the entire corpus was analysed as a whole. This enabled us to calculate the percentage at which each of the grammatical features occurred in the corpus. The percentage served as the average that each of the songs could later be compared to.

So, for example, in the corpus, adverbs made up 5.4% of the total words, whereas, in a particular song such as 'Le Slow' (by Granville), they made up 15% (a total of 42 adverbs in the song); nearly 10% more than the average, including all songs. By comparison, the song 'Jeans Troués', by the same artist, includes only three adverbs in the whole song (or 1.9% of that song's grammatical content). Based on these results, we conclude that the song 'Le Slow' is a more fitting candidate for exposing learners to adverbs (and their positioning) in French. A song was tagged for a particular grammar feature only if that feature occurred 5% or more than in the corpus as a whole (the inclusion of less frequently occurring items would generate too many tags, diminishing the impact of the most frequently occurring grammatical features).

One issue that arose was that certain parts of speech are more susceptible to variation between songs. For example, it is very unlikely that the conjunction *que* will appear 5% more in one song compared to another and so, using the above procedure, no song would be tagged as being a good exemplar for the conjunction. For that reason, we used a second procedure to analyse the grammar. For many of the categories that never varied by 5% or more, we tagged the top 10% of the songs with the highest percentage of a given feature. For example, the song 'Si tu es un homme' by Alizee contains the negative participle *ne* 3.7% more than the average and this turns out to be far more than what is typically found in the data set (only three of the total songs vary positively or negatively by more than 2% with this feature).

The last way the grammar in the songs was analysed was by looking at the number of occurrences (rather than percentages) of the target grammatical feature. Songs differ considerably in length (total number of words), so a longer song could still have many instances of any one element without boosting the percentage – suggesting that it should be tagged with that feature. An example of this is found in the song 'Les Passants' by Zaz. This song includes 19 plural determiners, more than any other song in the corpus; however, due to its length, this does not account for 5% more than the average (it is close at 4.2%), nor place it in the top 10% when looking at plural determiners alone (there are other songs that have higher percentages).

3. Discussion and concluding remarks

The intent of this paper was to demonstrate how out-of-class, student-centred material such as BàP can be aligned with current curriculum with respect to

grammar in L2 French. To do so, we have provided users with practical and useful information about grammatical categories in songs in order to expand the means by which the learning process can be regulated. With ample material available online, music is but one form of input. A lot of potential exists for curating online material for learners according to established research. This can be done through flexible programs such as BàP, which have the potential to meet the needs of independent learners, and fulfill the curriculum requirements for language teachers.

There are still some issues that will need to be addressed in future developments of the app, following usability tests. One of these concerns has to do with how the grammatical categories are displayed in the app. As illustrated in Figure 1, some of the information provided is complex and/or lengthy. A possible solution to this problem is to make the relevant and complex grammatical feature/s clickable or 'hyperlinked' so that learners can access definitions or examples on their own.

4. Acknowledgements

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