Aucune anomalie détectée ! Practice your French while piloting a spaceship

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Abstract. This study explores the pedagogical use of *Astronautes Français Langue Seconde (Astronautes FLS)*, a cooperative digital game, in second/foreign language (L2) French teaching. It has two goals: (1) to introduce *Astronautes FLS* and its conceptualization, and (2) to report the results of a feasibility study in which we examined the pedagogical viability of the game as well as learners' perceptions of the game, across two proficiency groups. The results of the feasibility study suggest that the game is positively perceived by the participants in many factors known to contribute to language learning (e.g. it increased their motivation to learn).

Keywords: digital gaming, French as a second language, L2 speaking, L2 listening.

1. Introduction

The pedagogical use of digital gaming has been expanding in popularity and is gradually being applied to L2 contexts (Godwin-Jones, 2014), with results supporting the hypothesis that its use can enhance learners' L2 acquisition (e.g. Sykes & Reinhardt, 2013). When these games are presented in a mobile format, they have the potential to offer the same benefits of digital gaming while also maintaining the portability and accessibility attributes of mobile devices (Stockwell, 2010). Some of these benefits (or four *themes* – see below) include students' increased *motivation* (Ducate & Lomicka, 2009), *enjoyment* (Allen, Crossley, Snow, &

McNamara, 2014), and *comfort* (Liakin, Cardoso, & Liakina, 2017), which may potentially lead to a positive impact on *learning* (Kukulska-Hulme, 2016).

The first goal of this paper is to introduce a mobile digital game, *Astronautes FLS*, created to motivate L2 learners to practice French. *Astronautes FLS* (http://astronautesfls.ca) is a non-serious cooperative game inspired by *Spaceteam ESL* (http://spaceteamesl.ca). To play the game, groups of two or more players engage in speaking, reading, and listening to time-sensitive instructions to pilot a spaceship. To survive, players must read and orally communicate instructions with their peers and, at the same time, press buttons on a control panel on their mobile devices (iOS, Android) to keep the spaceship afloat, as illustrated in Figure 1.

Figure 1.   The interface of *Astronautes FLS*
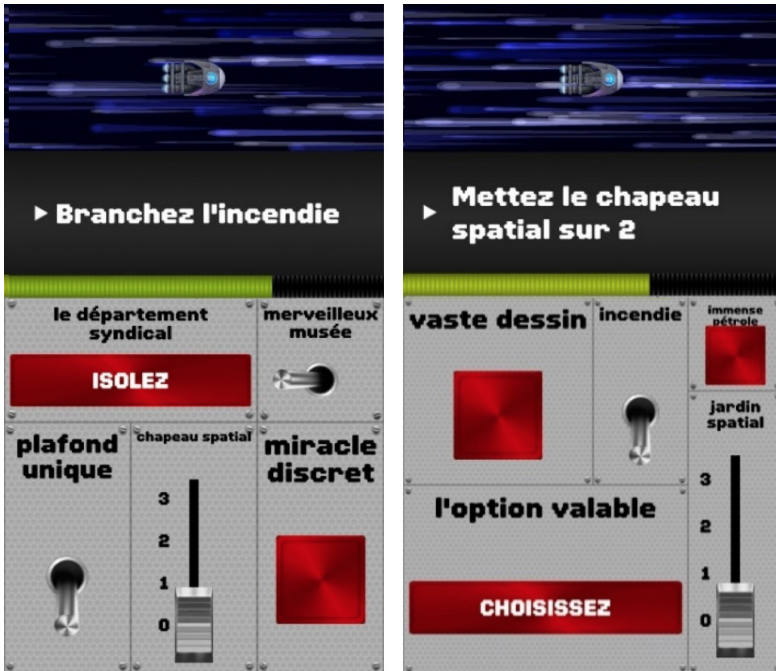
Our second goal is to report the results of a feasibility study in which we examined the pedagogical viability of *Astronautes FLS* (i.e. its ability to promote the four themes discussed above) across two proficiency groups (i.e. to determine the level appropriateness of the game), as well as learners' perceptions of the game's pedagogical potential.

2. Method

2.1. The conceptualization of *Astronautes FLS*

The conceptualization of *Astronautes FLS* included the selection of a lexicon from the 5,000 most frequently used words in French (i.e. with each 1,000 frequency band constituting a 'proficiency level'), thus allowing learners to practice what they already know in an automatized manner (Nation & Newton, 2009). As game levels increase, so does the complexity of the vocabulary and related pronunciation (Cardoso, Grimshaw, & Waddington, 2015, p. 103). *Astronautes FLS* also offers a practice feature that can be used as a technology-enhanced 'listen-and-repeat' activity. This feature allows players to select vocabulary lists based on the level of difficulty and listen to a recording of the selected words. Players also have the option to record themselves saying the words, allowing them to compare their own recordings with those provided by the game. For details, visit http://astronautesfls.ca.

2.2. Feasibility/perception study

Based on Grimshaw and Cardoso (2018), we adopted a mixed-methods approach for data collection and analysis, using data from surveys and focus group discussions.

2.2.1. Participants

Seventeen participants from two Anglophone universities in Montreal were recruited and stratified among two proficiency groups in French: seven low-intermediate and ten upper-intermediate participants (A2 and B1+ levels respectively, according to the Common European Framework of Reference for languages). The rationale for excluding beginners is that *Astronautes FLS* presupposes basic knowledge of French, as players are required to read, hear, and orally react to time-sensitive commands.

2.2.2. Instruments, data collection, and procedure

During a four-week period, participants played the game individually at home or at their university and used the practice pronunciation feature for at least one hour per week. After this period, they were invited to play in group sessions so that the researchers could observe their interactions during gameplay. At the end of these

sessions, a 15-statement survey (using a five item Likert scale, where 1=negative and 5=positive) was distributed to participants to obtain their perceptions of the game. It asked students questions about the impact *Astronautes FLS* had on their learning experience, according to the four themes established earlier: the game's ability to increase students' *motivation*, *enjoyment*, *comfort*, and *learning*. We also conducted focus group discussions in which participants were encouraged to expand on their perceptions of the game.

3. Results

Table 1 shows that the participants perceived *Astronautes FLS* highly positively across the four composite themes, with mean values at or above the 'agree with' level.

Table 1.   Survey results of two proficiency groups

Survey questions	Mann-Whitney U Test	Proficiency			
		B1 + (n=10)		A2 (n=7)	
		Mean	SD	Mean	SD
1. Increased motivation	.417	4.2	0.79	3.77	1.11
2. Increased level of comfort	.193	4.4	0.8	3.9	1.18
3. Sense of enjoyment	.133	4.77	0.43	4.29	0.9
4. Impact on learning, improvement	.475	4.14	0.78	4.29	1.08

The results of the nonparametric tests using an Independent Samples Mann-Whitney U Test indicate that there were no significant differences between the two groups for the four composite variables, as shown in Table 1. This indicates that participants perceived the pedagogical affordances of *Astronautes FLS* similarly, regardless of their level of proficiency in French.

These results were corroborated by statements during focus group discussions, in which the participants stated that *Astronautes FLS* (1) increased their motivation to practice/learn (e.g. "It forced me to speak in French, and read, and my friends were correcting my pronunciation"), (2) created a comfortable environment in which to use the language (e.g. "It was so engaging, because you just kind of immerse yourself, in that I just don't think about how accurate I am"), (3) provided an overall sense of enjoyment (e.g. "that way people can get more familiar and we could have more fun in class"), and (4) positively impacted their learning (e.g. "It made me correct my pronunciation, because you have the chance to repeat some words, pronounce it better next time").

4.   Discussion and concluding remarks

The main goals of this study were to introduce *Astronautes FLS*, a non-serious cooperative digital game created to motivate L2 learners to learn and practice French, and to examine the game's pedagogical potential via an investigation of learners' perceptions across two proficiency groups.

Our results show that *Astronautes FLS* was perceived positively across the four major composite themes included in the study and that, regardless of their level of French proficiency, the participants of both groups perceived the pedagogical affordances of the game similarly. As such, these findings corroborate our hypotheses that the pedagogical use of *Astronautes FLS* could lead to students' increased *motivation* (Ducate & Lomicka, 2009), *enjoyment* (Allen et al., 2014), *comfort* (Liakin et al., 2017), and consequently have a positive impact on *learning* (Kukulska-Hulme, 2016).

Some of the methodological limitations of this study include the small number of participants and the short duration of the study. In future research, we would like to verify whether the participants' positive perceptions about the game's positive impact on learning are reflected in actual learning gains in terms of vocabulary and pronunciation (including holistic measures such as intelligibility and comprehensibility, and more specific measures such as fluency in speaking, listening and reading).

Our results suggest that *Astronautes FLS* is a fun and engaging game for the L2 classroom with great potential to motivate students and contribute to creating a comfortable and joyful learning environment. It encourages fluency through input (reading, listening) and output (speaking intelligibly) practice, and creates a non-threatening environment to experiment with language which could be 'anytime anywhere' – one of the pedagogical affordances of *Astronautes FLS*.

5.   Acknowledgements

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