



STUDENT PODCASTING FOR FOREIGN LANGUAGE
TEACHING-LEARNING AT UNIVERSITYIrene Acevedo de la Peña¹ , Daniel Cassany^{2*} ¹Universidad de Barcelona (Spain)²Universidad Pompeu Fabra (Spain)*ireneacevedo097@gmail.com**Corresponding author: daniel.cassany@upf.edu**Received October 2023**Accepted December 2023***Abstract**

There is currently little research on the use of podcasting as a learning tool in the tertiary-level foreign language classroom. Here we attempt to partly fill that gap through a multiple case study of three university teachers who use this technology in their courses in Spanish as a foreign language. We obtained data for analysis primarily in two ways, through individual interviews with the teachers on two separate occasions and by compiling a corpus of all the podcasts (227 in total) the three teachers had used in their classes, most of them student-created. Given this last fact, our analysis focuses especially on the creation of podcasts by students and the teacher's role in the process. Our findings show that podcasting as an educational tool can offer significant benefits for language learning. Student-produced podcasts, in particular, provide students with a context to practice their foreign language speaking skills, but reading and writing skills are also heavily engaged in the process of writing a script for what they will say in their podcast. The production of podcasts can also be highly motivating for students if the final product is posted online on an open-access host site; this means that native speakers of the target language could be among the potential listeners. On the downside, the process of having students produce podcasts requires considerable time and preparation on the part of both teachers and students, and students who are shy or less comfortable with technology may find the task challenging.

Keywords – Podcasting, L2 teaching, Scaffolding, Learner agency, Multimodality.**To cite this article:**

Acevedo de la Peña, I., & Cassany, D. (2024). Student podcasting for foreign language teaching-learning at university. *Journal of Technology and Science Education*, 14(1), 123-141. <https://doi.org/10.3926/jotse.2509>

1. Introduction

In order to properly ground this research, we will first outline the origins of podcasting and its various modalities and then summarize what the existing literature has to say regarding the benefits and drawbacks offered by this format as an educational tool for the teaching of foreign languages.

1.1. History

The term *podcasting* was first coined in 2004 by journalist Ben Hammersley (Bonini, 2015), who combined the name of the Apple company's audio player device *iPod* (with the “pod” possibly coming from “play-on-demand”) with *broadcasting* to refer to digital audio files containing recordings of segments of non-music broadcast or broadcast-like content, in effect radio programming detached from the radio modality and made portable so that the listener can listen to it at a time and place of their convenience rather than at the scheduled on-air play time. Currently podcasts are typically available for download from the internet, with access sometimes limited to subscribers, and listeners are often allowed to interact with what they hear by posting written feedback and reactions at the hosting website. The appearance and mass acquisition of the iPod and other portable audio player devices in the first years of the 21st century spurred the popularization of the podcast format, coupled with the widespread availability of MP3 music files, the introduction of the iTunes Store (2005), the proliferation of smart phones, and the spread of wifi networks (2010).

Currently the main producers of podcast content are radio stations, who thereby offer their audiences on-demand radio programming, free from time constraints, print news media such as newspapers, specialist websites, originally mostly tech-centered but now reflecting a vast range of fields, and individual bloggers. These latter benefit from the fact that the creation and uploading of podcasts requires little technical expertise, thus allowing content consumers to easily transition into content producers (Bonini, 2015; García-Marín, 2019: page 185).

In Spain, the first Spanish-language podcast appeared in 2004, gradually leading to the formation of a community of enthusiasts, as fans of a particular podcast first became interconnected online and then began to gather in person (García-Marín, 2019). Today, podcasting boasts a huge following in Spain (Celaya, Naval & Arbués, 2020: 3). According to the 2021 Spotify annual report, 51% of Spaniards had listened to podcasts at some time and 33% had become loyal to this format. Also, according to the annual report of Spain's leading podcast-hosting platform, iVoox, the average listening time is 80 minutes per day, with 56.58% of the audience listening to podcasts for more than four hours per week (Martínez, 2022).

Although podcasts are most often compressed audio files in MP3, M4A or ACC format, they may also be compressed MP4 or MOV audiovisual files. The visual component of such podcasts may consist of a series of still images, essentially a digital slide show with accompanying audio (a “slide-cast”), but they are sometimes simply filmed recordings of the speaker or speakers verbally delivering the podcast content. In addition, many podcasts provide complementary material such as transcripts of the audio, photos, or diagrams, in other downloadable text or image formats on the same platform. It should be noted that while primarily centered around spoken content, podcasts can incorporate other acoustic elements, such as background music or sound effects.

However, the voice is the fundamental component of a podcast. Thanks to its particular qualities, the human voice conveys much more than neutral data. Lundström and Lundström (2021) point out that podcasts often contain lively conversations, changes in tone, irony, sarcasm and laughter. For Rodríguez-Luque (2022: page 410) an “intimate feeling of connection [...] is created when that voice speaks directly into your ear through your headphones”. Bueno-Tena (2015: page 24) finds also that students feel closer to the teacher when working with podcasts, because the voice they hear is “more pleasant and closer than printed documents.”

1.2. Podcasts in the Classroom

The research on podcasting and education was concisely summarized in a recent literature review by Celaya et al. (2020).

- Several studies have analyzed the views of university students regarding the advantages of podcasts for education. According to one such study, Heilesen (2010), students overall felt that podcasts motivated them, improved their self-confidence and fostered collaboration.

- Some authors have concluded that having students create podcast can help them develop creativity and digital competence. For example, Phillips (2017) highlights the idea that the skills acquired from recording podcasts can be transferred to other contexts. Similarly, Ríos (2017: page 41) suggests that student-created podcasting can foster autonomous learning and a sense of agency among students.
- Among studies specifically related to language teaching, Hasan and Hoon (2013) and Yeh (2013) share the view that the podcast promotes motivation and production, as well as understanding of the culture and history of the target language. In Spanish as a Foreign Language (SFL) teaching-learning, Hsiao and Vieco (2012) conclude that the podcast contributes to improving all four language skill areas, not just oral ones.
- Looking at the educational value of teacher-recorded audio materials in general, Cabero and Gisbert (2005) note their potential to humanize the person-machine relationship, provide narrative continuity, capture the attention of audiences and personalize instruction.
- Finally, podcasting can help students generate virtual communities because podcasts allow for multidirectional interaction and the co-construction of knowledge among participants.

1.3. Typology of Podcasts in Education

Bueno-Tena (2015: pages 23-24) distinguishes four types of podcasts commonly used in the educational context categorized in terms of who creates the podcast and who is the intended audience. They are: 1) podcasts not originally intended for educational purposes but of value for learning; 2) learner-produced podcasts; 3) teacher-produced instructional podcasts, or “profcasts”; and 4) podcasts by teachers directed at other teachers that deal with professional issues. Some examples of each type are provided in Table 1.

Non-educational podcasts	<i>Washington Post (El Wapo)</i> : 600 works (10-15 minutes each) by three generalist journalists based in Bogotá, Washington, and Madrid.
	<i>Radio Ambulante y El Hilo</i> : 464 works (30') on Latin American journalism, with transcriptions.
	<i>TED en español</i> : 28 videos of various topics, durations, and languages, with terminology, subtitles in multiple languages, and non-verbal speaker behavior.
Learner-produced podcasts	<i>Notes in Spanish</i> : 181 works (15-30') by a Spanish-English couple, with paid exercises classified by levels.
	<i>Spanish Obsessed</i> : 176 works (15-30') by a Colombian-English couple in two languages, organized by levels, with transcriptions and exercises.
	<i>Vidas en español</i> : 18 works (30-50') about biographies of famous figures, with comprehension tasks and transcriptions.
Teacher-produced podcasts	<i>Hoy hablamos</i> : 1,564 podcasts (10-15') on culture, history, and news, with transcriptions, tasks, and exercises.
	<i>News in Slow Spanish</i> : 4,000 works (15-30') categorized by news and culture, created by writers, journalists, linguists, and engineers, organized by levels.
	<i>Historia y etimologías del castellano</i> , 761 works on different topics that seek to unite the teaching of Spanish and humanities.
Among teachers	<i>LdeLengua</i> : 152 works (15-60') for SFL teachers in training.
	<i>ELEpod</i> : 84 works (1-60') about the use of technology in SFL.
	<i>Movimiento de ELE</i> : 221 works (7-40') for SFL teachers.

Table 1. Examples of each type of podcast, in this case all related to the teaching of SFL.

Let us examine each of the four types of podcast in turn.

1.3.1. Non-Educational Podcasts

Many language teachers use podcasts taken from various non-educational sources as samples of authentic spoken language. Such podcasts may address any topic and vary in length and style. They usually feature native speakers and spontaneous verbal samples, and are unaccompanied by transcripts or multimodal resources. For teachers of SFL, various platforms, whether free (Spotify, iVoox) or subscription-based (Podimo), offer exclusive content. Besides the platforms listed in Table 1, some of the platforms popular are *Riot Comedy* or *Estirando el chicle* (humor and feminism), *La Ruina* or *Nadie sabe nada* (comedy), *Entiende tu mente* or *Por si las voces vuelven* (psychology), *Quieto todo el mundo* or *Buenismo bien* (politics), *Dentrísimo* (society and culture), *La historia es ayer* (history, documentary) and *La script* (cinema). Rosell-Aguilar (2007: pages 488-489) suggests that when they select a podcast for classroom use, teachers should limit their choices to podcasts that: a) include samples of language that are real, varied and authentic yet also related to program objectives; b) are shorter than 15 minutes in duration; 3) are likely to be interesting for students; and 4) are linked to complementary materials such as transcripts, glossaries or forums which with help students actively engage and interact with the podcast content.

1.3.2. Learner-Produced Podcasts

Although such podcasts are typically the outcome of tasks assigned by language teachers to their students, with the finished products then posted on institutional web platforms, some language learners create in their free time and then post on free networks podcasts in which they reflect on their own learning experiences with the goal of facilitating language acquisition by their peers. For Stajka (2013: page 92), though this sort of podcast is the type most rarely used in language classrooms, it is the most “creative” because it involves the highest degree of active engagement on the part of students, who in the process gain in-depth knowledge about a particular topic, exercise critical thinking skills, refine their ICT skills and in some cases practice teamwork.

Solano-Fernández and Sánchez-Vera (2010: page 136) divide student-generated podcasts into various subgenres, such as interviews, storytelling, mock radio programs, oral presentations and simple classroom recordings of a normal lesson in progress. Stajka (2013: page 92) sharply questions the educational value of the last of these genres because it merely replaces the traditional classroom and “may further reinforce the view of students as passive recipients of information”.

For teachers who would like to guide students through the podcast generation process, Herrera-Jiménez (2007: page 24) recommends breaking it down into the following four steps: 1) brainstorming to select and negotiate the podcast contents; 2) gathering information and drafting of a script outline; 3) group preparation and revision of the script; and 4) audio recording of the podcast. Solano-Fernández and Sánchez-Vera (2010: page 132) point out that having students create podcasts must involve an appropriate degree of planning and reflection when the process is underway, and must likewise conclude with an equally well planned evaluation process designed to improve future outcomes (these authors offer guidelines in Spanish that students can follow).

1.3.3. Teacher-Produced Podcasts for Student Use

Although these podcasts are created by teachers, they may include fragments of non-educational podcasts and students may participate in the creation process. The primary goal of these podcasts is to provide materials and tasks that enhance language-learner competences, though they may also contain an element of self-promotion. Laaser, Jaskiloff and Rodríguez-Becker (2010) recommend that teachers make sure their podcasts are followed up by some sort of task and that students are offered an opportunity to give their feedback about the process. They also recommend that podcasts not exceed ten minutes in duration and include a variety of voices and music.

On the other hand, Solano-Fernández and Sánchez-Vera (2010: page 132) caution that the use of audio media in the classroom does not necessarily enhance learning, and it is therefore important to carefully weigh the suitability of using podcasts as an educational tool considering the features of the particular

group of learners in question, as well as the timing, methodology and learning goals of the podcast-linked activity proposed.

1.3.4. Teacher-Produced Podcasts for Teacher Use

Teachers occasionally use podcasts to share information, materials or references among the community of their peers. Recent years have seen a great upsurge in podcasts of this sort among SFL teachers, hosted on channels such as *En sintonía con el español*, *Alcalingua Radio ELE*, *El español de América*, *Duelo TIC TAC*, *Hoy es un buen día*, *Te lo digo en serio*, *Con la lengua fuera*, *Desaprendiendo* and *Más lista que una ardilla* (see also Table 1).

1.4. Genres, Functions and Benefits

Podcasts can be divided into several different genres and can serve a variety of functions. For Guiloff, Puccio and Yazdani-Pedram (2006), the main podcast genres are audio book, interview program, recorded lecture, distance lecture, instructional podcast or tutorial, support for face-to-face classes and self-recording of learners. With regard to the functions of podcasts, various authors (Rosell-Aguilar, 2007; Fox, 2008; Herrera-Jiménez, 2007; Bueno-Tena, 2015) concur that the main ones are: teaching at a distance; individualizing the class (e.g., providing extra content for advanced learners or special assistance to weaker learners); recording lectures for subsequent review by learners; and offering learners additional listening practice outside the classroom to introduce new vocabulary or expose learners to dialectal diversity. In all cases, podcasts may be accompanied by a transcript, which learners can use to reinforce their comprehension and learning.

The literature lists the following benefits of the use of podcasts in language learning. Podcasting: 1) increases learner participation in the creation and production of content by intensifying learner engagement in class, increasing learner motivation and making learning more meaningful (Herrera-Jiménez, 2007: page 24); 2) improves listening comprehension, pronunciation, vocabulary, grammar and oral expression (Hasan & Hoon, 2013: page 128; Bozorgian & Shamsi, 2022: page 453), and develops research, skill-management and problem-solving skills (Stajka, 2013: page 92); 3) promotes interaction among learners and between learners and teacher, and encourages the formation of digital communities with shared interests, which enriches the learning experience and provides additional educational opportunities (Rime, Pike & Collins, 2022: page 1276; Rodríguez-Rodríguez, 2012); and 4) offers authentic input and cultural data, which provides a richer, less artificial contact with the target language (Hasan & Hoon, 2013; Bozorgian & Shamsi, 2022: page 450; Rime et al., 2022).

Podcasting also reduces dependence on physical materials and the time limitations of the class period. Since a podcast consists of digital information stored on very compact electronic devices, it is highly portable and easily accessible: the podcast can be listened to privately anytime, anywhere (Rosell-Aguilar, 2007: pages 478-479), and can be paused and replayed in accordance with the needs of the listener (Lundström & Lundström, 2021). It also allows using the listener to use their hands and eyes to do other activities simultaneously, which benefits those with special needs (e.g., visual impairment, ADHD). In summary, the podcast is versatile and has the potential to enrich teaching and enhance learning.

On the other hand, using podcasting in the classroom also has certain drawbacks. First of all, it may present obstacles for students who are unfamiliar with the format (Ríos, 2017: page 42), who are very young and thus find it difficult to handle digital devices (García-Marín, 2020) or who have a visual or spatial learning style (Rosell-Aguilar, 2007: page 480). Listening to podcasts of native speakers speaking spontaneously in naturalistic styles can also be challenging for less proficient learners (Yeh, 2013). Furthermore, some podcasts may center around content areas such as religion, politics or sexuality that are avoided in formal educational materials, which can make some learners uncomfortable (García-Marín, 2020).

Finally, podcasting requires additional effort from both teacher and student. Teachers must identify which podcasts will be appropriate for use, listen to them and prepare accompanying tasks and materials, or produce their own podcasts. Alternatively, they must supervise and evaluate student in the lengthy podcast production

process (Rosell-Aguilar, 2007). If students are assigned to create podcasts, they may need to take time outside of class to prepare or record them, either on their own or with classmates (Hsiao & Vieco, 2015).

1.5. Research Questions

In our review of the literature, we found few works on the use of podcasting as an educational tool in the university context, and even fewer related to podcasting in the teaching of SFL. Given this gap, we undertook to document, describe, analyze, compare and interpret the practices of three university professors who were using podcasts in their Spanish as a foreign language classes. Our research questions were as follows:

1. *How is podcasting used in SFL classes at the university level? What modalities do teachers use, and for what purposes?*
2. *How do university teachers go about having students create podcasts? What kinds of scaffolding practices do teachers employ and what kinds of tasks do they assign students?*

The first question was intended to give us an overall view of the use of podcasts in university teaching of SFL, while the second question would give us information about student-generated podcasts in this context, an area that has thus far received little attention in the literature.

2. Methodology

To answer these questions, we adopted a qualitative approach based on educational ethnography. Rockwell (2009: page 48) describes ethnography as “a process of documenting the undocumented” and of “knowing the unknown, listening to and understanding others”, an experience from which the researcher emerges with a transformed perspective of the subject of their research. Using more precise terms, Levinson, Sandoval-Flores and Bertely-Busquets (2007: page 825) define ethnography as “an interpretative-descriptive methodology, based on observation, interview [...] and the collection of documents, [...] whose primary mission is to account for local knowledge through the interpretative reconstruction of social relations, knowledge and the ‘culture’ of a given human group, institution or social process”.

We assume a sociocultural perspective, with ecological and emic components, to interpret the use of podcasting. We conceive the podcast as an artifact linked to its users (learners and teachers), in an educational context (classroom, course, center), within a culture and a community (academic, university), and we interpret it from the point of view of its users. We follow previous works in related fields such as Allué and Cassany (2023) on the use of videos about literature or Urrutia, Do-Santos and Cassany (2022) on the learning-teaching of SFL within the Clubhouse social audio app.

2.1. Data

Our data for analysis consisted of audio recordings of interviews with the aforementioned three university teachers, a corpus made up of all the podcasts the three teachers had used in their SFL classes and a research diary. Our informants responded to a call for participation in our research directed to any SFL teacher who currently used podcasts in their classes and which was posted simultaneously on Twitter, Facebook and WhatsApp and disseminated employing the snowball technique. We initially received 11 expressions of interest, a number which was reduced to eight upon the application of exclusion criteria (participants had to have considerable teaching experience, had to be using both teacher- and student-generated podcasts in their classes and had to be interested in our research goals). At the time, these eight were working in universities (3) or secondary schools (2) or were teaching online outside of the formal education system (3).

In the present study we essentially focus on the three participants who were teaching at the university level, although our overall interpretation of this data was also informed by what we learned from the corpus of podcasts and our research diary. Given that the three university-context informants were of

different nationalities and were working in very different contexts and our corpus consisted of no less than 227 podcasts, we felt justified in regarding our data as sufficient to support our analysis.

The three university SFL teachers agreed to give their real names and affiliations. Short descriptions follow:

1. **Javier Sabah**, aged 42, had a MA in teaching SFL language and was working on a PhD in the same field. With 11 years of teaching experience, at the time of the research he was teaching B1-level Spanish at the University of Finance and Economics of Guizhou, China, to students working on an undergraduate degree in Spanish Language and Literature. He reported having been using podcasts in his classes since 2021, to motivate students, help them overcome their fear of speaking Spanish and provide them with opportunities to practice integrated skills. Javier has “total freedom” to integrate technology, which overall elicits a “positive reaction” from students. Nonetheless, he feels that because his students are accustomed to the traditional grammar-translation method, oral tasks with podcasts can pose a significant challenge for them.
2. **David A. Thöny**, aged 31, had a MA in language teaching. With eight years of prior experience, he was at the time teaching B1- and B2-level SFL at Adam Mickiewicz University in Poznań, Poland. He had been using learner-created podcasts in classes to motivate his students, encourage them to speak Spanish, sharpen their listening skills and foster group cohesion. David feels he has “quite a bit of freedom” to “design his class”, but some students are initially hostile to innovative tasks that require more personal involvement, although they generally adapt over time.
3. **Héctor Ríos**, aged 43, had a PhD in Applied Linguistics and 17 years of teaching experience. At the time we interviewed him, he was teaching B2-level SFL in the Faculty of Political Science and International Relations at the University of Cagliari in Sardinia, Italy. He had been using discursive podcasts to develop his students’ communicative skills but also their digital competence. Héctor incorporates technology and learner-centered methodology into his classes cautiously, as many students (and some colleagues) are reluctant to deviate from the “traditional teaching methods,” even though they later “adapt successfully”.

After these informants had given us their consent to participate in this research (in accordance with the University of Barcelona’s code of ethics, 2023), we interviewed each of them for about 50 minutes on two separate occasions. The script used to guide the first interview was based on our reading of the literature and having listened to podcasts of different modalities, while the script for the second interview was based on our analysis of the first interview as well as a careful examination of the podcasts to which the interviewee had given us access. Before the interviews, we validated the scripts by piloting them in interviews with other teachers, and then revising and refining them as necessary.

The first interview, which was essentially exploratory in nature and broad in scope, focused on two areas. First, we asked the interviewees about their experience in teaching SFL, with questions about, for example, their initial training, where they had worked, the levels they had taught, and so on. Next, we asked questions related to their current use of educational podcasting such as what creator-audience modalities they used, how students gained access to or posted podcasts, and how they evaluated student-created podcasts. At this point, we also asked them for details about how many podcasts of which modality were available to their students, how long podcasts were in duration on average, what SFL levels the podcasts were aimed at, where they were posted, and their source if not student- or teacher-generated. The second interview was more narrowly focused on the exact procedures that teachers followed in having their students produce podcasts. These conversations were also informed by our having listened to the podcasts to which they had given us access.

The interviews were conducted online and were audio-recorded. The resulting total of 290 minutes of recording were then partially transcribed. The three teachers also answered queries for clarification from the authors by email during the subsequent process of analysis and at the end had the opportunity to read this paper and suggest corrections if they felt they had been misrepresented. As noted, we also

downloaded for analysis all of the podcasts they reported having produced or used in their classes. The characteristics of these 227 podcasts can be seen in Table 2. It will be noted that nine were teacher-created, 173 were student-created and 45 were taken from outside sources.

It should be noted that the distinction between teacher- and student-created podcasts was not always clear-cut because teachers were often heavily involved in the production of student podcasts. In many cases teachers carefully accompanied and guided their students through the various stages of preparing a script and then recording the podcast. In such instances, student products could end up being quite similar to each other since they responded faithfully to detailed instructions given by the teacher. In other cases, however, student agency was given much freer rein in more open or self-directed tasks, leading to more diverse final products. By the same token, when generating their own material, teachers sometimes counted on a degree of student participation in the process.

Finally, the first author kept a research diary during the three months of data collection and analysis (April-June 2023), with entries made before and after each interview aimed at recording impressions, observations and data that were not reflected in the audio content.

Teacher	Teacher-produced podcasts			Student-produced podcasts			Podcasts from other sources		
	No.	Duration	Level	No.	Duration	Level	No.	Duration	Level
Javier				2	10'-12'	B1	9	30'-40'	B1-B2
				8	6'-10'	B1	36	5'-10'	B1-B2
David	9	5'-22'	B1-B2	113	2'-30'	B1-B2			
Héctor				10	±30'	B2			
				40	8'-20'	A2-C1			

Table 2. Features of the educational podcasts used in FSL classes by three university teachers

2.2. Processing and Analysis

As we listened to the podcasts, we first identified its creator-audience modality (teacher-produced, student-produced, outside source) and then focused more specifically on its most relevant communicative parameters (author, addressee, topic, complementary material, duration, style) and structure (introduction, parts, closing). The recurrent characteristics revealed by each teacher's set of podcasts suggested questions that we could ask them in the second, more individualized interview. This first analysis also provided data to help us answer our first research question.

Regarding the 133 student-produced podcasts, we analyzed this subset of our podcast corpus with discourse analysis techniques to identify its oral and verbal features (conversation, intonation, register, lexicon) the most important aspects of the students' discourse (rhythm, pauses, correction and errors, textual genres, L2 level of the student-speaker) and the characteristics of the podcast as an artifact (broadcasting platform, post-editing, complementary documents, etc.). This analysis also informed the specific questions we asked in the second interview, which were focused on the instructions teachers gave students regarding the podcast production task, the scaffolding they employed to facilitate execution of the task, the use of scripts and the correction/revision process they followed. These questions were intended to help us answer our second research question.

Table 3 outlines the full research process.

Recruitment of participating teachers	
1	Set the inclusion and exclusion criteria according to the research questions.
2	Launch calls on social networks, following the snowball technique.
3	Assess candidate replies, select participants, and have them sign consent forms.
Data collection	
4	Prepare the 1 st interview script based on previous literature.
5	Pilot the script with external teachers and revise it.
6	Do the exploratory interview (1 st) and collect podcasts from each teacher.
7	Prepare the 2 nd interview script based on the podcasts and the 1 st interview.
8	Carry out the 2 nd (individualized) interview.
9	Take notes in a research diary before and after interviews.
Data processing	
10	Identify the podcast modality used by each teacher and their basic features.
11	Document complementary multimodal materials (web, transcripts, photos).
12	Select representative podcasts and analyze their audio.
13	Transcribe (part of) the recorded interviews, analyze them and look for common patterns.
14	Triangulate partial results from podcasts, interviews and diaries.
Interpretation of results	
15	Develop provisional answers to the research questions.
17	Return data and results to informants and confirm our interpretations.

Table 3. Sequence of steps comprising the research methodology followed

3. Results

We first present separately the most prominent results of our analysis of the podcasts, the supplementary material which accompanied them and our interviews with the teachers, and then answer our two research questions.

3.1. Findings from Our Analysis of Podcasts

In general, the podcasts in our corpus consisted of MP3 or MP4 files (in the latter instance, either without visual content or featuring a single static picture). They ranged in duration from 1.3 to 50 minutes, although the majority were 15 to 30 minutes in length. All were edited to combine the audio content from various recordings of different voices, often employing sound effects and/or musical fragments in the background or to accompany opening, closing or intermediate transitions. Thematic content centered on a wide variety of cultural or social topics and was presented in different forms, usually an individual presenting an opinion or two or more persons engaged in debate. Podcasts generally obeyed the following longitudinal structure: 1) title and introduction, in which topic and participant(s) were presented (sometimes under pseudonyms like *Pétalo*, *Burbuja* or *Suprnenas*); 2) segmentation of the content into consecutive sections (often separated by musical interludes); and 3) farewell and closing, with some complement in the form of a glossary, photos, etc.

Student-produced podcasts in fulfillment of one assignment shared the same scope (information about China, cultural aspects of Sardinia, etc.), potential audience (travelers in China, Spanish speakers interested in Italian culture, etc.) and platform (Blogspot, Wordpress, Google Site; see Figures 1-3), which sometimes included content in other formats. Let us now look separately at how each teacher made use of educational podcasting.

Javier had started having his students in Guizhou record podcasts three years previous to our interviews. Inspired by the teacher-produced podcast hosting site *Vidas en Español*, created by a non-native teacher of SFL, which he had already used as a source of listening materials for class, he encouraged his students to record podcasts about the lives of two people they admired, Zhong Nanshan, hero of the fight against the coronavirus, and Hayao Miyazaki, anime creator. He followed this up with a more ambitious project—which

he has continued to have students do every year since then—called *La ventana de Guizhou*, in which his students record ten-minute podcasts about topics related to the province of Guizhou such as local architecture, cuisine, fauna, or geography for a Spanish-speaking audience (see Figure 1).

The podcasts produced by **David**'s students varied greatly in terms of topic (from human rights in Belarus to popular sayings about love), duration (from two to 28 minutes) or genre (debates, storytelling or presentations), depending on the size and interest of the group and the needs of the curriculum. All podcasts used in his classes, whether produced by David or his students, were uploaded to a hosting website developed by David called *Prosumidorxs de Lengua*, which includes an explanation of his podcasting project (see Figure 2).



Figure 1. Slide from a podcast produced by Javier’s students on ethnic groups in Guizhou (*La Ventana de Guizhou*)



Figure 2. Screenshots of David’s podcast hosting website (*Prosumidorxs de Lengua*)

Finally, **Héctor** had been requiring his students to create podcasts for more than ten years. At the time of writing, his two hosting websites (*ELEÚnica* from 2012 and *Prosumidores ELE—No solo Podcast* from 2014; see Figure 3) held a total 50 student-created podcasts, with the number growing as new works were added every year. Contributing students had different levels of SFL mastery (A2–C1) and the resulting podcasts were of varying lengths (15–50 minutes) and linguistic quality. Topics for podcasting had been chosen by students, ranging, for example, from the origins of the Sardinian flag or the legend of *Domus de janas* to an explanation of how to cook spaghetti with clams. Importantly, care had been taken to ensure that all participants were named in the final product, highlighting the collective nature of the project.



Figure 3. Screenshot showing presentation of the Mamuthones podcast (Héctor’s *ProsumidoresELE* hosting website)

3.2. Findings from Our Analysis of Complementary Materials

Many of the educational podcasts we analyzed were accompanied by multimodal materials. Three of the five hosting websites included one or more of the following: written text (transcripts, translations, summaries, glossaries), images (pictures, icons) and student homework assignments. Javier’s students were required to add the full transcript in Spanish of each podcast along with a Chinese translation, aligned paragraph by paragraph (see Figure 4), as well as photos, short glossaries with key words and comprehension activities, the latter on their own initiative, inspired by a previous example.



Figure 4. Screenshot of aligned transcript and translation and photo from a podcast (La ventana de Guizhou)

By contrast, Héctor’s students were expected to accompany their podcasts with a single image and a brief summary of the podcast contents written in either an impersonal academic tone (as did Javier’s students in Figure 1) or a more personal first-person style (Figure 3). Finally, David’s students only added thumbnail

photos either to indicate the identity of the authoring group or as an icon representing a podcast. He explained his rationale for avoiding supplementary materials thus:

I was only interested in their voices. It is something I told them a lot at the beginning: “I just want to hear you. If you are going to do something super cool and put confetti on it, wonderful, but that is not what I’m asking of you” [...] To take away the fear of those individuals who were not so keen on technology [...] “if you record it with the phone and publish it, that’s it, no need for music or effects, I am only interested in you talking and I can evaluate you” (11-5-2023).

3.3. Findings from Our Analysis of Interviews

We now summarize the most important findings from our interviews of the three SFL teachers, separated into six key areas: how the informant had become inspired to introduce podcasting into his classroom; the purposes it served; the didactic procedure he followed in having students create podcasts; the support scaffolding he provided for that learning process; student performance; and how he evaluated student work.

3.3.1. Teacher Initiation

All three teachers reported having become interested in podcasting out of curiosity and then figuring out how to create podcasts as well as a hosting site in their own free time, although they admitted that podcasting did not involve a great deal of technical expertise. In Javier’s words, “I find it a super-useful tool [...] It was a spontaneous and natural process: I listen to podcasts, I like them, I can use them in class”. For his part, Héctor found that the podcast creation process was “very fluid, so absorbing [...]. You put a lot of time into it, but being in that state of flow you don’t even notice.” They reported using Anchor and Audacity software for recording, editing and broadcasting audio and video files and downloaded free music tracks from Jamendo; they also reported following iVoox, Spotify and WeChat, all of which are open access.

3.3.2. Purposes of Podcasting

The goals which interviewees claimed to have in mind when in deciding to use podcasting in their classes were either curricular (e.g., to sharpen students’ language skills, to practice integrating such skills into contexts of use, to increase student self-confidence in speaking, to foster interculturality) or pedagogical (to motivate students, to encourage participation, to foster group cohesion, to develop students’ digital skills). Javier felt that, given that “the emphasis [...] in China is especially on grammar, writing and reading” and “since students are not exposed to Western culture”, listening to and recording podcasts would help them to overcome all these limitations. For his part, Héctor felt that most pre-existing Spanish-language podcasts were “not focused on the linguistic and human-pedagogical growth of the students” and the podcasts produced by his students therefore offered “content that does not exist for the Hispanic community”, so that in effect his students were providing a service to the Spanish-speaking public. All three teachers concurred that podcasting had added value to their classes and also brought them personally considerable satisfaction. As Héctor noted, podcasting was “very enriching”.

3.3.3. Didactic Procedure

Regarding the procedure they followed in teaching students to produce a podcast, all three interviewees followed essentially the same sequence of activities, as follows: 1) initial familiarization of students with the podcast genre by listening to student products from previous years and then carrying out reflection tasks; 2) description by the teacher of the podcast as a genre and explanation of its structure and production; 3) selection, under teacher guidance, of topics, which might align with a particular curricular focus or simply reflect a perceived gap in public knowledge; 4) drafting of scripts by students, often outside the classroom; 5) correction of the scripts in class, in groups or pairs, with the intervention of the teacher, over several cycles; 6) rehearsal and then audio recording of the podcast, inside or outside the classroom, with previous training; 7) post-editing of the audio file and preparation of complementary

material; and finally 8) publication of the podcast on the hosting platform, followed in some cases by listening and feedback tasks related to the student podcasts.

3.3.4. Scaffolding

Among the scaffolding strategies they employed to support the learning process, the three teachers mentioned listening to previous podcasts, the guided writing of scripts and correction. They regarded listening to podcasts as essential in order to familiarize students with the genre, motivate them, expose them to authentic and quality verbal and cultural input, and expose them to models for the students to emulate (as Javier did with podcasts from *Vidas en Español*). In some cases, this process extended beyond the classroom: David noted that “There are students who have shared excerpts of podcasts from outside the project [...] They were interested in the topic of the podcast and just started to listen to it. As a result, they have ended up listening to Spanish on a regular basis.”

A second element of support for the podcast production process was the written script, which was authored individually or in pairs or groups, depending on the project. All three teachers mentioned requiring their students to write some kind of script before making the oral recording. Such a script served to consolidate the discourse to be enunciated and was the final product of searching for and selecting information relevant to the topic and researching and selecting the vocabulary and expressions in Spanish that would be needed. The script was also a key support element when students rehearsed what they were planning to say in their podcast, enabling them to practice pronunciation and improve fluency as well as gain confidence in speaking in preparation for recording.

The third type of scaffolding was the feedback given on the script by teachers as it passed through several drafts on its way to a final recording-ready version. Two of the teachers reported encouraging students to get feedback from peers before the teacher himself intervened, while the third worked directly with each individual student throughout the script-writing process. Teacher feedback most often involved marking errors on the script (whether digital or on paper), commenting on metalinguistic issues and, if time was short, directly providing corrected language to ensure that the final posted product would not contain errors. From this we deduce that in general teachers provided guidance for students to self-correct and only give the final correction as a last option. It is also noteworthy that two teachers used voice notes (i.e., short audio files sent through text messaging applications) to convey the writing corrections to the trainees.

3.3.5. Student Performance

Regarding discourse performance, the interviewees mentioned various difficulties, the main ones being the following:

- 1) Although the script was not intended to be read verbatim during the recording, some students ended up memorizing it and mechanically reciting it for the recording. Others occasionally improvised away from the script, either because they had forgotten what they were going to say or because they felt that minor digressions were appropriate:

[Students] prepared what they wanted to say and sometimes you could tell they were reading, although the idea was that they would speak impromptu [...] There were groups that did speak off the cuff but in fact they strayed from the script a bit too much because [...] they started talking about their own thing. So I had to tell them “Guys, okay”, but you have to respond to this behavior [laughs] (David, 11-5-2023).

- 2) Differences in SFL mastery levels among students clearly emerged:

During the recording, the differences between students became more apparent. Those who already had a B1 or B2 level did not have so much difficulty in terms of fluency, intonation [...] But [those whose Spanish language skills] were not up to the level [required for] the podcast [...] produced a much more noticeable reading, much more rigid; [but] it seemed more important to me that they publish their podcast than, well, to continue forcing

corrections on them that were not going to help them. For the lower [level] students it was a source of pride. Publishing their own podcast I think was something they would not have imagined (Javier, 3-5-2023).

- 3) Some students who were shy or embarrassed about public speaking felt uncomfortable with the podcasting assignment, as did those with weak technological skills:

There are students who are a little reluctant to participate, to speak in public, to risk having their voice recognized online, who are embarrassed [...] that you have to know how to deal with. You have to respect the student who does not want to participate [...] with time and patience they can be convinced to participate (Héctor, 10-5-2023).

- 4) As in all situations of cooperative learning, the degree of involvement of different students in the same group sometimes varied considerably, and this could generate tension.

There were teams in which one person did a greater share of the work than the rest and people who fell asleep, who turned in their share late. [...] And then people who took the initiative, because they were more technologically self-confident or had a more active creative spirit, then they would get saddled with a lot of work that was not theirs alone to do. (David, 11-5-2023)

3.3.6. Evaluation

Finally, regarding how they evaluated their students' work, two teachers reported that they used evaluation instruments that they had designed specially for the podcasting task, with specific rubrics focusing on organization, grammar, pronunciation, lexicon, etc. (unfortunately we were not provided with any samples of these instruments). One interviewee mentioned evaluating group-produced podcasts in overall terms but also evaluating the contribution of each member of the group individually. Moreover, for all three informants, the podcasting task represented a significant component of the final grade (30%, for Javier's students), although not all podcast-related activities led to posted podcasts or were evaluated. Some student recordings were simply classroom speaking practice activities intended to generate motivation. In addition, teachers mentioned other qualitative assessment tools such as reflection diaries, questionnaires or oral comments made during class, which they used to learn about students' impressions and encourage reflection.

Finally, all three teachers emphasized the flexibility of student-produced podcasts as a language learning activity, because it could be adapted easily to the specific needs of students and the particularities of each course. However, they also agreed that it required a great deal of time outside class hours on the part of both students and teacher.

4. Conclusions

We will now discuss how these findings, seen in the context of previous studies, shed light on our research questions.

4.1. Modalities, Purpose and Characteristics

Our first research question referred to the features, modalities, purposes of podcasting as an educational tool in university SFL classes.

In general terms, the use of podcasts in university-level SFL as described here is similar to that seen at other educational levels. Of the four types reviewed (Bueno-Tena, 2015), only one of the three teachers interviewed reported using podcasts he had himself created as linguistic input for his students, while all three informants reported using podcasts produced by students in previous courses to encourage the recording of new podcasts. In addition, in all cases the podcasts produced in class were made available to students on open-access hosting websites and could therefore serve as listening materials for other learners or as an example of a didactic task for other teachers. It is also worth noting the use of private voice notes as a format for giving feedback on students' written work, as opposed to written text

feedback, whether digital or on paper. On the other hand, none of the interviewees mentioned having had any experience with creating podcasts aimed at fellow teachers, nor did they express any interest in creating “influencer”- or YouTuber-type channels or products.

With regard to purposes, these teachers use podcasting to meet both curricular objectives (receptive and productive oral competence, grammar and vocabulary) and extracurricular objectives (digital competence, group cohesion, motivation), the methodology applied being consistent with what has been described previously (e.g., Herrera-Jiménez, 2007: page 24; Solano-Fernández & Sánchez-Vera, 2010: page 132). We also found that as an educational activity, the creation of podcasts by students faced challenges noted elsewhere (Rosell-Aguilar, 2007; Hsiao & Vieco, 2015), such as initial reluctance to participate on the part of some students, unequal distribution of the teaching load because of differing skill levels among students or time constraints, this last sometimes addressed by leaving students more freedom to self-regulate.

The three teachers also provided different functional rationales for using podcasts in higher education. In their international university context of teaching Spanish, they argued, this technological artefact: 1) offers authentic and vivid linguistic and cultural input to students who may live geographically far away from the Spanish-speaking world; 2) provides motivation for the class by incorporating a diversity of voices; 3) promotes teamwork and peer collaboration; 4) focuses classroom activity on the learner; and 5) is a simpler and less demanding format than video.

4.2. Student Podcasts

Regarding our second research question, regarding how the process of getting students to produce their own podcasts was carried out, in which subtasks, and with the support of which scaffolding practices, our findings can be grouped into two areas: the degree of learner autonomy present in the podcast task and the use of writing as a tool for planning the podcast’s audio content.

4.2.1. Degree of Autonomy

If we consider the classic distinction between heterodirected and self-directed tasks, which is based on the degree of autonomy assumed by the learner (Holec, 1981), our university podcasts are closer to self-directed tasks, where the student is given the freedom to assume a more active and autonomous role and can develop his personal agency (O’Grady, Cassany & Knight, 2022), leading to more creative output, in agreement with Stajka (2013). On the other hand, in heterodirected tasks, the teacher’s instructions are concrete and detailed, so the student has little room to take ownership of the task.

From this perspective, the podcast tasks that can generate most learning are the most open ones, those which give responsibility to the student to choose topic, content, style or structure (Allué & Cassany, 2023). The learner thus personalizes the assignment, contributes his or her previous knowledge and experience, gains motivation and finds time outside school hours to complete it, learning yet at the same time having fun. This does not obviate the need for support from the teacher, who must present models, make up for limitations in the students command of the language and in general provide guidance throughout the didactic process. This is how David described it:

[It’s important] to give them freedom to choose a topic, even if they don’t make use of it later. So that they feel that they have been given that opportunity because I think it is important; it was the main complaint of the first edition: “well, we want to tell you our things”. People were excited at the beginning; they thought it was going to be a “let’s get four friends together and talk” podcast. Then, because it was so structured with different tasks and lexical-grammatical content, they lost a little bit of that spark and enthusiasm. So... finding a balance between producing in a way that correlates to a scheme that fulfills certain objective functions and giving them the freedom to do things [is relevant]. (11-5-23.)

4.2.2. Written Scripts

As we have seen, although podcasts are an audio genre, the methodology by which these teachers have students produce podcasts as a language learning activity also involves the use of written skills. First, students obtain information on which to base their podcasts largely from online text sources, reading them critically and then synthesizing what they have learned into a short script, which they must then revise and edit with the help of their peers and teacher, all of which perforce involves using grammatical and lexical knowledge. In addition, the final podcast may include a visual component consisting of images as well as short written texts, which are synchronized with the audio. All of this amounts to a sophisticated use of writing as a cognitive tool to manipulate content, construct meaning, prepare target language discourse and even practice pronunciation from reading or memorizing the audio. In this way, recording practice brings procedural tools to the learner.

Javier's students provide a multilingual and sophisticated example of this, with the written transcript of their podcast translated into Chinese, the two languages paired by paragraph and accompanied by images (Figure 4). The linguistic and cultural effort required to put together a multimodal discourse like this—oral, written (in two writing systems) and graphic—implies the sort of resolution of highly complex hybrid tasks of reading multiple documents to “write an academic text” that is typical of higher education (Castelló, Bañales & Vega-López, 2011).

Thus, in the field of SFL teaching/learning, recording podcasts is not only an oral task of expression to practice pronunciation or fluency, but also a very complete activity that involves the use of academic bibliography, critical comprehension, synthesis of content and the writing of a discourse intended for listening that is more subtle and specific than most university writing assignments. One of the informants summed it up as follows:

[...]Prosumeracting [Hector's personal term, created from producing + consuming + interacting; prosumirtuación in Spanish] or the creation of content through podcasts [involves] critical reflection, metalinguistic reflection, that ability to be critical [...] It is fundamental that the student understands that what he creates is useful. (Hector, 10-5-2023)

On the other hand, many of the topics addressed in the student podcasts we analyzed here were local and dealt with cultural practices or other elements linked to the students' community of origin, which sometimes posed special challenges when “explained in Spanish”. For example, how should one go about transliterating Chinese toponyms and ethnic names using the Latin alphabet (see, e.g., Figure 1), describe a Sardinian tradition in Spanish (Figure 3) or decide what background cultural information Spanish-speaking listeners will need to understand a podcast related to China (e.g., in Figure 4, will a listener need more data about the Spring Festival or Chinese geography)? In short, the podcast brings the student's culture and language of origin into contact with a potential Spanish-speaking audience, in an authentic context, and makes visible the difficulties inherent in intercultural communication, in a way that is reminiscent of video discourse (O'Grady, Knight & Cassany, 2023).

This last reflection confirms the theory (Cassany & Shafirova, 2021) that using podcasts is not a simple substitution of format from writing to speaking, but rather an important switch in didactic terms from a teacher ↔ student classroom task to a real communicative situation between SFL learners and a Spanish-speaking audience. The fact that the podcast is intended to connect with authentic speakers of the target language adds a special intensity to the task, thereby enhancing the student's motivation as well as their pride in the final product. For this reason, it is important that the podcast is broadcast on open access platforms and that these platforms offer the possibility of interaction between the podcast creator and their audience.

4.3. Limitations, Directions for Future Research

To conclude, we must first note that this research suffers from a fundamental limitation. Our three informants, despite the substantial number of student-authored podcasts which they have made available online, constitute a small sample on which to base broad generalizations about this topic. It is therefore

important that this research be complemented and reinforced with data obtained from many more teachers working in other countries and institutional contexts, thus affording a more comprehensive documentation of the use of podcasts in tertiary-level foreign language teaching-learning. It would also be of interest to explore the student's perspective by means of interviews and/or an analysis of their written podcast scripts. Lastly, a more in-depth observation of the full audio recording process would allow a more detailed understanding of how podcasting can be incorporated into a formal course and the efforts such a process is likely to require of both teachers and students. In addition, future research could follow in detail the evolution over time of students' communicative skills if they are expected to repeatedly produce self-directed and audience-directed podcasts, analyzing the impact of this resource on their teaching-learning process.

Other studies could focus on specific aspects of the podcast-production process: what are the characteristics of the student-created podcast script as a genre (is it a simple summary of contents or technical document with notes on sound effects, participants, etc.); exactly how do students go about doing the audio recording (how much do they rehearse, at what point does extemporizing become excessive, what are the features of a good performance, etc.); what scaffolding and feedback strategies and modalities do teachers employ (is feedback written or spoken, to what extent is pronunciation corrected, are rubrics used for evaluation, etc.)? Finally, it would also be of interest to compare the relative value for learning of heterodirected versus self-directed podcasts or individually created versus group-produced podcasts. In summary, despite the spoken nature of the final product, podcasting constitutes a powerful multimodal tool to enhance university-level language teaching and learning, and it would be useful to have further empirical evidence by which to guide its use more effectively.

Finally, we are greatly indebted to Javier Sabah, David A. Thöny and Héctor Ríos, our three teachers and informants, who kindly allowed us to interview them and without whom this article would not have been possible.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

Also, the research on which this paper is based forms part of a project entitled “OralGrab. Grabar vídeos y audios para enseñar y aprender (PID2022-141511NB) from the Generación del Conocimiento 2022 call (AEI, Spanish government). It has also benefited from funding from the competitive group GRAEL (Grup d'Ensenyament i Aprenentatge de Llengües) with the reference AGAUR 2021 SGR471.

Links to the podcast analyzed

Español para vos: <https://www.somosele.com/podcast-espanol-para-vos>

Ríos, Héctor. *ELEÚnica*: <https://podcasteleunica.wordpress.com/>

Ríos, Héctor. *Prosumidores ELE–No solo Podcast*. <http://podcastprosumidoresele.blogspot.com/>

Sabah, Javier: *La ventana de Guizhou*: <https://mp.weixin.qq.com/s/HPPRIbkdGa675DDMIsoqig>

Sabah, Javier: *Vidas en español*. Zhong Nanshan: <https://mp.weixin.qq.com/s/Yzghf84EAGwBdOfhbmscpQ>

Thöny, David A. *Prosumidorxs de Lengua*: <https://sites.google.com/view/prosumidorxsdelengua/ediciones?authuser=1>

Vidas en español: <https://vidasenespanol.com/podcasts/>

References

- Allué, C., & Cassany, D. (2023). Grabando vídeos: educación literaria multimodal. *Texto Livre*, 16, 1-19. <https://doi.org/10.1590/1983-3652.2023.41797>
- Bonini, T. (2015). La “segunda era” del podcasting: el podcasting como nuevo medio de comunicación de masas digital. *Quaderns del CAC*, 41(XVIII), 23-33.
- Bozorgian, H., & Shamsi, E. (2022). Autonomous use of podcasts with metacognitive intervention: Foreign language listening development. *International Journal of Applied Linguistics*, 32, 442-458. <https://doi.org/10.1111/ijal.12439>
- Bueno-Tena, A. (2015). El uso didáctico del podcast en el aula de ELE. *Boletín ELE Anatolia DDP Educativos en Turquía* (1), 19-30. Available at: <https://cpage.mpr.gob.es/producto/boletin-ele-anatolia/>
- Cabero, J., & Gisbert M. (2005). *Materiales formativos multimedia en la red. Guía práctica para su diseño*. Sevilla: Eduforma/Trillas.
- Cassany, D., & Shafirova, L. (2021). ¡Ya está! Me pongo a filmar: Aprender grabando vídeos en clase. *Revista Signos*, 54(107), 893-918. <https://doi.org/10.4067/S0718-09342021000300893>
- Castelló, M., Bañales, G., & Vega-López, N.A. (2011). Leer múltiples documentos para escribir textos académicos en la universidad: o cómo aprender a leer y escribir en el lenguaje de las disciplinas. *Pro-Posições*, 22 (1). <https://doi.org/10.1590/S0103-73072011000100009>
- Celaya, I., Naval, C., & Arbués, E. (2020). Netnographic Study of Transmedia Communities around the Podcast: New Horizons in the Study of Digital Learning Ecologies. *Education in the Knowledge Society*, 21, 1-10. <https://doi.org/10.14201/eks.23388>
- Fox, A. (2008). Using podcast in the EFL classroom. *TESL-EJ*, 11(4). Available at: <http://tesl-ej.org/ej44/a4.html>
- García-Marín, D. (2019). La radio en pijama. Origen, evolución y ecosistema del podcasting español. *Estudios Sobre el Mensaje Periodístico*, 25(1), 181. <https://doi.org/10.5209/ESMP.63723>
- García-Marín, D. (2020). La podcastera española como comunidad de aprendizaje no formal. Competencias y estrategias educacionales desarrolladas por los podcasters independientes. *Journal of Communication*, 20, 201-220.
- Guiloff, K.; Puccio, C., & Yazdani-Pedram, A. (2006). *Educating. Aplicacions educatives de la Web 2.0*. Available at: <https://ciberespinal.org//comuje07/pdf/2comunica/0201.pdf>
- Hasan, M., & Hoon, T.B. (2013). Podcast applications in language learning: A review of recent studies. *English Language Teaching*, 6(2), 128-135. <https://doi.org/10.5539/elt.v6n2p128>
- Heilesen, S.B. (2010). What is the academic efficacy of podcasting? *Computers & Education*, 55(3), 1063-1068. <https://doi.org/10.1016/j.compedu.2010.05.002>
- Herrera-Jiménez, F.J. (2007). Web 2.0 y didáctica de lenguas: un punto de encuentro. *Glosas Didácticas*, 16, 18-26.
- Holec, H. (1981). *Autonomy and foreign language learning*. (First published 1979). Pergamon. Council of Europe.
- Hsiao, D.L., & Vieco, M. (2012). El podcast bien entendido en curso intensivo es más divertido. *MarcoELE*, 15, 1-12.
- Hsiao, D.L.P., & Vieco, M. (2015). “Mi vida loca”: ejemplo de explotación didáctica y reflexiones en torno a su integración en ELE. *RedELE*, 27, 100-117.
- Laaser, W., Jaskiloff, S.L., & Rodríguez-Becker, L.C.R. (2010). Podcasting: ¿Un nuevo medio para la Educación a Distancia? *Revista de Educación a Distancia (RED)*, 23. Available at: <https://revistas.um.es/red/article/view/111681>

- Levinson, B.A., Sandoval-Flores, E., & Bertely-Busquets, M. (2007). Etnografía de la educación. Tendencias actuales. *Revista Mexicana de Investigación Educativa*, 12(34), 825-840.
- Lundström, M., & Lundström, T.P. (2021). Podcast ethnography. *International Journal of Social Research Methodology*, 24(3), 289-299. <https://doi.org/10.1080/13645579.2020.1778221>
- Martínez, P. (2022). *Estado del podcast en español*. Ivoox. Available at: <https://www.ivoox.com/blog/informe-se-duplica-el-tiempo-de-escucha-y-se-consolida-el-apoyo-directo-a-los-creadores/>
- O’Grady, J.R., Cassany, D., & Knight, J. (2022). For All the Fanatics of Drama Out There - This is Your Book!. An Analysis of Student Podcast Compositions for Responding to Literary Texts. *Changing English*, 30(1). <https://doi.org/10.1080/1358684X.2022.2124149>
- O’Grady, R., Knight, J., & Cassany, D. (2023). I represented Tybalt in straight red lines: developing a multimodal approach for teaching Shakespeare to lower secondary age pupils, *English in Education*. <https://doi.org/10.1080/04250494.2023.2266438>
- Phillips, B. (2017). Student-Produced Podcasts in Language Learning - Exploring Student Perceptions of Podcast Activities. *LAFOR Journal of Education*, 5(3), 157-171. <https://doi.org/10.22492/ije.5.3.08>
- Rime, J., Pike, C., & Collins, T. (2022). What is a podcast? Considering innovations in podcasting through the six-tensions framework. *Convergence*, 28(5), 1260-1282. <https://doi.org/10.1177/13548565221104444>
- Ríos, H.R. (2017). De consumidores pasivos a prosumirtuadores de contenido en la didáctica de la enseñanza-aprendizaje de lenguas: no solo podcast. *Boletín de la Asociación para la Enseñanza del Español como Lengua Extranjera*, 56, 31-43.
- Rockwell, E. (2009). *La experiencia etnográfica. Historia y cultura en los procesos educativos* (171-184). Buenos Aires: Paidós.
- Rodríguez-Rodríguez, M.N. (2012). El podcast: una herramienta didáctica novedosa para E/LE. *Artículos ULPG*. Available at: <http://hdl.handle.net/10553/25947>
- Rodríguez-Luque, C. (2022). El poder de los podcasts. Contar historias a través del sonido. *Doxa Comunicación*, 409-410.
- Rosell-Aguilar, F. (2007). Top of the pods - In search of a podcasting “podagogy” for language learning. *Computer Assisted Language Learning*, 20(5), 471-492. <https://doi.org/10.1080/09588220701746047>
- Solano-Fernández, V., & Sánchez-Vera, M.M. (2010). Aprendiendo en cualquier lugar: el podcast educativo. *Pixel-Bit*, (36), 125-139.
- Stajka, R. (2013). Educational use of podcast. The Fourth International Conference on e-Learning. The *Fourth International Conference on e-Learning* (90-94). Belgrade, Serbia.
- Urrutia, M., Dos-Santos, E., & Cassany, D. (2022). Clubhouse: conversaciones para enseñar y aprender español. *Journal of Spanish Language Teaching*, 9(1), 65-80. <https://doi.org/10.1080/23247797.2022.2096188>
- Yeh, C.C. (2013). An investigation of a podcast learning project for extensive listening. *Language Education in Asia*, 4(2), 135-149. https://camtesol.org/Download/LEiA_Vol4_Iss2_2013/LEiA_V4_I2_A4_Yeh_Investigation_of_Podcast_Learning_Project_for_Extensive_Listening.pdf

Published by OmniaScience (www.omniascience.com)

Journal of Technology and Science Education, 2024 (www.jotse.org)



Article’s contents are provided on an Attribution-Non Commercial 4.0 Creative commons International License.

Readers are allowed to copy, distribute and communicate article’s contents, provided the author’s and JOTSE journal’s names are included. It must not be used for commercial purposes. To see the complete licence contents, please visit <https://creativecommons.org/licenses/by-nc/4.0/>.