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Parents' multilingual storytelling in the school setting: exploring influence on family language practices

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ABSTRACT

The family language policies (FLP) that parents establish while communicating with their bi- and multilingual children are essential to the development of their children's linguistic repertoire and multilingual development. The involvement of parents in the implementation of multilingual pedagogies in preschool settings can play a fundamental role in fostering awareness on topics related to multilingualism. This paper explores school-based multilingual storytelling activities conducted by parents in a preschool in northern Italy. The activity was designed as part of the project L'AltRoparlante (Carbonara & Scibetta, 2020), an Italian network of schools which adopted multilingual pedagogies at curricular level. The findings suggest that involving parents in multilingual pedagogies has an influence on family language use as they encourage children's linguistic diversity awareness and parents' biliteracy planning. Parents' involvement in multilingual pedagogy can be a useful strategy to build inclusive home-school collaborations and to quide parents in reflecting about their FLP and in shaping storytelling activities in their home languages.

Key words: Multilingual Pedagogies, Multilingual Storytelling, Home-School Collaboration, Family Language Policies

Las políticas lingüísticas familiares (PLF), que las familias adoptan en la comunicación con sus hijos e hijas bi- o multilingües, son esenciales para desarrollar el repertorio multilingüe en la infancia. La participación de los progenitores en la realización de prácticas pedagógicas multilingües en entornos prescolares puede desempeñar un papel fundamental en la promoción de la conciencia sobre el multilingüismo. En este artículo se examinan actividades de storytelling multilingüe realizadas por las familias de una escuela infantil del norte de Italia. La actividad es parte del proyecto L'AltRoparlante (Carbonara & Scibetta, 2020), una red de escuelas italianas que han adoptado metodologías multilingües a nivel curricular. Se observa que la participación de las familias en actividades escolares multilingües también influye en la lengua utilizada en el hogar, ya que estas fomentan tanto la conciencia de la diversidad lingüística en los niños y las niñas como la planificación de una alfabetización bilingüe por parte de los progenitores. La participación de las familias en la formación multilingüe podría ser una estrategia útil de colaboración inclusiva entre familia y escuela, para guiar la reflexión sobre las PLF y ayudarles a crear sus propias actividades de storytelling en los idiomas hablados en su hogar.

Palabras clave: Pedagogía multilingüe, storytelling multilingüe, colaboración familia-escuela, políticas lingüísticas familiares

Le politiche linguistiche familiari (FLP) adottate dai genitori nella comunicazione con i loro figli bi- o multilingui sono essenziali per ampliare il loro repertorio multilingue. Coinvolgere i genitori nella realizzazione di pratiche multilingui può promuovere la consapevolezza su alcuni temi del multilinguismo nei genitori stessi. L'articolo esamina attività di *storytelling* multilingue realizzate dai genitori degli alunni di una scuola materna del Nord Italia. L'attività fa parte del progetto L'AltRoparlante (Carbonara & Scibetta, 2020), una rete di scuole italiane che adotta metodologie multilingui a livello curricolare. I risultati suggeriscono che il coinvolgimento dei genitori in attività scolastiche multilingui influisce sulla lingua usata in famiglia, poiché esse incoraggiano i bambini alla consapevolezza sulla diversità linguistica, e i genitori alla programmazione di un'alfabetizzazione bilingue in famiglia. La partecipazione dei genitori alle attività scolastiche multilingui può essere utile per instaurare collaborazioni casa-scuola inclusive, per guidare alla riflessione sulle FLP e alla creazione autonoma di attività di *storytelling* nelle varie lingue parlate a casa.

Parole chiave: PEDAGOGIA MULTILINGUE, STORYTELLING MULTILINGUE, COLLABORAZIONE CASA-SCUOLA, POLITICHE LINGUISTICHE FAMILIARI

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1. Introduction

Classrooms across the globe are becoming more linguistically and culturally heterogeneous, yet most educational systems remain based on monolingual practices. In addition, schools that offer bilingual programs do so by considering mainly languages with a prestige status such as English and by keeping the languages of instruction separated (Cummins, 2021). This is also the case for Italian mainstream education, where the languages brought to the classroom by students with migratory backgrounds tend to disappear and where multilingual speakers are constrained into an Italian-only language policy. In limited contexts around the world (Carbonara & Scibetta, 2022; CUNY NYSIEB, 2021; Duarte & Günther-van der Meij, 2020; Little & Kirwan, 2019), things are now slowly changing as research draws attention to the positive outcomes of recognising and validating the use of all the languages of the classroom in the teaching and learning process for both emergent bilingual and monolingual students. This growing attention on multilingual pedagogies points to benefits for both monolingual and multilingual children (Carbonara, 2022; Juvonen & Källkvist, 2021; Ascenzi-Moreno & Espinosa, 2018; Maynard & Armand, 2016) as well as for the whole educational community (Carbonara & Scibetta, 2022; Cummins, 2019; Creese & Blackledge, 2010). Due to the lack of materials in the minority languages, multilingual pedagogies often include the involvement of parents to provide linguistic input in other languages (which are not the school's main language). Even though bi/multilingual parents play an essential role in the multilingual classroom activities (i.e., translating words, reading stories in their mother tongue, illustrating culture-specific traditions), research is yet to investigate if and how parent-led activities in a multilingual pedagogy influence family language practice as part of family language policies.

This study explores the influence of multilingual pedagogies, with a specific focus on multilingual storytelling and on parents whose children attend a public nursery school in northern Italy. The paper investigates the ways in which multilingual pedagogies (and in particular storytelling activities) have an influence on family language practices. Specifically, it examines the impact of multilingual storytelling activities on the participants of the study and on their language use and biliteracy practices with their children in the home setting. The extent to which the involvement of parents in multilingual pedagogies have an impact on parents and on children is also investigated. Additionally, the expected results are designed to support educators in building inclusive and participatory home-school collaborations while guiding multilingual parents in shaping reading activities in the home languages with their children from an early age.

2. Theoretical framework

In this section, the two main theoretical perspectives that this study draws from are presented, and previous studies on similar issues are discussed. Section 2.1 focuses on the concept of multilingual pedagogies, with specific attention to the involvement of parents in multilingual classroom activities (e.g., storytelling activities). Section 2.2 describes literacy activities (e.g., storytelling activities) as part of family language policies.

2.1. Multilingual pedagogies

The term multilingual pedagogies refers to educational instructions that include the development of classroom activities based on the recognition of the students' linguistic repertoires and on the fact that all the languages in the class are considered as valuable tools for learning. Moving away from a monolingual ideology and from the separation of languages that characterises bilingual school programs around the world, the term multilingual pedagogies indicates different pedagogical approaches such as the translanguaging pedagogy developed by the CUNY-NYSIEB (CUNY-NYSIEB, 2021), the Council of Europe's "éveil aux langues" (awakening to languages) approach (Council of Europe, 2012), and the "identity text" approach (Cummins & Early, 2006). Despite some differences, these pedagogies share a common understanding of the importance of drawing on students' mother tongues and of the positive effects that this practice can have on the entire class. Research that investigated the implementation of multilingual classroom activities highlighted the positive outcomes of adopting multilingual teaching and learning strategies without having a negative impact on learning the school language. Further studies also reported the development of students' metalinguistic awareness (Leonet et al., 2020; Candelier, 2017), the positive impact on emergent bilinguals' literacy outcomes (Carbonara et al., 2023; Kirwan, 2020; Ascenzi-Moreno & Espinosa, 2018), the creation of inclusive and democratic classroom environments (Menken et al., 2018; Brown, 2012), a change in the educators' attitude towards bilingualism and multilingualism (Scibetta & Carbonara, 2020) and a positive influence on the learning process of another language (Cummins, 2000; Hopp & Thoma, 2021; Turnbull, 2019).

2.1.1. Parents' involvement in multilingual pedagogies

As outlined by Lotherington (2008), no matter how polyglot, no teacher adopting multilingual pedagogies can be expected to know how to communicate in all the languages of each child in the class. For this reason, amongst the actors involved in the implementation of multilingual pedagogies in the classroom, parents play a significant role. As described in the European Union report Eurydice (2019), almost all European educational systems stress the importance of the collaboration with parents and carers as it is considered essential for pupils' integration (Eurydice, 2019). In this vein, research underscored the relevance of involving parents in school life (e.g., attending school meetings, helping with homework) and creating positive homeschool relations since these can influence students' academic outcomes (Santos et al., 2016; Wilder, 2014; Jeynes, 2012). Nevertheless, the same European report (Eurydice, 2019) also specifies that, according to some school headteachers, when parents do not speak the majority language (e.g., the school language) their involvement and collaboration in school activities tend to be lower (Eurydice, 2019). Similarly, Kirsch and Bergeron-Morin (2023) specify that parental involvement can be difficult because of existing power relations which do not allow parents with minority home languages to be heard and valued in the school setting. The collaboration with parents in the context of multilingual pedagogies can contribute to overcoming such power barriers and creating a more inclusive school environment.

2.1.2. Parents' collaboration through storytelling

Previous studies examined the potential of direct involvement of bi/multilingual parents with a migratory background in the multilingual activities as part of multilingual pedagogies. For instance, there are studies which analysed parents' involvement in a variety of activities such as homework, translation of words, and reading activities (Armand et al., 2021; Cummins & Early, 2006; Hélot & Young, 2006; Kambel, 2019; Kirsch & Bergeron-Morin, 2023; Svensson & Svensson, 2022). Amongst the multilingual activities that parents can be involved in, storytelling has the potential to create meaningful linguistic exposure. Stories can help to establish a positive attitude towards other languages (Krashen, 2004), moreover, given its oral and social dimension, storytelling can be an emotionally positive experience for the students (Masoni, 2018). In addition, exposure to storytelling in other languages can foster students' listening and comprehension skills (Hemmati et al., 2015) and support understanding and word memorising processes (Cabrera & Martínez, 2001).

Despite considering parents' direct involvement in the multilingual activities, current research has not examined the influence of parent-led multilingual activities on family language practices. Hence, in this study, the involvement of parents in the implementation of multilingual storytelling activities will be examined, together with the influence of such activities on family language practices.

2.2. Family language policies

Despite the assumption which characterises the Italian society as monolingual, the linguistic reality of many Italian households can indeed be described as bilingual or multilingual. An increasing number of students whose parents migrated to Italy, grow up with more than one language, i.e., the home language and the language of instruction. The growing field of research into family language policy (FLP) investigates the dynamics and motivations that determine the loss and maintenance of immigrant groups' and translational families' home languages (Curdt-Christiansen, 2013). Research on FLP has investigated a variety of issues such as (1) the influence of macro-level language policies (e.g., national language policy, language in education policy) on FLP dynamics (Lane, 2010; Canagarajah, 2008), (2) parents' language planning at home through specific strategies such as one parent-one language or minority language-only at home (Baker, 2011; Caldas, 2012), (3) parents' attitudes and ideology and how they affect FLP (Piller & Gerber, 2018) and (4) everyday bi/multilingual family interactions (Hiratsuka & Pennycook, 2020; Van Mensel, 2018; Soler & Zabrodskaja, 2017). While it is essential for each family to formulate and implement its unique FLP, research suggests a significant positive impact when children are exposed to two or more languages from an early age. Contrary to potential concerns, such exposure has been shown to not negatively impact language development; instead, it actively supports and enhances it (Cummins, 1979; Sorace, 2007).

2.2.1. Storytelling as a family language practice

Within the framework of FLP, language planning is an integral component, encompassing deliberate strategies and decisions made by families to actively support the development and maintenance of specific languages within the household. Reading activities at home fall into the variety of strategies parents might adopt. The languages in which the parents decide to carry out storytelling practices at home depends on the

FLP, with a specific focus on the language identified for the home literacy. Storytelling is a normal activity parents engage in with their children (Helms-Park et al., 2022) and, amongst other literacy practices, has the potential to develop children's early skills such as phonological awareness and vocabulary outcomes (Niklas & Schneider, 2017; Tamis-Lemonda et al., 2014). Drawing on these considerations, it can be said that (the parental) home language literacy is fundamental to the development of the children's multilingual repertoire (Schalley & Eisenchlas, 2022; De Houwer, 2020; Unsworth et al., 2019). This seems to be particularly significant for emergent bilinguals who receive their education in their L2, and whose exposure to their L1 might be limited to the home environment. In these circumstances, multilingual pedagogies (Carbonara & Scibetta, 2020; Cummins & Early, 2010) can play a fundamental role to foster parents' awareness on topics related to bi/multilingualism and language choices, and to support their storytelling practices at home.

3. Study method: research context, participants and data collection

This paper examines the influence of parent-led multilingual pedagogies (i.e., multilingual storytelling activities) on family language practices as part of family language policies. The participants of the study took part in a multilingual activity which entailed bi/multilingual parents reading children picture books in Italian and in their home languages in an Early Years department. This paper intends to investigate whether and how multilingual parent-led storytelling activities in class influence family language practices.

3.1. Research context

The study took place in a nursery section of an Early Years department at a school in northern Italy. Since 2021, the Early Years department has been taking part in the project L'AltRoparlante (Carbonara & Scibetta, 2020), a network of Italian schools that since 2016 have adopted multilingual pedagogies at curricular level. L'AltRoparlante is a transformative action-research project (García & Kleyn, 2016) where researchers from the University for Foreigners of Siena (Carbonara & Scibetta, 2022) and teachers from six Italian schools co-design and implement multilingual pedagogies in class. Drawing on previous theoretical and practical implementations of multilingual pedagogies (i.e., De Mauro's democratic linguistic education (2018); Cummins and Early's identity text approach (2006); the CUNY-NYSIEB's translanguaging pedagogies (2021); the pluralistic approaches of the Council of Europe (Council of Europe, 2012)), L'AltRoparlante project's main goal is to support the development of students' multilingual repertoires and to create inclusive and democratic learning environments that accept and value linguistic and cultural diversity. In order to do that, a variety of activities are carried out such as training courses and workshop sessions with teachers on topics regarding multilingualism, regular meetings with teachers to co-plan multilingual activities, and presentations with parents regarding multilingual activities at school and at home. By focusing on parent's involvement, this study builds on the L'AltRoparlante project whereby different aspects of multilingual pedagogies were already investigated such as (1) teachers' practices and beliefs regarding multilingual pedagogies (Carbonara & Scibetta, 2022; Carbonara, 2022), (2) students' perspectives and uses of their multilingual repertoires (Scibetta & Carbonara, 2020) and (3) the influence of multilingual pedagogies on students' literacy outcomes (Carbonara et al., 2023; Carbonara, 2022).

3.2. Data collection

The participants of this study are mothers (N=15) whose children attend the nursery section where the study was conducted. The participants were recruited with the support of the school staff that has a direct connection with the parents and that offer an Italian language course to support minority language mothers to learn the language of their children's schooling, i.e. Italian. The data collection process was divided into three phases.

The first phase, conducted in March 2023, included the administration of a sociolinguistic questionnaire to the participants of the study. The questionnaire was designed in three sections to collect the following information: (1) participants' socio-demographic and linguistic information; (2) participants' attitudes towards bi/multilingualism; (3) participants' reading habits at home. With the help of professional translators and interpreters, the questionnaire was translated into the home languages of the participants, allowing them to freely choose the language to use when filling in the questionnaire (N=3 replied in Urdu; N=5 in English; N=5 in Arabic; N=2 in Italian).

The second phase of the data collection, in the months of April and May 2023, was the observation of the storytelling activities in class. This phase was designed in the following way:

- 1. two visits to the local library with the participants' Italian language teacher (the first visits were aimed at allowing the participants to familiarise themselves with the place; the second visit allowed each participant to choose one book or picture book for the storytelling activity in class)
- 2. two sessions with the school staff to read and familiarise with the materials chosen
- 3. three storytelling sessions in class.

The storytelling activities in class involved 74 children, with 59 children belonging to families with a migratory background. The age of the students that attended the storytelling activities ranged between 3 and 5 years old and their linguistic repertoires involved their home language (mainly Urdu, Punjabi and Arabic) as well as Italian, which is the language of instruction.

The third phase, in June 2023, included carrying out two focus groups with the same participants to test whether the activities had an influence on family language practices. The focus groups were conducted with two professional mediators. One focus group, involving 10 participants, was carried out with the support of an Urdu and Punjabi mediator and the other focus group, including 5 participants, was conducted with an Arabic mediator. Each focus group lasted approximately 90 minutes. With regards to the ethics, participants' consent was collected at the beginning of the study. Moreover, privacy authorization forms for the minors that attended the storytelling activities were gathered.

In this paper, the data collected through the questionnaires is analysed through descriptive statistics to understand the participants' background and their family language practices, with a specific focus on the home language. In addition, the data collected through the class observations was coded into categories in order to scrutinise the intervention's dynamics (Klette & Blikstad-Balas, 2018). Finally, the data collected through the focus groups was transcribed and the analysis was conducted with the use of the software NVivo, following the Qualitative Content Analysis framework (Mayring, 2000). According to this method, the researcher conducts a data-driven analysis where categories ('nodes'), which is to say recurring patterns in the data, can be identified. The qualitative (assigning the categories) and quantitative (the frequency of the categories) analysis is systematic and context dependent as it is committed to understanding and reporting participants' viewpoints (Hoffman et al., 2012; Mayring, 2014; Schreier, 2014). Moreover, the patterns are then classified into existing theoretical categories (e.g., family language policies, multilingual storytelling, home literacy, etc.).

3.3. Participants

The sociolinguistic questionnaire made it possible to collect information on the participants' background as well as on their family language policies with a particular focus on storytelling activities at home prior to the multilingual activities.

The participants are all female and their age ranges from 27 to 40 years old. They are all stay-at-home parents and live in a small town in northern Italy. They come from India (N=5), Pakistan (N=5), Morocco (N=4) and Egypt (N=1). The participants identified their mother tongues as Arabic (N=5), Punjabi (N=6), Urdu (N=2), Urdu and Punjabi (N=2). All the participants are resident in Italy and their time spent in Italy ranges from 6 to 19 years. More than half of the participants (54%) are university-educated, 27% have a high school diploma, 13% have a middle school diploma and 7% did not provide information on their education. As described in section 3.2, the participants attend an Italian language course organised by the school their children attend. According to their self-evaluation of their knowledge of Italian, 56% of the participants describe their speaking skills as 'intermediate', 25% as 'good' and 19% as 'basic'. In addition, 46% of the participants described their Italian reading skills as 'excellent', 40% as 'good', 7% 'intermediate' and 7% as 'basic'. Regarding their writing skills in Italian, 40% of the participants described them as 'good', 33% as 'intermediate' and 7% as 'excellent'. Finally, 60% of the participants described their listening skills in Italian as 'good', 27% as 'excellent', 6.5% as 'intermediate' and 6.5% as 'basic'. Regarding the participants' linguistic background and family language policy, the data collected shows that most of the participants (N=13) live with their husband or partner while the rest (N=2) live with their extended family. As Table 1 shows, the majority (N=9) describes their family language policy as bi/multilingual, while the others (N=6) describe it as monolingual (e.g., Arabic-only, and Urdu-only).

Table 1
The language used at home

Language(s) at home	Number of participants	Family language policy
Arabic-only	4	Monolingual
Urdu-only	2	Monolingual
Arabic and Italian	1	Bilingual
Urdu and Italian	1	Bilingual
Urdu and Punjabi	1	Bilingual
Punjabi and English	1	Bilingual
Urdu, English and Italian	1	Multilingual
Punjabi, English and Urdu	4	Multilingual

To better define their FLP, further questions were asked in relation to the specific home activities and practices that the participants carry out with their children, such as language use while sharing a meal and watching television as Table 2 below shows.

Table 2
Language use during specific home activities

Home activities	Never	Rarely	Sometimes	Often	Always
Use of Italian while sharing a meal	0%	20%	26%	27%	27%
Use of home language while sharing a meal	0%	20%	20%	20%	40%
Use of Italian while watching TV	0%	0%	23%	31%	46%
Use of home language while watching TV	0%	18%	27%	18%	37%

The answers to these questions show two different practices. Firstly, the activity of watching TV tends to happen more often in Italian compared to the same activity in the home language. This might be influenced by the monolingual Italian TV screening. Secondly, amongst the participants, those who replied 'always' or 'often' to both questions regarding the activities (share a meal and watch TV) in their home language, are the ones that share Arabic as a home language. In relation to this, participants that described their practices as involving many languages were also asked what determines which language to use. 33% of the participants replied that the language choice depends on which language their child will understand better, 28% said it depends on what language comes to their mind, 28% said it depends on where they are and 11% on what they are talking about.

Regarding storytelling activities, the questionnaire made it possible to collect data on the participants' reading and storytelling practices at home. Participants were asked if there are moments dedicated to reading with their children at home and, if there are, how often and in which language(s). The majority of the participants (N=13) answered 'yes' when asked whether there are moments dedicated to storytelling at home, two participants (N=2) answered 'no' and one participant did not reply. Moreover, the participants were asked in which language storytelling is conducted at home as the Table 3 below shows.

Reading and storytelling practices at home

Storytelling practices	Never	Rarely	Sometimes	Often	Always
Storytelling activities in Italian	0%	27%	13%	27%	33%
Storytelling activities in the home language	13%	0%	20%	27%	40%

Similarly to the data presented in Table 2, the data presented in Table 3 shows that the majority of the participants that replied 'always' regarding storytelling in their mother tongue are Arabic speakers. Moreover, the same participants also replied 'rarely' to storytelling in Italian. On the contrary, the participants whose mother tongue is Punjabi, explained that storytelling takes place more often in Italian. In addition, the same participants also pointed out that, if they read in a language different from Italian they usually read in English.

In addition, the questionnaire aimed to understand if the parents could access materials to conduct readings in multiple languages (i.e. home language and Italian) and if they were satisfied with the resources

available to raise their children with more than one language. Most of the participants (N=10) declared they did not have materials at their disposal to read in their home language. Similarly, the same number of participants (N=10) stated they were not satisfied with the available resources.

The data presented in this section made it possible to identify the participants' language use at home and their habits in relation to storytelling. Drawing from this context, the following sections illustrate the analysis and findings.

4. Analysis and findings

This section will discuss the main findings of the study. First, section 4.1 describes the data collected through class observations and section 4.2 outlines the results related to the influence of the activity on family language practices.

4.1. The storytelling activities in class

Three sessions dedicated to multilingual storytelling were carried out through class observations. The books, picture books and silent books were selected by the participants at the local library with the help of their Italian language teacher and they covered topics appropriate to the children's age group (3-5 years old) such as animals, friendship, etc. The storytelling was conducted by the parents in Urdu, Punjabi, Arabic, English, Italian and Wolof. These activities were organised in a common room where the parents entered and waited for the children. Each child knocked at the door and asked for permission to enter the room in the language they wanted, similarly the parents replied in their mother tongues. Through this introductory moment, a new 'shared' multilingual space was created where all the languages brought by the parents and the children were accepted, valued, and used. The observations made it possible to identify two similar but different activities: (1) plenary storytelling moments and (2) small-group storytelling moments.

During the (1) plenary storytelling moments, the 15 participants were divided into couples with one participant reading in Italian and one participant reading in her mother tongue. The reading was conducted with the students arranged in a semi-circle and the two participants sitting in front of them. To support the children's comprehension and participation, the storytelling was carried out in a dialogic way by asking them questions and translations, and by giving verbal and non-verbal confirmation. Moreover, the participants adopted strategies such as emphasizing key words with the tone of voice, with gestures, and in some cases, with the support of a projector where the book's pages were screened. Despite the participants' familiarity with the materials, as detailed in Section 3.2, their actions remained spontaneous as they independently decided how to engage during the activities.

The second type of storytelling activity that was identified through class observations was organised in (2) small groups. Each group was led by a parent that read the same book that the children had listened to during the plenary reading. This activity was more informal and allowed a greater participation from the children. Parents allowed children to speak, they asked them questions, pointing to pictures in the books, and added information.

Table 4 below illustrates the participants involved in every session and the activities conducted. The observation made it possible to see that the parents' participations were different. Some mothers were more open and eager to speak to the entire class in both their mother tongue and in Italian, whereas other mothers only used Italian while communicating 'outside' the storytelling moments. Finally, through the observation, a participatory and inclusive environment was observed which offered an example of direct home-school collaboration which benefited the three parties involved: the children's interest and participation showed their positive reaction to the activity, the teachers were able to see the parents with their children in an informal but still school-related setting, and the mothers experienced a new kind of involvement with the school by becoming the protagonists of the activity since they brought their linguistic knowledge to the class

Table 4
Storvtelling activities in class

Session	Participants involved	Location	Activities	Languages
Session 1	26 students,	Common	1. Students' entering the room	Italian, Arabic,
	2 teachers,	room	2. Plenary storytelling conducted by 6	Urdu; Wolof1
	16 parents ¹		participants	
	·		3. Small group storytelling conducted	
			by 6 participants	
Session 2	24 students,	Common	Students' entering the room	Italian, Arabic,
	2 teachers	room	2. Plenary storytelling conducted by 4	Punjabi, English
	16 parents		participants	
	·		3. Small group storytelling conducted	
			by 6 participants	
Session 3	24 students,	Common	Students' entering the room	Italian, Urdu,
	2 teachers	room	2. Plenary storytelling conducted by 6	Punjabi, Arabic
	16 parents		participants	•
	•		3. Small group storytelling conducted	
			by 6 participants	

4.2. The focus groups: after the activities

Drawing on the context described in the previous sections, the analysis of the focus groups conducted after the storytelling activities is presented in this section. In order to do that, excerpts of the focus group transcriptions are provided. Since the focus groups were conducted with mediators, the excerpts report the interpretation provided by them and not the participants' direct speech.

The analysis of the data collected through the focus groups and conducted through Nvivo software identified 8 codes structured into main nodes and child nodes (sub-nodes) that represent the recurring patterns in the participants' discourse. In this paper, the excerpts related to the influence of the multilingual storytelling activities on family language practices and language use are presented and analysed.

4.2.1. Parents' experience during the storytelling activities

In general, the participants described the activity as a positive experience to them. Amongst the 12 references identified through the node 'Participants positive experience', 10 references draw attention to the confidence that reading in Italian and in their home language gave to the participants, whereas 2 references describe the emotion of pride that the participants felt while reading in their mother tongue. For instance, participant 3 explains that the activity helped her to reduce her fear and anxiety of reading in Italian.

Excerpt 1, P3

P3: Dice che è stata una bella occasione. Prima fare una frase (in italiano) era difficile magari per la paura o il primo step, adesso invece non ha più ansia e quando i bambini chiedono (di leggere) riesce a farlo.

P3: She says it was a great opportunity. Before making a sentence (in Italian) was difficult perhaps due to fear or the first step, but now she no longer has anxiety and when the children ask (to read) she manages to do it.

The participant's words suggest that removing these negative sensations while reading in Italian, allowed her to read a story in Italian at home whenever her children wanted to. Hence, it could be said that the acquired confidence has an influence on the literacy practices at home with a specific focus on those moments where the child requests a reading moment in Italian. Similarly, participant 4 explains that the multilingual activity allowed her to acquire confidence in reading in Italian.

¹ In total, the number of the parents involved in the activity is 16, yet one participant (Wolof mother tongue speaker) did not fill in the questionnaire and did not participate in the focus group.

Excerpt 2, P4

P4: Gli ha dato più confidenza, è passata la paura di	P4: It gave her more confidence, the fear of reading
leggere in italiano.	in Italian has disappeared.

On a similar note, the positive sensations felt by the participants are also related to the practice of reading in their mother tongue. Excerpt 3 reports participant 12's pride in reading in her mother tongue.

Excerpt 3, P12

P12: Ha detto che si sentiva fiera perché comunque era una sua lingua che leggeva davanti agli italiani che comunque per lei sono stranieri. Ma si sentiva proprio fiera a usare la sua lingua.

P12: She said she felt proud because in any case it was her language that she read in front of Italians who are foreigners to her anyway. But she felt really proud to use her language.

Participant 12's words highlight her pride in reading in her mother tongue (i.e., Arabic) in front of Italians. Similarly, participant 14 also stresses the sensation of pride she felt.

Excerpt 4, P14

P14: Ha provato un senso di orgoglio leggendo la	P14: She felt a sense of pride reading the story in her
storia nella madrelingua	native language

In opposition to these positive feelings, the corpus also includes two references to the participants feeling uneasy when reading in their mother tongue in class. For instance, participant 10 describes the storytelling experience in her mother tongue as 'strange'.

Excerpt 5, P10

P10: Ha detto che si sentiva un po' strano, perché	P10: She said she felt a bit strange, because she was	
comunque parlava arabo in mezzo agli italiani	speaking Arabic among the Italians	

On a similar note, participant 13 also defines the experience as 'strange'.

Excerpt 6, P13

P13: Si sentiva un po' nello spazio. Sì, perché era un	P13: She felt a bit in space. Yes, because it was a bit
po' strano.	strange.

Participant 13's use of the expression 'in space' suggests that these kinds of activities are not the norm, hence reading in Arabic in an Italian nursery school felt as out of the ordinary.

4.2.2. Classroom activity influence on FLP

In addition to the participants' sensations regarding the storytelling activity, the analysis also identified the main node 'influence on the language use at home', comprising 22 references. Amongst these, four child nodes (sub-nodes) can be identified, e.g., 'children linguistic diversity awareness', 'multilingual storytelling practices', 'library visits' and 'language use at home'.

Regarding the node, 'children linguistic diversity awareness', participants reported occasions in which their children, after having attended the storytelling activity in class, expressed interest and awareness in language diversity. For instance, one participant reported that her son, after having been exposed to the multilingual storytelling activity in class, started asking her mother to translate one Italian word in Punjabi (e.g., the home language) but also in Wolof (e.g., one of the languages involved in the activity) since he was exposed to that language during the activity.

Excerpt 7, P5

P5: Allora ha detto che suo figlio ha imparato questa					
abitudine che chiede in italiano una parola in					
punjabi, chiede come significa in italiano, però chiede					
anche in wolof, ma lei il wolof non lo sa.					

P5: Then she said that her son has acquired this habit that he asks in Italian a word in Punjabi, he asks how it is in Italian, but he also asks in Wolof, but she doesn't know Wolof.

The excerpt underscores that amongst the implications of carrying out multilingual storytelling activities, children's linguistic diversity awareness should be considered. More specifically, children's appreciation and curiosity regarding other languages and, in general of language diversity. Similarly, participant 8 explained that after hearing her mother reading in Urdu in the class, her children asked whether in Pakistan stories exist too.

Excerpt 8, P8

P8: Lei ha detto che quando ha letto la storia in urdu, i bambini hanno chiesto 'Mamma anche in Pakistan esistono le storie?' 'Certo che ci sono le storie' lei ha detto. Sono entrati in un altro mondo ha detto.

P8: She said that when she read the story in Urdu, the children asked 'Mom do stories exist in Pakistan too? 'Of course, there are stories' she said. They have entered another world she said.

Participant 8's words highlight two issues. Firstly, that one of the consequences of the multilingual activities is their children becoming aware of language diversity, with a specific focus on the fact that stories 'exist' in multiple languages and, as the child put it 'in other countries too'. Secondly, by saying 'They have entered another world' the participant suggests that such activities open a new world for the children, since they get exposed to a new reality that incorporates more languages.

The analysis made it possible to identify that the request to reproduce the reading came from the children. For instance, participant 4 explains that she read in Italian to her younger son, yet, after the activity, he asked her to read in Punjabi too.

Excerpt 9, P4

P4: Con mio figlio piccolo leggo in italiano e lui chiede mamma tu leggere anche in punjabi.

P4: With my little son I read in Italian, and he asks 'mum, you read in Punjabi too'.

Similarly, participant 1 shares that her daughter wants the storytelling moments to be alternated in Urdu and in Italian.

Excerpt 10, P1

P1: Lei adesso alterna, sua figlia a volte vuole ascoltare in urdu a volte in italiano.

P1: She now alternates, her daughter sometimes wants to listen in Urdu sometimes in Italian.

In addition, the data suggests that on other occasions, the multilingual storytelling activity is suggested by the mothers. For instance, participant 5 explains that she repeated the multilingual storytelling at home, whereas before she was only using board books with simple words to read to her child.

Excerpt 11, P5

P5: È il primo anno che è entrato qua e magari anche prima lei non dava importanza alle storie. Magari portava qualche libricino con i nomi di frutta o degli animali. Invece per lei adesso è più interessante proprio alla storia. Lo ripropone (attività storytelling).

P5: It's the first year she has come here and maybe before that she didn't give importance to the stories. Maybe she brought some little books with the names of fruit or animals. Instead, for her now it is more interesting precisely the story. She reproposes it (the storytelling).

This excerpt highlights that the influence in this case is not only on the language itself but on the literacy experience as a whole. The participant used to read books with simple vocabulary to her child, whereas after the storytelling activity, her interest shifted to the story as a narrative, and she replicated the storytelling practice at home. Excerpts 9, 10 and 11 made it possible to identify that the multilingual class activity also had an influence on the storytelling activities at home, suggesting that the school practice encouraged both mothers and children to repeat the activity in the home setting.

In a broader sense, the activity seems to have had an influence also on language use. The participants gave examples of tending to use two languages at home more frequently (home language and Italian) after the activity and reported their children's growing interest in their home language. Participant 2 explains that, after

the activity, she started using both languages (Punjabi and Italian) more, for example by asking her children to translate Punjabi words into Italian.

Excerpt 12, P2

Ha cambiato perché lei chiede ai bambini che cosa significa. Lei dice una parola in punjabi e i bambini She says a wo dicono la traduzione.

She changed because she asks the kids what it means. She says a word in Punjabi and the children say the translation.

On a similar note, participant 14 reports her children's interest in Punjabi (her mother tongue) after the class activities.

Excerpt 13, P14

Però è stato bello perché così almeno il suo interesse	But it was nice b
(dei figli) è aumentato anche in punjabi.	children) also inc

But it was nice because at least his interest (of her children) also increased in Punjabi.

This is in line with previous studies within the L'AltRoparlante project, that underscored that valuing all the languages of the class had a positive effect on emergent bilinguals since they feel included and valued and, as a consequence, they feel prone to use their home language more often (Carbonara & Scibetta, 2020).

Finally, the last sub-node identified in the analysis is related to the development of a new habit of going to the library. As explained in section 3.2, the visits to the local public library were part of the activity and they took place before the reading activity in the class. In relation to this, from the corpus of data collected, two references mentioned the new habit of going to the library. For instance, participant 3 reported that after the activity she now goes to the library with her son to choose books.

Excerpt 14, P3

E quindi è arrivato l'interesse di andare in bibliot	eca,
di scegliere il libro, di portare il suo bambino. Ade	esso
vanno (in biblioteca) lei e il suo bambino.	

And so, the interest in going to the library, to choose the book, to bring your child arrived. Now she and her child go (to the library).

As excerpt 11 also underscored, excerpt 14 highlights the impact of the activity on the whole literacy perspective. In this case, the reference is the practice of going to the library and of choosing the books to read to her child.

5. Discussion and conclusion

The study presented in this paper investigated the influence of parent-led multilingual activities in class on family language practices. The participants were involved in multilingual storytelling activities in class, with the intention of making home languages visible and creating an inclusive and democratic learning environment.

The findings show that parent-led storytelling activities influence family language practices in various ways. Firstly, in relation to the parents, the qualitative analysis conducted shows that the activity implemented had an influence in terms of boosting parents' confidence in reading in Italian at home and pride while reading in the mother tongue in class. Moreover, the findings also suggest that the implementation of multilingual pedagogies that directly involve the parents can support them in creating bi/multilingual storytelling moments at home. As reported in the previous section, parents reproduced the same activity at home, they managed to satisfy their children's request of reading in a specific language, and they took interest in storytelling, suggesting that the activity enhanced reflection on family language policies and on the planning and practice of literacy moments at home. In addition, the activity encouraged parents' visits to the local library. Secondly, in relation to the children, the analysis illustrates that children can benefit from multilingual learning activities in terms of language diversity awareness, development of interest in their home language and in storytelling. These findings are consistent with prior research that underscores the positive influence on children's development and learning when educators and parents collaborate (Aleksić et al., 2024; Lastikka & Lipponen, 2016). In the context of this intervention, the direct participation of parents in classroom activities not only influenced home language practices but also impacted home literacy activities. This suggests that the

collaborative efforts contributed to enhancing children's development in different ways such as in terms of children's curiosity towards languages, and questions, and demand for reading.

Furthermore, drawing from the participants' background detailed in Section 3.3, it can be asserted that the socio-educational backgrounds of the participants likely played a role in the predominantly positive outcomes of the activity. Unlike some other studies (Ankrum, 2016; Svensson et al., 2022), where parents with migratory or low socio-economic background faced challenges in collaborating with schools, in this study, most participants have an educational background and were in the process of learning Italian. This factor may have positively influenced their engagement and collaboration.

In addition, the observations make it possible to identify that involving parents created a positive and participatory home-school collaboration. The moments dedicated to the multilingual reading changed the usual class settings in two ways. First, parents became the centre of an activity which directly involved them as protagonists. Secondly, the activity stressed the attention on the knowledge (the mother tongues) brought by the parents into the school environment. This aligns with prior research on multilingual education (CUNY-NYSIEB, 2020; Cummins, 2019), which emphasizes that this approach helps to address challenges related to parents' involvement and collaboration, particularly in overcoming language barriers and differences in educational approaches (Svensson, 2022), in reshaping discourses of power and control over languages different from the majority one (Cunningham, 2019) and in valuing parents' contribution to education (Barnett et al., 2020). As highlighted in the literature (Kirsch & Bergeron-Morin, 2023; Kao, 2004), one of the problems of building positive home-school collaboration and involvement is the language barrier. In this case, placing the home language and the parents at the centre of the activity makes it possible to 'give a voice' to the parents and to value all the languages as suggested by the participants' feeling of pride. This is also consistent with European recommendations (European Commission, 2014) that advocate for the promotion and appreciation of family involvement in early childhood services, especially of immigrant parents who may encounter issues of segregation and exclusion.

Overall, this paper offered insights into the involvement of parents in literacy activities in class as part of multilingual pedagogies. Therefore, it contributes to studies in the fields of multilingual pedagogies and early literacy. The limitation of this study could be identified as the small number of parents that took part in the study. This was mainly because many parents do not regularly attend the Italian language class and, therefore, did not attend all the visits to the library and prepare for the storytelling practice. Nevertheless, despite being limited to a small context, this study might have implications for other nurseries since the activities presented could be replicated in other contexts. By planning multilingual pedagogies that involve parents, educators can support the creation of inclusive and participatory home-school collaborations which, in the short and long term, can benefit all the actors (parents, children and educators) involved.

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Focusing on derivational-driven cognate patterns to promote vocabulary acquisition in Spanish

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ABSTRACT

Cognates have been heavily incorporated into second language (L2) vocabulary instruction as they share form and meaning across languages and have demonstrated an advantage for learning. The present article aims to measure the effects of explicit, cognate, derivational-driven instruction in L2 Spanish. 49 intermediate-low Spanish learners participated in the experiment and completed a pre- and post-lexical decision task in Spanish, followed by a language history questionnaire. 25 learners composed the explicit instruction group and 24 composed the control group. Results from a three-way ANOVA (2x4x2) analyzing reaction times and accuracy demonstrate that both explicit and control groups process cognates and non-cognates faster in the post-test. However, participants in the explicit instruction group process cognates less accurately and non-cognates more accurately in the post-test, which could be attributed to the activation of formal lexical features of the instruction intervention. Results are interpreted in light of the nature of L2 instruction and lexical representation.

Key words: COGNATES, DERIVATIONAL PATTERNS, VOCABULARY INSTRUCTION, EXPLICIT INSTRUCTION

Los cognados se han incorporado ampliamente a la enseñanza de vocabulario L2, ya que comparten forma y significado en varias lenguas y han demostrado ser una ventaja para el aprendizaje. El objetivo de este artículo es medir los efectos de la instrucción explícita de cognados y derivaciones en español como segunda lengua (L2). 49 estudiantes de español preintermedio participaron en el experimento y completaron una tarea de decisión léxica (pre y post), seguida de un cuestionario sobre su historial lingüístico. 25 alumnos formaron el grupo de instrucción explícita y 24 el grupo de control. Los resultados de ANOVA de 3 factores que analiza los tiempos de reacción y precisión demuestran que tanto el grupo de instrucción explícita como el de control procesan cognados y no-cognados más rápido en la prueba posterior; sin embargo, los participantes en el grupo de instrucción explícita procesan los cognados con menor precisión y los no cognados con mayor precisión en la prueba posterior, lo que podría atribuirse a la activación de las características léxicas formales del tipo de instrucción (explícita). Los resultados se interpretan a la luz de la naturaleza de la instrucción en la L2, así como de la representación léxica.

Palabras clave: COGNADOS, PATRONES DE DERIVACIÓN, INSTRUCCIÓN DE VOCABULARIO, INSTRUCCIÓN EXPLÍCITA

Le parole affini vengono proficuamente incorporate nella didattica del lessico della L2 poiché hanno uguali forma e significato in più lingue. Questo articolo esplora gli effetti dell'insegnamento esplicito basato sul processo di derivazione e sulle parole affini nello Spagnolo L2. 49 apprendenti di spagnolo di livello pre-intermedio hanno completato una prova di decisione lessicale (pre e post) in spagnolo, seguita da un questionario sull questionario sulla storia della lingua. Di questi, 25 sono stati assegnati al gruppo di insegnamento esplicito, 24 al gruppo di controllo. I risultati emersi con ANOVA a tre vie (2x4x2) per analizzare i tempi di reazione e accuratezza rivelano che entrambi i gruppi elaborano più rapidamente parole affini e non affini nel post-test. Tuttavia, nel post-test il gruppo di insegnamento esplicito compie un'elaborazione delle parole affini in modo meno accurato e delle non affini in modo più accurato. Ciò potrebbe essere attribuito all'uso di caratteristiche di lessico formale nell'insegnamento. Si interpretano i risultati alla luce della natura dell'insegnamento della L2 e della rappresentazione lessicale.

Parole chiave: FALSI AMICI, SCHEMI DERIVAZIONALI, INSEGNAMENTO DEL VOCABOLARIO, INSEGNAMENTO ESPLICITO

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1. Introduction

Previous studies on vocabulary acquisition in general have focused on vocabulary and language proficiency (Hazenberg & Hulstijn, 1996; Hu & Nation, 2000), vocabulary and lexical frequency (Coxhead, 2000; Hu & Nation, 2000; Nation, 2001), explicit versus implicit learning (Ellis, 1994), and incidental versus intentional learning (Ellis & He, 1999; Horst, Cobb, & Meara, 1998; Kelly, 1986; Qian, 1996). Although over 30 years of research in L2 vocabulary acquisition has been promoted (Bogaards & Laufer-Dvorkin, 2004), several linguistic and pedagogical-related factors that can impact vocabulary instruction and acquisition remain unexplored— for example, understanding how lexical¹ connections develop and how lexical features² may be decisive for L2 development (Ard & Homburg, 1983; Dressler, 2001; Hancin-Bhatt & Nagy, 1994; Nagy, 1993). As in the case of cognates, words that share form and meaning across languages, learners can make L1-L2 lexical connections if exposed to efficient teaching practices that consider shared lexical features as they may not automatically transfer from one language to another (Tréville, 1996).

The present article proposes a cognate vocabulary activity that controls for derivational structural properties, word length, and lexical frequency values. This study aims to answer the following questions: 1) What is the role of explicit instruction in the processing and acquisition of new words (cognates) in L2 Spanish? 2) Do L2 Spanish learners benefit from the English-Spanish cognate overlap during L2 lexical processing? 3) Do L2 Spanish learners benefit from explicit instruction during L2 lexical processing? The goal is to optimize lexical processing and learning through predictable word-formation patterns. Although vocabulary research has been extensively explored and cognate words remain a reasonable starting point for vocabulary teaching, further research can focus on explicitly exploring cognate instruction practices in the classroom and verifying their effectiveness.

2. Theoretical Background

2.1. Research on cognate training and awareness

Cognate awareness entails making connections among cross-linguistic cognates based on their structural (formal and semantic) relationships (Ellis, 1994). A series of empirical studies have investigated the degree of cognate awareness and the role of cognate-oriented training in different environments. Different studies have focused on reading tasks, cognate (morphological) awareness (Hipfner-Boucher, Pasquarella, Chen & Deacon, 2016), memorization, and direct instruction (Carlisle, 1988) and have shown a facilitative effect on L2 vocabulary learning. These studies included adolescent and adult bilinguals learning different languages such as Spanish, English, French, Dutch, Polish, and Arabic. Studies conducted by Hancin-Bhatt and Nagy (1994) and Nagy, García, Durgunoğlu, & Hancin-Bhatt (1993) worked with Spanish-English bilinguals and reading tasks. While Nagy et al. (1993) focused on cognate knowledge through reading and vocabulary multiple-choice tests, Hancin-Bhatt and Nagy (1994) focused on production tasks by applying lexical matching and translation tasks into L2 reading. Both studies show that participants can recognize English cognates based on their Spanish knowledge, and consequently, cross-linguistic cognate suffixation patterns facilitate lexical recognition compared to non-cognate patterns.

In addition, different cognate studies (Ard and Homburg, 1983; Cunningham and Graham, 2000; Harley, Hart, & Lapkin, 1986) also examined different language combinations, proficiency exams and achievement tests. While Ard and Homburg (1983) looked at Spanish and Arabic (L1)-English (L2) learners, Cunningham and Graham (2000) and Harley et al. (1986) focused on English-Spanish and English-French bilinguals compared to monolingual learners, respectively. Besides the language combinations, Harley et al. (1986) and Cunningham and Graham (2000) also compared traditional and immersion language learners. Ard and Homburg (1983) demonstrate that Spanish (L1) learners outperformed Arabic learners because of their ability to map Spanish-English cognates. Harley et al. (1986) and Cunningham and Graham (2000) showed that immersion learners outperformed monolinguals and traditional bilingual learners.

The studies above have reported positive outcomes associated with L2 cognate processing and learning. However, an important issue is the transparency of how classroom-based and vocabulary tasks occurred, as several studies lack such descriptions. As a result, language instructors are unable to replicate such

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¹ The terms lexical items and vocabulary are used interchangeably and defined as the body of words one holds cognitively in one language.

² Lexical features: orthographical, phonological, and semantic characteristics of a word.

findings and deliver effective and practical L2-vocabulary lessons on the structural differences and similarities among cognates in two or more languages. The following section shows studies that examined the impact of explicit morphological instruction on cognate acquisition. Revisiting these studies demonstrates that cognate awareness is supported, but such practices are often limited to explicit or visual presentation of overlapping lexical features.

2.2. Research on cognate explicit morphological instruction

The exploration of explicit instruction in the analysis of cognate transfer and acquisition has been a subject of interest in various studies, as evidenced by the works of Caplan-Carbin (1995), Dressler, Carlo, Snow, August & White (2011), Jiménez, García, and Pearson (1996), Molnár (2010), Schmitt (1997), Tonzar, Lotto, & Job (2009), and Tréville (1996). These investigations have consistently reported positive pedagogical outcomes associated with incorporating explicit instruction in vocabulary learning. Such instructional approaches typically involve thoroughly examining explicit cognate-lexical similarities, incorporating metalanguage to elucidate cognate-lexical compositions, and decode semantic information. An integral aspect of this method is the explicit analysis of a word's grammatical classification, including its part of speech, thereby facilitating the decoding of the meaning of new cognate words in the second language (L2) through the utilization of previously acquired knowledge of cognate words in the first language (L1), exemplified by pairs such as "education" in English and "educación" in Spanish.

Caplan-Carbin (1995) observed a group of English-German bilinguals while Jiménez, García. & Pearson, (1996), and Dressler (2000, as cited in August, Carlo, Dressler & Snow 2005) observed Spanish-English bilinguals in their studies. Participants were explicitly instructed about cognates and performed better when inferring meaning from cognates while reading (Caplan-Carbin, 1995; Dressler, 2000; Jimenez et al., 1996). The authors argue that such ability is associated with systematic and phonological cognate transparency. Like Dressler (2000), Caplan-Carbin (1995) and Molnár (2010) also incorporate explicit instruction on cognates' structural similarities with Hungarian (L1)-Romanian (L2)-English (L3) trilingual speakers. Explicit instruction on the L2-L3 lexical structural similarities was beneficial, as participants outperformed the control group. Molnár (2010) affirms that cognate-based instruction prepares trilinguals to use their lexical knowledge in subsequent vocabulary acquisition. Explicit vocabulary training builds lexical connections, enhancing vocabulary acquisition. Cognate instruction can assist learners in overcoming difficulties while reading in L2 (Nagy et al., 1993).

Tonzar et al. (2009) and Tréville (1996) have also encountered positive training effects with Italian-English and English-French bilinguals undergoing vocabulary learning and recognition tasks. Results show cognates outperforming non-cognates on lexical retrieval. Tréville (1996) concludes that the presence of cognates per se does not result in automatic recognition benefits, but training allows learners to benefit from cognate structural similarities. These results support claims that L1 shapes L2 lexical acquisition (Schmitt & McCarthy, 1997), as it enables lexical mappings between languages. In addition, processing views hypothesize longer and deeper vocabulary engagement, manipulation, and examination results produce stronger retention that contributes to acquisition.

The studies above support stimulating L1-L2 lexical connections to promote L2 vocabulary acquisition and show facilitative results related to classroom practices. An issue arises as cognate awareness initiatives (Ard & Homburg, 1983; Carlisle, 1988; Cunningham & Graham, 2000; Hancin-Bhatt & Nagy, 1994; Harley et al., 1986; Nagy et al., 1993), or cognate explicit instruction practices (Caplan-Carbin, 1995; Dressler et al., 2011; Molnár, 2010; Schmitt & McCarthy, 1997; Tonzar et al., 2009; Tréville, 1996) lack a detailed description of how such pedagogical interventions (awareness or explicit training) took place in the classroom. Knowing the learners' processes engaged in and an account of the lexical choices included in the activity is essential to verify the instructional intervention's validity and reliability.

A series of studies have not revealed cognate facilitation results (Lightbown & Libben, 1984; Otwinowska-Kasztelanic, 2009; Rodriguez, 2001; Schmitt, 1997; Singleton, 2006). However, some authors advocate in favor of cognate training and awareness to compensate for the perceived lack of cognate recognition patterns. Both Lightbown and Libben (1984) and Soufra (2001) examined teenage bilinguals performing production tasks. Lightbown and Libben (1984) examined French-English bilinguals narrating a film containing cognates, and Soufra (2001; as cited in Singleton, 2006) examined English-Modern Greek bilinguals while translating. Results confirm that learners transfer language (Soufra, 2001) but sometimes fail to recognize cognates, even the most orthographically noticeable ones. Learners seem to avoid using cognates at first to prevent the risk of using false cognates, as seen in Schmitt (1997). After surveying Japanese-English bilinguals

about their vocabulary learning strategies, Schmitt (1997) observed that looking for lexical structural similarities was the last option participants selected. Lastly, Otwinowska-Kasztelanic (2009) had Polish-English bilinguals (different L2 proficiency levels) complete a survey and recognized that some learners were often unaware of morphophonological overlap between languages. These findings support previous claims from Swan (1997), who states that structural lexical similarities do not necessarily lead to L2-lexical transfer.

2.3. Lexical processes and cognate instruction

When revisiting previous research on cognate instruction, there is a general emphasis on the positive role of interlexical L1-L2 resemblance (Tréville, 1996) as well as the importance of language processing (Dressler et al., 2011; Jiménez et al., 1996), awareness (Otwinowska-Kasztelanic, 2009; Tréville, 1996), and explicit instruction (Caplan-Carbin, 1995; Dressler et al., 2011; Molnár, 2010; Tréville, 1996) in L2-vocabulary processing and acquisition. In addition, many studies seem to support a connectionist view of language learning as a theoretical framework, which claims that learning derives from the process of strengthening and weakening neural connections obtained from frequent stimuli in the input. These studies also align with the noticing hypothesis (Schmidt; 1990, 1993, 1994, 1995), which requires conscious input notice for processing and learning.

Barcroft's (2002) TOPRA model (Type of Processing – Resource Allocation) explores the interface between lexical-semantic and structural memory processes. The model states that lexical processes require form, meaning, and mapping trade-offs. These trade-offs are needed because processing sources are limited; thus, processing demands are adjusted and rearranged. For example, less memory is available for lexical-semantic processing when processing lexical form. Because cognates share form and meaning across languages, the processing load is minimal, explaining why learners can fail to recognize cognate formation lexical patterns across languages. Learners may fail to allocate memory resources to process form and meaning (Sunderman & Forcelini, 2021). Both semantic and formal processes must occur to build on a new lexical representation. Structurally oriented tasks may be the key to pushing learners to form cognate form-meaning L2 lexical mappings.

Former vocabulary instruction propositions often relied on intuitive practices presenting written lexical items and their correspondence with cross-linguistic forms or definitions. A plausible motivation for such practices is that words are generally less flexible for generalizations than linguistic units such as phonology and syntax. Cognates, however, allow for generalizations due to their formal features and have been heavily incorporated into vocabulary instruction. Because cognates demonstrate learning advantages (Schmidt, 1990, 1993, 1994, 1995), several pedagogical practices have shown how learners use their L1 cognate knowledge to build L2 vocabulary. However, as seen above, classroom-based studies often lack a detailed understanding of what factors play a role in L2 cognate acquisition.

Avoiding intuitive practices is key to maximizing vocabulary learning, as several studies show learners cannot recognize L2 cognates effortlessly and systematically. However, some studies also mention that cognate training and awareness can compensate for the lack of cognate recognition patterns. Therefore, it is fundamental to know how lexical items are processed and become acquirable in L2 and what transforms intuitive knowledge into conscious and available information so that learners can derive lexical patterns across languages.

This article presents and tests an explicit derivational-driven intervention that controls cognate formation patterns, such as derivational properties and lexical length and frequency. This proposition is theoretically based on Otwinowska-Kasztelanic's (2015) processing accounts, classified as the online association of formal and semantic units from the input. For instance, lexical processes include visually retrieving lexical features that compose a given word and retrieving means associating visual elements from a word with pre-stored lexical information from long-term memory. If learners can match semantic, orthographical, and phonological mentally represented lexical items to target words they see, then lexical processing takes place successfully. In sum, processing new words can be defined as building a mental representation in the lexicon and matching a lexical path for retrieval (Otwinowska, 2015). Barcroft's (2002) TOPRA Model also guides the present activity proposition.

This intervention exposes learners to vocabulary sets that can be processed together due to their similar structural properties. Although cognates are classified as words that share form and meaning across two or more languages, cognates can still differ based on their structural formation patterns. For example, the English-Spanish cognate words *train-tren* and *education-educación* are equally classified as cognates. However, the lexical derivational patterns in *education-educación* can help learners identify common lexical

characteristics to derive meaning from new L2 cognate encounters. In other words, not all cognates are created equal (Aguinaga-Echeverría, 2017; Schwartz, Kroll, & Diaz, 2007).

In addition to previous cognate-based studies, vocabulary instruction practices such as the input-based incremental (IBI) approach to L2 vocabulary instruction (Barcroft, 2004, 2006) have been contemplated to develop the present activity. The IBI approach considers a learner's limited processing resources. It provides comprehensible vocabulary input, allowing learners to process words in the input by promoting meaning-oriented situations, enabling them to make form-meaning connections. It also allocates sufficient time for vocabulary production, as shown to be beneficial in previous research (Barcroft, 2007; McNamara and Healy, 1995; Royer, 1973). These opportunities foster lexical connections, promoting long-lasting vocabulary acquisition. Unlike the IBI approach that focuses on words that do not share formal similarities across languages (non-cognates), the activity presented in this article focuses on cognates as they present structural and semantic overlap and use such similarities as pedagogical tools for vocabulary instruction. Previous studies such as Hancin-Bhatt & Nagy (1994) and Barcroft (2004) examined Spanish–English morphological knowledge in cognate recognition among fourth-eighth grade learners. The present study attempts to reconfirm such findings with adult learners and incorporate an explicit derivational-driven intervention to reinforce morphological and lexical patterns across languages.

3. Methods

The present study investigates the effects of explicit instruction on lexical processing and acquisition of Spanish cognates and non-cognates. In sum, this study intends to answer the following questions: What is the role of explicit instruction in the processing and acquisition of new words (cognates) in L2 Spanish? Do L2 Spanish learners benefit from the English-Spanish cognate overlap during L2 lexical processing? Do L2 Spanish learners benefit from explicit instruction during L2 lexical processing?

3.1. Participants

Forty-nine learners participated in the experiment; twenty-five composed the explicit instruction group and twenty-four the control group. Participants' ages in this group varied from 18-30 (mean age 21.5). All participants were enrolled in the third and fourth-semester Spanish semesters (second year of Spanish instruction) and Spanish for the Professions (second year of Spanish instruction) at the college level. These learners were voluntarily recruited from different classes, with a minimal level of language proficiency and L2-Spanish vocabulary knowledge, which was needed for the study's experimental tasks. In addition, as these learners are still developing their L2 skills, the effects of language instruction can be more salient.

3.2. Tasks

3.2.1. Lexical Decision Task (LDT)

All groups performed pre- and immediate post-lexical decision tasks (LDT) in Spanish as the main measure of L2 representation. In an LDT, a string of letters appears on the screen, while participants must covertly read the string of letters and decide by using a keypad if the written token is a real word in Spanish. All words presented were screen-centered, in Arial font and size 40 on a white background. During word recognition, an LDT prompts learners to engage in a lexical search that can match the visual lexical stimuli presented (Sunderman & Schwartz, 2008), and shared orthographical, phonological, and semantic aspects of the word are activated within and between languages. Accuracy and reaction times (RTs) were recorded.

For the following reasons, a lexical decision task was chosen to assess lexical processing sensitivity in online contexts. Sunderman and Schwartz (2008) state that when word recognition and competition are studied using a lexical decision task, students are prompted to search for words that fit the visual lexical stimuli given. As a result, regardless of the kind of visual or auditory exposure, all orthographical, phonological, and semantic components of the word are recovered during the lexical search (Dijkstra & Van Heuven, 2002). Because of this, words from various languages that have characteristics may trigger identical orthographical, phonological, or semantic representations during lexical retrieval, which would delay proper word identification. The lexical decision task lasted between 15–20 minutes. Figure 2 displays an excerpt from the Lexical Decision Task (LDT).

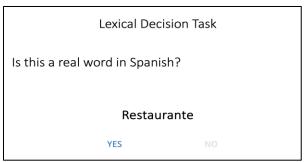


Figure 2. Excerpt from the Lexical Decision Task (LDT).

3.2.2. Language History Questionnaire (LHQ)

To determine whether their linguistic background varied significantly, a language history questionnaire (LHQ) was included as an instrument of students' proficiency as an individual measure. The questionnaire was composed of 35 questions that requested information from each participant regarding their age, gender, country of origin, native language, and language spoken at home. Besides allowing participants to self-rate their Spanish language skills (reading, writing, speaking, and listening), it also collects data regarding the number of languages each participant has been exposed to and the duration of such exposure(s). The language proficiency rating present in the questionnaire varied from a scale of 1 (least proficient) to 10 (extremely proficient). Participants consistently exposed to languages (L3) other than Spanish were excluded from the study.

3.2.3. Language Proficiency

In terms of language proficiency, self-reports in English proficiency, based on a one-way ANOVA, did not reveal a significant overall effect on English reading with less than 0.05 of the p-value among participants in each group.

In terms of language proficiency, self-reports in Spanish proficiency, based on a one-way ANOVA, did not reveal a significant overall effect on Spanish reading with less than 0.05 of the p-value among participants in each group. In sum, there were no statistical differences among the participants' self-reported English and Spanish proficiency levels among all treatment groups. As a result, no statistically significant differences among all participants' self-report proficiency allow us to compare their results. Table 1 presents the proficiency means of all participants in English and Spanish.

Table 1
Language proficiency ratings in English and Spanish

	Explicit Instruction Mean	Std Dev.	Control Mean	Std Dev.	F.	P.
English	9.36	.952	9.29	1.083	.055	.815
Spanish	4.32	1.345	4.92	1.248	2.585	.115

3.3. Task materials

A total of 405 words were included in the study. Semi-identical cognates, non-cognates, nonce cognates in Spanish, and pseudowords were included in the LDT. Only cognates were included in the treatment phase. A total of 135 words were English-Spanish cognate words, 90 non-cognate words, 90 nonce cognates, and 90 nonce words. All words included in the experiment were extracted from cognate dictionaries (Nash, 1997). In addition, cognates used by previous cognate studies (Comesaña et al., 2012; Schwartz et al., 2007) were also used as models for creating the stimuli of the present study.

All cognate words included in the experiment followed the same formation rules presented in the explicit cognate tutorial. Words included in the experiment that could be assigned a biological gender were only used once in one gender (feminine or masculine). Still, priority was given to masculine default words (e.g., humano). In addition, cognates whose stems allowed for different lexical derivations and/or inflections were only used once in the experiment to avoid priming/skewed processing reactions. For example, the word difference was excluded from the stimuli because the word different was already included. Although both words are cognates, only one stem representation was included.

A total of 90 non-cognate words in Spanish were included as control words in the stimuli. Non-cognate words matched in length and frequency compared to Spanish cognates and pseudo-cognates. All non-cognate words were selected from the textbook *Así Lo Veo* (Leeser, VanPatten, & Keating, 2011), which participants use in their third and fourth Spanish language level courses. All cognate and non-cognate frequency values, part of speech, and word length (based on the number of letters) were obtained from the NIM software (Guasch, Boada, Ferré & Sánchez-Casas (2013).

Lastly, a total of 90 pseudowords in Spanish were also included. All nonce words were generated from the websites Fake Word Generator (feldarkrealms.com) and soybomb.com. Fake Work Generator generates scripts based on pronounceable and frequent words derived from English, Old English, Japanese, German, and Latin. Soybomb.com generates nonce words based on a frequency list of phonemes present in legitimate English words. Nonce words were also normalized by six native Spanish speakers using a Likert Acceptance scale from 1-5. Words categorized as 1 and 2 were excluded from the stimuli. The motivation to include pseudowords is because it decreases the possibility of a lexical decision being performed based on superficial characteristics of the word formation by itself (De Groot, 2011).

All words included in the study were subdivided into three different cognate lists. All words included in List 1 matched their equivalent words in Lists 2 and 3 regarding word length, frequency, and word type (cognate, non-cognate, and nonce cognate). Word length was controlled in the experiment by matching the number of letters across the words used across two languages (English-Spanish) used in the present study. Words varied from five to 15-letter words. Regarding frequency, the cognate words included in all three lists were subdivided into 15 frequency rates ranging from 0.886 to 924.38 (frequency per million). Frequency values were obtained from the NIM software (Guasch, Boada, Ferré, & Sánchez-Casas, 2013), along with part of speech and word length regarding letter count. Out of all real words included in the experiment, a total of 104 words were classified as nouns, and 53 words were classified as adjectives. In addition, no word could receive both nominal and adjectival classification, as in the word 'positivo' 'positive'. No verbal or adverbial forms were included.

Table 2 below presents the word frequency distribution by cognate types included in the stimuli. In terms of word frequency, a one-way ANOVA reveals no significant difference among English words' frequency across all three lists. List 1(M = 103.59, SD = 113.10), List 2(M = 104.72 SD = 113.35) and List 3(M = 95.92, SD = 133.59). The frequency values in English were chosen as all participants were L1 English speakers at the beginning stages of learning L2 Spanish. Thus, participants' chances to make lexical connections can be controlled as their L1 lexical frequency was considered.

One-way ANOVA for Word Frequency by Word List

		n	Mean Frequency	Std. Deviation
List 1	Training	45	103.59	113.10
List 2	LDTA	90	104.72	113.35
List 3	LDT B	90	95.92	133.59

In terms of word length, a one-way ANOVA reveals no significant difference among the length of words across all three lists. List 1(M=8.22, SD=1.66), List 2(M=8.29 SD=1.87) and List 3(M=9.29, SD=2.01). Table 3 summarizes the results of a one-way ANOVA for word length in each word list included in the experiment. There was not a significant difference between word length across all three lists [F(2, 402) = .027 p = .974] at the p<0.05 level.

Table 3
One-way ANOVA for Word Length by each Word List

		n	Mean Length	Std. Deviation
List 1	Training	45	8.22	1.66
List 2	LDTA	90	8.29	1.87
List 3	LDT B	90	9.29	2.01

3.4. Lexical structure of stimuli (cognate words)

Another key difference between previous accounts on derivational-driven cognate instruction is that the present activity focuses on controlling lexical formation patterns such as word length, frequency, and derivation status to determine cognate retention and acquisition predictability. The cognate formation patterns included are: (1) English cognates ending in consonants ('n' and 't') receive an extra vowel 'o'/ 'a' in Spanish as in 'human', 'humano'. Stress patterns fall on the penultimate syllable (paroxytones). (2) English cognates ending in 'ent' receive an extra vowel 'e' in Spanish, as in 'accident', 'accidente'. Stress patterns fall on the penultimate syllable (paroxytones). (3) English cognates ending in 'ical' substitute 'a' and \bar{l}' (al) to the yowel \bar{o}' in Spanish as in 'logical', 'lógico'. Stress patterns fall either on the penultimate syllable (paroxytones) or the antepenultimate syllable (proparoxytones). (4) English cognates ending in 'ist' receive an extra vowel 'a' in Spanish, as in 'capitalist', 'capitalista'. Cognates in this category can be challenging for L2 learners because the termination 'a' is applied for both biological and grammatical genders. Thus, a 'capitalist concept' or a 'capitalist idea' are expressed as 'un concepto (masc) capitalista' and 'una idea (fem) capitalista', respectively. The stress pattern from this category falls on the penultimate syllable (paroxytones). (5) English cognates (adjectives) ending in 'ive' replace 'e' for 'o' or 'a' in Spanish, as in 'decisive', 'decisivo'. Stress patterns fall on the penultimate syllable (paroxytones). (6) English cognates ending in 'ce' replace 'e' for 'i' and 'a' in Spanish as in 'intelligence', 'inteligencia'. All words in this category are grammatically feminine in Spanish, and the stress pattern falls on the penultimate syllable (paroxytones). (7) English cognates (nouns) ending in 'tion' replace 't' for 'c' and add an acute accent mark over the last vowel 'o' in Spanish as in 'condition', 'condición'. All words in this category are grammatically feminine in Spanish. (8) English cognates (adjectives) ending in 'ous' exclude 'u' and add 'o' or 'a' in Spanish as in 'delicious', 'delicioso'. Stress patterns fall on the penultimate syllable (paroxytones). (9) English cognates (nouns) ending in 'ty' replace 't' and 'y' (ty) for 'dad' in Spanish as in 'identity', 'identidad' and are grammatically feminine in Spanish. The stress pattern found in this category falls on the penultimate syllable (paroxytones). (10) English cognates (nouns and adjectives) ending in 'ary' will replace 'y' for 'i' and 'o' (io) or 'i' and 'a' (ia) in Spanish as in 'legendary', 'legendario'. The stress pattern falls on the penultimate syllable (paroxytones). (11) English cognates (nouns) ending in 'gy' replace 'y' for 'i' and 'a' (ia) in Spanish as in 'biology', 'biologia'. All words in this category are grammatically feminine in Spanish, and the stress pattern changes from the antepenultimate syllable in English to the penultimate syllable in Spanish. Lastly, in condition (12), English cognates (nouns and adjectives) are often identical. Cognates in this category usually end in 'al', 'ble', 'ar' or 'or' as in 'mental', 'sociable', 'rectangular, 'and 'motor', respectively. Gender assignment varies among "identical" cognates as they depend on the part of speech, and the stress pattern also shifts. For cognates ending in 'al','ar' or 'or', the stress in English falls under the second or penultimate syllable and on the last syllable in Spanish as in 'local' /'loukəl/, /lo'kal/; similar, /'sımələr/, /simi'lar/ and 'terror' /'terər/, /te'r̄or/. For cognates ending in 'ble', the stress in English falls under the last syllable and on the penultimate syllable in Spanish as in 'flexible'/'fleksəbəl/, / flek'sißle/. Some words in this category vary in stem in one letter, usually resulting from deleting one extra consonant as in 'different', 'diferente' or the insertion of the vowel 'e' as in 'special' 'especial'. Consonant deletion from English to Spanish occurs with the consonants 'f' and 'l'.

Regarding lexical stress patterns and diacritics, Spanish words in which stress falls in the antepenultimate or third syllable (proparoxytones) carry an acute accent mark over the syllabic nucleus as in 'logical', 'lógico'. The accentuation patterns found in these cognates also change between languages. Lastly, all words from categories 1, 3, 5, 8, 10, and 12 are subject to the biological gender of the leading noun or subject pronoun in Spanish, in the case of adjectives. Table 4 displays all formal cognate patterns, examples, and differences in stress patterns.

Table 4
Cognate tutorial sample categorization words

Suffixation	correspondence	Samp	le cognate	Woi	rd stress	Grammatical gender	Part of speech
English	Spanish	English	Spanish	English	Spanish	Spanish	-
consonant	o, a	compact	compacto	1. 2	1. 2 .3	flexible	adj
ent	е	president	presidente	1. 2. 3	1.2. 3 .4	flexible	noun/ adj
ical	ico	classical	clásico	1. 2. 3	1.2.3	flexible	adj
ist	ista	activist	activista	1. 2. 3	1.2. 3 .4	flexible	noun
ive	ivo	alternative	alternativo	1. 2 .3.4	1.2.3. 4 .5	flexible	adj
ce	cia	relevance	relevancia	1. 2. 3	1.2. 3 .4	feminine	noun
tion	ción	edition	edición	1. 2 . 3	1.2. 3	feminine	noun
ous	oso	delicious	delicioso	1. 2 . 3	1.2.3. 4 .5	flexible	adj
ty	dad	identity	Identidad	1. 2 . 3.4	1.2.3. 4	feminine	noun
ry	rio	contrary	contrario	1.2.3	1. 2 .3	flexible	noun/ adj
gy	gia	biology	biología	1. 2 .3.4	1.2. 3 .4	feminine	noun
Frequent Ider	ntical spelling	central	central	1.2	1. 2	flexible	noun/adj

3.5. Procedure

After taking the pretest (LDT), participants from the explicit instruction group (experimental group), watched an online tutorial to explicitly present overlapping lexical formation patterns among semi-identical cognates in English and Spanish. The goal of cognate-based explicit vocabulary instruction was to push learners to pay attention to the shared lexical features among cognates to make form-meaning connections and benefit from overlapping morphophonological features during cognate processing. The tutorial was based on the cognate-derivational patterns that English and Spanish share, which overlap between these languages.

The tutorial was streamed via computer. Participants watched the tutorial individually at a laboratory and were allowed to pause it and take notes during this phase. The tutorial was expository only, and no debates on its content were carried out afterward. The cognate-explicit tutorial has been designed for intermediate-low L2 consecutive learners of Spanish whose L1 is English. It targeted learners taking regular Spanish classes for three semesters or more. Participants watched an online tutorial on orthographical features/lexical suffixation in English with its corresponding cognate in Spanish. The tutorial was presented as an animated video that lasted five minutes. The tutorial was visually presented, and no audio accompanied the animated and visual content. The tutorial started with a brief introduction defining cognates. Following the cognate definition, it presented twelve different rule-driven cognate categories that learners could follow to recognize and/or generate real cognates in Spanish. After presenting all 12 cognate rules, participants saw a chart containing all previously presented lexical rules. To counteract the effects of priming, participants only saw one instance of each cognate word per treatment or task. Figure 2 displays an excerpt from the video tutorial.



Figure 2. Excerpt from cognate tutorial

After watching the tutorial, participants also performed a Lexical Decision Task (post LDT). Participants' overall length of instruction ranged from 20 to 25 minutes. The control group watched a fictional show in Spanish with unrelated content between pre-and post-LDTs. Unlike the explicit instruction group, which watched a video focusing on derivational-driven lexical patterns of cognate composition and was invited

to ask questions about the video and pause/ take notes, the control group only watched a video with the same duration as the instructional intervention. The content of the unrelated video was carefully analyzed to ensure that no intentional input was provided to the control group that could directly affect the participants' post-test.

4. Results

To compare the performance of the control and experiment groups before and after treatment, the variance was analyzed to measure reaction times and accuracy when processing different types of words: cognates, non-cognates, nonce cognates, and nonce words. The key is manipulating different types of lexical overlap to measure its impact on word processes.

4.1. Reaction times

In terms of reaction times or how fast participants processed different types of words, a three-way ANOVA (2x4x2) was conducted. To ensure true cognitive processing measures were used and consequently were not affected by exceptionally fast or slow responses, data was trimmed in the following manner. Reaction times faster than 300ms or slower than 5000ms were excluded since they were considered outliers. Means for each condition were calculated for both target cognate types and matched controls for each participant. Next, standard deviations were found for each participant's mean. Reaction times above or below 2.5 standard deviations of the participant's means were also excluded from the data.

The variables included in the analysis were word type (cognates, non-cognates, nonce cognates, nonce words), test (pre and post), and instruction (explicit instruction and control). The results revealed no three-way interactions among any of the variables (word type, test, and treatment) [p-value=.793]. No significant two-way interactions between word types and test [p-value=.615] nor word type and treatment were found [p-value=.885]. Similarly, no two-way interactions were detected between the test (pre/post) and treatment (instruction vs. control) [p-value=.562]. For single effects, there was no effect between treatment types (instruction vs. control) [p-value=.144].

An effect was found between tests (pre/post) [p-value<.001]. In general terms, participants process all word types faster in the post-test than in the pre-test. Cognates are processed faster in the post-test (Mean=2228, SD=252) than in the pre-test, (Mean=2337, SD=205) [p-value<.001]. Non-cognates are processed faster in the post-test (Mean=1966, SD=214) than in the pre-test (Mean=2088, SD=216) [p-value<.001]. Nonce cognates are processed faster in the post-test (Mean=2628, SD=583) than in the pre-test (Mean=2892, SD=598) [p-value<.001]. Nonce words are processed faster in the post-test (Mean=2439, SD=624) in comparison to the pre-test (Mean=2616, SD=507)[p-value=.004].

When focusing on between word processing, an effect was found for word types [p-value<.001]. Participants process non-cognates (Mean=2024, SD=224) faster than cognates, (Mean=2283, SD=236) regardless of the group intervention (instruction/control). Results show that both groups processed non-cognates (Mean=2024, SD=224) faster than cognates (Mean=2283, SD=236). Nonce words (Mean=2528, SD=573) are processed faster than nonce cognates (Mean=2761, SD=603) and are processed slower than cognates (Mean=2283, SD=236), and nonce cognates are processed slower than non-cognates (Mean=2024, SD=224). Nonce words (Mean=2528, SD=573) are processed faster (Mean=2528, SD=573) than nonce cognates by both groups.

Table 5
Comparison of processing effects by word type (RTs)

Faster	Slower
Non-cognates (writer/escritor)	> Cognates (compact/compacto)
Non-cognates (writer/escritor)	> Nonce words (axsec)
Cognates (compact/compacto)	> Nonce cognates (elementa)
Cognates(compact/compacto)	> Nonce words (axsec)
Non-cognates (writer/escritor)	> Nonce cognates (elementa)
Nonce words (axsec)	> Nonce cognates (elementa)

4.2 Accuracy

In terms of accuracy or how precise (correct trials) participants processed different types of words, a three-way ANOVA (2x4x2) was conducted. The variables included in the analysis were word type (cognates, non-cognates, nonce cognates, and nonce words), test (pre and post), and instruction (explicit instruction and control). The results revealed no three-way interactions between word types, treatment, and test [p-value=.259], neither does it reveal a two-way interaction between test x instruction [p-value=.801]. However, it does reveal two-way interactions between word type x instruction [p-value=.002] and word type x test [p-value=<.001]. Single effects in terms of word type were observed [p-value<.001]. There was no single effect between tests [p-value=.007]. No single effect was found between instruction types [p-value=.162].

Results show that accuracy rates seem to decrease on cognates; however, cognates are not processed significantly less accurately in the post-test (Mean=56.9, SD=047) compared to the pre-test (Mean=59.3, SD=052) [p-value=.999]. Non-cognates, on the other hand, are processed more accurately in the posttest (Mean=60.4, SD=064) compared to the pretest, (Mean=57.2, SD=040) [p-value<.001]. Similarly, nonce cognates are processed more accurately in the post-test (Mean=84.2, SD=011) compared to the pretest (Mean=77.6, SD=010) [p-value<.001]. Lastly, nonce words are not processed less accurately in the post-test (Mean=68.1, SD=056) compared to the pre-test (Mean=67.9, SD=043), [p-value=.409].

When comparing processes between word types in terms of accuracy, nonce cognates (Mean=80.9, SD=.115) are processed more accurately than cognates (Mean=58.2, SD=.051) as well as non-cognates (Mean=58.8, SD=.056). On the other hand, nonce words (Mean=68.0, SD=.051) are processed more accurately than non-cognates (Mean=58.8, SD=.056). Lastly, nonce cognates (Mean=80.9, SD=.115) are processed more accurately than nonce words (Mean=68.0, SD=.051).

Table 6
Comparison of processing effects by word type (Acc)

More Accurate		Less Accurate
Nonce Cognates (elementa)	>	Cognates (compact/compacto)
Nonce Cognates (elementa)	>	Non-cognates (writer/escritor)
Nonce words (axsec)	>	Non-cognates (writer/escritor)
Nonce Cognates (elementa)	>	Nonce words (axsec)

5. Discussion and Conclusion

The current study aimed to offer insight into the effective use of cognates throughout teaching. When looking at the effects of instruction on the processing of cognates and non-cognates in Spanish, results show cognates and non-cognates are processed significantly faster in the post-test. Results can be interpreted as one of the following regarding the effects of instruction and/or input on word processing and learning. On the one hand, it can show that formal isolated instruction (explicit) can benefit the processing of L2-Spanish real words because both cognate and non-cognate words presented faster processing times in the post-test. On the other hand, it can indicate that instruction does not strongly affect the processing of L2-Spanish real words because the control group (input only) also showed faster reaction times in the post-test. Regarding reaction times, the present results are still unable to support previous claims from Otwinowska (2009), who states that L2 cognate retrieval is possible even for beginner-level learners but only achievable if learners are trained to notice this type of vocabulary. As seen above, both the explicit instruction and control groups display faster reaction times in the post-test. Hence, one possible interpretation for the present results is that explicit instruction focusing on formal lexical (cognate) may have failed to demonstrate an effect in the post-test as results show they do not differ from regular L2 input (control group).

The results of the current study are partially misaligned with the cognate facilitation effect and earlier studies that have demonstrated cognates to be processed more quickly as well as more accurately than noncognates Costa, Caramazza, & Sebastian-Galles, 2000; De Groot & Keijer, 2000; De Groot, 1992, 1993; De Groot, Dannenburg, & Van Hell, 1994; De Groot & Comijs, 1995; Dijkstra et al., 1998; Dijkstra, Grainger, & Van Heuven, 1999; Dijkstra & Van Hell, 2001; Ellis & Beaton, 1993; Kroll et al., 1998; Lemhofer & Dijkstra, 2004; Lotto & De Groot, 1998; Schelletter, 2002; Van Hell & De Groot, 1998).

The results of the current study confirm those of earlier research (Comesaña et al., 2012; Dijkstra et al., 2010), which demonstrated that cognate processes are not necessarily facilitative. When comparing processes

between word types, participants process non-cognates faster than cognates in the post-test, regardless of the group intervention. Results also show that nonce words are processed faster than nonce cognates by both groups. This seems to be a predictable pattern given that nonce words lack overlapping lexical features (semantics, orthographic, and phonological) between languages and do not activate cognitive competition for lexical retrieval. Interestingly, however, because nonce cognates are processed slower than nonce words, participants are trying to process nonce words that look like real cognates because they share some lexical features (semantics, orthographic, and phonological) with real cognates. In addition, nonce cognates are processed slower than non-cognates by both groups. As seen before, even though the lack of semantic property can allow nonce words to be processed faster, in the case of nonce cognates, it seems that the induced formal (orthographic and phonological) overlapping features with real cognates can activate real words in the bilingual brain and impose longer processing times. Similarly, comparing processes between word types for accuracy rates revealed that non-cognates and nonce cognates are processed more accurately in the post-test. The lack of overwhelming overlapping lexical features and cognitive activation (for nonce cognates) may be responsible for accurately rejecting these words as cognates in Spanish. Cognates, however, are not processed differently in the post-test. These results are undoubtedly unanticipated, given that previous research has shown the positive impact of cognate awareness (Dressler, 2001; Hancin-Bhatt & Nagy, 1994). The overlapping features between cognates do not seem enough to sustain the lexical transfer and ultimate acquisition of corresponding lexical items in L2. These findings support previous claims from Swan (1997), who states that structural lexical similarities do not necessarily lead to L2-lexical transfer. The results from the present study are surprisingly unable to support previous findings on cognate awareness (Ard & Homburg, 1983; Dressler, 2001; Hancin-Bhatt & Nagy, 1994; Nagy, 1993) and explicit instruction on the formal features cognates share (Caplan-Carbin, 1995; Dressler, 2011; Molnár, 2010; Schmitt & McCarthy, 1997; Tonzar, Lotto & Job, 2009; Tréville, 1996). Hence, previous claims by Robinson (1995), who concludes that "consciousness at the level of rule awareness facilitates learning" (p. 334).

The fact that learners did not present higher accuracy when processing cognate words in Spanish may also be related to the overall duration of explicit instruction (tutorial-based). Participants' overall length of instruction ranged from 20 to 25 minutes. To counteract the effects of priming, participants from the current study have only seen one instance of each cognate word per treatment or task. According to Elgort and Warren (2014), successful vocabulary learning requires a higher volume of lexical encounters for second-language learners who are less skilled. Instead of using a lexical judgment task, it is possible that other measurement tools (such as surveys, cloze tests, narrative, translation, and multiple-choice recognition tasks, to mention a few) could have yielded different findings. Because previous studies are showing the positive effects of implicit instruction through delayed post-tests (Benati, 2005, 2013; Benati & Batziou, 2018; Keating & Farley, 2008; Lee & Benati, 2007b; VanPatten, Farmer & Clardy, 2009; VanPatten & Fernández, 2004), it is possible to consider similar outcomes can be found with the inclusion of delayed post-tests.

When recalling the present study questions: 1) What is the role of explicit instruction in the processing and acquisition of new words (cognates) in L2 Spanish? 2) Do L2 Spanish learners benefit from the English-Spanish cognate overlap during L2 lexical processing? 3) Do L2 Spanish learners benefit from explicit instruction during L2 lexical processing? Results demonstrate that explicit instruction failed to demonstrate superior learning gains when compared to the control group results. In addition, because learners did not present higher accuracy when processing cognate words in Spanish and neither were cognates processed faster than other word types, participants did not seem to benefit from the English-Spanish cognate overlap during L2 lexical processing. Lastly, similar to results addressing question one, L2-Spanish learners did not benefit from explicit instruction during L2 lexical processing compared to regular input exposure (control group).

Future analyses involving more prolonged exposure to different types of vocabulary instruction can yield different or more robust results on the effects of instruction on vocabulary acquisition. As mentioned earlier, participants have only engaged in an immediate post-test to measure the effects of instruction on L2-vocabulary acquisition. Having included a delayed post-test could have shown different results on the impact of instruction on lexical processing and acquisition, as has been demonstrated in previous research (Benati, 2005, 2013; Benati & Batziou, 2018; Keating & Farley, 2008; Lee & Benati, 2007b; VanPatten, Farmer, & Clardy, 2009; VanPatten & Fernández, 2004).

The type of instruction applied in the present study was explicit, as it focused on bringing overt awareness to specific and predictable lexical derivational patterns that Spanish and English cognates share. Future research can compare the role of different types of instruction in cognate acquisition, such as comparing the effects of explicit and implicit instruction on cognate learning. As Rieder (2004) claims, studies on

understanding these differences in vocabulary learning and instruction are still scarce. The nature of implicit and explicit learning on L2-vocabulary remains unclear as vocabulary acquisition is often defined as *incidental*, *intentional*, *attended*, and *unattended* (Rieder, 2004). These constructs may overlap but can certainly be investigated in future studies.

The present study has exciting implications for classroom language instruction, as it can inform instructors about the types of instructions that may or may not benefit learners. Regarding promoting cognate-based language development, the results above have shown that input alone in the target language is sufficient. The presence of input in L2-Spanish will allow learners to make lexical form-meaning connections to process cognates in Spanish accurately. Hence, studies on the impact of vocabulary instruction can help instructors determine which, if any, are the most effective pedagogical interventions in the classroom. Understanding how lexical connections between languages work and how word factors such as derivational patterns, word length, and frequency can contribute to vocabulary acquisition and development success. When language instructors know how word features from different languages interact, the expectations on vocabulary processes and learning would become clearer, and better vocabulary activities could be implemented.

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"We all contributed to tell stories to the best of our abilities": Cooperative digital storytelling to promote students' positive interdependence in an online course of Italian as a foreign language¹

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ABSTRACT

EN Positive interdependence is defined as a mutual relationship between people who are driven to achieve the same task goals-Considered as the foundation of collaborative language learning, it can surface in group activities of digital content creation. Digital storytelling may enhance skills of positive interdependence as it enables digital narratives to be told through mixed media (Robin, 2016). However, prolonged exposure to technology might cause distraction, motivation loss, and fatigue among language students, hampering the establishment of positive interdependence. To encourage interdependent interactions in digital learning environments, this study presents the results of educational activities conducted using the *ThingLink* and *StoryMaps* platforms by learners of Italian as a foreign language during an online language course. The results stemming from online questionnaires, transcript analyses, and focus group interviews highlight how students' positive interdependence can be boosted by telling stories through immersive technologies.

Key words: DIGITAL STORYTELLING, LANGUAGE PEDAGOGY, TASK-BASED INTERACTION, TECHNOLOGY-SUPPORTED LEARNING

ES La interdependencia positiva se define como la relación recíproca entre las personas orientadas a conseguir los mismos objetivos. Considerada como el fundamento del aprendizaje lingüístico colaborativo, esta puede emerger en actividades grupales de creación de contenido digital. El storytelling digital puede mejorar estas habilidades de interdependencia positiva, ya que permite narrar las historias digitales de forma multimodal (Robin, 2016). Sin embargo, una exposición prolongada a la tecnología puede causar distracciones, pérdida de motivación y fatiga entre el alumnado, lo que dificulta que se establezca interdependencia positiva. Este estudio presenta los resultados de las actividades realizadas utilizando las plataformas *ThingLink* y *StoryMaps* por estudiantes de italiano como lengua extranjera durante un curso en línea, con el fin de fomentar las interacciones interdependientes en entornos de aprendizaje digitales. Los resultados de cuestionarios en línea, análisis de expedientes académicos y entrevistas en grupos focales resaltan cómo se puede impulsar la interdependencia positiva del alumnado al contar historias a través de tecnologías inmersivas.

Palabras clave: STORYTELLING DIGITAL, DIDÁCTICA, INTERACCIONES BASADAS EN TAREAS, APRENDIZAJE ASISTIDO POR LA TECNOLOGÍA

L'interdipendenza positiva è la relazione di dipendenza reciproca tra persone orientate al raggiungimento di obiettivi comuni. Considerata il fondamento dell'apprendimento linguistico collaborativo, essa traspare in attività di gruppo incentrate sulla creazione di contenuti digitali. Lo storytelling digitale può sviluppare queste abilità di interdipendenza positive permettendo di narrare racconti virtuali multimodali (Robin, 2016). Tuttavia, l'esposizione prolungata alle tecnologie può causare distrazione, perdita di motivazione e stanchezza, ostacolando il manifestarsi di interdipendenza positiva. Per incoraggiarne l'insorgenza in ambienti di apprendimento digitale, questo articolo mostra i risultati di attività educative condotte con le piattaforme *ThingLink* e *StoryMaps* da parte di studenti di italiano come lingua straniera. I risultati ottenuti da questionari online, analisi delle trascrizioni verbali e focus group, evidenziano come l'interdipendenza positiva si rafforzi attraverso storie interattive narrate con le tecnologie immersive.

Parole chiave: STORYTELLING DIGITALE, DIDATTICA, INTERAZIONI BASATE SUI TASK, APPRENDIMENTO SUPPORTATO DALLA TECNOLOGIA

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1. Introduction

Described as the practice of "telling stories with a mixture of digital media, including text, pictures, recorded audio narration, music, and video" (Robin, 2016, p. 18), digital storytelling has been at the center of many pedagogical inquiries as it stimulates students' imagination, creativity, and content memorization, as well as enhances active learning. In fact, by situating language practices in virtual contexts and allowing for the creation and interpretation of meaning through multimodal communication channels, digital storytelling platforms are likely to encourage students' collaboration in achieving activity goals (Nicoli et al., 2022). This participation may surface in goal-oriented behaviors such as mediation strategies, clarification seeking, and turn-taking. These behaviors can be considered manifestations of positive interdependence, a rapport that is established between individuals interacting to achieve mutual task goals (Johnson & Johnson, 2005). From a language education perspective, the successful establishment of positive interdependent relationships can increase linguistic production as students engage in collaborative meaning-making activities mediating the best solutions to achieve activity goals. However, as in-person education is increasingly blended with online learning, interdependent relationships in remote task-based language activities are challenged by students' potential disengagement, distraction, loss of motivation, fatigue, and cognitive overload. To counteract these phenomena, desktop-based immersion in goal-oriented language activities may nurture positive interdependence as discussions unfold during goal-oriented meaning-making activities. Specifically, nonimmersive Virtual Reality (non-iVR) involves users in computer-generated experiences available on desktops and is used as a tool for remote interactions with other individuals (Cummings & Bailenson, 2016). In this respect, 360° virtual tours can be considered examples of non-iVR and will be indicated in this paper with the term Virtual Field Experiences (VFEs), coined by Oguilve et al. (2022). Reflections on pedagogy and tool usage highlight the necessity to investigate non-immersive Virtual Reality as a way to foster students' interdependence toward creating immersive and engaging digital stories. An interdependence-based inquiry on learning Italian as a foreign language is an element of novelty in the literature on educational technology, which is presented in this paper through the results of a case study on 13 participants who conducted language activities with the non-immersive Virtual Reality applications *ThingLink* and *StoryMaps*.

This study addresses the following research question: what is the impact of digital storytelling activities conducted with the use of non-iVR on the positive interdependence of students of Italian as a foreign language in online learning contexts? The underlying hypothesis postulates that using VFEs and the non-iVR-based digital storytelling application <code>StoryMaps</code> can boost students' positive interdependent relationships in online learning contexts. The study will depart from pedagogical considerations of evolving competencies underpinning tech-based language education, digital storytelling, positive interdependence, task-based language learning, and Virtual Reality. Subsequently, it will describe the methodological underpinnings and the materials used in the interventions as well as present the data collected during task-based activities. Results will be discussed in terms of measuring students' positive interdependence surfacing from meaning-making activities, clarification seeking, and turn-taking. Lastly, conclusions will prompt further pedagogical reflections on collaborative digital language learning practices and highlight potential thematic research areas for future interventions with non-iVR tools.

2. Literature review

Educational research has increasingly focused on language learning practices that are digital, interconnected, and participatory. In fact, through digital language learning, students develop various forms of literacies which are essential for professional collaborations and social interactions. These skills were initially defined in terms of reading, speaking, listening, and writing, only to be incorporated into the multiliteracies framework described by Leu et al. (2013) and Kalantzis and Cope (2012). The term multiliteracies encompasses the assumptions that: a) the development of technologies for information and communication entails changes in skillsets, strategies, dispositions, and social practices; b) students need to develop new skills to ensure their full participation in global communities; c) literacies are set to constantly change together with the technologies fostering their development; and d) new literacies are multifaceted. Thus, a key element of language pedagogy is represented by students' interconnection and participation, which constitute the backbone of cooperative language learning. In fact, with evolving digital language learning practices, social skills, and meaning-making are developed through foreign language acquisition and production. Hence, language activities become opportunities to explore, evaluate, create, and conceptualize digital materials (Kalantzis & Cope, 2012; Paesani et al., 2015). This has encouraged the creation of learning experiences of

collaborative digital storytelling for students to express their agentive capabilities through shared and multimodal communication channels.

By allowing users to combine digital media in online platforms to share their life experiences, digital storytelling can foster multimodal language production in collaborative activities. From a pedagogical perspective, conducting group-based digital storytelling tasks can encourage the development of critical thinking skills and coherent narratives in the target language. Students can craft sharable narratives of personal and instructional content through an integrated language learning approach fostering the exchange of ideas, feedback provision, negotiation of group decisions, as well as evaluation and interpretation of real-life situations (Meletiadou, 2022; Shahid & Khan, 2022), Moreover, digital storytelling enables language students to share decisional practices to achieve collaborative reasoning and story planning (Nicoli et al., 2022). It has also been attested that by narrating virtual stories and presenting their contents to the public, learners can improve their pronunciation skills and transcode communication into visual stimuli (Nair & Yunus, 2021). Consequently, classifications of the types of literacies fostered through digital storytelling can be expanded beyond reading, listening, speaking, and writing; and integrated into a comprehensive development of academic, cognitive, affective, technological, and social skills through highly contextualized social linguistic practices. Examples include reported enhancement of motivation, creativity, participation, and multimodal content production and personalization (Alismail, 2015; Ohler, 2013). Additional interventions showed how the use of digital storytelling can improve students' willingness to enter into L2 discourse by communicating through text modes in technology-mediated language activities (Shen et al., 2022). Studies reported that the use of digital storytelling for language learning purposes can promote authentic vocabulary acquisition, and linguistic production through students' involvement in real-like language learning practices, as well as effective self-assessment through product evaluation and peer feedback (Arroba & Acosta, 2021). Studies have also shown how language structures are acquired when students jointly work on digital storyboarding as they compartmentalize language structures into learnable blocks and discuss story-making stages of setup, conflict resolution, and design challenges (Fu et al., 2022). Therefore, digital storytelling activities can involve students in using multimedia to plan and design artifacts following group choices. Digital stories are also ways for students to reflect on personal experiences while evaluating other people's opinions and creating shared digital imagery (Petit, 2020). Group reflections originating from these collaborative creations facilitate knowledge transfer in communicative and digital real-life contexts. In this process, students engage in mediation strategies aimed at identifying common ground in discussing the creation of digital stories. In doing so, learners devise strategies of social mediation, laying the foundations of collaborative language learning as they rely on one another to accomplish task goals. As for mediation strategies, they can be associated with behaviors of positive interdependence and represent key components of social language learning.

Positive interdependence is a fundamental social behavior as human beings develop contextuallydriven, mutually beneficial relationships to attain common goals (Deutsch, 1949). These bonds also induce the establishment of trust, cooperation, constructive power, and conflict resolution amongst group members who collaborate in meaning-making activities and achieve compromises between parties (Johnson & Johnson, 2005; Laal, 2013; Rusbult & Van Lange, 2003). By doing so, individuals share and construct task understanding, target group efforts towards goal achievement by recognising the value of other people's perspectives, and encode messages using social inferences, speakers' feedback, and language output (Ellis, 1999). When applied to language education, these competencies can be fostered through group-oriented, task-based language activities that involve students in constructively solving disagreements for the sake of successful goal attainment. In these activities, individuals can apply social mediation strategies, which are considered manifestations of positive interdependence in their capacity to favour interpersonal connections for social and cognitive development (Comoglio & Cardoso, 1996; Kelley et al., 2003; Johnson & Johnson, 2010). From the standpoint of teaching Italian as a Foreign Language (FL), mediation strategies are considered to manifest in expressing opinions and requesting information through conditional and subjunctive moods, and are taught at preintermediate levels of proficiency (Arcangeli et al., 2014; Giorgi, 2009). What remains to be investigated are the task structures supporting positive interdependent relationships and the integration of effective tools in language learning activities for group efficiency and linguistic mediation.

Task-based language learning (TBLL) is a learner-centred methodology focused on enhancing learners' communication skills in real-life contexts. The main tenet of the method is that language is acquired through cooperative interactions that engage students in goal-oriented, meaning-making activities where they learn content and practice language skills through peer communication and artifact use (Hampel, 2010). This entails that students apply cognitive practices to select, classify, order, and value information as they choose

suitable language structures to attain activity goals. Specifically, in an initial pre-task phase, students are provided with activity instructions and tool training before being involved in planning and presenting their work, sharing group reports, and attending to linguistic forms by discussing and practicing specific language features. Since learners mediate messages both linguistically and conceptually, they also assist one another in performing group tasks, thus perceiving the added value of teamwork while performing activity goals. The communication affordances created within such learning contexts constitute the link between TBLL and technology, as methodological implementations of action-oriented language learning approaches are combined with enhanced opportunities for goal attainment (Overdijk et al., 2012). A key element of digital tools is that they act as mediators between individuals and task contents, implying that the successful establishment of interdependent relationships is dependent upon technological affordances of goal attainment facilitation, multi-user access, platform accessibility, and ease of use (Cerratto Pargman et al., 2018; Thorne, 2016). However, even though many investigations have been conducted on digital tools in language education, research on their impact on students' positive interdependence in online-only learning environments within TBLL frameworks is scarce, especially concerning learning Italian as a FL. To address these gaps and provide potential solutions to solve them, it is useful to discuss potential digital tools to boost students' positive interdependence.

Analyzing the use of Virtual Reality for language learning purposes becomes particularly significant when considering its immersive properties. Broadly defined as an "advanced form of human-computer interface that allows the user to interact with and become immersed in a computer-generated environment in a naturalistic fashion" (Eichenberg, 2012, p. 3), Virtual Reality is typologically divided along the parameters of immersion. Described as the technical capability to deliver an illusion of reality that has a profound impact on users' behaviors (Dincelli & Yayla, 2022; Slater & Wilbur, 1997), immersion characterizes immersive Virtual Reality (iVR) as a comprehensive digital experience where virtuality predominates over reality, since it is accessed with head-mounted displays (HMDs) and hand controllers, physically disconnecting users from the real world. Conversely, immersion afforded by non-immersive VR (non-iVR) is only partial, as users rely on screen interfaces to access and experience virtual activities, viewing them on two-dimensional monitors or mobile devices and using peripheral devices to enable device interactions which help to maintain real-world awareness (Kaplan-Rakowski & Gruber, 2019). However, despite its different characteristics, non-iVR is also characterized by educationally-relevant features that boost interdependence in language learning activities. In fact, non-iVR has been analyzed in language education to support virtual work in the form of collaborative virtual environments (CVEs), wherein team members interact in the same digital space while being physically located elsewhere (Horvat et al., 2022). Designed to enhance user collaborations, CVEs contribute to make virtual spaces shared worlds of interpersonal relations and co-constructed relationships (Galimberti et al., 2010). Subsets of CVEs are Virtual Field Experiences (VFEs), that are particularly relevant for language learning as they represent flexible and interactive 360° scenarios embedding audio, video, and multimodal resources (Oguilve et al., 2022). These experiences involve users in virtual explorations through the use of keyboards and other peripheral accessories, enabling interface scrolling, clicking, and dragging as they unpack interactive digital contents. In other words, users are involved in sensorial explorations of visually stimulating spaces where their critical skills are enhanced through collaborative discoveries and meaning-making. In this way, learning through VFEs becomes a form of interdependence-supporting telepresence, where virtual immersion is capitalized on to enhance learning through digital storytelling and boost cognitive and interpersonal skills, as well as group efficiency in achieving task goals (Jantakoon et al., 2019). In other words, motivated by the immersive scenarios they experience, students can engage in co-creative, story-making practices in which they transfer thoughts and emotions and transcode them into language output related to sharing and mediating opinions and decisions (Liu et al., 2018; Ribeiro et al., 2016; Schmoelz, 2018). Given the high pedagogical impact of immersive activities and the immediate applicability of teamwork and digital skills acquired through task completion, there are reasons to believe that virtually immersive digital storytelling activities can support positive interdependence among language students. What needs to be analyzed are examples of tools enabling the creation of customizable and sharable digital stories in the target language.

The popularity of digital storytelling applications has resulted in their implementation in language learning activities that integrated virtual narrations with multimedia components and web publishing technologies, which encouraged students' active learning and collaboration towards content creation (Tahriri, Tous, & MovahedFar, 2017). Types of digital storytelling platforms used in language education include social network (Whatsapp, Instagram, Snapchat and TikTok), digital story sites (Storify, StoryBook, Historypin, Storybird, Animoto, ThingLink) and mobile-integrated storytelling apps (izi.Travel, StoryMaps). One that has

been extensively used for pedagogical purposes is ThingLink, an ad-free subscription software enabling the incorporation of 360° photos, sounds, videos and texts that can be incorporated within tours referring to places in the real world (Fielding, 2019; Pokrzycka, 2022). When this study was conducted, the application was free of charge and dedicated to teachers, students and third-sector professionals willing to create interactive tours and presentations for educational purposes. ThingLink applications in TBLL have been used to develop students' curiosity, exploration skills and vocabulary learning (Lai, 2017; Roslan & Sahrir, 2020; Compagnoni, 2022) as well as train teachers on integrating ThingLink into the school curriculum (Durham, 2022; Sanderson et al., 2022). However, data is missing on the potential uses of *ThingLink* to enhance positive interdependence in a foreign language learning context. Whilst this might be due to technological constraints limiting multi-user content editing, it is also true that the application features might hinder users' platform navigation and readability. A digital storytelling platform whose features might overcome such constraints is *StoryMaps*, which enables users to create engaging and interactive digital stories. Due to its user-friendly design and content customizability, the platform has been used to enhance students' agency, content understanding, and memorization through hands-on group activities (Albanese & Rossetti, 2023; Cyvin et al., 2022). However, no evidence has been found of interventions conducted in language pedagogy with StoryMaps to boost students' positive interdependence. Despite the paucity of research on using ThingLink and StoryMaps in language pedagogy, it is believed that when incorporated into classroom activities, they might shed light on students' positive interdependent strategies in FL production.

Overall, while the literature on cooperative learning has been quite prolific, it has failed to consider positive interdependence as a pivotal component of cooperation. Additionally, deficiency of research/research gap on positive interdependence in language learning have also led to a lack of guidelines on classroom implementations of effective digital tools and methodologies supporting explorative, engaging, and immersive language learning activities. To target these gaps, this study outlines language activities fostering interdependence through FL use. Specifically, by considering VFEs and digital storytelling features embedded in *ThingLink* and *StoryMaps* as forms of non-iVR, this study involved learners of Italian as a FL in interactive digital storytelling activities through web-based explorations and critical assessments of culturally relevant scenarios. Results of online interventions were analyzed through classroom observations, questionnaires, and focus group interviews, as well as through descriptions of the linguistic interactions occurring during the creation of digital stories.

3. Methodology

An experiential intervention was structured according to a task-based methodology comprising participants' exposure to the non-iVR platform *ThingLink*, a task phase of story creation on *StoryMaps*, and post-activity reflections on the use of non-iVR. The study targeted the analysis of the impact of non-iVR-based digital storytelling on the deployment of positive interdependence strategies by FL learners. Aspects of performance and perception by collecting textual and spoken data documenting participants' cooperative interactions as well as their responses to pre and post-task questionnaires and a focus group interview. In this paper, the term "interventions" is synonymous with the language learning sessions conducted with the use of the non-iVR platforms *ThingLink* and *StoryMaps* to enquire about participants' deployment of positive interdependence strategies.

3.1. Participants

Data was collected from 13 participants aged between 23 and 65 years old. The majority possessed an intermediate language proficiency in Italian, a language they were studying for personal and professional interests. Some participants were working in Italy (5), others were pursuing an academic degree in an Italian institution (8). French was the native language spoken by the majority of participants (7), followed by Spanish (3), Russian (2), and German (1). All participants were fluent English speakers and had been exposed to VFEs through museum galleries and property tours.

3.2. Recruitment methods

Participants were recruited voluntarily from students affiliated with the School of International Education of Ca' Foscari University of Venice and the Department of Social, Political, and Cognitive Sciences of the University of Siena. Following positive replies to email invitations, a pre-activity questionnaire was distributed to participants one month before the start of the interventions. The aim was to enquire about

participants' knowledge of Italian culture, grammar features related to subjunctive and conditional moods, and their motivation to study Italian. Additional questions consisted of investigating participants' digital habits, experience with online learning, remote teamwork, and VFEs. The responses obtained from this preliminary investigation enabled the researcher to tailor activity contents to students' needs and abilities.

3.3. Class conduction

The interventions lasted a total of 12 hours and were conducted twice a week for 2 hours at a time on the platform *Zoom* in November 2022. Before participating in the sessions, participants were requested to sign a consent form outlining the research aims, data collection, and storage methods as well as privacy protection procedures. Upon returning the signed consent forms, participants were sent invitations to join *Zoom* classes which were recorded from an institutional account. Participants were encouraged to keep their videos and microphones on. In the first part of the *Zoom* sessions, participants worked together before being divided into breakout rooms. In these breakout rooms, they conducted group explorations of 360° environments on the platform *ThingLink*, working on interactive tags with language content aimed at enhancing their familiarity with the structural parameters of digital storytelling. Subsequently, they used *StoryMaps* for story creation and *Padlet* to provide peer feedback (Figure 1).

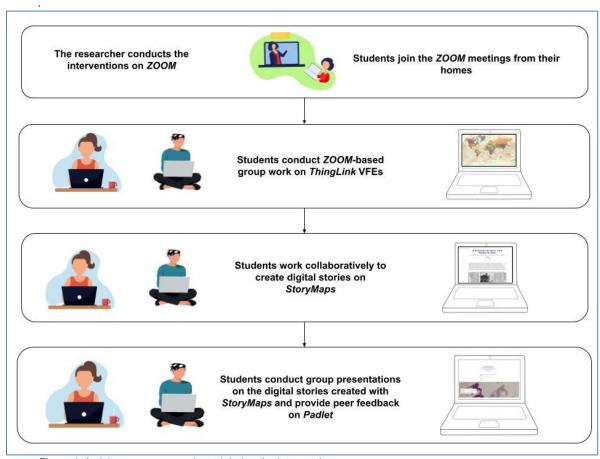


Figure 1. Activity sequence conducted during the interventions

3.4. Activity structure

Study participants were involved in tasks distributed across the duration of the online language course. Table 1 outlines activity contents and the platforms used to attain task goals.

Table 1
Task-based structure of the interventions

Phases	Description	Platforms
	Pre-task	
	Completion of a pre-task questionnaire.	Kahoot!, ThingLink,
	Brainstorming 1: training on using <i>ThingLink</i> to conduct explorations of VFEs.	StoryMaps, Google Drive
	Brainstorming 2: grammar review of conditional and subjunctive moods and gamified practice on <i>Kahoot!</i>	
	Brainstorming 3: training on using <i>StoryMaps</i> through the exploration of digital stories.	
	Task cycle	
1. Task	Students discuss and select story topics. They write content, finalize and publish their stories.	StoryMaps, Google Drive
2. Planning	Students plan and rehearse their group presentations.	
3. Report	Students conduct group presentations of their stories.	
	Post-task	
1. Analysis	As group presentations unfold, non-group members provide their feedback on designated <i>Padlet</i> boxes while listening to the presentations. Subsequently, participants are guided in the analysis of subjunctive and conditional forms used during the interactions.	Padlet, Google Drive, Google Modules
2. Practice	Students practice subjunctive and conditional moods during focus group interviews. They also respond to a survey consisting of qualitative (openended) and quantitative (Likert-scale) questions. Completion of a post-task questionnaire and a focus group interview.	

3.5. Design checklist

The creation of interdependence-fostering language learning experiences on *ThingLink* was underpinned by structural as well as linguistic considerations resulting from the VFEs design checklist outlined by Oguilve et al. (2022) and adapted to the study aims (Table 2).

Table 2
Design checklist for creating interdependence-fostering VFEs on ThingLink.

Goals	Icons	Media	
What are the goals of the experience? How are they clarified to students?	Are icons clear and consistent? Are they coherently distributed within the exploratory space?	Do resources and media represent reliable and multiple perspectives? Do they affect the learning experience? Are there the right amount of content to explore?	
Language Content	Organization	Group Engagement	
Do the activities encourage users to deploy interdependence-oriented language output?	Would learners know where to start and how to engage with the materials? Does content organization promote understanding?	Do activities promote group exploration and engagement? How are learners involved in collaborative goal attainment?	

3.6. Activity contents

During the first two classes, the participants conducted two *ThingLink*-based activities where they explored interactive maps. Both experiences contained virtual tags with links to *Google Drive* documents and surveys created with *Google Modules*. Activities included listening to recordings and answering related questions, as well as completing short reading comprehension activities. The participants explored the environments by working in *Zoom* breakout rooms in four groups, which remained the same throughout the

course. After brainstorming potential topics, participants discussed story contents and engaged in spoken and written production of Italian. Examples of *ThingLink* VFEs and the digital stories created on *StoryMaps* are shown in Figures 2 and 3. The arrows in Figure 2 indicate the transitions between different *ThingLink* environments while the pictures in Figure 3 represent three stories created with *StoryMaps*.



Figure 2. VFEs conducted with the platform ThingLink.



Figure 3. Screenshots of three digital stories created on StoryMaps.

3.7. Data collection methods

Data was collected via a mixed-method design combining pre- and post-task questionnaires, class observations, and focus group interviews. Two weeks before starting the activities, a pre-task questionnaire was distributed via email to the participants. It consisted of 39 items on participants' demographic information, knowledge of Italian culture and grammar as well as conditional and subjunctive moods, tested through gap-filling exercises. Further questions collected information on technology use and habits, digital skills, and online learning, as well as previous exposure to VFEs and participants' beliefs on using immersive tools for language learning. Aspects of positive interdependence were identified by using 13 parameters of the SYMLOG model of Bales (1950) to analyze group interactions.

Table 3
List of parameters for analyzing interdependent group interactions based on Bales' SYMLOG model (1950).

Manifestations of positive interdependence
Providing information to others
Accepting help from others and giving thanks
Minimization of disagreement
Collaborative work
Participation in decision-making
Showing and stating understanding through verbal and body language
Requesting information
Asking for opinions and suggestions
Display of group dedication, faithfulness, and loyalty
Giving up personal aspirations for the sake of group goals
Controlling/limiting the abilities of other people to express opinions
Inviting other people to intervene
Seeking feedback

The 13 parameters listed in Table 3 were selected because they facilitated an initial overview of the potential interdependent behaviors surfacing among study participants. Following this initial analysis, participants' verbal interactions were transcribed with the software *Nvivo* and analyzed to record manifestations of positive interdependence surfacing as mediation strategies. Positive interdependent output was analyzed using the 13 parameters of Bales' SYMLOG model (1950) outlined in Table 3. Subsequently, the guidelines of the Council of Europe (2020) were followed to map participants' positive interdependent strategies and group them according to the parameters they belonged to. The guidelines that were followed corresponded to those cited on the Common European Framework of Reference for Languages (CEFR) of the Council of Europe (2020). They are outlined in Table 4.

Table 4
Parameters used to analyze positive interdependence amongst the participants' linguistic and behavioral output.

Parameters of positive interdependence as mediation strategies									
Collaborating in groups	Establishing conditions Facilitating collaborative interactions Comprehension and signaling of misunderstandings, offer solutions to address them Adjustment of questions and intervention in group interactions Help addressing delicate situations Define team goals and compare options on how to achieve them Refocus conversations suggesting ways to proceed	Developing ideas Collaborating to construct meanings Give instructions Check group understanding Refocus conversations on topics that matter Intervene supportively to focus group attention Explain the rules of collaborative discussion Get the group back on track with new instructions Encourage participation and balance contributions with turn-taking							

 Discourage disagreements and propose alternatives

Leading group work

Managing interactions

- Expand people ideas and contributions
- Pose questions that invite reactions
- Consider pro and cons and both sides of an issue
- Highlight important issues in a task and steps to solve it
- Contribute to collaborative decision-making and co-develop ideas
- Summarize and report what others have said

Encouraging conceptual talk

- Ask questions simulating logical reasoning
- Encourage members to elaborate their thinking
- Build on ideas
- Give appropriate feedback to help conversations going

Data collection was corroborated by the completion of a post-task questionnaire aiming at collecting information on participants' enjoyment as well as collaboration, language practice, sense of presence, perceived usability, and usefulness of VFEs and *StoryMaps* to attain activity goals. The latter parameters were measured with a scale of 41 items in a seven-point Likert scale format (Witmer & Singer, 1998). Additional parameters related to user comfort were collected using the Simulator Sickness Questionnaire (SSQ) elaborated by Kennedy et al. (1993). Completing these questions allowed participants to self-assess their learning process while using *ThingLink* VFEs and *StoryMaps*. Lastly, a focus group interview was conducted to collect information on whether using the two applications facilitated the emergence of positive interdependence amongst study participants. Information was collected through individual answers to verbal questions and written feedback following group discussions.

4. Analysis

The analysis unfolds from a mixed-methods inquiry on qualitative data collected from behavioral observations, open-ended questions, and focus group interviews as well as quantitative information arising from pre- and post-task surveys. Observations of students' interactions and a content analysis of transcriptions revealed composite positive interdependent interactions unfolding from task stages. Concerning the pre-task questionnaire, relevant data emerged from technological competence, language proficiency, and motivation. In terms of tech-savviness, Figure 4 shows that majority of participants rated their competence as advanced (69.2%) and stated they used phones and computers between 2 and 8 hours a day. They were also confident in their ability to create digital materials and navigate computer functions and did not rate the difficulty of using conditionals and subjunctives as high, despite low performances in subjunctive forms.

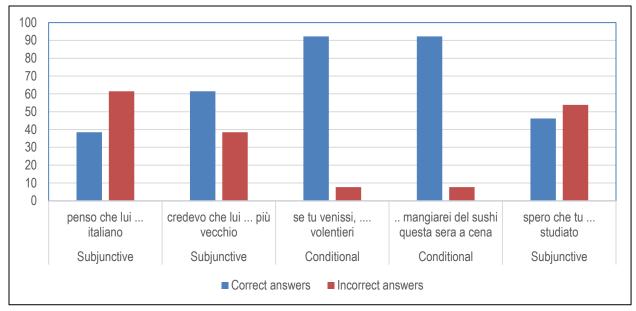


Figure 4. Participants' scores in answering questions on the use of conditional and subjunctives. The sentences they had to complete are listed in the x-axis while the y-axis displays the percentages of successful performance.

As for the post-activity questionnaire, significant data arose in terms of types of positive interdependence developed amongst students concerning skill transferability and descriptions of likes and dislikes of the immersive experiences they conducted. Figure 5 shows that, in terms of perceptions of transferability of the learned skills, judgments were expressed as very low (VL), low (L), high (H), or very high (VH). On the other hand, Table 5 displays participants' answers to the two qualitative questions embedded in the online questionnaire, consisting of "What did you like the most about these experiences?" and "What did you like the least about these experiences?".

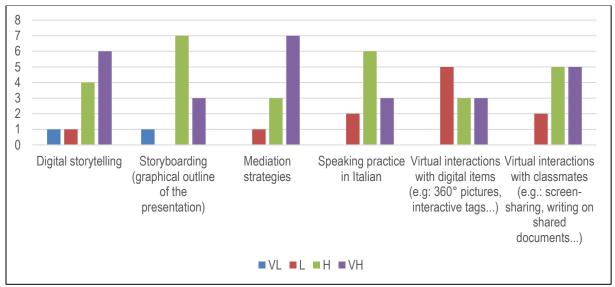


Figure 5. Judgements expressed in the post-task questionnaire by the participants in relation to the question "How would you rate the applicability of each skill to your professional and social life?"

Table 5 Selection of participants' answers to the questions

"What did you like the most about these experiences?" -Likes about the immersive experiences

- "What did you like the least about these experiences?" -Dislikes about the immersive experiences
- a. The opportunity to speak Italian, and exchange some ideas e. The time was very limited, and it was not clear from the with people from all over Europe.

liked this experience since I felt it was like a game, a quest.

- b. The interactivity of the platforms and sharing or bouncing f. It can be a little bit complicated to work in groups when it has ideas with classmates. Exploring an Italian city (Siena), its to be on a platform (for example: StoryMaps, just one person culture and art, and performing tasks on a virtual map. I really had access to the map of the group so it restricts the opportunity to completely use this platform). Maybe, some work should be done individually.
- c. The fact that there was no time for being bored. It was very g. Documents downloading, creating new accounts. interactive, and the fact that we often were in breakout rooms gave us autonomy. I think this is the key when you are online. Also, the repartition of activities during the 12 hours was very well done.

beginning that additional time would be needed.

- d. It was very practical and real. We were introduced to a new h. Maybe I would have liked to improve my Italian grammar. way of learning the language which I found very interesting and motivating.

When asked to rate in the questionnaire whether the digital stories created on *StoryMaps* were the results of joint group decisions, 72.7% of the participants replied it was evenly spread between group members. Focusing on the creative story process, most participants positively rated the easiness of reaching agreements using StoryMaps, stating they were facilitated to use as it enabled them to hear each other's opinions, share ideas, and understand content.

Table 6 Participants' responses to the post-task survey question: "Do you feel that the digital story created by your group on StoryMaps is more the result of your decisions, your partners' decisions, or both?"

Parameters	Results
More mine	9.1%
My partner's	18.2%
Both	72.7%

To obtain further information related to the emergence of positive interdependence as mediation strategies, a content analysis was conducted on participants' transcriptions using the parameters of Table 4. Resulting patterns of positive interdependence were grouped into five main areas: instruction provision, collaborative meaning-making, clarification seeking, participation encouragement, and language negotiation. Unabridged transcripts from participants' verbal interactions have been provided in Table 7 together with their English translations.

Table 7 Examples of positive interdependence surfacing from participants' interactions in creating content on StoryMaps and discussing the interpretation of a piece of art present in the VFEs experiences.

a.	Instruction provision and mediation of language use
S1: Melancolico con la "e".	S1:(while writing story contents on StoryMaps) Melancolico with an "e".
S2: Dove la "i"? Non è "milancolico"? S1: No è con la "e" e poi la "n". S2: Ah ok.	S2: Where the "e"? Isn't it "milanconico"? S1: No it is with "e" and then "n". S2: Ah ok.

S1: Come scrive, così? Guardate se sto scrivendo giusto. "Ha una intenzione per attrarre la gente...".

S2: Ha intenzione di attrarre la gente a Siena. Attrarre con due "r".

S1: Così? S2: Sì. S1: How do you write it, like this? (In the shared screen, she hovers over the word she has just written). Check if I am writing it correctly. (Starts reading out loud what she has written in Italian) "Ha una intenzione per attrarre la gente...".

S2: (Corrects a missed "r" in the verb "attrarre" emphasizing the "r") He has the intention to attract people to Siena. "Attrarre" with two "r".

S1: Like this? S2: Yes.

b. Meaning-making, clarification seeking, participation encouragement

S3: L'artista? Se faccio un errore ditemo, perché non scrivo bene in italiano...

S4: Tranquilla!

S3: Ok, io penso che la nubilità è una forma di intimità? Intimità...intimità...Tipo, la donna perché dà l'impressione a chi guarda di essere nella vita della donna. Non so se è chiaro?

S4: Può essere che sta esprimendo qualcosa per l'artista, non lo so, ora cerco. Che cosa ne pensi?

S3: Penso che un pittore voleva imparare a disegnare il corpo, il corpo della donna, il corpo dell'uomo. Questo era necessario per essere raffigurato nuda e per sapere, per imparare come disegnare il corpo.

S4: Si io penso che questa donna si chiama Siena perché la città si chiama Siena e ha una storia... ha una storia nel fondo può essere il letteratura. Non lo so. O di arte non lo so. Ma si è l'autore di questo e sta facendo un'arte con questa nubilità.

S3: Non so cosa vuoi dire quando dici "fare un arte" ...cosa vuoi dure quando dici "l'artista sta facendo un'arte con la nubilità?"

S3: (While examining a sculpture in the ThingLink VFE) The artist you mean? If I make a mistake please let me know because I do not write well in Italian (Shares her screen as she is typing in the document)

S4: Don't worry!

S3: Ok, I think nudity is a form of intimacy? Intimacy...intimacy... (The participant pauses as she looks for the word) For instance, the woman because she gives the impression to the onlooker to be in the life of the woman. I am not sure if I am clear.

S4: It could be that she is expressing something for the artist, I don't know. I am looking for it. What do you think?

S3: I think that a painter wanted to learn how to draw the body, the body of the woman, the body of the man. This was necessary to be represented naked and to know, to learn how to draw the body.

S4: Yes, I think this woman is called Siena because the city is called Siena and it has a history....it has a history deep within and it could be literature. I don't know. Or of art, I don't know. But yes, the author is making art with this nudity.

S3: I don't get what you mean when you say «making art»...what do you mean when you say "the artist is making an artwork with nudity"?

Data from focus group interviews revealed further information in terms of the positive interdependence emerging between participants during the activities. As the participants preferred to conduct the interviews in Italian, English translations have been provided together with the original transcripts.

Table 8
Selection of participants' answers to focus group questions targeted at understanding the deployment of positive interdependence during non-iVR activities.

Transcribed and translated extracts from focus group interviews

- a. Penso che la cosa che mi è piaciuto di più è forse che tutte noi abbiamo contribuito a raccontare storie al meglio di come potevamo.
- b. Tutte noi tre parlavamo ed esprimevano le idee. Nessuna stava a dire niente. Erano tutte attive per proporre idee e suggestioni.
- c. Sì penso che il più importante nel nostro gruppo è di dare idee e di anche ascoltare le idee dell'altra per poter fare un bel lavoro.
- a. I think the thing I liked the most was that we all contributed to telling stories to the best of our abilities.
- b. All three of us talked and expressed ideas. Nobody stood there and said nothing. We were all active in proposing ideas and suggestions.
- c. I think the most important thing in our group was to propose ideas and also listen to other people's ideas to do a good job.

d. Abbiamo collaborato e preso delle decisioni in gruppo per organizzarsi a pensarci. Penso che abbiamo preso soggetti che ci piacevano quindi era facile da condividere.

d. We collaborated and made group decisions to organize ourselves in our thinking process. I think we all decided on topics we liked and that made it easy to share [ideas].

Further information on group management was collected through answers to the questions on the group activities conducted during the focus group interviews, as participants described the strategies of positive interdependence they deployed during the non-iVR activities (Table 9). Written contents were provided in their unabridged version, together with their corresponding translations.

Table 9

Written information provided by the participants in response to the question "How did you manage the organization of group work during the activities you have conducted? Discuss this in your groups and write down the content of your decisions".

Participants' feedback on group management

- a. Prima di tutto abbiamo ascoltato / sentito quello che l'atra a. First of all, we listened to what the other person wanted to abbiamo fatto un scambio di email e whatsapp costantemente communicate. per comunicare.
- persona voleva compartire così avevamo un scambio de idee. share so that we could exchange ideas. We talked a lot, so Abbiamo anche parlato molto, quindi la comunicazione ha stato communication was the most important tool to construct ideas il mezzo più importante per costruire le idee e il progetto. and design the project. We considered each other to help us Abbiamo avuto una considerazione reciproca per aiutarci during the activities. We shared our knowledge and [positively] durante la attività. Abbiamo condiviso la nostra conoscenza e received the ideas we shared. We have also had a constant abbiamo abbracciato le idee che scambiavamo. Anche exchange of emails and [messages on] WhatsApp to
- b. Eravamo velocissime, attive e abbiamo espreso facilmente le b. We were fast and active and we easily expressed our ideas. piaceva la tema e stato facile di dividersi i ruoli.
- idee. Abbiamo collaborato e preso delle decizioni in grupo. We have collaborated and made group decisions. We have also Abbiamo dato delle idee pero anche abbiamo ascoltato e given ideas as well as listened to and accepted the ideas of accetato le idee degli altri. Ci siamo organizati e siccome ci others. We organized ourselves and since we liked the topic it was easy to divide roles between each other.
- c. Tuuti eravano interesante per questa attività, ma alle fine c. We were all interested in this activity but in the end we picked
- abbiamo scelto quelli che sembravano per noi più interesante. those [topics] that seemed more interesting to us. Afterward, we Dopo abbiamo visto che un po dificile metere in sieme il lavoro noticed that it was a bit difficult to combine the work of all of us. di tutte. Ma con aiuta di whatsapp ci abbiamo organizato meglio. However, with the help of WhatsApp, we better organized ourselves.
- informazione sul cibo, perché a tutti piace il cibo.
- d. Abbiamo fatto un buono lavoro, abbiamo organizzato tutto in d. We did a good job, we organized everything simply and un modo semplice ed efficiente. Abbiamo ascoltato ciascuna efficiently. We listened to the opinions of each other. We did not opinione di ognuno. Non avevamo ruoli, ma ci siamo capiti bene have roles but we understood each other well in the end and alla fine e tutti hanno parlato, scritto, letto e dato le sue everyone has spoken, written, read, and provided their information on food because we all like food.

5. Discussion

In discussing positive interdependence arising from students' interactions in non-iVR, it is important to consider its impact on behavioral aspects resulting from interactions with technology. In terms of the latter parameter, a preliminary analysis of positive interdependent behaviors revealed high rates in participants' proficiency with technology, which is likely to have facilitated interaction flow as participants directed their actions towards goal achievement while intuitively navigating the platforms. It is also possible that the combination of technological savviness, linguistic competence, and immersion favored by the non-iVR platforms ThingLink and StoryMaps encouraged participants to select mediation strategies as the most transferrable skills acquired during group interactions and perceive the digital stories created by their groups as the product of collaborations (Table 6). In terms of the latter parameter, potential failures in acknowledging partners' contributions might signify that positive interdependence did not manifest between participants. This could be due to the inability of participants to simultaneously work on the digital stories published on StoryMaps, which prevented them from exercising shared agency of the final project and flawlessly conducting

group work (Table 5, f). Despite these results, the positive aspects of the conduction of group work outweighed the negatives as participants praised application interactivity, autonomy in directing group work towards sharing ideas, as well as the ability to speak Italian whilst talking to people from other linguistic and cultural backgrounds (Table 5, a, b, c, d). Participants also stated to have been collaboratively involved in the activities by working on application contents while taking part in gamified quests (Table 5, b). Moreover, transcripts from the participants' focus groups showed that they identified the ability to attentively listen to contributions from other participants as a key element of group success (Table 8, c). In particular, they claimed to have provided creative contributions to the best of their abilities and mediated their ideas with the rest of the group (Table 8, d). This highlighted the deployment of positive interdependence, which participants further enhanced by meeting outside of classroom hours to organize and complete their story projects. These communication strategies facilitated participants in attaining task goals and reaching optimal levels of positive interdependence (Table 8, a, b, d, Table 9, a, b, c, d).

The results obtained from analyzing survey responses were further confirmed by transcript analysis, which revealed the appearance of positive interdependence in the form of mediation strategies as users facilitated cooperative interactions, collaborated in language-based meaning-making, and encouraged conceptual talk (Table 7). Specifically, interdependence surfaced as individuals summarized group decisions and added their contributions to ideas proposed by group members. By doing so, they directed group decisions toward goal attainment and engaged in seeking partners' clarifications as they monitored each other's written production in creating virtual content (Table 7, b). Moreover, participants supervised the creation of written input, thus covering positions of leadership whilst allowing for other members' creative input to surface (Table 7, a). Furthermore, content interactivity and exploration favored collaboration through the exchange of ideas and stimulated spatial group exploration. In terms of experiential downsides, participants complained about the lack of focus on grammar in favor of group activities of content creation (Table 5, h). Digital storytelling appeared to offset some of the downsides of prolonged tech exposure including the distribution of information load across participants, which reduced distraction and disengagement from group activities. Moreover, curiosity was enhanced by the explorative possibilities afforded by the applications *ThingLink* and *StoryMaps* which contributed to engaging the participants in taslk-oriented language production. The immersion afforded by interacting with the platforms also stimulated creativity and favored role division and cooperation in goal attainment. This appeared to favor the co-construction of interdependent relationships in immersive virtual spaces, as cited by Galimberti et al. (2010). The joint use of digital storytelling and non-iVR also appeared to involve users in highly cooperative activities as they mediated decisions and effectively reached task objectives, hence confirming what was stated in the literature in terms of the benefits of digital storytelling for cooperative group activities (Ribeiro, Moreria & da Silva, 2016; Liu et al., 2018; Schmoelz, 2018). However, downsides were noted in participants' tendencies to download materials from digital repositories unincorporated in the targeted digital applications, which slowed down group performance (Table 5, g). Participants also stated that limited time availability and instructional clarity were detrimental to activity completion (Table 5, a).

Despite the relevance of the data obtained during the interventions, the number of participants in this study was rather small. Therefore, further investigations could include a wider population sample sourced from schools and academic institutions. From a technical perspective, the seamless integration of cloud units into immersive digital platforms might facilitate group participation and minimize efforts of platform management. Therefore, in integrating immersive technologies into language education practices of positive interdependence, it is important to consider technological affordances facilitating the sharing of opinions and ideas as well as multi-user manipulations of digital materials, collaborative meaning-making, and goal orientation in the target language. Despite these limitations, this discussion highlighted the importance of interdependence-supporting inquiries and the role of immersive technologies in encouraging students' linguistic and social competencies in light of their transferability to real-world situations. With regards to declinations of positive interdependence in task-based communication, particular focus could be placed on strengthening students' mediation strategies in the target language whilst cooperating in digital product creation. These pedagogical implications could also be included in methodological reflections on teacher training related to the use of non-iVR technologies in language learning settings. Particular focus might be placed on evaluating teachers' experiences with immersive technologies in terms of acceptance, perceived usability, and ease of use. Providing the conduction of preliminary assessments of teachers' and students' needs in their educational contexts, investigations of this kind are deemed to be of pivotal importance in providing teachers with guidelines on how to use non-iVR tools to encourage language learning through digital social practices. Further inquiries could also focus on whether language students involved in iVR activities may boost

positive interdependence by cooperatively working on the creation of digital products within immersive virtual environments.

6. Conclusion

The study provided an initial overview of the current literature on digital storytelling and immersive technologies as well as their implications for language education. Considerations on cooperative learning and task-based methodologies were drawn to highlight gaps in the literature on investigating ways to boost students' positive interdependence in digital language learning contexts. In fact, with the increasing implementation of virtual technologies in social and professional contexts, focusing on students' positive interdependence can make students better FL communicators and collaborators. Data surfaced from combinations of behavioral observations and content analysis of participants' transcripts and survey answers. By conducting interactive language learning activities in non-iVR environments, participants engaged in meaning-making, valued personal contributions to goal attainment, and monitored each other's target language production. Despite lacking time and the possibility to simultaneously edit digital content, participants successfully interdepended by collaboratively exploring VFEs on ThingLink and planning and creating digital stories on StoryMaps. Moreover, the joint use of digital storytelling and non-iVR platforms appeared to reduce potentially negative effects related to technology overexposure such as distraction and activity disengagement due to platform interactivity and immersive participation. This demonstrated the successful impact of non-iVR in fostering language students' positive interdependence, and highlighted the necessity of further investigations in the use of immersive technologies enabling the deployment of collaborative skills transferrable to digital and real-life settings of professional and social nature.

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Appendix Pre-task Questionnaire

Section 1: personal information

- 1. What are your first and last names?*
- 2. What is your age?*
- 3. Which languages do you speak?*
- 4. Amongst the languages you listed above, which one(s) do you consider as native?*

Section 2 - Knowledge of Italian language and culture

- 1. How would you rate your competence in Italian? (beginner A1, beginner improver A2, pre-intermediate B1, intermediate B2, advanced C1, native-like C2)*
- 2. How many years have you been studying Italian for? (less than 1 year, between 2 and 4 years, more than 4 years)*
- 3. Why are you studying Italian?*
- 4. In which contexts do you practice your Italian skills the most? (select all that apply)*
 - a. Talking to locals
 - b. Interacting on social media with Italian speakers
 - c. Using language learning applications
 - d. Watching films/TV series/news in Italian
 - e. Reading books/websites in Italian
 - f. Self-studying coursebooks
 - g. Interacting in online learning communities
 - h. Interacting in business contexts/professional lives
 - Other
- 5. What do you like the most about Italian culture? (select all that apply) *
 - a. Art and design
 - b. Literature
 - c. Language
 - d. Food & Wine
 - e. Fashion
 - f. Tourism
 - g. History
 - h. Business
 - i. Music
 - i. Theatre
 - k. Local traditions
 - I. Sport & leisure
 - m. Other

• Section 3 - Knowledge of Italian grammar

- 1. Choose the verb that best completes the sentence "penso che lui ... italiano"*
 - a. Parla
 - b. Parli
 - c. Parlava
 - d. Answer unknown
- 2. Choose the verb that best completes the sentence "credevo che lui ... più vecchio"*
 - a. Sia
 - b. Era
 - c. Fosse
 - d. Anwer unknown
- 3. Choose the verb that best completes the sentence "se tu venissi, volentieri"*
 - a. Esco
 - b. Uscire
 - c. Uscirei

- d. Answer unknown
- 4. Choose the verb that best completes the sentence "... mangiare del sushi guesta sera a cena"*
 - a. Volevo
 - b. Vorrei
 - c. Volli
 - d. Answer unknown
- 5. Choose the verb that best completes the sentence "spero che tu ... studiato"*
 - a. Abbia
 - b. Hai
 - c. Avevi
 - d. Answer unknown
- 6. Was it difficult to complete the sentences above?*

1 2 3 Extremely

Section 4 - Technology use and habits

- 1. How competent are you with technology use? (beginner, intermediate, advanced)*
- 2. How often do you use your personal computer on a daily basis? (less than 2 hours per day, between 2 and 8 hours per day, more than 8 hours per day)*
- 3. What do you use it for? (select all that apply)*
 - a. Work (nonuniversity related)
 - b. Academic work (writing essays, exam preparation, course readings...)
 - c. Gaming
 - d. Blogging
 - e. Desktop publishing/editing (Adobe Photoshop, Canva...)
 - f. Writing and data management (Word, Excel or Mac equivalents...)
 - g. Cloud-based video conferencing (ZOOM, Google Meet...)
 - h. Other
- 4. How often do you use your mobile phone on a daily basis? (less than 2 hours per day, between 2 and 8 hours per day, more than 8 hours per day)*
- Which purposes do you use it for? (select all that apply)*
 - a. Social media (including messaging)
 - b. Phone calls (not requiring Internet connection)
 - c. Gaming
 - d. Email management
 - e. Mobile publishing/editing (e.g.: Canva, Photo Editor...)
 - f. Cloud-based video conferencing (e.g.: ZOOM, Google Meet...)
 - g. Other
- 6. Do you use language learning applications? (yes/no)*
- 7. If you answered "yes", which one(s)?
- 8. Which of the following platforms have you used for attending online classes? (select all that apply)*
 - a. ZOOM
 - b. Google Meet
 - c. Microsoft Teams
 - d. Skype
 - e. Whatsapp
 - f. Facebook
 - g. YouTube
 - h. I have never attended online classes on any platform
 - i. Other

Section 5 - Digital skills

- 1. I know how to copy and move files such as documents, images and videos between folders, devices or on the cloud*
 - i. I don't know how to do it

- k. I can do it with help
- I. I can do it on my own
- m. I can do it with confidence and, if needed, I can support/quide others
- 2. I know how to create a profile in digital environments for personal or professional purposes*
 - a. I don't know how to do it
 - b. I can do it with help
 - c. I can do it on my own
 - d. I can do it with confidence and, if needed, I can support/guide others
- I know how to create something new by mixing different types of content, like text and images*
 - a. I don't know how to do it
 - b. I can do it with help
 - c. I can do it on my own
 - d. I can do it with confidence and, if needed, I can support/guide others
- 4. When I face a technical problem, I am able to find solutions on the Internet*
 - a. I don't know how to do it
 - b. I can do it with help
 - c. I can do it on my own
 - d. I can do it with confidence and, if needed, I can support/guide others

Section 6 - Online learning

- 1. Have you ever worked with teams online? (yes/no)*
- 2. If you answered "yes", could you briefly describe your online teamwork experience?
- 3. Have you ever led teams online? (yes/no)*
- 4. Do you agree or disagree with the following statements?*

(1 – strongly disagree, 2 – disagree, 3 – agree, 4 – strongly agree)

- a. Online language learning improves students' language skills
 - b. Online language learning boosts interactions amongst learners
 - c. Online language learning accelerates task completion
 - d. Online language learning improves coursework management
 - e. It is intuitive and fast to learn how to use online language learning resources
 - f. Anybody can easily learn a language in online learning contexts
 - g. Online language learning can smoothly be integrated in academic curricula

Section 7 - Virtual Reality

Are you interested in using Virtual Reality for language learning purposes?*

1 2 3 4 Not at all Ex

Not at all Extremely

- 2. Have you ever had a Virtual Reality experience? (yes/no)*
- 3. If you answered "Yes", could you briefly describe it?
- 4. If you had a Virtual Reality experience, did you like it? (yes/no)
- 5. Could you briefly explain why?
- 6. Imagine that you were using Virtual Reality for language learning purposes. Would you agree or disagree with the following statements? (Select one answer for each row)* (1 strongly disagree, 2 disagree, 3 agree, 4 strongly agree)
 - a. Virtual Reality improves language learning
 - b. Virtual Reality boosts interactivity amongst classmates
 - c. Virtual Reality enhances opportunities of authentic language use
 - d. It is simple to find information and details in Virtual Reality environments
 - e. Virtual Reality is user-friendly and intuitive

POST-TASK QUESTIONNAIRE

Section 1 - language learning with Virtual Reality

- 1. Did you enjoy the experience of learning Italian with Virtual Reality? (yes/no)*
- 2. What did you like the most about this experience?*
- 3. What did you like the least about this experience?*
- 4. How would you rate the applicability of each skill to your professional and social life? * (1 very low, 2 low, 3 high, 4 very high)
 - a. Digital storytelling
 - b. Presentation planning
 - c. Speaking practice in Italian
 - d. Virtual interactions with digital items (e.g. virtual objects...)
 - e. Avatar interactions with my classmate
- 5. Do you feel that Virtual Reality improved your Italian language skills? (yes/no)*
- 6. If you answered "yes", how do you think you will use the language skills you have acquired?*
- 7. Think about your experience of learning Italian through Virtual Reality and rate your agreement with the following statements* (1 strongly disagree, 2 disagree, 3 agree, 4 strongly agree)
 - a. Virtual Reality facilitated language interactions with my classmate
 - b. Virtual Reality was useful for collaboration
 - c. The use of Virtual Reality facilitated me in requesting the help of my classmate when there were issues with task conduction
 - d. Using hand controllers and VR headset facilitated language interactions with my classmate
 - e. Conversations flowed as easily as they would in face-to-face contexts
- 8. Do you feel that the digital tour created with your partner is more the result of your decisions, your partner's decisions or both? (more mine, my partner's, both)*
- 9. Think about your experience with Virtual Reality and rate your agreement with the following statements* (1 strongly disagree, 2 disagree, 3 agree, 4 strongly agree)
 - a. I found it difficult to interact with my classmate in Virtual Reality
 - b. I felt inhibited from expressing my opinions in Virtual Reality
 - c. I felt prevented from being a group leader in Virtual Reality
 - d. I felt Virtual Reality prevented me from proposing new ideas to my classmate
- 10. Did you find it easy to reach an agreement with your partner on selecting tour destinations when immersed in Virtual Reality? (yes/no)*
- 11. Why?*
- 12. After your experience, do you feel more inclined to use Virtual Reality for collaborative language learning purposes? (yes/no)*

• Section 2 - sense of presence in Virtual Reality

1. H	ow muc	h were y	ou able to	control th	e events?	*
1	2	3	4	5	6	7
Not	at all ab	le to				Completely
2. H	ow resp	onsive w	vas the env	/ironment	to actions	that you initiated or performed?*
1	2	3	4	5	6	7
Not	at all res	sponsive)		Very I	responsive
3. H	ow natu	ral did yo	our interac	tions with	the virtua	I environment seem?*
1	2	3	4	5	6	7
Not	natural	at all				Very natural
4. H	ow muc	h did the	visual asp	ects of th	e environi	ment involve you?*
1	2	3	4	5	6	7
Not	at all					Completely
5. H	ow muc	h did the	auditory a	spects of	the enviro	onments involve you?*
1	2	3	4	5	6	7
Not	at all					Completely
6. H	ow natu	ral was t	he mechai	nism whic	h controlle	ed changing between the different environments?*
1	2	3	4	5	6	7
Not	natural	at all				Very natural
7. H	ow com	pelling w	as your se	nse of ob	jects mov	ing through space?*

1	2	3	4	5	6	7
Not at	all com	pellina			Very com	pellina
			xperiences	s in the vir		onments seem consistent with
		d experier		5 III 410 VII		Annother Good Goldston, Will
1	2	3	4	5	6	7
•	all con		,	O	Very cons	
			icinate who	at would b		kt in response to the actions you performed?*
	2	3	4	5	6	7
1 Not of		3	4	J	U	Completely
Not at		-1-4-1				Completely
						or search the environments using your vision?*
1	2	3	4	5	6	
Not at						Completely
11. Ho			identify so			_
1	2	3	4	5	6	7
Not w	ell at all				Very well	
12. H	ow well	could you	localise so	ounds?*		
1	2	3	4	5	6	7
Not w	ell at all				Very well	
13. H	ow well	could you	actively su	irvey or se	earch the v	rirtual environment using touch?*
1	2	3	4	5	6	7
Not w	ell at all				Very well	
			s vour sen	se of movi		d inside the virtual environment?*
1	2	3	4	5	6	7
Not at	all com	•	7	J	Very com	i polling
			ou abla ta	avamina a	•	ipelling
10. H		•	ou able to		-	7
I Notes	2	3	4	5	6	7
	ose at a				Very clos	
						viewpoints?*
1	2	3	4	5	6	7
	ell at all				Very well	
17. H	ow well	could you	move or m		objects in	the virtual environmental experience?*
1	2	3	4	5	6	7
Not w	ell at all				Very well	
18. H	ow invol	ved were	you in the	virtual env	rironment	experience?*
1	2	3	4	5	6	7
Not at	all invo	lved				Very involved
			l vou expe	rience bet	ween vou	r actions and expected outcomes?*
1	2	3	4	5	6	7
Full d		J	7	U	U	No delay
	•	dy did you	adjust to	the virtual	onvironma	ent experience?*
20.110	w quici	ay ala you .3	4	5	CITALIOLILIE	ant expendince?
 al!al :=		•	•	0	0	
		st to it at a				e less than a minute to adjust to it
21. H	-		. •	-	_	rirtual environment did you feel at the end of experience?*
1	2	3	4	5	6	7
Not p	roficient				Very prof	
22. Ho	ow much	n did the vi	sual displa	ay quality ii	nterfere or	distract you from performing the assigned tasks or required activities?
1	2	3	4	5	6	7
Not at	all					Completely
23. H	ow well	could you	concentra	te on the	assigned	tasks or required activities rather than on the mechanisms used to
			activities?*		Ū	•
1	2	3	4	5	6	7
Not at		J	,	•	•	Completely
		n did tha a	ontrol dovi	icas intorfo	ara with th	e performance of assigned tasks or with other activities?*
						o performance of assigned tasks of with other activities?
1	2	3	4	5	6	Completely
Not at		-1-4.1			a a d 1 - 0	Completely
25. H	ow com	pietely wei	e your ser	nses enga	gea in the	se experiences?*

1 2 3	4	5	6	7
Not engaged at all				Completely engaged
26. To what extent did e	events of	ccurring o	utside the	virtual environment distract you from your experience in the virtual
environment?*				
1 2 3	4	5	6	7
Not at all				Very much
	did you	focus on	using the	display and control devices instead of the virtual experience and
experimental tasks?*				
,	4	5	6	7
Not at all				Very much
				extent that you lost track of time?*
	4	5	6	7
Not at all				Completely
	entify obje	ects throug	jh physica	interaction, like touching an object, walking over a surface, or bumping
into a wall or object?*	,	_	0	7
	4	5	6	7
Not easy at all	al		Very easy	
				s when you felt completely focused on the task or environment?*
	4	5	6	7 Manua
Not at all				Many
	-			ed to interact with the virtual environments?*
	4	5	6	Completely
Not at all	rovided 4	braugh dif	foront con	Completely
	7 Ovided i 4	.iirougii aii 5	6	ses in the virtual environment (e.g., vision, hearing, touch) consistent?*
Not at all	4	J	O	Completely
IVOL at all				Completely
Section 3 - post- action 3 - post-	ctivity co	mfort wit	h Virtual I	Reality
• Occiton o post at	onvity oo	MILL WILL	II VII LUUI I	tounty
General Discomfort*	+			
General Discomfort* 1	2		3	4
			3	4 Severe
1 None			3	
1 None 2. Fatigue*			3	
1 None 2. Fatigue*	2			Severe
1 None 2. Fatigue* 1	2			Severe 4
1 None 2. Fatigue* 1 None 3. Headache*	2			Severe 4
1 None 2. Fatigue* 1 None 3. Headache*	2		3	Severe 4 Severe
1 None 2. Fatigue* 1 None 3. Headache*	2		3	Severe 4 Severe 4
1 None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain*	2		3	Severe 4 Severe 4 Severe 4
1 None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None	2 2		3	Severe 4 Severe 4 Severe
1 None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain*	2 2		3 3 3	Severe 4 Severe 4 Severe 4 Severe 4 Severe
None The strain of the strain	2 2		3	Severe 4 Severe 4 Severe 4 Severe 4 Severe 4
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None	2 2 2 2		3 3 3	Severe 4 Severe 4 Severe 4 Severe 4 Severe
None The strain of the strain	2 2 2 2		3 3 3	Severe 4 Severe 4 Severe 4 Severe 4 Severe 4
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1	2 2 2 2		3 3 3	Severe 4 Severe 4 Severe 4 Severe 4 Severe 4 Severe 4
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None	2 2 2 2		3 3 3	Severe 4 Severe 4 Severe 4 Severe 4 Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating*	2 2 2 2 2 2 2		33333	Severe 4 Severe 4 Severe 4 Severe 4 Severe 4 Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1	2 2 2 2		3 3 3	Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None	2 2 2 2 2 2 2		33333	Severe 4 Severe 4 Severe 4 Severe 4 Severe 4 Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None 8. Nausea*	2 2 2 2 2 2 2 2		3 3 3 3	Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None 8. Nausea* 1	2 2 2 2 2 2 2		33333	Severe 4
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None 8. Nausea* 1 None	2 2 2 2 2 2 2 2		3 3 3 3	Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None 8. Nausea* 1 None 9. Difficulty concentration	2 2 2 2 2 2 2 2 2 2 2 ing*		3 3 3 3 3	Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None 8. Nausea* 1 None 9. Difficulty concentration	2 2 2 2 2 2 2 2		3 3 3 3	Severe 4 Severe
None 2. Fatigue* 1 None 3. Headache* 1 None 4. Eye strain* 1 None 5. Difficulty focusing* 1 None 6. Salivation increasing 1 None 7. Sweating* 1 None 8. Nausea* 1 None 9. Difficulty concentration	2 2 2 2 2 2 2 2 2 2 2 ing*		3 3 3 3 3	Severe 4 Severe

10. "Fullness of the head"*	
1 2 3 4	
None Seve	re
11. Blurred Vision*	
1 2 3 4	
None Seve	re
12. Dizziness with open eyes*	
1 2 3 4	
None Seve	re
13. Dizziness with closed eyes*	
1 2 3 4	
None Seve	re
14. Vertigo*	
1 2 3 4	
None Seve	re
15. Stomach awareness*	
1 2 3 4	
None Seve	re
16. Burping*	
1 2 3 4	
None Seve	re

• Section 4 - usability of Virtual Reality

1.	I think that I would	like to use VR for la	nguage learning pu	rposes more often*					
1		2	3	4	5				
Stro	ongly disagree				Strongly agree				
2.	I found performing	VR lessons unnece	ssarily complex*						
1		2	3	4	5				
Stro	ongly disagree				Strongly agree				
2	I thought using VR	for language learning	ng purposes was ea	sy*					
1		2	3	4	5				
Stro	ongly disagree				Strongly agree				
3.		need the support of	a technical person	to be able to use VR	for language purposes again*				
1		2	3	4	5				
Stro	ongly disagree				Strongly agree				
4.	I found the various	functions in this sys	stem were well integ	rated*	0, 0				
1		2	3	4	5				
Stro	ongly disagree				Strongly agree				
5.		s too much inconsist	tency in this system?	*	0, 0				
1	Ū	2	3	4	5				
Stro	ongly disagree				Strongly agree				
6.		at most people woul	d learn very quickly	to use VR for langua	age learning purposes*				
1	ŭ	2	3	4	5				
Stro	ongly disagree				Strongly agree				
7.	I found the system	very cumbersome t	o use*		0, 0				
1	•	2	3	4	5				
Stro	ongly disagree				Strongly agree				
8.		t using the system*			0, 0				
1	,	2	3	4	5				
Stro	ongly disagree				Strongly agree				
9.									
1		2	3	4	5				
Stro	ongly disagree				Strongly agree				
	• •								

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ABSTRACT

IT Meeting the needs of reunited refugee families. An ecological, multilingual approach to language learning di Sarah Cox analizza la situazione dei rifugiati in Scozia, con un focus sulla figura della donna neoarrivata. Partendo dall'esperienza in due precedenti casi studio in Galles e Germania, la ricerca esplora le sfide linguistiche e pratiche delle donne rifugiate appena arrivate nel Regno Unito in seguito a ricongiungimento familiare. Il volume dimostra come la combinazione dell'approccio ecologico a quello decoloniale alle strategie di translanguaging possa essere efficace ed apprezzato dalle famiglie di rifugiati nei loro primi momenti in un nuovo Pese. Il volume costituisce un'esplorazione di ciò che significa davvero partire dal "day one", esplorando l'integrazione, l'apprendimento linguistico e la solidarietà in modo approfondito e coinvolgente.

Parole chiave: MULTILINGUISMO, TRANSLANGUAGING, APPROCCIO ECOLOGICO, RIFUGIATI, SCOZIA

Meeting the needs of reunited refugee families: An ecological, multilingual approach to language learning by Sarah Cox analyses the situation of refugees in Scotland, with a focus on newly arrived women. Drawing from the experience of two previous case studies in Wales and Germany, the research explores the linguistic and practical challenges faced by newly arrived refugee women in the UK following family reunification. The volume demonstrates how the combination of an ecological, decolonial approach, and translanguaging strategies can be effective and appreciated by refugee families in their early days in a new country. The volume constitutes an exploration of what it truly means to start from "day one," delving into integration, language learning, and solidarity in a comprehensive and engaging manner.

Key words: MULTILINGUALISM, TRANSLANGUAGING, ECOLOGICAL APPROACH, REFUGEES, SCOTLAND

Meeting the needs of reunited refugee families: an ecological, multilingual approach to Language Learning de Sarah Cox analiza la situación de los refugiados en Escocia, con un enfoque en las mujeres recién llegadas. Basándose en la experiencia de dos estudios de caso anteriores en Gales y Alemania, la investigación explora los desafíos lingüísticos y prácticos que enfrentan las mujeres refugiadas recién llegadas al Reino Unido después de la reunificación familiar. El volumen demuestra cómo la combinación de un enfoque ecológico, decolonial y estrategias de translenguaje puede ser efectiva y apreciada por las familias refugiadas en sus primeros días en un nuevo país. El volumen constituye una exploración de lo que realmente significa comenzar desde el "día uno", profundizando en la integración, el aprendizaje de idiomas y la solidaridad de manera integral y atractiva.

Palabras clave: MULTILINGÜISMO, TRANSLENGUAJE, ENFOQUE ECOLÓGICO, REFUGIADOS, ESCOCIA

Il volume *Meeting the Needs of Reunited Refugee Families. An Ecological, Multilingual Approach to Language Learning* di Sarah Cox esplora la situazione dei rifugiati in Scozia, concentrandosi in particolare sulla figura della donna. Partendo da due casi studio precedenti, in Galles e Germania, l'autrice presenta il caso di un corso di cinque mesi di inglese lingua straniera (ESOL – English for Speakers of Other Languages), che lei stessa conduce, nella città di Glasgow. Lo studio si inserisce durante le prime settimane di ambientamento di un gruppo di donne rifugiate, arrivate in Scozia a seguito di ricongiungimento familiare, mettendo in luce le loro sfide linguistiche e pratiche nella vita di tutti i giorni. La Scozia costituisce un territorio interessante poiché, nonostante sia un Paese le cui strategie di integrazione accolgono e valorizzano le lingue minoritarie, le classi ESOL sono tenute quasi esclusivamente attraverso una pedagogia monolingue, che mette al centro la lingua inglese e crea intorno a sé delle inevitabili lacune. Combinando un approccio decoloniale (Phipps, 2019; Smith, 1999) con il Critical Partecipatory Action Research (CPAR) e il *traslanguaging* (Blackledge & Creese, 2010; García & Li, 2014), la ricercatrice, qui con la duplice veste di insegnante, crea un ambiente multilingue restituendoci una visione unica sui primi momenti delle donne appena arrivate nel Paese.

Il volume è diviso in tre sezioni: la prima, dal primo al quarto capitolo, fornisce il quadro teorico di riferimento, ma anche il contesto in cui si inserisce la ricerca esplorando due casi di studio precedenti che hanno costituito la base e il retroscena del caso in Scozia; la seconda parte, che comprende il quinto capitolo, introduce il caso di studio in Scozia mettendo in risalto la co-costruzione e l'impiego dell'approccio ecologico e multilingue; la terza e ultima parte restituisce i risultati dello studio attraverso le tre ecologie: relationship, place e language/languaging.

Il primo capitolo definisce il contesto migratorio del Regno Unito, il suo ruolo nella crisi mondiale dell'accoglienza del 2015/2016 e la narrazione che il governo e i media britannici hanno portato avanti rispetto alla "crisi dei rifugiati" nel Paese. La narrativa anti-rifugiati non fa altro che alimentare sentimenti di razzismo e pensieri anti-immigrazione, creando un ambiente ostile all'inserimento dei rifugiati stessi. Inoltre, i dati sulla presenza di rifugiati nel Regno Unito, se paragonati a quelli di altri paesi europei, sono notevolmente inferiori, come dimostrano i 400.000 richiedenti asilo in Germania nel 2015, a fronte dei 40.000 in UK. Tuttavia, la creazione di un ambiente ostile è stata possibile poiché alimentata in un momento in cui il tema dell'immigrazione dominava la narrazione pubblica, facendo sì che il discorso sull'immigrazione e la necessità di contenerla diventasse un tema cruciale per il governo. Da qui anche l'idea del monolinguismo come strumento di coesione, come necessità per gli immigrati per potersi integrare nella società. Tale politica si discosta molto da quella scozzese, aperta alla pluralità di lingue e culture. Lo dimostra anche la scelta di utilizzare il termine *New Scots* (nuovi scozzesi) per designare i nuovi arrivati, che si dimostra essere molto più inclusivo e meno stigmatizzante di "rifugiato" o "richiedente asilo". L'inclusività viene rispecchiata nella politica linguistica scozzese, la quale prevede la condivisione delle lingue di origine con la comunità ospitante (Scottish Government, 2018) e l'importanza di mantenere la lingua d'origine nelle generazioni successive.

Il capitolo due presenta il quadro teorico di riferimento che fa da sfondo alla ricerca, costituito da quattro aree fondamentali: ecologia linguistica, multilinguismo, *translanguaging* e identità nell'apprendimento delle lingue. L'approccio ecologico scelto dalla ricercatrice permette di collegare l'apprendimento della lingua con il processo di integrazione nel contesto fisico di Glasgow, città che di per sé costituisce un ambiente superdiverso, favorevole ad esplorare un approccio di questo tipo e a sondare le possibilità del *translanguaging*, pratica ancora poco sistematica in questi contesti. Difatti, l'approccio ecologico, che fa da sfondo allo studio, si basa su due elementi chiave: la relazione lingua-ambiente e l'interazione tra le lingue nella mente (Haugen, 1972). A partire da questi due elementi intriseci nella definizione di approccio ecologico, l'autrice dimostra come questo si collega perfettamente con approcci multilingui e di *translanguaging*. L'approccio ecologico mette in relazione l'apprendimento di una lingua al contesto fisico circostante, sottolineando l'importanza dell'interazione interna delle lingue nei parlanti multilingui. Si tratta, dunque, di un approccio interdisciplinare e olistico, in cui la lingua è vista come indissolubilmente legata all'ambiente fisico e ai suoi utenti. Un approccio che non va considerato separatamente dagli altri, ma complementare ad altri approcci plurali. Inoltre, valorizzando le lingue d'origine e includendole nel processo di apprendimento in maniera significativa, il *translanguaging* contribuisce allo sviluppo di una solida identità multilingue.

Il terzo capitolo è dedicato a delineare il modo in cui i principi chiave della letteratura hanno configurato il disegno della ricerca e come la ricercatrice ha implementato un approccio ecologico multilingue all'apprendimento delle lingue all'interno del contesto di insegnamento. La ricerca è inquadrata come una spirale iterativa di ricerca di azione partecipativa critica (CPAR), una scelta che si adatta all'approccio decoloniale e che si sviluppa attorno alla ripetizione del processo *plan-act-observe-reflect* (pianifica, agisci,

osserva, rifletti). In questo capitolo l'autrice identifica lo scopo della ricerca, definisce le domande di ricerca che guideranno il proseguo del lavoro, esplicitandone le diverse fasi. Le domande che guidano l'intero studio sono: 1) Cosa possiamo apprendere dal supporto all'apprendimento linguistico per i rifugiati nei casi di Galles e Germania e come questo apprendimento può essere applicato al contesto scozzese? 2) In quale modo possiamo supportare meglio le famiglie rifugiate riunite in Scozia attraverso un approccio ecologico e multilingue all'apprendimento delle lingue? 3) Quale significato ha questo approccio in termini di identità, potere e dominio dell'inglese all'interno del processo di apprendimento della lingua? Dalle domande di ricerca si evince come l'obiettivo della ricercatrice non sia esclusivamente quello dell'applicazione dell'approccio ecologico multilingue, affrontando il divario tra politica, teoria e pratica, ma intende spingersi oltre. Andando a combinare questo approccio con quelli messi in luce precedentemente, la ricerca vuole migliorare la collaborazione con le donne rifugiate, consentendo loro di svolgere un ruolo più attivo nel processo di apprendimento della lingua inglese. Le quattro fasi fondamentali in cui è articolata la ricerca sono:

- 1) Interviste con specialisti del settore in Galles, visita al BRC di Newport e osservazione lezione ESOL;
- 2) Interviste con specialisti del settore in Germania, visita al GRC di Francoforte e osservazione lezione di tedesco L2;
- 3) Studio pilota a Glasgow;
- 4) Studio principale a Glasgow.

Il quarto capitolo concentra l'attenzione sui primi due momenti della ricerca in Galles e in Germania, confrontando questi casi con l'apprendimento dell'inglese per i rifugiati in Scozia. Nonostante la presenza di un ricco contesto bilingue e una strategia ESOL che incoraggia l'utilizzo del gallese in aula, l'autrice mette in luce come i risultati di questo approccio dipendono dall'atteggiamento personale dell'insegnante e, non di rado, vi è una completa assenza di lingue oltre quella inglese all'interno della lezione. In Germania, invece, si rileva un accesso più rapido ai corsi di lingua, dovuto anche a differenze sostanziali a livello strutturale e di modelli di finanziamento. L'accesso ai corsi di lingua diventa, pertanto, più agevole, evitando le lunghe liste d'attesa che rappresentano un ostacolo all'inserimento in una classe ESOL in Galles e in Scozia. In entrambi i contesti presi in esame, tuttavia, si rileva un profondo ancoraggio all'idea di poter utilizzare più di una lingua in classe esclusivamente se l'insegnante ne ha una conoscenza consolidata. Queste due esperienze sul campo permettono alla ricercatrice di avvalorare maggiormente la convinzione di una necessaria esplorazione di approcci multilingui partendo da una posizione "svantaggiata", vale a dire senza necessariamente conoscere tutte le lingue parlate all'interno del gruppo classe.

Il quinto capitolo è a sua volta suddiviso in due parti. La prima introduce lo studio pilota a Glasgow, al quale partecipano tre donne con i loro figli. Il capitolo discute l'articolazione dello studio pilota, mettendo in risalto come questa fase iniziale sia stata fondamentale per lo studio principale e come ha alimentato la spirale iterativa CPAR. Difatti, la non pianificazione è un elemento cruciale di questa prima fase. Al momento dell'inizio dello studio pilota, la ricercatrice non ha a disposizione alcun dato sul gruppo che si andrà a costituire. Non ne conosce le dimensioni, la provenienza, l'età, il livello di alfabetizzazione non solo in inglese, ma anche nella propria L1. I primi momenti di incontro serviranno alla ricercatrice per delineare il profilo e le caratteristiche comuni dei partecipanti. A tal proposito, si riporta a titolo esemplificativo, una delle primissime attività multilingui presentate dall'insegnante ancor prima di entrare in aula. Si tratta di un'attività di identificazione delle lingue su un pannello di benvenuto presente all'ingresso dell'edificio che ospita le lezioni. L'insegnante chiede di individuare le lingue che i partecipanti conoscono, soffermandosi poi sul tentativo di pronunciare la parola "benvenuto" nella lingua dell'altro. Questo primo momento, non solo dà letteralmente il benvenuto, ma segna il punto di partenza per la ricerca, dove tutte le lingue sono le benvenute durante e all'interno della lezione. Lo studio pilota rappresenta anche una sfida per la progettazione dei contenuti del corso, delineati a partire delle esigenze dei partecipanti, scegliendo materiali e metodi, in un'ottica di co-costruzione dei contenuti e degli obiettivi attraverso una pratica multilingue ed ecologica. Nella seconda parte del capitolo cinque, l'autrice illustra il modo in cui il gruppo è passato dallo studio pilota allo studio principale, offrendo una panoramica delle sessioni di apprendimento. Il livello di competenza delle partecipanti in lingua inglese, quasi completamente nullo se non per la conoscenza di alcune parole, rende necessaria la creazione di routine da parte della ricercatrice, in modo che le azioni e le richieste siano familiari e facilmente comprensibili.

La terza parte del volume, che si apre con il sesto capitolo, discute le tre "ecologie" emerse dai dati, vale a dire tre sottotemi principali che hanno acquisito rilevanza all'interno dello studio: relazioni, luogo e lingua/languaging. Il sesto capitolo si sofferma sulla prima ecologia, le *relazioni*, mettendo in luce l'equilibrio

delle relazioni tra tutte le persone coinvolte nelle lezioni. Difatti, durante il proseguo dello studio, tra le partecipanti si ha un clima sempre più disteso e familiare. La fiducia diventa un elemento chiave del lavoro condiviso durante le sessioni, non solo nei confronti del progetto, ma anche nel livello di fiducia che le partecipanti acquisiscono rispetto al loro grado di apprendimento. Un altro fattore d'interesse è il coinvolgimento individuale anche al di fuori della lezione, come dimostra una partecipante arrivando in anticipo e aiutando a predisporre l'aula per la lezione. L'ecologia delle relazioni si declina anche nei confronti dei rapporti tra le altre partecipanti, oltre ai rapporti intergenerazionali. Il gruppo dello studio principale è costituito da sole donne, elemento che ha un impatto cruciale sullo studio stesso. Le partecipanti non sono solo donne, ma sono anche madri che lavorano a lezione insieme alle loro figlie. Non è raro, infatti, che l'apprendimento della lingua nel contesto del ricongiungimento familiare di rifugiati sia una questione rilegata al genere, in cui le donne restano da parte. La determinazione delle partecipanti, il loro impegno e coinvolgimento dimostra la loro voglia di indipendenza e l'importanza che ha per loro l'apprendimento dell'inglese.

Il Capitolo sette si concentra sul concetto di *luogo* nel quadro delle tre ecologie, riaffermando l'importanza di inserire l'apprendimento nel contesto fisico della città di Glasgow. L'autrice presenta i luoghi in cui ha lavorato con le partecipanti durante lo studio principale, sottolineandone l'importanza all'interno della ricerca. Collegare l'ambiente fisico all'apprendimento risulta fondamentale in una realtà superdiversa come quella di Glasgow, in cui è possibile vedere l'apprendimento linguistico come un processo dinamico che mette in relazione il luogo e la lingua. Avere la possibilità di situare l'apprendimento in luoghi fisici della città permette di contestualizzarlo, portandolo anche fuori dall'aula, come nel caso in cui l'autrice aspetta l'autobus con le partecipanti. Specialmente nelle settimane subito successive all'arrivo, è importante inserire attività di orientamento in luoghi fisici, facilitando l'inserimento nella comunità ospitante. La ritualità a cui l'autrice fa riferimento nei capitoli precedenti, in particolare la preparazione delle bevande calde ad inizio lezione, trova spazio in questo capitolo nel modo in cui i rituali e la familiarità si estendono ai luoghi fisici. È il caso, ad esempio, del cambiamento dell'aula della lezione, una situazione in cui chiunque può ritrovarsi. L'autrice racconta come alcune delle sue partecipanti reagiscono al ri-adattamento a seguito del cambio dell'aula e di come l'aula e il rituale delle bevande abbiano contribuito a creare una sorta di "casa" per le lezioni.

L'ottavo capitolo è dedicato alla terza ecologia, quella della lingua e del languaging. Nella prima sezione viene presentato il ruolo dell'ecologia linguistica nel contesto del lavoro di translanguagina svolto nella ricerca, nella seconda si esplorano i vantaggi pratici dell'approccio multilingue nella ricerca e, nell'ultima sezione, si discute l'impatto dell'approccio multilingue oltre l'aspetto pedagogico. Uno dei concetti fondamentali alla base di tutta la ricerca è l'importanza e la conseguente valorizzazione dei repertori linguistici delle partecipanti. Questi assumono una rilevanza maggiore nella ricerca se si considera che le partecipanti hanno preso parte al corso con una conoscenza minima d'inglese. La scelta di adottare strategie di translanguaging è fondamentale nella ricerca, ma anche piuttosto naturale, poiché sarebbe stato in ogni caso impossibile utilizzare la sola lingua inglese, e comunque le partecipanti avrebbero usato la loro L1 per comunicare con le figlie durante le lezioni. L'uso della propria L1 si rivela di supporto, come le stesse partecipanti dichiarano nelle interviste al termine dello studio principale, dando loro una maggiore fiducia linguistica e mostrando gli effetti del concetto di ospitalità linguistica. Le strategie di translanguaging si rivelano utili e di supporto, non solo nell'apprendimento, ma anche nella possibilità di sviluppare un'identità multilingue e interculturale, sovvertendo le gerarchie linguistiche. Un elemento interessante è dato dal fatto che la ricercatrice non ha una competenza elevata in tutte le lingue parlate dalle partecipanti, ma, nonostante ciò, ne fa uso. Questo atteggiamento si rivela positivo non solo nelle possibilità di traslanguaging all'interno della classe, ma anche nella configurazione gerarchica docente-discente. L'insegnante mette alla prova le sue conoscenze nelle L1 delle partecipanti, così come per loro è una sfida l'apprendimento della lingua inglese.

Il capitolo nove conclude il volume riportando i principali risultati della ricerca e le raccomandazioni dell'autrice, prima di passare a fornire ulteriori suggerimenti per future linee di ricerca. Il volume dimostra come un approccio ecologico e multilingue all'apprendimento delle lingue è efficace ed apprezzato dalle famiglie di rifugiati nei loro primi momenti in un nuovo Paese, mettendo in risalto la necessità e i benefici dell'applicazione di questi approcci. La ricerca mette in luce la possibilità di utilizzare strategie di translanguaging anche nei casi in cui l'insegnante non parla le stesse lingue degli apprendenti.

Il volume si rivolge in particolar modo a studenti e ricercatori interessati all'applicazione e alla progettazione didattica di approcci plurali, nonché a questioni di politica, pianificazione ed educazione linguistica. Inoltre, la conduzione della ricerca, l'organizzazione di questa e i notevoli e numerosi spunti didattici, possono essere sicuramente utili a docenti che operano nel settore dell'insegnamento di una seconda

lingua, specialmente in contesti di prima accoglienza. Nonostante la pluralità di temi affrontati e la complessità della ricerca e di tutte le sue fasi, l'autrice si preoccupa sempre di ricostruire il contesto di riferimento, con uno stile discorsivo, ma puntuale. Inoltre, è particolarmente apprezzabile l'utilizzo delle note di campo nel corso di tutto il volume, le quali non soltanto sostengono la narrazione fornendo opportuni esempi, ma permettono anche di aprire una finestra direttamente sulla ricerca sul campo, rendendo il lettore partecipe di questa. Questo fa sì che la lettura del volume si arricchisca di carattere emotivo, grazie all'esperienza personale della ricercatrice, delle sue preoccupazioni e delle sue opinioni personali, generando empatia con la situazione. Per tali ragioni, il volume è sicuramente godibile anche da chi non ha una conoscenza scientifica approfondita nel settore.

Lo studio vanta il fatto di offrire un supporto alle donne rifugiate nelle primissime settimane dopo il loro arrivo, permettendo loro di includere il resto della famiglia, elemento da non sottovalutare nella possibilità delle donne di partecipare alle lezioni. Inoltre, la ricerca fornisce spunti pratici di applicazione di differenti approcci e strategie, alcune delle quali già ampiamente conosciute dalla comunità scientifica come il *translanguaging*, ma ancora poco applicate nell'insegnamento.

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