Translanguaging practices during storytelling with the app iTEO in preschools

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Whilst contributing to a person's language, cognitive and personal development and whilst a common practice in the daily lives of bilinguals, translanguaging is rarely observed in educational institutions. The present paper examines the situations and the ways in which preschool children in trilingual Luxembourg translanguage during collaborative storytelling on iTEO, an iPad app which allows for the recording and editing of oral language. Currently 62.4% of children do not speak Luxembourgish on school entry. Language policies focus on the learning of Luxembourgish. This, the small class sizes and the absence of peers with similar language backgrounds may limit the opportunities for translanguaging. The present qualitative, longitudinal study takes a mixed-method approach. The findings show that the 5 focus children in preschool translanguaged frequently, in different ways and for a range of purposes, while drawing on features of several languages. The process of translanguaging depended on the individual child and on contextual factors. We argue that storytelling on iTEO opens up safe translanguaging spaces that contribute to inclusive multilingual pedagogies.

Keywords: translanguaging, storytelling, preschool, Luxembourg, iPad app iTEO, qualitative, migrant background

i. Introduction

The advantages of bilingual programs for children have been well researched, particularly in Canada and the United States (García 2009; Baker 2011). This paper focuses on language learning of emergent multilinguals in two preschools in trilingual Luxembourg. In this small country bordering France, Belgium and Germany, children learn the country's three official languages from primary school onwards. Aged 4, they develop skills in the national language Luxembourgish during the compulsory two-year-long preschool. They become literate in German in Year 1

and learn oral and written French from Years 2 and 3 respectively. The education system is 'multiple multilingual' (García and Flores 2011) but, at the same time, educational policies "privilege compartmentalized, monolingual, written, decontextualized language and literacy practices" (Hornberger and Link 2012, 265). Few teachers draw on plurilingual didactics in foreign language teaching or have a dynamic view of bilingualism (De Korne 2012). This is problematic in a trilingual country where, on school entry, only 37.6% of the children speak Luxembourgish (MENJE 2016). Most children speak Portuguese or French and many a Balkan language. Statistics also show that children with a migrant background underachieve. Large-scale assessment studies have consistently reported a strong correlation between low achievement, social-economic status and ethnic minority background (Martin, Ugen and Fischbach 2015).

The Ministry of Education launched several initiatives aimed at redressing these issues and at widening access. One instance is the development of language policies that focus on Luxembourgish in early-years settings and the implementation of a non-compulsory preschool year for three-year-olds. A study on language practices in crèches confirms a tendency to focus on Luxembourgish but this is, at times, at the expense of the children's home languages (Neumann 2015). This is also a risk in preschools but, to date, there are no research studies investigating translanguaging practices in this setting. Another innovative Ministry initiative was the promotion of multilingual practices to address the diversity of the school intake and the pressure to master several languages from preschool. Nationally and internationally, there is a demand for the development of multilingual pedagogies on account of their potential for widening access and raising attainment (Creese and Blackledge 2010; García and Nelson 2011). In New York, for example, there are encouraging results in the International High Schools (IHS). These non-mainstream schools for immigrants promote inclusive and dynamic language practices, experiential learning, and learner autonomy. García and Sylvan (2011) found that the rate of graduation of the bilingual students in the IHS was 13% higher than in other schools. Nevertheless, multilingual pedagogies remain underdeveloped and research on them is scarce. As for translanguaging, scholars generally report this practice to be rare in schools (García 2009; Creese and Blackledge 2010; Jonsson 2013) although findings show that translanguaging helps raise attainment, encourages multilingual identities, and can assist teachers in transforming language education (Lewis, Jones, and Baker 2012a; García and Li Wei 2014). While these studies have been carried out mostly on bilinguals in mainstream schools or in community classes, there is little research on translanguaging amongst young children in multilingual contexts (Lewis et al. 2012b).

Capitalizing on the children's entire linguistic repertoire in a multilingual setting is a pillar of the pedagogy underpinning the iPad app iTEO which Gretsch and Kirsch designed to develop children's oral skills (Kirsch and Gretsch 2015). There is a relationship between the development of oracy, literacy and general attainment (Wells 1992; Mercer 2002; Resnick et al. 2010; Alexander 2012). The app, which facilitates the recording and editing of oral text, endorses a dynamic view of language learning in line with multilingual pedagogies, promotes innovative language teaching and helps practitioners manage the linguistic diversity.

This paper investigates the situations and the ways in which five emergent multilinguals translanguage during collaborative storytelling on the app iTEO in two preschool classes in Luxembourg. In Luxembourg, preschool classes are small (on average 15.6 in preschool, MENJE 2016) and school populations are extremely diverse, which may well limit the children's chances of finding a peer with a similar language background. In addition, the curriculum aim is to teach Luxembourgish. This combination of factors may limit the children's opportunities to translanguage. The data from this qualitative, longitudinal study were collected through video-recordings, interviews and oral documents. The findings indicate that all emergent multilinguals translanguaged using features of several languages although the frequency of translanguaging varied with each child. The children were able to communicate, gain knowledge and construct identities using multimodality, translating, paraphrasing and modeling. The results testify to the children's motivation to learn languages and to their endeavor to get their voice across. We highlight the importance of implementing multilingual spaces and argue that the app iTEO provides a safe space where children can draw on their entire repertoire for learning.

iTEO, a tool to further language learning

The app iTEO is designed with social-constructivist language learning theories in mind. These hold that languages are learned best in situations of collaborative, meaningful and authentic communication (Lantolf and Poehner 2008; Swain, Kinnear, and Steinman 2010). The app allows users, firstly, to record and edit oral text, secondly, listen to productions on demand, and, third, structure recordings by inserting images taken with the iPad's camera. An essential feature of the application is the automatic replay after each recording. This playback materializes the language and provides opportunities for reflection. If users dislike a recording, they can delete or edit it. Our findings on the use of iTEO have shown that primary school children attentively listen to their utterances, comment on text coherence and on unnecessary pauses, clarify, identify mistakes, and correct utterances. In order to produce texts in German and French, they constantly moved between Luxembourgish and the target language. There were instances of translanguaging in the vast majority of recorded performances (Kirsch and Gretsch 2015). The collaborative process of producing an oral text and reflecting on language helped the children to develop oral and metalinguistic skills (Gretsch 2014; Kirsch and Gretsch 2015).

We encourage collaborative storytelling (Kirsch 2014) because it is a natural means of expression for youngsters (and adults) who think and construct their world through narratives (Paley 1992; Bruner 1997). Used in preschools, storytelling enables children to draw on their experiences and construct multimodal oral texts. Children build, draw, tell, retell and act out stories. Storytelling gives them a 'voice' and turns them into authors. The stories may be compared to Cummins' (2006) 'identity texts', which are multimodal (oral, written, musical, dramatized) texts about a person's life. Cummins holds that learners engage with a subject at a deeper level if they draw on their linguistic and cultural resources. Moreover, he states that such texts "hold a mirror up to students in which their identities are reflected back in a positive light" (Cummins 2006, 60). Both the app and the task of collaborative storytelling encourage autonomy, control and reflection. One wonders in what situations and in what ways preschool children in Luxembourg draw on their entire linguistic repertoire during collaborative storytelling on iTEO. Before exploring the data, I will present some key findings on children's translanguaging.

Multilingual pedagogies and translanguaging

This section presents relevant definitions of translanguaging, explores multilingual pedagogies in which translanguaging is embedded, and investigates teacherand student-initiated translanguaging with a focus on young children.

3.1 Definitions and consequences of translanguaging

A variety of definitions of translanguaging underpin the present paper. Speaking of 'translanguaging space' Li Wei (2011) considers translanguaging a holistic performance where a person weaves together different cognitive, emotional and social elements such as experiences, ideologies, attitudes, bodies of knowledge and skills (Li Wei 2011, 1223). In addition, the present paper adopts a pedagogical perspective on translanguaging. In Wales, Williams (2002) coined the term translanguaging to denote a pedagogy, which entails alternating between English and Welsh for the purpose of comprehension and production. García's (2009) definition of translanguaging moves beyond pedagogy and looks at languaging of bilinguals in their daily lives. Otheguy, García, and Reid (2015, 281) define translanguaging as

"the deployment of a speaker's full linguistic repertoire without regard for watchful adherence to the socially and politically defined boundaries of named (and usually national and state) languages." They emphasize that translanguaging offers an insider's perspective on the deployment of a speaker's idiolect. By contrast, an outsider's perspective focuses on the languages used (social constructs) and names these.

Scholars from a range of fields found that translanguaging enables speakers to communicate and make meaning (García 2009; Creese and Blackledge 2010; Canagarajah 2011b), construct knowledge (Lewis, Jones, and Baker 2012b; Esquinca, Araujo, and de la Piedra 2014) and mediate understanding (García 2011). Others reported that it helps learners to self-regulate (Velasco and García 2014), include/ exclude (García 2011), and mark one's identity (Canagarajah 2011b; Velasco and García 2014). In addition, translanguaging can contribute to the development of critical thinking skills and to the deepening of sociopolitical engagement (García and Li Wei 2014).

3.2 Translanguaging of young children

Most of the above-mentioned studies focus on older bilingual children, adolescents or adults, so one remains in doubt as to the extent of young bilinguals or emergent multilinguals translanguaging. Williams (2002), Canagarajah (2011a), Lewis, Jones, and Baker (2012a) and García and Kano (2014) hold that there is a relationship between the competence of bilinguals and their ability to translanguage. This perspective is understandable if we consider, for example, the context in Wales where children are biliterate and construct knowledge across languages. Lewis, Jones, and Baker (2012b) reported that 10- to 11-year-old bilinguals in Wales watched a DVD in English, accessed online information in English, discussed the concepts in Welsh and produced a written text in Welsh. However, if translanguaging refers to the daily practice of bilinguals to use their entire verbal and non-verbal repertoire when communicating, one would expect that young children translanguage. Hence, García (2011) showed that Latino preschoolers in a two-way bilingual classroom in New York translanguage and do so for different reasons, for example, to mediate meaning and include or exclude others. Similarly, Velasco and García (2014) reported that nursery and primary school children in New York translanguaged during a writing task.

Multimodality in language use is not a new phenomenon. Scholars studying language and gestures emphasized for many years that young children communicate in a multimodal way. McNeill (1992), Kendon (1997), Goldin-Meadow (2009) and Streeck (2009) argue that language is an integrative system where verbal and non-verbal means of communication act together. Goldin-Meadow (2009) showed that young children use gestures to express meanings they are unable to express with words. Similarly, Kress and Van Leeuwen (2001) and Kress (2010) documented how young children mobilize a holistic repertoire consisting of material and semiotic resources in order to communicate effectively. In the following sections, I explore in more detail the ways in which children translanguage.

3.3 Multilingual pedagogies and teacher-led and student-led translanguaging

As translanguaging is embedded in a particular learning context and as children may translanguage owing to the task, I will begin with teacher-led translanguaging. Teacher-led translanguaging has to be seen within the framework of multilingual pedagogies that address social justice and are based on social-constructivist learning theories. Teachers capitalize on the learners' diverse linguistic resources and develop a context where teachers and learners can co-construct knowledge (García and Flores 2011). In order to adapt to the students' needs and to propel communication, teachers use a range of translanguaging strategies such as paraphrasing, repeating, translating, modeling and using multilingual and multimodal resources (Canagarajah 2007; Creese and Blackledge 2010; Esquinca, Araujo, and de la Piedra 2014; García and Li Wei 2014; Velasco and García 2014). They read multilingual texts with the students and model translanguaging in oral or written speech (Creese and Blackledge 2010; Canagarajah 2011b; Velasco and García 2014). In order to engage students, activate their background-knowledge and promote learning, teachers encourage the learners to ask questions, formulate ideas and relate school topics to experiences and world-knowledge (Canagarajah 2007). In order to promote collaborative learning, they may group learners by learning needs or teaching aims and design communicative and inquiry-based tasks that promote dialogue and problem-solving in transglossic situations (Creese and Blackledge 2010; Canagarajah 2011b; García, Flores, and Chu 2011; García and Sylvan 2011).

Some researchers focused on the ways in which children translanguage. For example, Esquinca, Araujo and de la Piedra (2014) studied translanguaging practices in science lessons. They reported that the emergent bilinguals in Year 4 clarified, hypothesized, explained, used multimodality, paraphrased and translated while moving between the languages. These strategies scaffold the learning of peers. Velasco and García (2014), who analyzed writing strategies at the planning, drafting and production stage, found that the nursery and primary school children translated, drew on multimodality, used glosses and made annotations. Canagarajah (2011b), who investigated the drafting process of a university student, showed that the Saudi Arabian student combined a range of written codes in order to get her multilingual voice across. He called this process code-meshing.

In sum, this brief review has shown, firstly, that translanguaging enables young bilinguals to communicate, construct knowledge, self-regulate, and mark their identity and, secondly, that they translanguage in a range of ways. As for the frequency of this practice, Velasco and García (2014) found that 8 out of the 24 written texts they had analyzed in New York included some elements of translanguaging. In Wales, Lewis, Jones and Baker (2012b) reported that translanguaging is more frequent in primary schools than in secondary schools. One wonders when and in what ways emergent multilinguals translanguage in preschools in Luxembourg.

4. Studying translanguaging in multilingual preschools

This qualitative longitudinal study investigates oral practices involving the app iTEO in 4 classes. The present paper reports on the findings of two preschool classes only. Ms. Donatiello, the principal teacher of the first preschool class, is an experienced teacher and Ms. Di Letizia, the main teacher of the second class, had been teaching for only a couple of years at the start of the research project. Both had attended a professional development course on iTEO. They were versed in social constructivist learning theories and familiar with the affordances of the tool.

The two preschool classes counted a total of 36 children with nine different home languages. As shown in Table 1, we focused on five children of different migrant backgrounds who spoke a language other than Luxembourgish. Over the period of two years, the focus children collaboratively narrated stories on iTEO with classmates of various backgrounds, including Luxembourgish.

Table 1. Details about the classes

The following abbreviations have been used: L (Luxembourgish), P (Portuguese), F (French), E (English), I (Italian), B (Bosnian), Se (Serbian), So (Somali), A (Arabic)

	Ms. Donatiello	Ms. Di Letizia
Number of children	18	18
Children with Luxembourgish citizenship	12	6
Children speaking Luxembourgish at home	9	5
Languages spoken at home	L, P, F, E, I, B, Se	L, P, F, E, So, A
Focus children and language spoken at home	Benjamin (E) Diego (F) Mariana (P)	Ariana (P) Hanad (So, A)

In order to study translanguaging in the context in which it is embedded and get detailed accounts of this practice (Lewis, Jones, and Baker 2012a), we relied on

the following qualitative research methods: observation of classroom activities; video-recordings of the children using iTEO; semi-structured interviews with the teachers and the parents; conversations with the children; and the collection of documents (e.g. pictures, stories the children dictated). Over a period of two years, we recorded the preschool children producing oral texts on iTEO on 108 occasions. Table 2 provides details of the data used in the present paper.

Table 2. Details about the data collection

Type and number	Ms. Donatiello	Ms. Di Letizia
Audio and video-recordings of iTEO activities of children	58	50
Video-recordings classroom activities	3	3
Semi-structured interviews with teachers	3	3
Semi-structured interviews with parents	3	2

The data analysis followed the principles of grounded theory (Strauss and Corbin 1990; Charmaz 2006) and was assisted by the program Nvivo. Members of the research team described and transcribed all video-recordings. Detailed descriptions are necessary as translanguaging is multimodal. The descriptions enabled us to identify non-verbal means of communication such as actions, gestures and mime. Next, we analyzed the recordings in the light of their genre (e.g. song, story) and identified instances of translanguaging. We then examined when the children translanguaged (before, during or after the recording of a text) and in what ways and how often they did so. The analysis was informed by the literature and proceeded inductively and deductively. The interviews with the teachers and the parents enabled us to triangulate the data, analyze the learning environment and investigate children's experiences with languages and translanguaging.

The project abided by the ethical principles of the University of Luxembourg. We protected the dignity of all participants, asked for informed consent and informed the parents and teachers of their right to withdraw from the study. The teachers' and families' privacy is respected although they chose not to remain anonymous. They agreed to displaying video excerpts of themselves or the children for educational purposes on our iTEO blog (https://teonation.lu).

5. Multilingual practices in Luxembourgish preschools

In the following sections, I will provide an overview of the multilingual practices in the preschool classrooms and give an example of collaborative storytelling

on iTEO. Next, I will examine the translanguaging practices of the children by discussing the situations and the ways in which they translanguaged.

5.1 Translanguaging and storytelling in the preschool classes

Ms. Donatiello and Ms. Di Letizia made good use of their multilingual skills in the classroom as evidenced in our classroom observations and through the interviews. Apart from Luxembourgish, German and French, they also spoke in English and Italian. Whenever the teachers felt that the children needed support in their home language and whenever they had the linguistic skills to do so, they would switch to the child's home language. They valued translanguaging and encouraged children to use their home language, especially if the skills in Luxembourgish were weak. In this way, the teachers facilitated meaning-making, allowed for learning to take place and modeled multilingual communication (Krippler 2014). The children may have imitated this practice. In each class, there were a few emergent multilinguals of the same language background and they translanguaged in order to support each other (Krippler 2014). They would, for example, offer translations.

The teachers valued and capitalized on the children's linguistic backgrounds and promoted a certain openness towards languages. For example, Ms. Donatiello invited parents with home languages other than Luxembourgish to read stories to the class. Both teachers encouraged the children to listen to iTEO stories recorded by classmates in languages other than Luxembourgish. The teachers and the authors would scaffold comprehension through gestures, mime, pictures and translations. The children managed to get the gist through the visual clues and learned that they did not need to understand every word of a story in order to make sense of it.

Collaborative storytelling was a key element of the teachers' pedagogy (Kirsch 2014). They regularly told and read stories and encouraged children to imagine, tell and draw stories. They took down the children's stories and displayed them on the wall. They also encouraged pairs to record their stories on iTEO outside the classroom both in order to minimize background noise and boost the children's agency and control. They saw themselves as guides as well as instructors in the Vygotskyan sense (Tharp and Gallimore 1988). For example, the teachers regularly listened to the children's iTEO stories and gave the children feedback.

5.2 An example of collaborative storytelling on iTEO

The following excerpt, part of a 30-minute-long video, provides some insights into collaborative storytelling on iTEO. It is representative of those cases in which children share a home language. The video shows two girls; Ariana (5), one of the 5 focus children, as well as Miley (5), the friend she had chosen to collaborate

with on that day. Both children were bilingual in Luxembourgish and Portuguese and were in the first term of their second preschool year. (The excerpt is available at https://teonation.lu). The text underlined was originally in Portuguese, the remaining one in Luxembourgish.

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A, M Ariana and Miley are listening to the story they have just
      finished recording.
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- iTEO Once upon a time there was Aurore. And then he went for a walk, and then Aurore slept, ate biscuits and drank coffee. Then he took something and then went again for a walk, and he was in the park, and then he ate an ice cream. And there is, there is a cow
- 3 M Get up, get up, get up.
- (Looks at M): a mouse!
- iTEO and the book is closed. And there is a cow and the book is closed.
- A mouse! Do you know the story? Α 6
- 7 A Now, it is music.
- 8 M Are we going to sing?
- Yes! 9 A
- A, M (singing) 10

Tree where are your leaves, has the wind taken them all? (...)

- 11 iTEO Tree where are your leaves, has the wind taken them all? (...)
- A, M (listening to the replay) 12
- 13 We have to tell a story now. (pressing the recording icon)
- 14 (changing the melody and rhythm of her voice, making many

The princess was in the park and where many flowers.

(looking at Miley)

- 15 М (remaining silent)
- 16 And then (pointing at Miley)
- He picked a flower. 17 M
- 18 And then he ate biscuits, drank coffee. Then he ate spaghetti and drank water.

(pointing at Miley)

- And then he slept. 19 Μ
- Α And then he washed himself and took a shower. 20
- 21 М And then
- 22 Α (leaning forward to Miley, whispering)
- 23 Μ And then he took the shampoo.
- (stopping the recording) 24
- iTEO The princess was in the park (...)
- 26 Α Now, we sing.
- A, M (They sing a song in Luxembourgish about Santa Claus) 27

This example shows, firstly, how the children collaborate. Ariana was able to support Miley who was less confident in Luxembourgish. She invited her to speak through gesturing or giving her time to speak, and whispered words when necessary (lines 14, 16, 18, 22). She promoted comprehension through the use of gestures and prosody. Miley participated in this jointly created event. Both girls took responsibility over the storytelling process. They collaboratively constructed a second story (lines 14 to 23) thereby drawing on the content of the first one. They transformed the utterances "ate biscuits, drank coffee", and "and then he went.... and then he ate" (line 2) into "ate spaghetti and drank water", "and then he slept ... and then he washed" (lines 18–20). Secondly, it highlights the ease with which the children changed genres: from story to song and back to a story. Finally, the excerpt illustrates the situations in which children translanguaged: they switched languages for off-task communication (line 3) and for organizational matters such as deciding on the genre of a recording (lines 7–9, 13, 26). As Miley was less confident in Luxembourgish, the girls might have switched to ease communication.

5.3 Translanguaging practices of the preschoolers

In the following sections, I will provide details of each focus child's language use at school and, to some extent, at home. I will then look at the situations in which they translanguage at school and, finally, present some figures on the frequency of translanguaging.

5.3.1 Translanguaging portraits of the focus children

Hanad spoke Somali at home and had no Luxembourgish when he came to preschool. He quickly learned to communicate thereby making plentiful use of actions and gestures. In addition, he drew on German utterances from TV and some French and Luxembourgish phrases that he picked up from friends. His first iTEO texts would have been incomprehensible without the video-recordings displaying his movements and gestures (Conteh, 2017). Throughout the two years, he translanguaged in almost all performances, mostly stories, and continued to draw heavily on multimodality as well as some German expressions even though he communicated well in Luxembourgish by the end of preschool. He once sang in Somali in class but he never recorded a text in his home language on iTEO. Table 3 shows that he translanguaged in 22 out of the 29 times that we recorded him working on iTEO. Translanguaging was a normal practice for him as he witnessed his mother and sister switching between Somali and Arabic.

Ariana, Mariana and Diego had an opportunity to share their home languages with other children in class. Ariana regularly worked with Portuguese-speaking classmates and switched to Portuguese in 17 out of the 21 times she was recorded

working on iTEO. As seen in the excerpt in Section 5.2, she switched in order to discuss the genre of the text. In addition, she reverted to Portuguese for other communicative purposes such as telling off a classmate or explaining a feature of the iPad. While she only told one story in Portuguese, she sang 10 Portuguese songs. Four songs included features in English, Spanish and Russian. Her mother explained that she adored the Disney movie Frozen and, therefore, listened to excerpts on Youtube in any language including Russian.

Mariana translanguaged in 3 out of the 18 video-recordings. She spoke mostly Luxembourgish but she sang in Portuguese and, once, in Arabic. On occasions, she added phrases in English, French and Portuguese to her Luxembourgish stories. Once, she deliberately added a Portuguese ending. In class, she used Portuguese.

Contrary to Mariana, Diego often used his home language, French, in class with an emergent multilingual who needed his differentiated input. At first, he did not draw on French on other occasions although Ms. Donatiello encouraged him to make use of his stronger language (Krippler 2014). Diego's reluctance to use French in class could be related to his mother's language ideologies. She explained that she expected the teacher to develop Diego's skills in Luxembourgish and that she was responsible for his acquisition of French. She provided many examples of the ways in which she developed his narrative skills while paying attention to fluency and accuracy. The app iTEO became a safe space where Diego developed his skills in several languages. He used French with French-native children when creating stories and when managing the task. When he worked with non-native French speakers, he told some stories in French and sang in English, Arabic and in an invented language. Altogether, he translanguaged on 10 out of 16 videos which recorded his storytelling events on iTEO.

Finally, Benjamin, an English-speaking boy, translanguaged in half of the video-recordings (12 out of 24). He used English as well as features of French that he picked up from classmates. He also produced four songs in languages other than Luxembourgish. Some included features of Portuguese, others sounded like an invented language. Many of the preschool children invented songs in imaginary languages. Ms. Donatiello reported that Benjamin perceived translanguaging as natural. His parents spoke English at home but they supported translanguaging at school.

Table 3 provides an overview of the linguistic features used during collaborative storytelling on iTEO. The letter x refers to languages used and the letter z identifies the home language of a child. In sum, each child drew on Luxembourgish and their home language as well as on features of two to three other languages.

	Ariana	Hanad	Benjamin	Diego	Mariana
Luxembourgish	Х	X	x	Х	X
English	X		z	X	X
French		X	X	Z	X
German		X	X		
Portuguese	Z		X		Z
Spanish	X				
Russian	X				
Arabic				X	X
Unknown	X		X	X	X

Table 3. Language use during storytelling on iTEO.

5.3.2 *Translanguaging situations on iTEO*

The preschoolers translanguaged in different situations when working on iTEO. Firstly, children who shared the same linguistic background did so in order to provide differentiated input and ease communication (e.g. Ariana and Miley, Diego with an emergent multilingual girl). For example, Ariana switched to Portuguese with three classmates on 19 occasions in order to manage the overall task (e.g. organize the event) and construct a story. She and her peer took decisions relating to the genre (e.g. song, creation of a story, retelling), the content as well as to turntaking procedures. Very rarely did the preschoolers use their home language for chat that was off-task.

Secondly, children used their home language even when they communicated with others who did not speak this particular language. At this point it is important to mention that the children were aware of each other's linguistic skills and had developed some metalinguistic competences. For example, Diego explained to a peer "You cannot speak this (language). It is different." Benjamin was recorded saying "I will speak English, you cannot speak it." Measuring competences and translanguaging enabled the children to position themselves and develop an identity as a multilingual speaker. For example, Ariana, who liked singing and dancing, created multimodal texts featuring stories in Luxembourgish and songs in several other languages. Diego and Benjamin deliberately used their home language when naming story characters, e.g. blanche-neige/ snow-white, and when referring to meaningful phrases albeit knowing the Luxembourgish equivalents. Similarly, Mariana used the Portuguese formulaic ending amigos para sempre (friends for ever) when telling a story with a Luxembourgish friend because it meant exactly what she wanted to say. Words, phrases and whole stories in the

home language connected the children to their family background and their home literacy practices.

Furthermore, translanguaging was a means of constructing knowledge and developing language skills. The data include many examples where children asked for translations (e.g. what is petite?) and where native speakers translated and paraphrased. For example, Diego provided synonyms such as the words valise for baggage because he knew that a classmate was unable to understand the latter but could understand valise because of the similarity to Luxembourgish. He also announced on several occasions at the beginning of a French text that he would add a Luxembourgish translation at the end. In order to appropriate the newly encountered words, children repeated them and often tried to use them in new contexts. For example, Benjamin picked up the word garçon from Diego, repeated it several times, asked Diego to replay it for him and then made up a French song including the word garçon (https://teonation.lu). Similarly, in the excerpt above, Ariana and Miley, who were developing skills in Luxembourgish, transformed phrases in order to appropriate words and structures. The data included many examples where the 5 focal children and their peers repeated and used linguistic features in a range of languages.

As is to be expected, the children translanguaged when they did not know a word in Luxembourgish and had to find another means of expressing an idea. Some children inserted a word in a different language but, mostly, they deferred to gestures, mime and actions. Hanad, the child with the weakest skills in Luxembourgish, drew most on multimodality. For example, in a story about an airplane, he uttered a few words and mimed flying. However, multimodality played a key role in the communication of all children as evidenced by their reliance on tone of voice, actions and gestures. In the excerpt in Section 5.2, Ariana changed her voice and made many hand movements (see video online) both in order to express her voice and support Miley in understanding her. Similarly, Diego made good use of his story-telling voice, mime and gestures whenever he told stories in French. Table 4 summarizes the frequency of translanguaging. It indicates that all children translanguaged and that all but Mariana did so in the majority of their recordings.

In sum, the data from the classroom observations and from the interviews show that the teachers valued and built on their own and on the children's multilingualism. The class was used to listening to, using and making sense of several languages. The video-recordings of the children using iTEO revealed that the five focus children translanguaged regularly although the frequency varied with each individual. They switched between features of Luxembourgish, their home language and at least two other languages. Although they were deploying their entire repertoire, they were nevertheless strictly separating languages. They

	Number of recordings		
	total	translanguaging	
Ariana	21	17 (81%)	
Hanad	29	22 (76%)	
Benjamin	24	12 (50%)	
Diego	16	10 (63%)	
Mariana	18	3 (17%)	

Table 4. Frequency of translanguaging on the app iTEO

produced oral texts including songs and stories in different languages but they never mixed languages within a story or a song. Unlike the songs, most stories were in Luxembourgish. While translanguaging, the children made real efforts to understand each other through visual and aural clues (e.g. gestures, intonation), through translations, paraphrase and clarification requests. Moreover, translanguaging was related to situational constraints such as the linguistic needs of the collaborating peer but it was also a matter of individual choice. For example, contrary to Ariana, Mariana did not use her opportunities to speak Portuguese with friends. The children's choice may have been influenced by their experience of language use and parental expectations. While Hanad perceived translanguaging as natural, Diego learned to separate languages. His mother told him that French was the home language and Luxembourgish the school language.

6. Discussion

The translanguaging practices of the children have to be interpreted at different levels: multilingual Luxembourg, the pedagogy of the preschool teachers and the interactions. In what follows I will discuss the range of named languages, the frequency of translanguaging and the ways in which children translanguaged taking account of these levels when appropriate.

A first finding of this study relates to the range of linguistic resources deployed by the preschoolers. This developing competence has to be seen in relation to multilingual Luxembourg. Children have the opportunity to encounter many languages, particularly Luxembourgish, French and Portuguese, in face-to-face interactions even though they might only be peripheral observers. Furthermore, they can be in contact with the official languages of Luxembourg as well as many others through the media (Fehlen et al. 2014). The five focus children of the present study encountered English, Spanish and Russian through the Internet and drew on these experiences in class. At preschool, they had many opportunities to collaborate and

listen to stories in languages other than Luxembourgish. This explains how they picked up some French, Portuguese and English. However, it is also interesting to note that of the five focal children none used Italian, Bosnian or Serbian, the home languages of some of their peers. The findings of this study emphasize the extent to which these emergent multilinguals actively made use of their environment to widen their linguistic repertoire. They were open to languages and motivated to learn. To this effect, they imitated, repeated and transformed utterances they had picked up from peers. These activities promote internalization and language development (Drury 2007; Lantolf and Poehner 2008).

A second finding relates to the frequency of translanguaging which happened regularly and approximately in half of the iTEO recordings produced outside the classroom. As there are few studies on translanguaging practices of young children at school, the present one adds to this body of literature. In Wales, translanguaging is a pedagogical practice regulated by a curriculum and language policies. Nonetheless, Lewis, Jones and Baker (2012b) also reported occasions where primary school children translanguaged independently of the teachers' request. Velasco and García (2014) indicated that a third of the 24 written texts they had collected of nursery and primary children in New York showed transglossic elements. The high frequency of translanguaging amongst the preschoolers studied here is perhaps less impressive than their comfort with translanguaging and the fact that translanguaging was a legitimate practice in these particular classes. In Luxembourg society, translanguaging is considered a daily practice to the extent that the government holds that it is an "art in which Luxembourg people excel" (MEN 2008, 7). Thus, children can observe and experience this dynamic and flexible language use. By contrast, educational policies regulate language use at school. The curriculum of early childhood focuses on one language, Luxembourgish, albeit suggesting a certain openness towards others. The space given to multilingualism varies with the teachers. The pedagogy of the two preschool teachers investigated in the present study has much in common with the multilingual pedagogies described elsewhere (Creese and Blackledge 2010; García, Flores, and Chu 2011; García and Sylvan 2011, Velasco and García 2014). Both teachers capitalize on the children's multilingualism and model and use multilingual and multimodal resources. They develop an inclusive and collaborative learning environment and design communicative tasks, for example storytelling, that promote dialogue in transglossic situations. The app iTEO, which draws on social constructivist theories and on Bakhtin's theory of dialogism, fits their pedagogy as it supports the simultaneous and egalitarian use of several languages and encourages autonomous, exploratory and open-ended learning. During the process of collaborative storytelling, the children made language choices informed by their interests and their experiences of language use, the needs of the interlocutor, and the context. The fact that they did not produce translingual stories or songs may indicate that they were aware of the educational policies that emphasize the teaching of Luxembourgish and that can lead to a strict separation of languages. This is a reminder that teachers need to establish and nurture translanguaging because it does not happen automatically at school (Canagarajah 2011b).

The third outcome of this study concerns the purposes and means of translanguaging and emphasizes the many similarities between the young and emergent multilinguals of this research project and the older bilinguals studied elsewhere. The preschoolers in Luxembourg translanguaged in order to ease communication in ways similar to the children investigated by Olmedo (2003), Creese and Blackledge (2010) and Esquinca, Araujo, and de la Piedra (2014). Translanguaging enabled the preschoolers to construct knowledge, express their voices, and construct identities. Similar findings were reported on younger as well as older bilinguals in England, Wales and the United States (Creese and Blackledge 2010; Canagarajah 2011a; Lewis, Jones, and Baker 2012a; Velasco and García 2014). Finally, the emergent multilinguals deployed a range of translanguaging strategies similar to those reported of bilinguals (Olmedo 2003; Esquinca, Araujo, and de la Piedra 2014; Velasco and García 2014). They translated, paraphrased, offered synonyms, provided clarifications and offered visual and aural clues (e.g. gestures, intonation), hence, drew on multimodality. Multimodality is a key resource for children (Goldin-Meadow 2009; Streeck 2009; Esquinca, Araujo, and de la Piedra 2014; Velasco and García 2014), particularly for multilinguals, both to get their particular message across and make meaning.

7. Conclusion

This article set out to investigate the situations and the ways in which emergent multilingual preschoolers translanguage in a collaborative task on iTEO. Embedded in multilingual pedagogies, iTEO became a safe translanguaging space (García and Li Wei 2014, 75). The task of constructing stories with a peer encouraged children to draw on each other's funds of knowledge, language skills and interests. They listened, observed, dialogued, questioned, experimented, imitated and transformed speech. As a result, they developed their linguistic repertoire. The fact that young children can learn from and with each other has been demonstrated, among others, by Olmedo (2003), Angelova, Gunawardena and Volk (2006) and Martin-Beltran (2010).

Teachers may be familiar with social constructivist learning theories and the concept of translanguaging. However, it takes time and skills to connect theory and practice. It is necessary to get to know a child, optimize their resources and

develop a safe and collaborative learning environment. The teachers in the present study had managed to implement multilingual practices that furthered language, cognitive and personal development. It is hoped that the paper persuades other teachers of the importance of offering spaces where children can use their full linguistic repertoire.

At this point it its worth drawing attention to our role as researchers. We used a collaborative research approach and actively involved the participating teachers in the data analysis. The teachers experienced and understood that the multilingual practice of collaborative storytelling positively influenced language learning. In addition, they became more aware of their language ideologies and the ways in which their ideologies and practices in combination with language policies and curricula help to reproduce social inequalities (De Korne 2012). Cummins (2015) argues that literacy engagement and identity performances address inequalities. In this sense, we hope that collaborative learning on iTEO through the focus on literacy and the capitalization on children's resources, contributes to the same aim.

The final words address the pervading role of multimodality found in this study and a need to expand methods of data analysis in studies focusing on translanguaging. Although the concept of translanguaging acknowledges the multimodality of communication, most research papers focus on linguistic repertoires thereby neglecting other means of communication. We may have the necessary technology to video-record interactions but we may still need to develop appropriate methods to analyze multimodal data.

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