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Sonia Rocca

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About the Special Issue Editor

Sonia Rocca has been a foreign language educator for over a quarter of a century in three different countries. In her native country, Italy, she taught French and English; in Britain, she taught French and Italian, and currently she is teaching Italian at the Lycée Français de New York. She obtained a PhD in Applied Linguistics at the University of Edinburgh, specializing in the acquisition of a second language during childhood. She is the author of Child Second Language Acquisition (Amsterdam: Benjamins, 2007). She has collaborated with language teacher education programs nationally and internationally. She is the founding chair of MOBILLE International Conference. She has just recently been selected for a 2020-2021 Fulbright Global Scholar Award.

The Making of MOBILLE a Year Later

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Over a year has passed since the 2019 MOBILLE International Conference took place at the Lycée Français de New York. During the February recess, this iconic institution of the Upper East Side hosted a novel conference whose primary goal was to bring together researchers and practitioners from all over the world in an academic forum to discuss the impact of technological advancements on the learning and teaching of languages. With around one hundred participants attending thirty-nine sessions in two days, MOBILLE was indeed mobile, going by so fast in a swirl of synergies that channeled the conference motto: "CONNECT-INTERACT-LEARN".

The purpose of this editorial is to introduce the conference proceedings featured in this special issue. But the first and foremost goal is to revivify MOBILLE, highlighting the contributions that embodied its spirit. Starting from the keynote address that opened the conference and set its overall tone, Ortega (2019) focused her presentation on the benefits of mobile language learning experiences. She spotlighted areas where practitioners and researchers have been working together, citing current research on various types of digital language learning—naturalistic vs. instructed, incidental vs. intentional, in-class vs. out-of-class. She insisted on the importance of out-of-class digital lives, e.g., gaming, social media, fandom and communities of interest. She emphasized the classroom integration of such rich digital lives, surmising a two-way flow, where, on the one hand, digital wilds are connected to in-class practices, and, on the other hand, digital literacies acquired in the class are transferred to life outside the class. As technological advancements create new needs and transform old ones, she encouraged practitioners and researchers to continue working together on a task-based approach that promotes authenticity in the learning as well as in the teaching.

In her keynote address, Ortega drove home MOBILLE's raison d'être as the communing of mobile language learning experiences by practitioners and researchers working together. The eight publications of this special issue show how multifaceted these experiences were—in fact, as multifaceted as the conference that hosted them. Since MOBILLE was founded in a bilingual French-English school, and in keeping with the bilingual ethos of the school, sessions could be either in French or in English. An assortment of languages was featured, either as source or target languages. Most of the presentations dealt with the learning of English, but Spanish, Catalan, French, Italian, Chinese, Japanese, Finnish, Dutch, Turkish and Coptic were also represented. MOBILLE was a truly international endeavor, with participants affiliated with institutions in North America (US, Canada, Mexico), South America (Argentina, Peru, Brazil), Europe (UK, Spain, France, Germany, Belgium, Finland, Greece) and East Asia (China, Japan, The Philippines).

The session types matched the various needs and preferences of the presenters and participants alike. The presentations could either be research-oriented, practice-oriented or discussion-oriented. As a special feature, those who were unable to present in person could do so virtually either by video-conference with a co-presenter on site, or by uploading pre-recorded videos on the MOBILLE Lycée Français de New York YouTube Channel. There were also workshops for a longer, more interactive hands-on experience. All the session types are represented in this special issue: workshops (Dershowitz 2019), research-oriented presentations (Ho 2019; Eisenstein Ebsworth et al. 2019), practice-oriented presentations (Lehtonen 2019), discussion-oriented presentations (Karttunen and Juusola 2019) and virtual presentations

(Benabdelkader 2019; Nobrega and Rozenfeld 2019). All these papers underwent two rounds of peer review before getting accepted for publication.

Regardless of the format, the MOBILLE sessions sparked engagement and interaction, so much so that time allocated never seemed enough and the exchanges kept burgeoning before and after sessions among participants from all sorts of professional backgrounds: students, teachers, lecturers, researchers, professors, administrators, counsellors, engineers, technicians and technology officers. MOBILLE gave voice to those who were keen on sharing their work whatever stage of development it was at. It is hard to find a common denominator among such a constellation of geographical, cultural and professional backgrounds. What seemed to be recurring was a shared interest in technological innovation and the learning opportunities it promotes, an interest that is also shared by the eight papers below.

I would like to start with a paper on how social media can contribute to the revitalization of an endangered language. To that end, Deschene (2019) created digital resources for Coptic language learning and posted them on Facebook, Instagram and Twitter. Social media is increasingly being utilized as a pedagogical tool. Rosell-Aguilar (2019) reports on the benefits of Twitter for language learning in a study with 370 participants. Llopis-Garcia (2019) argues for the use of Twitter to foster student analyses of the Spanish linguistic landscapes in New York City. Li (2019) illustrates a multimedia project to promote the development of Chinese–English bi-cultural awareness via WeChat. Whatsapp was utilized for an English summer course in Spain (Andria 2019), for teacher education in Brazil (Braga 2019) and for out-of-class communication among beginner students of Spanish (González-Gómez and Asención-Delaney 2019).

Online courses are growing increasingly popular. The most popular of them are convenient, flexible and interactive. Eisenstein Ebsworth et al. (2019) review an online course about the United Nations for English language learners in a US high school. Karttunen and Juusola (2019) discuss how to maintain quality in higher education online language courses for immigrants in Finland. Hobgood and Lindsey (2019) offer a range of strategies to build stronger teacher-student connections in online language learning environments.

YouTube's audiovisual capabilities open multimodal pathways to language learning. Ho (2019) suggests that YouTube videos teaching interview job skills create a comprehensive learning experience that goes beyond the learning of English to embrace semiotics. Audiovisuals have always been an asset in the language classroom and current technological sophistication has increased their potential. Maroto (2019) presents digital oral video material to improve engineering undergraduates' oral skills in Spain. Daccord (2019) leads a workshop on students' video reflections submitted through Flipgrid and Recap. Fajardo (2019) leads a workshop on how to use video-recorded natural conversations to teach oral interaction. Benabdelkader (2019, below) examines the Skype video conversations of three pairs of interlocutors where English and French alternate as first and second/foreign languages. Skype also proves invaluable in the teaching of English to the visually impaired in Brazil (Retorta 2019).

Audio and video are essential components of virtual reality. Toyoda (2019) argues for the use of virtual reality mobile apps to teach non-verbal communication skills to Japanese learners of English. Hoy (2019) overviews low-cost mobile virtual reality technologies and shows how they can be integrated into a communicative language classroom. Berti (2019) investigates the virtual reality experiences of Italian sites by undergraduates in the US who utilized Google Cardboard and dedicated smartphone applications. Mills et al. (2019) report on students of French immersed in the virtual reality narratives of four Parisians who documented their lives with a virtual reality camera. Aguirre and Amano (2019) showcase virtual reality games for disadvantaged learners of English in a Mexican college. Nobrega and Rozenfeld (2019) present an ongoing project in the teaching of French through virtual reality in a Brazilian public secondary school.

The language classroom tends to favor communicative activities that encourage students to speak. Most of the MOBILLE sessions focused on the development of oral skills, but a couple of presentations dealt with the development of writing. Technological advancements add a multimedia dimension to language tasks, whether oral or written. Lehtonen (2019) illustrates a compare/contrast writing

assignment about campus spaces that he designed for his ESL composition courses at a US university. Hadingham and Rappeneker (2019) show how Web 2.0 software like Adobe Spark Page and Microsoft Sway can be utilized to spur English learners' creativity and critical thinking in e-journal writing.

This overview culminates with a paper on the importance of an ethics-based computer science, an issue that arose in several places in the conference. In a world where technology is ubiquitous and pervasive, Dershowitz (2019) calls for an ethical focus in teaching children how to use technology and underscores the challenges and opportunities of such teaching in bilingual multicultural schools. She also strongly advocates for more student voice in technology education.

In this overview, I have tried to weave a conceptual thread among a conference that was a maze of topics and themes. Besides the already stated shared interest in technological innovation and the learning opportunities it promotes, what these contributions seem to have in common is a redefinition of what language learning is about, a perennial issue that is as old as ancient times. As technological progress reshapes the what, how, when, where and why, all these papers, in one way or another, are concerned with how teaching and learning get enhanced while teachers and learners get empowered. As mobile technology goes from anytime-anywhere to everytime-everywhere, mobility becomes a here and now experience that never stops getting better. At the heart of MOBILLE lies mobility, which can be defined by constantly evolving learning experiences that cutting-edge technology optimizes.

Conflicts of Interest: The author declares no conflict of interest.

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Developing Professional Communication: The Construction of a Multimodal Understanding of Job Interviews

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Abstract: This article explores how online videos with a pedagogical focus can possibly make an impact on our current language teaching and learning practices. The affordance of videos to create multimodal content that can be shared with the public allows content creators to use a wide range of resources, such as spoken and written language, gestures, screen layout, etc., to create learning environments that can promote an awareness of a multimodal perspective to the understanding of a particular kind of professional communication context, such as job interviews, as illustrated in this article. By analyzing a series of videos on job interviews using multimodal semiotic analysis, I argue that these videos, which I call pedagogical vlogs, are helpful not only in terms of teaching the language skills required for job interviews, but also to help create a multimodal understanding of job interviews through the strategic orchestration of multiple semiotic modes. The popularity of pedagogical vlogs, as well as their affordance to provide lesson content created by the public, offer new possibilities for language teaching and learning, but it has yet only received scant attention from applied linguistics and language education researchers. This article aims to start a dialog on the pedagogical implications of this new form of learning so as to uncover the potentials offered by pedagogical vlogs in education.

1. Language Learning and Mobility

The use of digital technologies in language learning is becoming more and more common. It has transformed how languages are taught and learnt in various formal and informal settings. People are no longer confined to a designated space and time in which to learn a new language. Digital technologies enable learners with diverse linguistic, cultural, and socioeconomic backgrounds to learn a language whenever, and wherever they like. Language learning no longer has to happen in a classroom; anywhere, and any kind of activities, can be sites for language learning. The blurring of the distinction between everyday life and language learning, or as Pachler et al. (2010) observe, the 'penetration' of mobile technologies into people's everyday lives, is a key feature of the modern language learning landscape.

In this article, I am concerned with the use of online videos as a resource for developing multimodal skills for communicating in professional contexts, one such context is job interviews. Attending a job interview in a foreign language is a challenge. Not only do students have to master the language required for the interview, but they also have to act in a way that is appropriate, in other words, to develop a multimodal understanding of interviews. A great deal of embodied performance is involved. Therefore, a multimodal approach to communication is needed to understand how a multimodal understanding of job interviews is constructed. This article is based on the understanding that all communications, learning included, are multimodal, meaning that different semiotic resources, including language, are deployed and orchestrated by the interlocutors to make meaning (Kress

2010). The research question that this article seeks to address is: What resources are mobilized in the focal language learning videos in order to facilitate multimodal learning of job interview language and skills?

The ubiquitous nature of video-sharing platforms such as YouTube has been a driving force of transforming the language classroom. Whilst online video-hosting sites such as YouTube have conventionally been regarded as a platform that provides entertainment in the form of music videos and funny video clips made by the general public, as digital content production is becoming more diverse, online video-hosting sites have now become our 'go-to' site if we want to learn how something is done, be it applying make-up, fixing a bicycle, or even getting you a job.

This article focuses on a series of five YouTube videos which aim to teach job interview skills in English. I begin the article by reviewing existing studies of the use of online videos in learning contexts, and then moving on to the use of multimodal social semiotics to analyze selected excerpts of one video with an aim to identify how linguistic and semiotic resources are used by the vlogger to create a kind of multimodal understanding of job interviews, not only on the language of asking and answering questions, but also on the multimodal aspects of it, such as gestures, attire, and setting related to a job interview.

2. Online Videos as Resources for Learning

Learning via watching online videos has conventionally been considered as a kind of out-of-class or informal learning practice (Benson 2015). It is sometimes seen as 'learning in the wild' (Conklin 2010) as learners are free to make learning decisions without the supervision of a teacher. In particular, the genre of video blogs (vlogs) is playing an increasingly influential role in the new learning landscape. Vlogs with a purpose of teaching, which I call 'pedagogical vlogs', warrant more research. The practice of vlogging has been around for about a decade, and the purpose of vlogging is diverse. In general, vlogs can be considered simply as the video version of text-based blogging on the Internet (Moor et al. 2010). However, as in the case of pedagogical vlogs, it is perhaps more helpful to see vlogging not as a single activity, but as a repertoire of genres and activities. The word 'vlogging' should be seen as "an umbrella term that covers a wide number of genres, including everything from short video footage of spontaneous, real-life, personal moments, to scripted and preplanned "shows" with characters, narratives, and professional acting" (Lange 2007). This definition of vlogging is one that is preferred in this article as it highlights the multifaceted and fluid nature of this activity, in which pedagogical vlogs is just one subgenre of vlogs. One feature of pedagogical vlogs which differs from other types of pedagogical videos is that they are created by one or two dedicated vloggers who post video lessons online regularly, and that there are a lot of interactions between the vlogger(s) and audience through the comments section of the video-hosting sites. Despite the variations between different types of vlogs, as discussed in Jones and Hafner (2012), vlogging brings about shifts in roles for the lay public to actively curate content which has the potential to reach a large audience. This affordance of vlogging warrants more research as it has the ability to influence how teaching and learning could be done in the future.

Even within the subgenre of pedagogical vlogs, there are wide variations. Some resemble the popular vlog genre in which the vlogger engages the audience in a monologue that is fast-paced, very much similar to a 'talk-show' where the vlogger uses semiotic resources, including language, to close the distance with the audience so that it is like talking to an intimate friend. On the other hand, some pedagogical vlogs are more pedagogically oriented, in which the vloggers try to re-enact classroom teaching through the medium of video. The series of pedagogical vlog featured in this article falls into the latter category in which the vlogger positions himself or herself as a teacher through various semiotic resources, details of which are discussed in the later section of this article.

3. The Design of Multimodal Learning Environments

Although pedagogical vlogs are hosted on popular video-sharing platforms, vloggers take on the role of 'designers' of the learning environment. 'Design', in a multimodal social semiotics sense, refers to "the situated process in which a signmaker chooses semiotic resources and possible arrangements for semiotic entities to be produced to meet particular social functions or purposes" (Jewitt et al. 2016, p. 73). In the case of creating pedagogical vlogs, vloggers have to analyze the affordances and constraints of delivering lesson content using videos, and make decisions on how to maximize learning opportunities within the constraints of the video medium by carrying out an assessment of what semiotic resources should be used, when, and how. Using the explanation offered by Jones and Hafner (2012), affordances refer to what tools enable us to do, for instance, in the case of videos, to present information in a multimodal way and to disseminate the content to a wide range of audience in a short period of time. On the other hand, constraints refer to what tools prevent us from doing, and in the case of videos, one constraint could be the lack of face-to-face interaction between vloggers and audience. Vloggers, or in this case designers of learning environment, make meaning linguistically and semiotically, orchestrating the various resources at their disposal. The selection of semiotic resources to create pedagogical vlogs plays an important part in the design of the multimodal learning environment. As designers of learning environment, not only do vloggers need to gain an understanding of the affordances and constraints of the platform, they also have to strategically orchestrate the multimodal resources that are available so that the modal intensity of different resources, in different parts of the lessons, can realize the learning objectives in apt ways, by making certain aspects salient, and others less so. As observed by Norris (2004) when analyzing multimodal interactions, communicative modes take on different levels of intensity depending on the nature of the communication. For instance, in a telephone conversation, the intensity of spoken language is the strongest. We know this because it is the mode that the interlocutor at the other end of the telephone directly reacts to. Whilst this study does not deal with human-to-human interactions like Norris (2004) did, the methodological framework of multimodal interaction, such as the concept of modal intensity, does help us make sense of the learning environment featured in this study.

Previous research on the use of technologies for language teaching and learning has focused on issues such as usability (see, e.g., Stevenson and Liu 2010), effectiveness (see, e.g., Macaro et al. 2012), or how digital technologies have been changing learners' learning strategies (see, e.g., Qian et al. 2018). For instance, Stevenson and Liu (2010) focused on exploring the pedagogical usability of three online language learning sites, aimed at finding out "how learnable and usable the website is for learners" (p. 235); Macaro et al. (2012) offered a systematic review of 47 studies related to language teaching technologies and attempted to determine whether there are any direct benefits of using technologies for language education; Qian et al. (2018) identified emerging Chinese learning strategies which were made prominent with the use of mobile technologies. Nevertheless, only limited research focuses on the design of materials with a multimodal perspective which brings to the fore the fact that, in addition to language, there are other kinds of resources that content creators use to facilitate (language) learning. I argue that more attention has to be paid to the design of teaching materials, the pedagogical implications of the use of semiotic resources, and the way they are orchestrated to make meanings. Digital technologies such as videos and websites offer a wide range of semiotic resources for vloggers to utilize, leading to greater variation in the content, style, and aesthetics of sign-making practices (Adami 2018a). Vloggers can effectively use videos as a means to project a high level of self-identity by using a combination of semiotic resources, setting one vlogger apart from another. In other words, vloggers' voices can be constructed by their selection of apt resources. In the online world, especially in the marketplace of video-sharing platforms, having a unique voice is of crucial importance.

4. Method

To recap, the research question that this article seeks to address is: What resources are mobilized in the focal language learning videos in order to facilitate multimodal learning of job interview language

and skills? By addressing this question, this article argues that pedagogical vlogs are helpful not only in terms of teaching the language skills required for job interviews, but also to help create a multimodal understanding of job interviews through the vloggers' strategic orchestration of multiple semiotic modes.

This article adopts the approach of multimodality which asserts that all communication involves the use of multiple modes, such as writing, speech, image, animations, gestures, etc., and that not one mode is superior or privileged over another. This understanding is particularly relevant in language teaching, as it was a common belief that linguistic modes (e.g., writing and speech) were the dominant modes, whereas other modes were peripheral. Multimodality challenges the belief of the superiority of language and recognizes the contributions of other modes as equally significant in a communicative context (Kress 2010). Of particular importance is the concept of meaning-making. When meaning is made, there has to be a 'maker', and hence *agency* is important in which the meaning-maker, or the sign-maker, has to make decisions to select apt modes to carry the meaning based on his/her interests, as well as the meaning potential of the resources available (Kress 2010). Adopting the approach of multimodality enables the analysis of the motivated choice of resources that the vlogger used in creating his or her videos, and how the orchestration of these resources creates a multimodal understanding of job interviews pedagogically.

This study is based on a series of videos on job interviews in English. Job interview was chosen as the professional context that I would like to focus on because it requires multiple skills for it to be successful, mastery of interview language being one such skill. Other skills such as manner, attitude, gestures, facial expressions, all play an important role to contribute to the overall success of an interview. It is also an important event that a lot of people would have to attend in the course of their lifetime, so it is a high-stake situation that warrants attention and research. Job interviews illustrate a kind of professional context whereby not only language skills are important, but the orchestration of semiotic modes also play a crucial role.

The study involved a qualitative approach to analyze five videos in the series. Multimodal semiotic analysis, informed by Social Semiotics, is used as an analytical framework. A social semiotic approach to multimodality is based on the notion of motivated sign (Kress 2010), which states that the relation between the signifier (e.g., the multimodal resources being mobilized) and signified (e.g., the intention to engage audience) is always motivated, recognizing the agency of the sign-maker, which is the vlogger in this case. As mentioned by Jewitt et al. (2016), the analytical starting point of multimodal semiotic analysis often involves a general description of the artefact, such as its context of use and general structure. The use of modes is then described and examined in detail, which leads to the issue of how the artefact concerned is designed.

This series of video is chosen for analysis because it focuses not only on the language skills required to excel in job interviews, but the video series also pays a great deal of attention to other resources such as gestures, which contribute to a multimodal understanding of the job interview genre, showing interview as an embodied performance. The videos were repeatedly viewed, and preliminary notes were made about the kinds of resources that were used in different parts of the video. After preliminary analysis, the videos were then divided into the macrostructure, as shown in Table 2 in Section 5.1, and the sections identified were treated as basic unit of analysis. In this article, the parts most relevant to the learning objectives of the video were analyzed in greater detail using multimodal semiotic analysis, while the parts less relevant, such as the vlogger's appeal to comments and signing up to the mailing list, were not analyzed.

Ethical Issues

Researching in online settings presents a unique set of ethical issues that are different from researching in face-to-face contexts. This research abides by the guidelines suggested by various professional bodies in educational research:

Seeking consent would not normally be expected for data that have been produced expressly for public use. There is no consensus, however, as to whether those in online communities perceive their data to be either public or private, even when copyrights are waived. (British Educational Research Association (BERA) (2018) Ethical Guidelines for Educational Research, p. 10.)

Referring to the American Educational Research Association (AERA) (2011) Code of Ethics (2011), it is mentioned that:

Education researchers may conduct research in public places or use publicly available information about individuals (e.g., naturalistic observations in public places, analysis of public records, or archival research) without obtaining consent (American Educational Research Association (AERA) (2011) Code of Ethics, p. 151)

A useful guide is also provided by the Central University Research Ethics Committee (CUREC) Best Practice Guidance at the University of Oxford. When deciding whether informed consent is required, two criteria are important: (1) whether it is publicly available data (i.e., whether registration is required), and (2) whether the researched is a lay public or public figure (can be decided on a case-by-case basis). For the first criterion, the videos featured in this study were uploaded to YouTube in 2016, which are publicly available. For the second criterion, the vlogger concerned has a following of 1,720,974 people, and the focal video focused in this study has been viewed 1,279,241 times as at the time of writing, and, therefore, it can be argued that she is not a lay public, and her videos are meant to be watched by the public.

It can be seen that whether the focal videos belong to the public or private domain is not a clear-cut issue, so as the requirement of informed consent. At the preliminary observation stage, I checked the official website of the vlogger. She explicitly gives permission for anyone to use her videos as long as it is for a free project, and as long as the YouTube links of her videos are acknowledged. As an act of prudence, I sought to obtain informed consent from the vlogger, but there had been no reply. Therefore, given the guidelines and codes above, the statement from the vlogger's website, as well as the nonsensitive nature of this research, the data obtained is deemed appropriate for research purposes. Since the data is used for academic publications, according to the advice of University of Oxford Central University Research Ethics Committee (CUREC) (2018) at the University of Oxford, I decided to de-identify the vlogger in the analysis. This decision was made also after consulting the work of Codreanu and Combe (2018), who encountered a similar situation. Nevertheless, it has to be emphasized that the content of the video is already made available in the public domain, before this study even started; therefore, I did not disguise the vlogger's name as she already has a presence on YouTube. Readers may consult the links provided in the References section, as well as the Acknowledgement section to view the videos in question.

5. Multimodal Semiotic Analysis of a Minilesson

This section presents a multimodal semiotic analysis of five minilessons, all on the topic of job interviews. The vlogger that created the series of lessons on teaching English job interview skills is called Rachel. She is based in the United States. Rachel creates a wide variety of English teaching videos. The series of videos featured in this study is only one type of video that she creates, which features the genre of role play. Through browsing her YouTube channel, called Rachel's English (2016) I found that she uses a wide repertoire of techniques in creating minilessons, including role play, presentation, self-broadcasting, etc. The focal videos on job interviews is a five-part series entitled *How to Interview for a Job in American English*. It has been posted online since January 2016 and has accumulated over 12,080,000 views at the time of writing. This is another affordance of creating lesson content and distributing it by YouTube: the ability to reach millions of people in a short period of time.

5.1. Overview of the Videos

The video series *How to Interview for a Job in American English* comprises of 5 videos. The length of videos 1–4 is approximately 7 min long, with the exception of video 5, which lasts for 16 min. Table 1 shows the foci of each video:

Table 1. The foci of each video in the *How to Interview for a Job in American English* series.

Video 1	7:04	Small talk, self-introduction (Tell me something about yourself)
Video 2	7:31	Can you tell me how you heard about this position? What attracted you to our company? What would you say is your greatest strength?
Video 3	6:40	When have you suffered a setback? What is your greatest weakness?
Video 4	6:43	Where do you see yourself in 5 years? Do you have any questions for me?
Video 5	16:16	Body language, humour, expression

The analysis of this video series focuses on the way different modal resources are mobilized strategically by Rachel in order to unpack how a multimodal understanding of job interviews is constructed and re-enacted in a role-play scenario. After preliminary examination of the series of five videos, the following macrostructure is identified (Table 2):

Table 2. The structure of a minilesson.

A. Introduction to the video series
- Outlines the significance and difficulties of attending a job interview
- Outlines the aim of the whole series

B. Logo of *Rachel's English*

C. Introduction specific to the video
- Outlines the stressful nature of attending a job interview in a second language
- Outlines the structure of the video and learning outcomes

D. Role play of a part of a job interview
- Shows a change of setting and characters, attire, attitude, etc.
- Offers an 'authentic' re-enactment of a job interview by using the genre of role play

E. Explanation
- Explains the purpose of a particular question in a job interview
- Explains the importance of a particular question in a job interview
- Advises on how interviewees can answer that question, and with what attitude
- Provides sample questions and responses
- Advises on how interviewees can practice answering that question on their own

F. Conclusion (of the explanation)
Back to Role play (The *role play-explanation-conclusion* cycle continues for 2–3 times in a video)

G. Preview of the next video

H. Concluding remarks

I. Appeal to comments

J. Appeal to signing up for her mailing list

K. Thank the audience

L. Advertisement for subscribing to premium courses

The macrostructure presented in Table 2 does not intend to provide a general understanding of the genre of pedagogical vlogs. As mentioned in Section 2, even within the genre of pedagogical vlogs, variations exist, and it is therefore not advisable to generalize the analysis to claim that it represents the structure of pedagogical vlogs. However, identifying the structure of the pedagogical vlog in question can help us contextualize the analysis that follows.

5.2. Mobilization of Linguistic and Semiotic Resources

The following analysis, as shown in Table 3, is based on the resources employed in different stages of one minilesson, video 1, with a focus on sections A–F, as they are most relevant to the learning objectives of the videos. This analysis is solely based on part 1 of the five-part series, as all the other videos adopt a similar structure, with the exception of video 5.

Table 3. A multimodal view of the lesson.
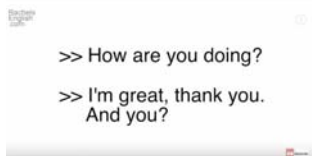
Time	Screen capture	Narration by Rachel (other semiotic modes are indicated by italics)	Explanatory notes
0:13	*How to Interview for a Job in American English, part 1/5*	Today's video is part one in a series that's all about preparing for a job interview.	**Introduction (A)** frames the video. An upper-body shot of Rachel to the left of the screen, title is shown on the right in white that contrasts sharply with the black background
0:19	*How to Interview for a Job in American English, part 1/5*		The **logo (B)** is shown being coloured in pencil before turning into a coloured logo, with the sound of whistles in the background
0:53	*How to Interview for a Job in American English, part 1/5*	Interviewing for a new job can be a huge source of stress and anxiety. And if you're interviewing for a job in a non-native language, the stress can be even higher. In this video, you'll see me interview for a job. Throughout the interview we'll discuss some of the most common interview questions and how to answer them. You'll also learn some basic information to get you started on creating your own answers to these questions. Let's begin.	**Introduction (C)** shows Rachel engaging with the audience by looking directly at them and using the second-person pronoun 'you' to address the audience.
1:02	*How to Interview for a Job in American English, part 1/5*		**Role play (D)** is not indicated linguistically. It is indicated by a variety of semiotic resources, e.g., the formal suits worn by the characters, the office setting with a computer, pen, and paper.

Table 3. *Cont.*

Time	Screen capture	Narration by Rachel (other semiotic modes are indicated by italics)	Explanatory notes
1:11	 *How to Interview for a Job in American English, part 1/5*	Small Talk. Most interviews will start out with a handshake and some small talk. This may include questions about how you're doing, your travel to the interview, the weather […]	**Explanation (E)** is done after a brief role play section. During this part, written texts are used to outline the main learning object, and explanation done using spoken language. Also note that the black background has now turned into a PowerPoint canvas where important information is shown in bullet points.
1:25	 *How to Interview for a Job in American English, part 1/5*	All you need to do is be polite and friendly. Keep your answers short. You can also feel free to turn the question back to the interviewer. For instance, […]	
	 How to Interview for a Job in American English, part 1/5	*Rachel reads out the questions and answers one by one. The screen scrolls down as she reads.*	**Explanation (E)** specifically to language is signaled by a change of colours—from a black background with white texts, to a white background with black texts.
2:47	 *How to Interview for a Job in American English, part 1/5*	You can see we haven't said much of importance, but the conversation is friendly and open, and can make two people feel more comfortable in each other's presence.	
3:00	 *How to Interview for a Job in American English, part 1/5*		**Role play (D)** is indicated by the use of a variety of embodied and disembodied modes.

The learning objectives of the video, as mentioned by Rachel, were to: (1) discuss some of the most common interview questions; (2) learn how to answer them; (3) learn how to create answers to these questions. These are seemingly linguistically oriented questions. In bookstores all around the world, it is not difficult to find books covering similar language points specifically on job interviews. Here, the concept of modal affordance would be a helpful way to understand how learning job interview questions in books differs from learning them through videos. Modal affordance, as explained by Jewitt et al. (2016), refers to the fact that different modes have different potentials for making meaning due to their differences in material and social histories, of how they have been used in a specific context. The affordances offered by written language differ from what spoken language can offer, and in turn images can offer a different set of affordances for meaning-making. If we examine the affordances of books and videos, we will find that although these two media seemingly cover a similar kind of content, in this case, the learning of job interview questions, the affordances of videos allow the multimodal aspect of job interviews to be shown by means of role play. As discussed in Jones and Hafner (2012), videos differ from other media as they are comprised of sequence of images, which are

capable of presenting visual information using the logic of the screen, as well as textual information using the logic of speech and writing. Furthermore, videos have pace which can determine how quickly or slowly information is presented, an affordance not seen in print media. Not only can viewers of the video learn how to ask and answer questions in an interview using spoken language, through immersing themselves in the video series, they are also able to learn how to present themselves in a job interview, such as the way of speaking, gestures, attire, and be familiarized with a typical job interview flow and settings, contributing to a multimodal understanding of job interviews; whereas in books, only texts and images can be used to depict the multimodal nature of job interviews, other resources such as the way of speaking and gestures-in-action are lost due to the different affordances that a print medium offers.

Meanings can be made by using both embodied and disembodied modes (Norris 2004). As can be seen from the analysis above, Rachel uses a variety of embodied modes, such as gesture, eye contact, facial expressions, as well as disembodied modes, such as the setting of the scene, placement of objects, etc., to frame different parts of the minilesson. For instance, snippets of role play are inserted at different points throughout the minilesson. Instead of using linguistic means, such as written texts or spoken language, to indicate that this is a role play explicitly, semiotic resources are used instead to frame this part of the lesson as a role play, as an enactment of a job interview. When the role play is over, the explanation is signaled by Rachel standing on the left-hand side of the screen, indicating that she will now unpack what was shown in the role play and explain some of the important learning points. The modal intensity alternates between these embodied and disembodied modes in a strategic way so that the flow of the lesson is not disrupted unnecessarily, i.e., by stopping the lesson and stating 'this is a role play', or 'this is an explanation of language points', the flow of the lesson would be disrupted, as this kind of framing can be done by using different modal resources to make the learning objective salient, which in turn directs learners' attention in a certain way. This alternation helps create a learning environment that is engaging and authentic, providing a first-person experience of attending a job interview, not as an observer.

Engagement of audience is promoted by the use of embodied modes. In the explanation section, Rachel explains how to tackle common interview questions by using second-person pronouns 'you' and 'we' in order to engage audience by directly talking to them. She looks at the camera, as if she was looking at the audience in the eye as she explains. This is a kind of *demand* image which demands attention from viewers (Kress and Van Leeuwen 2006; Jones and Hafner 2012). Furthermore, the distance of the shot, which in this case is a medium shot, signifies a certain degree of personal distance, but close enough to be in our personal space to demand attention. The whole video is shot mostly at eye level, which conveys an egalitarian power relation between Rachel and the learners. Nevertheless, Rachel also uses linguistic means to position herself as a 'teacher', by giving advice using short and concise imperatives that use a firm tone, such as:

> All you need to do is be polite and friendly. Keep your answers short. You can also feel free to turn the question back to the interviewer.

> If you're preparing for an interview, practice talking about yourself and your work history. Record yourself with a video camera if possible. Make sure it's not too long, maybe around a minute. Go back and listen or watch, and write down phrases that worked well to use again.

By using these linguistic devices, together with the tone, pitch, and speed of her voice, she positions herself as an authoritative voice that learners can trust, but at the same time, a teacher that is 'down-to-earth' by showing willingness to engage and involve the audience.

6. Implications to Language Teaching and Learning

From the above analysis, it can be seen that the design of a multimodal learning environment requires semiotic work from Rachel. Semiotic work is a term to describe the sign-maker's agentive, purposeful actions which lead to the creation of new meanings for the sign-maker and the resources

that he/she uses (Kress 2016; personal communication). From this understanding, it can be seen that Rachel utilized her full repertoires of multimodal resources, which included embodied modes as well as disembodied modes, to create her minilessons. The affordances of video to show a 'job interview in action' illustrates how different resources are orchestrated in an interview, which in turn facilitated a multimodal understanding of job interviews using English as a medium of communication. The affordances of videos to present visual and textual information using the spatial and simultaneous logic of the screen, as well as the linear and sequential logic of speech and writing have made it an effective medium to carry pedagogical content (see Jones and Hafner (2012) for a detailed discussion of the affordances of videos).

This study offers us some implications to language teaching and learning from the perspective of material design. The design of language teaching materials, in the past, was only possible by publishers. Now, the affordances and ubiquity of digital technologies allow the lay public to generate content on the web. This move from the 'read-only web' to the 'read-write web' (Jones and Hafner 2012) has generated exciting new possibilities which allow for wider access and participation in the field of language teaching and learning, resulting in greater variation and creativity in material design as a wider range of sign-making practices are used. Vloggers as teachers are able to, or are encouraged to, engage in a higher level of self-expression through exhibiting different styles and aesthetics in the design of their virtual 'schools' (see Adami (2018a) for a discussion of the role of digital platforms in shaping blog users' self-styling practices).

Recognizing the multimodal nature of learning has great implications for the development of self-directed language learning materials, as in the YouTube videos featured in this study. As mentioned, the field of language teaching and learning has seen an ideological preoccupation with language in the past, largely because of the limited availability of technology that impeded the use of modes in addition to language. However, the situation has now changed due to the ubiquity of technology that affords more effective use of modes other than language. This wider access to technology has influenced teaching and learning practices from a focus on language to other semiotic resources. If the goal of language learning is to be able to communicate with other people effectively, a multimodal approach to language learning is necessary. Block (2014) warned against the "lingual bias", which refers to "the tendency to conceive of communicative practices exclusively in terms of the linguistic (morphology, syntax, phonology, lexis)" (p. 56). Therefore, there is a need to rethink the current practices of teaching and learning that have been dominated by the use of linguistic modes. A sole focus on speech and writing would miss out on a lot of communication that happened using other semiotic modes, such as images, colours, the layout of the screen, etc. It is particularly evident in an era of mobility in which people are often in situations where they share few linguistic resources with other people (see Adami (2018b) research on communication in the market).

7. Conclusions

The use of digital tools such as YouTube videos to learn is becoming more common, thanks to the ubiquity of Web 2.0 technologies, which allows a variety of sign-making practices, such as different forms of language teaching videos, to be posted on the Internet for all to use. This emerging learning practice has the potential to dramatically change the way how knowledge is created and consumed, and so it warrants more research to understand the pedagogical implications it entails. This article has focused on how a vlogger uses her full repertoire of embodied and disembodied modes to create a learning environment which promotes a multimodal understanding of job interviews using English as a medium. Through an analysis of the structure and the modes used in the core part of a minilesson, it is seen that although the primary objectives of the video emphasized the linguistic aspect of job interviews, a multimodal understanding of interview, such as the use of appropriate gestures, way of speaking, attire, etc., are also shown in the lesson. The vlogger has also strategically used a variety of modes to frame different parts of the lesson so that the flow of the lesson is not disrupted

unnecessarily, which is another way to promote an embodied, multimodal experience of job interviews to the audience.

This article argued that learning is a multimodal and embodied activity. Vloggers as content designers have to make decisions regarding the medium to carry lesson content. This decision is made based on an assessment of the affordances and constraints of the medium. Vloggers also have to select apt modal resources to convey meaning by assessing what a mode enables or prevents the vlogger to do, as well as to determine the modal intensity in different parts of the lesson so that the learning objectives are clearly foregrounded and met. Furthermore, vloggers have to 'design' the overall orchestration of embodied and disembodied modes to frame the various parts of the lesson, as well as to engage the audience.

Pedagogical vlogs represent a hybrid genre which may contain elements of teacher talk, acting, casual chat, live broadcast, etc. Not only is it an underexplored area in language education, the significance and implications of pedagogical vlogs cannot be underestimated. As digital technologies have the potential to allow learners to assume a higher level of agency, pedagogical vlogs can, potentially, contribute to what Little and Thorne (2017) called a 'rewilding' of language education, which involves knowledge production in the process of learning. This article only focused on one type of pedagogical vlogs which is more pedagogically oriented than other kinds of vlogs. To date, there is only little understanding of this complicated yet dynamic genre. Undoubtedly, pedagogical vlogs are playing an increasingly prominent role in language teaching and learning, and, therefore, more research is needed to understand, for instance, the multimodal features of these vlogs, the learning experience that they create, or their potentials to be used to supplement classroom language teaching in order to 'rewild' language education, by encouraging learners to discover learning resources relevant to them.

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Adolescent ELLs Improve Their Academic English while Learning about the UN Online

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Abstract: This action research project aimed at evaluating and revising Actionthroughwords (ATW), an online course on language learning through content for high school English language learners. Our multifaceted purpose is to help English language learners in an English language arts class to enhance their academic English language and literacy, while learning online about the work of the UN for health and peace worldwide. A teacher and nineteen students in a public high school bilingual program acted as learner-consultants, with a shift of learners' roles to one of authority and engagement. Using a mixed design, data came from questionnaires, classroom observation, and interviews with the teacher and eight of her students. All participants responded affirmatively to the ATW site and expressed appreciation not only for the content but also for focused activities to enhance vocabulary development and grammatical awareness. Results showed students' view of the UN was somewhat positive to begin with and became more positive over time. Participants recommended revision of ATW to make content more accessible through scaffolding and first language support and to offer additional games and videos appropriate for teenagers' interests and modes of learning. Differentiated instructional materials and strategies integrated with the school curriculum were also suggested for future implementation of the course.

1. Introduction

While a language-through-content methodology has been accepted in the field of second language learning, and engaging the affordances of the Internet to promote such learning has been widely suggested (Gimeno 2008), studies that document the use of online thematic courses to promote English learning are limited. The online course Actionthroughwords: Learning English While Learning about the United Nations (ATW) attempts to support English development for learners and also to provide information on the work of the UN to promote peace, development, and international understanding.

The action research study presented here contributes to the conversation on how diverse learners can use web-based materials to promote English acquisition and a global orientation towards working for a more peaceful world. This phase of the research partnered with a high school for English learners (ELLs) in an urban Northeastern US setting. A teacher volunteer and 19 of her students, ELLs with high beginner to intermediate English proficiency, used seven of the course units as an enrichment of their English language arts class, described below. We hoped to inspire these students to join the work for peace, and as an outcome of their experience with the online course, to develop community-based projects that would be mutually beneficial. Service learning projects such as these can promote a sense

of community engagement as well as cognitive and linguistic development (Rodriguez-Arroyo and Vaughns 2015). Data from this project will also be an important step in a formative evaluation and revision of the online course with the goal of making it more attractive to diverse teens who are in the process of acquiring English.

2. Background

Since the publication of Mohan's seminal text (Mohan 1986), the effectiveness of a content-based approach to language learning has become widely accepted. Referred to as CLIL (content and language integrated learning) in the European context (Commission of the European Communities 2003), this pedagogical alternative enhances language acquisition while providing the benefit of developing the learner's knowledge (Coyle et al. 2010). It is embedded in several teaching models which, despite their differences, share commonalities we have tried to reflect in developing the ATW online course.

ATW includes authentic materials, connects learners to the real world digitally, and allows for "focus on form" through developing awareness of language (Doughty and Williams 1998). It provides richly contextualized examples via texts of speeches, readings, poetry, music, and lyrics. In addition, an advantage of Internet-based learning involves empowering individuals to make their own choices of the order in which they investigate aspects of content and the depth of their engagement (Allwright and Hanks 2009). In the current study, Erin (pseudonym), a volunteer teacher, used the ATW site as an addition to an English Language Arts class for ELLs; their experiences and outcomes are documented below. Themes woven throughout the course being investigated include: empathy, cooperation and communication, multicultural understanding, human rights, and conflict resolution. The site also promotes an acceptance of linguistic differences, including respect for alternative varieties of language (Canagarajah 2013).

Technological development continues to challenge second language (L2) teachers and materials developers to integrate innovations into their curricula (Hubbard 2008). Effective use of technology promotes critical thinking (Daud and Husin 2004), can have a positive transformative effect on students' culture of learning (Hamdan 2014), and facilitates social integration, communication, and cooperation in language classrooms (Osborn 2006). Instructional technology also encourages student-oriented approaches in L2 pedagogy and supports students' developing expertise in computer use (Warschauer et al. 2004).

An additional aspect of this project is to take a critical pedagogical stance and empower students by giving them the role of consultants. It was our goal to create a community of learning that would include the teacher, the student consultants, and the researchers.

We propose to revise the ATW site, originally developed for adults, for high-school-aged English language learners (ELLs), to support their sociolinguistic growth, and once again to encourage them to design peace-oriented projects that will benefit their own communities. The content, which includes exploration of UN programs and initiatives around the world, is relevant to the immigrant experiences of the learners while expanding their awareness of geography, culture, and history. Thus, the teaching and learning involved in our research reflected a funds-of-knowledge approach (González et al. 2009).

Our project was developed in collaboration with administrators and teachers at MMHS, the Multilingual Multicultural High School (pseudonym). The teacher and learners volunteered for the project. The learners took the role of users/consultants. Erin decided on how to incorporate ATW into her class, taking a formative perspective on what would be most successful. Students and teacher provided feedback to the researchers and each other on what was useful and what changes to the online course might be helpful. While our data here are limited to the use of ATW within a particular class setting, we hope the insights gained will have relevance for other contexts.

2.1. A Language-through-Content Approach

A theme-based approach to language teaching and learning reflects current best practices in second language (L2) pedagogy. Indeed, state-of-the-art models for communicative teaching

(Benati 2013) share commonalities reflected in the ATW online course. The authentic nature of the materials in ATW supports the importance of connecting the content of computer-based courses to the real world inhabited by teachers and learners. There are opportunities for "focus on form" (Ellis 2015) through developing awareness of grammar points, vocabulary, and genre-based discourse structures (Bhatia 2014; Pongsiriwet 2001; Schleppegrell and Christie 2018; Tardy 2016). The website is consistent with principles of communicative language teaching and learning (Hinkel 2017) in that it provides richly contextualized examples and carefully scaffolded experiences via real-world texts of speeches, readings, poetry, music, and lyrics.

2.2. Language Learning and Peace Education

Our research sought to promote a culture of peace and human rights through the acquisition of English as a global language with content focusing on the UN's activities worldwide. The content of the site and its association with the culture of the UN and its goals and activities make it culturally grounded (Furstenberg et al. 2001), so that the constructs of improving people's lives and working for peace are central to the values promoted in the lessons, tasks, resources, and artifacts.

Crystal (2004) stresses the importance of including environment, development, and human rights in a global curriculum for teaching peace. L2 teaching and learning is particularly appropriate for peace education, as issues of cultural diversity and intercultural communication must be represented in a communicative L2 curriculum and ideally should promote learners' awareness of their world. In addition, an acceptance of linguistic differences in others and ourselves must include an appreciation of and respect for alternative varieties of language. The ATW section on language variation addresses these issues for learners who may be marginalized because their speech is considered nonstandard (Nero and Ahmad 2014). An important aspect of language and peace education is the development of an appreciation for human inter-relatedness, global citizenship, and all that entails. ATW seeks to encourage learners to see the world through others' eyes. Furthermore, while English is acknowledged as a lingua franca for international trade and power, it also has potential as a language of wider communication to be a vehicle for peace and understanding. Language and peace education via technology is under-researched at this time and results will support further development in the field.

2.3. Technology and Language Learning

Technological development continues to challenge second language teachers and materials developers to integrate innovations into their curricula. Studies indicate that incorporating technology in L2 settings can enhance language learning (Moore 2009). Effective use of technology can promote critical thinking and facilitate social integration, communication, and cooperation in language classrooms (Osborn 2006). Instructional technology also encourages student-oriented approaches in L2 pedagogy and supports students' developing expertise in computer use (Warschauer et al. 2004).

While the potential value of technology for language learning is often discussed, language teachers and learners can be challenged and overwhelmed by the Internet explosion and the sheer variety of instructional technology currently available. Also of relevance is the concurrent move to a more dynamic, learner-centered curriculum that seeks to foster active learning and critical thinking (Kim 2008). In fact, the Internet makes collaborative learning possible globally. Chatel (2002) demonstrated the benefits of using the Internet for promoting literacy and higher order thinking. Chapelle (2005) and Chapelle and Jamieson (2008) suggest concrete research-based advice for using technology in L2, including multiple modes of input, programs that offer feedback to learners, explicit grammar instruction, and addressing pragmatic competence.

However, despite the rich possibilities, technology integration in language learning is inconsistent and dependent on many factors. In light of our current knowledge and evolving challenges, continued research on more effectively incorporating technology in language pedagogy is needed (Kuure et al. 2016; Luke and Britten 2007). And while limited access to resources remains a major roadblock to the use of technology in the classroom (Ebsworth et al. 2010), individual access to the

Internet continues to rise (Dumitrescu 2014). The ATW website lends itself to blended uses in which technology can supplement a teacher-led course but can also be used independently outside the classroom in settings such as the home, library, or community center.

2.4. The Role of Consultants

We aimed to advance the understanding of acquiring a second language through a technology, content-based, and project-oriented approach in a high school context, while encouraging a sense of self-efficacy among ELLs in promoting peace and wellness as well as supporting greater academic success (Asakereh and Yousofi 2018; Honicke and Broadbent 2016). An additional dimension of this research involved having learners take on the role of consultants to the project. Giving these students a more active part in this research context may encourage other researchers/educators to do likewise. The impact of this work ranges from L2 curriculum development and matching technology to learner needs and interests to a re-examination of student and teacher roles in the classroom.

3. Materials and Methods

Inspired by a transformative action research paradigm (Savin-Baden and Major 2013), a mixed design (Creswell 2007; Mackey and Gass 2016) was used to evaluate ATW in an American high school setting. We investigated the effect of using ATW on the academic English development of ELLs and elicited their views on how the course can be made more attractive to adolescents. We also hoped the students would be inspired by the efforts of the UN to promote health and peace worldwide.

Student participants acted as "consultants" for the project. All students and parents gave their informed consent for inclusion before they participated in the study. Prior approval for the protocol was granted by NYU (IRB #FY2016-596) and the NYC Dept. of Ed. (#1372). Although the setting for the study was an English language arts class composed completely of ELLs, the content was found to be appropriate by the teacher as useful for the kinds of academic receptive and productive experiences that would aid the students' literacy development; they read, discussed, and wrote about the topics presented in each unit they worked on. ATW uses relatively simple multimedia technology so that it can be accessed by individuals in different parts of the globe, who may have limited technological possibilities. Since ATW was originally developed for adult users, we had a concern that young digital natives might require a more sophisticated approach.

Nineteen volunteer English learner/consultants began using the site with guidance from the teacher and student teacher, Melissa (pseudonym).

3.1. Research Questions

1. What are the adolescent consultants' perceptions regarding the usefulness of units and activities of ATW for improving their ESL skills?
2. To what degree does the unit content confirm, and/or challenge learners' understandings of the role of the UN around the world?
3. What is the role of technology in the ATW online course in promoting the learning of language and/or content?
4. What are the teacher's perceptions regarding the use of ATW with her students?
5. What improvements and/or revisions to ATW in content and technology are suggested by the insights gleaned from the consultants and their teacher?

3.2. Researchers

Miriam Eisenstein Ebsworth is an English-dominant polyglot who taught ESL to elementary learners in the New York public schools. Subsequently, she taught academic English to ESL and English as a Second Dialect undergraduate learners at Rutgers University in Newark, NJ and has

taught graduate courses in language education at New York University for over 35 years. She acted as a consultant in developing the ATW online course.

Chencen Cai is a doctoral student in TESOL who is polylingual, with a command of Mandarin, Guilin dialect, Cantonese, and English. She in an experienced language teacher, having taught English in China and both Mandarin and ESL in the US.

Lauren McCoy is bilingual, with fluency in English and Spanish, and is currently a doctoral student in the Department of Curriculum and Teaching at Teachers College, Columbia University. She teaches ENL (English as a new language) and AP (Advanced placement) English at a New York City public school for emergent bilinguals.

3.3. Student Participants

Nineteen student volunteers (all students in the class elected to participate) acted as student consultants in our project. They represented 6 Latin-American countries (Columbia, The Dominican Republic, Ecuador, Guatemala, Honduras, and Mexico) as well as Puerto Rico, a Commonwealth territory of the US. All students were native Spanish speakers demonstrating a range of English proficiency. An English test developed locally was administered before the class and identified their proficiency levels as follows: Low intermediate (1), Intermediate (6), High Intermediate (10), and Advanced (2). These levels are equivalent to the ACTFL (American Council on the Teaching of Foreign Languages) proficiency guidelines (ACTFL 2012).

Students' time spent on the computer was as follows (See Table 1):

Table 1. Hours spent on computer per week.

	Frequency	Percent
0–10 hours	18	94.7
41+ hours	1	5.3
Total	19	100.0

This contrasted with more time spent on the cell phone (See Table 2).

Table 2. Hours spent on cell phone per week.

	Frequency	Percent
0–10 hours	4	21.1
11–20 hours	3	15.8
21–30 hours	4	21.1
31–40 hours	6	31.6
41+ hours	2	10.5
Total	19	100.0

Thus, all of the students had previous online experiences. Almost all students used online devices or social media platforms for fun. About half reported using online resources for learning out of the classroom. Eighteen mentioned devices other than computer or cell phone, 12 provided examples of social media platforms used for fun, and 14 provided examples of online learning tools.

3.4. Class Description

The class was offered for 40 min from Monday to Friday during the fall 2017 semester. The teacher met with the first two authors to collaborate on how to integrate the website into her class. Erin and Melissa were both fluent in Spanish and available to offer first language support when the students were using the website. Researchers/observers also offered guidance when requested. One of the goals of the ESL class was to build reading stamina and academic writing in English. At the same

time, Erin noted the need to promote students' language development through explicit and targeted grammar and vocabulary instruction.

Erin integrated the units from ATW throughout her existing curriculum to meet these course goals. About 25% of the class involved direct use of ATW, although many additional enriching activities were developed by the teacher. At the time of the study, students were reading various short works of fiction and a novel centering around the themes of tolerance, peace, and social justice. These themes continued to be highlighted throughout the ATW work. At various points throughout the semester, Erin organized a stand-alone lesson using ATW and connected the ATW unit back to themes from students' previous readings. Erin developed questions and discussions to offer helpful background in advance and follow-up assignments to support learners' English oral and writing development. Students were encouraged to read and comment on each other's work in order to develop a community of learning and raise their awareness of how ideas could be expressed through oral and written language. A translanguaging approach was encouraged in oral exchanges.

Erin started with Unit 1 of ATW, which provided an overview of the UN and its work. In this and subsequent lessons, Erin chose units that she thought would match students' interests and previewed each unit with an activity to evaluate and develop prior knowledge. They sat in small groups and would read the text, either independently or in pairs, answering reading comprehension questions from the unit and/or teacher; they then worked independently through the grammar lesson and other activities. Differentiated tasks assigned to students reflected their English proficiency at the time of the assignment. When the teacher used ATW in the class, because of the various English proficiency levels in the class, she encouraged students to go ahead in the lesson at their own pace or proceed to other lessons if they finished early. For students who needed extra support, she encouraged the use of Google Translate, online bilingual dictionaries or glossaries, and the Internet to search for more information.

At the end of each lesson, Erin collected any associated student work she had developed and facilitated a whole-class discussion on things students had learned and/or still had questions about. In one of the final lessons with ATW, students chose a unit on their own.

3.5. Data Sources

Monthly classroom observations were conducted. Researchers not only observed and took field notes but also periodically participated as support resources for students while they were working on ATW. Our interactions added to our understanding of the students' process in using the site. Additional data came from "pre" and "post" questionnaires, student essays, and semi-structured interviews with 8 student volunteers. Questionnaires contained quantitative queries, using Likert scales, and open-ended qualitative questions. Pre- and post-questionnaires were brief given the limited time available. Questions came from preliminary discussions with teachers and administrators and were piloted with other students to be sure the questions were clear and relevant. Essays were assigned by the teacher as discussed in the class description (above). Interviews were audio-recorded and lasted from 10 to 15 min. Interviewers included the PI (Principal investigator), two RAs (Research assistants), the student teacher, and a visiting scholar. The PI is fluent in Spanish, which allowed for translanguaging to encourage interviewees to call upon all of their linguistic resources in order to fully express themselves. The teacher was interviewed at the beginning, midpoint, and end of the semester-long project. These semi-structured interviews explored her understanding of how participating in the ATW online course may have influenced her teaching practice as well as her students' English acquisition, technological awareness, and sense of community engagement. (See Appendices A–D for sample questionnaires and interview protocols.) Every data source contributed to the answer to each of the research questions.

3.6. Analysis

Each data source was analyzed following a constructivist grounded theory framework (Charmaz 2014). Interviews were transcribed, translated when necessary, and themes identified

through a recursive process of analysis (Savin-Baden and Major 2013). Triangulation of data interpretation (Leech and Onwuegbuzie 2007) included the perspectives of the researchers, an expert in language and technology, and a sample of participants representing a range of backgrounds, cultures, and experience with technology.

4. Results

4.1. Descriptive Comparison of Quantitative Items from Pre- and Post-Questionnaires

Overall, students began with a rather positive view and developed an even more optimistic sense of the work done by the UN. However, regarding UN work with children, they declined slightly (See Table 3). (Post participant numbers were lower due to absences on the day that data were collected.)

Table 3. Quantitative items from pre- and post-questionnaires.

Item	Pre (*N* = 18) Mean (SD)	Post (*N* = 14) Mean (SD)
1. Promoting world peace	3.67 (0.77)	3.69 (0.86)
2. Helping countries with health and wellness	3.72 (1.07)	4.15 (0.99)
3. Helping with education	4.17 (0.71)	4.38 (0.87)
4. Protecting and supporting children worldwide	4.28 (0.90)	4.00 (1.00)

Based on what you know about the UN, how effective do you think it is at doing the following: (1 = very ineffective; 2 = somewhat ineffective; 3 = neutral; 4 = somewhat effective; 5 = very effective).

4.2. Open-Ended Comments from the Post-Questionnaire

While at the beginning, students had little specific knowledge regarding the United Nations, they developed a much more elaborated sense of the range of roles performed by the UN. ***"The UN stop war from happening." "The UN does it keep the people safe from world and country problems." "It helps us to know about the different cultures around the world." "Help countries to unite and be with peace." "UN Protects the heritage places."***

4.3. Student Themes

The following student themes (presented with corresponding research questions noted) emerged from interview data and from the open-ended aspect of the questionnaires. All comments quoted below come from the interview data. Students appeared highly engaged throughout this project and offered thoughts and suggestions in a serious and constructive way. Where appropriate, comments recorded from observations and informal conversations were used to confirm interview interpretations.

4.3.1. Positive Overall View of Online Course (RQ1)

All interviewees offered essentially positive reflections regarding ATW: ***"I think it's good. I like the information and how they present the (information)." "I really like the organization, and the information that it contains, and the activities."***

4.3.2. Importance of Visuals for Teens (RQ1, 3)

As the original website was constructed for an adult user, it is not surprising that the adolescent consultants focused on the importance of visual support in general and the need for more videos in particular. ***"Like for us teenager, it's better to see than to read it sometimes; I expect like more pictures and videos." "I think sometimes teenagers are lazy. They more like videos and pictures that explain what's happening."***

4.3.3. Gaps in Background Knowledge (RQ2)

All adult participants observed that the students lacked much of the general knowledge presumed to be shared by US-born middle-class high school students. This was confirmed by the following typical interchange: *"How much of the information was new to you?" "Everything!"*

4.3.4. Vocabulary Support Helpful (RQ1, 3)

While becoming aware of the lexicon of an additional language is certainly central, it was interesting to note that virtually all students commented on the usefulness of the vocabulary section offered in each unit and how they made use of it. *"Sometimes there are words that I (don't) understand, but they have their vocabulary (list). That's kind of good because it helps me." "Of the vocabulary section . . . I click on the link."* Finally, students recognized the importance of low-frequency academic language. *"Of the vocabulary section, it helps you a lot with the words that are not used a lot in our vocabulary."*

4.3.5. More Grammar (RQ1, 3)

Several learners commented on their appreciation of the grammar focus in each unit. In fact, a few interviewees said they would like even more. *"I think it would be good to have more grammar." "I like the grammar test, something like more activities like that."*

4.3.6. Strategies When They Do Not Understand (RQ1, 3)

Since the class was composed of students with a broad range of English proficiency, there were substantial comprehension challenges for many of the learners. *"I did not understand all of the English." "The reading selection was too long and too hard for me."* But without exception, each had developed strategies to deal with this problem. The student community had established a shared set of strategies, perhaps reinforced by the teacher. The following examples are typical: *"First, you have to read the whole sentence . . . If you don't know, then get a dictionary . . . with Spanish." "And for the computer, I Google it."*

4.3.7. Mixed Views Regarding Peer Support (RQ1)

Several students offered that being able to call on peers was helpful to them. *"Yeah, usually most of my friends know a lot of English. There are words that I don't understand, but they do. So I ask them for translation." "When I'm writing something, I don't know how to spell the word, I ask my friends first."* However, a few students preferred not to ask their friends for help or did not have confidence in their peers' knowledge. *"I don't ask friends; I just do it by myself or ask my teachers." "If I'm not convinced with them (peer suggestions), I ask my teacher." "I don't ask my friend about work; I guess I figure it out by myself."*

4.3.8. Preferred Language of Explanation (RQ1)

Students typically expressed that both English and Spanish were useful, rather than identifying a preference for one or the other. *"Sometimes Spanish translation is helpful." "Sometimes they tell me the definition (in English); I still don't understand. If they say in Spanish, it's easier for me to understand." "I ask our teacher that talks Spanish and English so that they can try to help me with both languages."*

4.3.9. Recognition of UN Contribution (RQ2)

Many of the students interviewed offered examples of UN programs. *"They travel around the world trying to help the countries conquer the peace that they want . . . and help them with the problems."* They appreciated the UN role in promoting ecology. *"Help keep natural beauty of a great deal of countries."* Students also praised the help offered by the UN to those in need. *"Help a lot of*

people in bad situations." Finally, several students expressed surprise but also appreciation in that the UN *"protects the heritage places."*

4.3.10. Technical Issues (RQ3)

The need to both update the current ATW site and also adapt it to the restrictions and realities of urban high school classrooms was ubiquitous in students' comments. For example, *"The technology did not always work." "Problems . . . the page is really well done, but sometimes when you are trying to get in, it doesn't really work." "We can't get YouTube from school and other links are blocked or not there."*

Thus, students reflected that they encountered some technical issues when trying to click on some links on the website or use certain social media functions. In class, some of the student participants accessed alternative websites to search for information regarding the focus of the unit. Additionally, as some limitations on access of particular websites were imposed by the school district, workarounds were needed.

4.3.11. Appreciation of Consultant Role (RQ1)

"I liked taking the role of consultant to help improve the website." The teacher, Erin, also confirmed that students were excited to be active participants in our project. In a final ceremony, students were delighted to receive a certificate of appreciation for their contributions as well as a small thank-you gift. Erin also noted that this experience would enhance their college applications.

4.3.12. Favorite Units (RQ1, 2)

While all students expressed general approval of the website, two of the units were particularly attractive to learners, as follows: Topic on Peacekeepers: *"I learned that they are the ones that are ensured of keeping peace all over the world."*; and World Heritage Sites: *"I think that the United Nations helps to protect the natural and cultural beauty all around the world like the most beautiful places or natural places."* Students also felt that ATW had given them expanded interest in new places *"I think Venice, Italy. I like it."*

4.3.13. Recommendations for Change (RQ5)

Several ideas were salient in students' commentary on how ATW could be improved for adolescent English learners. *"More games! I enjoy the games very much." "Make more user friendly for teenagers, like videos and photos."* Interestingly, there were several comments from students recognizing the need to make ATW more useful for differentiation of instruction. *"I think we should make it better . . . like putting more easy words that we can understand." "There should be different levels for reading." "Have versions of readings in other languages." "I think they could give more examples about history so we can learn more (about that)."*

4.4. Teacher Themes (RQ4)

Erin's reflections included views of the practical challenges of using the technology in her school, the complexity of working ATW into her curriculum, the limitations of available classroom time, and the degree to which support for ATW was needed so that the student consultants could gain maximum benefit from the site.

4.4.1. The Unit Was More Challenging for Learners than Expected

As is often the case, teachers must adjust their plans to classroom realities. *"I thought students would be able to go through the unit more independently than what they did."* Observations and interactions with researchers confirmed that that many of the students required help from peers, the

teacher, student teacher, or researchers, both to understand the English language and also to provide needed background knowledge.

4.4.2. There Are Practical Barriers to Using the Site in My Classroom

"The district blocks YouTube and social media. This limits what I can do." Erin noted that in light of the short time allotted for her class, she needed to shift some use of the ATW site to out-of-class activities. *"Students were encouraged to explore at home."* There were also sometimes limitations on the numbers of working computers available for the class. The teacher had to accommodate to this situation. *"Due to computer availability, students worked in groups. Also, for some activities, some students were given related paper-based tasks while others used the Internet."*

4.4.3. Gaps in Background Knowledge

The researchers, teacher, and student teacher all noticed that as also reflected in the student interviews, the English learners appeared to lack general information about local and international politics, history, economics, geography, and other content knowledge expected for high school students to have acquired either through previous educational or social interaction. *"There are so many things they need to know but they haven't been exposed to . . . And a lot of students have gone back and forth from home to the US—the quality of the school is dependent on socioeconomic factors . . . So some kids get an excellent education, but others don't."* Erin was particularly sensitive to the challenges of circular migrants. *"The circular migrants keep losing out . . . Education can be spotty—their lives can be like the lives of migrant workers in the sense that they don't have continuous school—the quality of the school is dependent on socioeconomic factors."*

4.4.4. Suggestions for Pedagogy

Erin always considered how to move students forward considering where they started from and had a dynamic view of teaching and learning. *"What does the teacher do? Just keep building on what they have . . . and then using their interest to give them something to connect up." "Keep updating the site in terms of content."* Erin also confirmed that the level of technology did not seem to be an issue. *"I don't think the lack of bells and whistles has been a problem . . . It's more about text complexity, the length, the size of the text, even the font."* **She was pleased at the level of personal control students could exercise.** *"What I like about the ATW website is that they can build on what they know, and click on those links and further explore things . . . they can work at their own pace."*

4.4.5. Need for Differentiation

This theme resonated with Erin as well as the learners; she addressed the challenge of teaching a class with mixed levels, a very common situation when teaching ELLs. *"More differentiation is needed." "If this unit is to be used instructionally in this class, I will need to differentiate the reading materials and grammar points, as well as some of the writing tasks throughout the unit."*

Although Erin commented, *"I did not really have work differentiated,"* in our observations, we noted that she was actually very flexible in the nature of feedback and support she offered, adjusting her relative use of first and second languages and the degree to which her response required students to act more or less independently in finding answers to their queries.

4.4.6. Clarifying Goals and Integration in Regular Lessons

Erin stated, *"In my planning, I see that I need a clear, manageable objective."* And she also commented, *"After reflecting on the lesson before the (holiday) break and the feedback that the students gave . . . I wanted to use a unit to meet instructional goals; that is, I wanted to use the site as a resource in a more traditional lesson with a specific content and language objective."* Erin

experienced time constraints as she added ATW to her curriculum. *"Sometimes going through a unit felt a bit rushed. I could see designating maybe two weeks to thoroughly go through one unit."*

Erin is a reflective teacher, and her interviews and asides showed that she was constantly revising and reformulating her teaching to accommodate insights regarding learners and outcomes as they emerged.

4.4.7. Independent Use of Site versus Guided In-Class Use

Erin talked about the fact that some students were more able to use the site independently than others in class. *"For the high school level: If it is for students to do independently, then I think our target ELLs may be more advanced than some of the students in this group." "Some of my more advanced students in the class were able to work independently through the materials."* Regarding less proficient speakers, Erin suggested, *"They can still work on the technology piece-something from the unit but more limited."*

4.4.8. Future Projects

Erin commented on an important future step planned for our student consultants. *"We'll need to work together to map out … projects the students might do to help their communities … inspired by this experience."* In fact, MMHS requires that each student engage in community service. We are hopeful that these experiences will be inspired by what students have learned about the work of the UN.

Erin also suggested that for the future, a teachers' manual would be a potentially helpful addition to the online course. *"Maybe develop a teacher's manual to use the site … How to deal with problems that can come up … "*

4.5. Researcher Themes (RQ3, 5)

Based on our class observations and interactions with students and teachers, we noticed some issues related to the students' learning process and the teacher's pedagogical strategies. Many of our insights are consistent with the themes presented above.

4.5.1. Student Strategies in Making Meaning

When students encountered difficult text, they often used web-based tools to help with their reading comprehension. For example, *"in the first class, we observed that some students copied and pasted some text into Google Translate. One student put on his headphone and listened to the audio text."*

4.5.2. Differentiation Observed

In the class, we noticed several differentiation strategies that were effective to support students' learning needs at different levels. These included homogeneous grouping and scaffolded tasks. The teacher also encouraged students to consult each other and search the Internet for information they needed.

4.5.3. Peer Support

Some students asked each other for help and discussed what was happening in the group. They developed strategies on their own to help them learn. Such behavior was encouraged by Erin, in creating a community of learning. This class was rarely silent, but our observations indicated that student voices nearly always reflected engagement with the task and topic at hand.

4.5.4. First Language Support

Bilingual teacher facilitators provided help to students. The teacher, student teacher, and PI are fluent in Spanish and English. This was a class in which all participants were encouraged to use a translanguaging approach in order to enhance learners' and facilitators' abilities to maximize communication by calling on all linguistic resources available.

4.5.5. Learner Differences in L1 Academic Proficiency and Cultural Knowledge

Through observations and interactions, it became clear that in addition to differences in English proficiency, there was substantial variation in the first language academic preparation of the students and in their general knowledge, as has been noted in all data sources. It will be important to continue to explore avenues for differentiating input and activities to account for such student diversity.

5. Discussion

Data from observations, questionnaires, and interviews with the student consultants and teacher indicate that overall, they were satisfied regarding the usefulness of the ATW online course for improving English and acquiring knowledge about the United Nations and other countries around the world. Student and teacher suggestions for revision to make the site friendlier for adolescent learners include a more fine-tuned assessment at the start to identify areas in need of development, more visuals, games, differentiation of instruction via alternative texts, and access to first and second language support through hyperlinks.

The creation of a class atmosphere in which students were encouraged to resolve challenges creatively through computer searches and peer support contributed to the successful implementation of this project. While students were inspired to act independently and collaboratively, Erin also was prepared to step in and offer approaches for students to answer their own questions, while being prepared to give answers herself when she deemed it appropriate. Thus, this teacher was highly effective in balancing the power of technology to engender student-centered learning (Granberg 2000) while providing direct input when she judged that was what students needed.

The gaps in background knowledge for the ELL population of the class presented both a challenge for comprehension and an opportunity for learners to be exposed to this important information. Hirsch (2013) refers to this assumed background knowledge as cultural literacy, and this has been identified as a hidden requirement for high school students' full participation and academic success. At the same time, the multicultural nature of ATW provided for the ELLs to draw on the information they could retrieve from their own sociocultural experiences, allowing the class to reflect a "Funds of Knowledge" approach (Moll et al. 1992), crediting multicultural learners with the unique background each could offer to enrich the class and support their learning. The movement to make learning student-centered and culturally sensitive echoes this issue, calling for a focus on learners' cultural backgrounds when drawing on the affordances of technology, goals that should be considered in future development and pedagogy (McDermott 2017).

An additional factor that enhanced students' learning and communication as well as their abilities to maximize their understanding of ATW was the encouragement of translanguaging through peer, facilitator, and teacher support in the classroom. Such translanguaging is distinguished from code-switching in that it frames linguistic resources in a holistic rather than a dichotomous fashion. "Translanguaging is the act performed by bilinguals of accessing different linguistic features or various modes of what are described as autonomous languages, in order to maximize communicative potential" (García 2009, p. 140).

Practical limitations in terms of availability of computers and working around sites blocked by the school were addressed by the teacher through creative alternatives and home-based assignments. Fortunately, the school administration was very supportive and also offered technology support to assist with this and other logistical challenges that arose. Recent advances of Internet resources to

support learning language through content have added many possibilities. For example, TOOLS (n.d.), a free online tool, designed to support CLIL teachers and curriculum developers is ongoing, interactive, and available for free.

There is also evidence to indicate that some learners became more aware of social justice issues, sparked by the content of the units. One student, queried, "Why is there poverty in countries that have natural resources?" In an interview, Erin reflected, *"He really didn't know that. It's a good question. He is from a relatively poor country and is unaware of the answer to that question . . . "* She also addressed the diversity in the level of education different students bring to her class. *"So some kids get an excellent education, but others don't."* The next step for learners, developing a community-based project inspired by the work of the UN, involves the forthcoming stage of this action research.

An unexpected finding was that the adolescents in our study highlighted and appreciated the vocabulary development and grammar support offered within each unit. While these aspects of language teaching exist in traditional classes and paper-based texts, it was interesting that they were not taken for granted by our student consultants. Indeed, the affordances of technology can be harnessed to promote the learning of lexical items in context and grammatical aspects of language also extracted from contextualized sources. This demonstrates that "focus on form" for learners is not only recommended by the literature (Mackey 2006) but is seen as desirable by adolescent language learners. In the literature on developing grammatical awareness, a distinction is drawn between "focus on form" which occurs organically as issues arise, taking advantage of the cognitive window that is activated when an issue of grammar comes up in classroom discourse, and "focus on forms" which reflects a previously-planned activity considering a grammar point deemed appropriate for a class or individual both in developmental and communicative terms (Long and Robinson 1998). In a sense, ATW allowed for both aspects of grammatical awareness. Units contained grammar items and exercises that were planned in advance (focus on forms). The technology allowed students the option of choosing to access such information and participate in the practice when they felt a need to do so on the spot, adding to their abilities to take charge of their own learning. Finally, as ATW was used in the class discussed here, students might request support from a facilitator when they encountered a structural item they did not feel secure they could understand and/or use (focus on form).

6. Conclusions

A synthesis of our findings demonstrates the fact that although ATW has not yet incorporated the highest level of technology available, the English learners in our study found it both helpful and engaging. Indeed, the original site was designed to be accessible for a broad population worldwide, and so the designers balanced the most up-to-date technological possibilities with hardware and software that were widely available. Despite our concern that teenagers, as digital natives, might be put off by the lack of state-of-the-art applications and platforms in the current version of ATW, they were able to concentrate their attention on the information offered and appreciate the opportunity to guide their own learning through personal choices, hyperlinks, and multimedia elements incorporated in the site.

A promising aspect of this study, worthy of further research, is the transformative potential of the consultant role taken by the English learner volunteers. "Learning is not a product transmitted from the more knowledgeable party (the teacher/instructor) to the less knowledgeable party (the students). Rather, from a constructivist point of view, learning is achieved in an environment in which the student is at the center of the learning process, and the role of the teacher is to act as a learning facilitator." (Hamdan 2014, p. 319).

At the end of the course, students expressed pride in their participation and achievement. An unintended outcome was students' success with a statewide English examination required for high school graduation. We were pleased to learn that all our student consultants who took this exam passed it. Future research could examine the role of ATW in supporting academic English development and general knowledge among students such as those in our study.

Additional future directions for development of our online course include extending hyperlinks to incorporate recent updates to the UN website as well as language-based digital tools and strategies as they continue to evolve in this dynamic and developing environment. Finally, a more long-term goal is to work on a mobile phone app that will make ATW even more accessible for learners around the globe.

Appendix A Sample Pre-Questionnaire for Students

<u>**Name**</u>
<u>**Class**</u>
<u>**Grade level**</u>
I. Tell about your experience using the Internet.
a. Every week, I spend about ___ hours a week online on the computer.
        I spend about ___ hours a week online using a cell phone.
b. My total time online is spent:
For fun? _____ hours a week. (give an example, such as a game you might play)_____
_____
c. For learning (not in class)? _____ hours a week (for example, doing homework or other learning)
_____
For English language learning (not in class)?_____hours a week
For learning in class (if applicable)? ____ hours a week

II. I enjoy learning online.
1. Agree strongly;   2. Agree;   3. Neutral;   4. Disagree;   5. Disagree Strongly

III. Based on what you know about the United Nations, how effective do you think it is it at doing the following (please circle your opinion):
a. Promoting world peace
l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective
b. Helping countries with issues of health and wellness
1. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective
c. Helping with education
l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective
d. Protecting and supporting children around the world
l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective

Can you think of anything else the UN does?
_____

IV. Rate your English skills right now:
Oral comprehension
1. Beginner;   2. High Beginner;   3. Intermediate;   4. High Intermediate;   5. Advanced
Reading comprehension
1. Beginner;   2. High Beginner;   3. Intermediate;   4. High Intermediate;   5. Advanced

Speaking fluency

1. Beginner;   2. High Beginner;   3. Intermediate;   4. High Intermediate;   5. Advanced

Writing

1. Beginner;   2. High Beginner;   3. Intermediate;   4. High Intermediate;   5. Advanced

V. In addition to your collaboration as a consultant on the UN Project, what do you hope to learn for yourself?

a. I want to improve my English skills.

1. Agree strongly;   2. Agree;   3. Neutral;   4. Disagree;   5. Disagree Strongly

b. I want to learn more about the United Nations

1. Agree strongly;   2. Agree;   3. Neutral;   4. Disagree;   5. Disagree Strongly

VI. How do you feel about the following?

a. I believe that we can work successfully to improve life for people in my community in the US.

1. Agree strongly;   2. Agree;   3. Neutral;   4. Disagree;   5. Disagree Strongly

b. I believe that we can work successfully to improve life for people in my community in my home country.

1. Agree strongly;   2. Agree;   3. Neutral;   4. Disagree;   5. Disagree Strongly

c. I believe that we can work successfully to improve life for people in other parts of the world.

1. Agree strongly;   2. Agree;   3. Neutral;   4. Disagree;   5. Disagree Strongly

Appendix B Sample Post-Questionnaire for Students

Name

Class

Grade level

Based on what you know about the United Nations, how effective do you think it is it at doing the following (please circle your opinion):

a. Promoting world peace

l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective

b. Helping countries with issues of health and wellness

l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective

c. Helping with education

l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective

d. Protecting and supporting children around the world

l. Very ineffective; 2. Somewhat ineffective; 3. Neutral; 4. Somewhat effective; 5. Very effective

Can you think of anything else the UN does?

_____

Appendix C Sample Interview Questions for Students

1. Tell me a little about your experience using the Internet.
   For fun? For learning? In class?
   For English language learning in particular?
2. Tell me about using the Actionthroughwords online course. (Probe for clarification and examples)
3. What do you think about the content on the UN work for health and peace?
4. What if anything did you learn from the site that you think helped with your English?
5. We want to know how this site could be made more user friendly for teenagers.
   What are your suggestions? What did you like? What changes would you suggest?
6. We want to know how this site could be more helpful for English learners.
   What did you find helpful? What are your suggestions for improvements in the site?
7. What ideas occurred to you about how you might help your community or others around the world?
8. Is there anything you'd like to add?

9. Do you have any questions for me?

Appendix D Sample Interview Questions for the Teacher

l. Tell me a little about your experience using the Internet.

    For yourself? For your students? In class? As an out-of-class resource?

    For English language learning in particular?

2. Tell me about using the Actionthroughwords online course with the volunteer students. (Probe for clarification and examples)

3. What do you think about the content on the UN work for health and peace? Did you get any sense of how the students reacted to that?

4. What if anything did they learn that you think helped with their English?

5. We want to know how this site could be made more user friendly for teenagers.

    What are your suggestions? What did your students like? What changes would you suggest?

6. We want to know how this site could be more helpful for English learners.

    What did your students find helpful? What are your suggestions for improvements in the site?

7. What if anything do you think you could do to facilitate students' engagement with their community or others around the world?

8. Is there anything you'd like to add?

9. Do you have any questions for me?

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Expert–Novice Negotiation within Learning Opportunities in Online Intercultural Interactions

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Abstract: Computer-mediated communication (CMC) and e-communication tools have introduced new pedagogical tools and activities that contribute to the development of language learners' academic, multilingual, and intercultural skills and competences. Moreover, CMC has reinforced communication and collaboration between individuals and educational institutions through projects of intercultural language exchanges (ILE). Most of these exchanges idealise 'nativeness', and assert the L1 speaker as an expert 'by default'. These models of ILE believe that the incorporation of a L1S is key to the creation of learning opportunities. This paper contests this belief. The one-to-one online video conversations took place on Skype between language learners of English and/or French over a period of four months. The dyads comprise the following speakers' constellations: a L1S of French with a L1S of English, and a L1S of English with an Algerian (L2/LF of French and English). To assure equity in the use of languages, I scheduled two sessions every week, one in English and the second in French. This paper investigates the expert/novice dichotomy and how it is negotiated in the learning opportunities they have created. It also casts light on the speakers' communicative strategies and linguaculture(s) included in overcoming intercultural misunderstanding and miscommunication when using or not using their L1, French and/or English. These intercultural interactions have uncovered that the novice–expert roles alternate between the speakers despite the language of communication and their L1s. The interactants used several strategies and channels, namely pragmatic strategies such as repetition, nonverbal cues to ask for clarification and signal intercultural misunderstandings, translanguaging and their multilingual repertoires in order to construct meaning, achieve their communicative goals or in case of the lack of linguistic resources.

Keywords: novice–expert identities; online video conversations; synchronous communication; intercultural interactions; English; French

1. Introduction

In this ever-globalised world, foreign language learning is no longer confined to educational institutions since electronic communication has been facilitated through the technologies that offer easy access to other language speakers and cultures (Kramsch and Thorne 2002). In the field of English language learning (ELL) and teaching (ELT), there has been a considerable emphasis on the inclusion of cultural content about the self and the other in education (Risager 2007). Internet, which has become in the last few decades a virtual space for socialisation, learning, teaching, entertaining, etc., has been considered as a fertile area for researchers to investigate online behaviour(s), and/or to compare between the human behavior in real life and virtual spaces. The second main reason is thus studying internet users' or participants' online behaviours (Walther 1999). Given the global mobility that has been promoted by online means of communication, the behaviours that are under the loop in this study are the communicative ones. In this respect, (Seidlhofer 2011) underscores that e-communication

tools "have accelerated and forced changes in the nature of *communication*: the *media* now available have changed the *modes* of use". We have to acknowledge that these tools have 'freed' communication from spatial and temporal frames, and also emphasised the use of language as vehicular of meaning to achieve interlocutors' communicative goals.

This virtuality in communication does not hinder face-to-face interactions because it allows electronically simulated face-to-face conversations. In other words, communication technologies mediate video interactions. Skype, for instance, is one of the many platforms that allow electronic face-to-face interaction. Kappas and Krämer point out "[b]y means of [Skype] and a small webcam, as integrated in conventional PCs or laptops, one can conduct video-mediated conversations with people all over the world who use the same technology" (Kappas and Krämer 2011, p. 3). Furthermore, computer-mediated communication (CMC) does not only offer a platform for communication but also contributes to it. The ability to arrange online face-to-face conversations allows the nonverbal language to contribute to communication as it normally does in face-to-face communication. Moreover, the intercultural dimension is much emphasized because the CMC affordances contest the traditional known challenges, namely geographical locations and time zones. In other words, the cultural aspect could have its place through the inclusion of speakers from different linguacultural backgrounds.

Many research findings have proven the efficiency of online international partnerships in engaging students in collaborative projects and intercultural communication through the use of English and a few other languages (Guth et al. 2012; Kern 2015). Those partnerships target mainly L1 speakers and ignore the inclusion of other populations who could participate with their foreign languages. That is, the expert role is already assigned to the partners before even undertaking the exchange. As a result, this undervalues the abilities and competences of other partners and promotes the existing unbalances, especially those related to imperialistic powers.

Furthermore, research that has been undertaken on CMC focalizes mostly on the affordances of the online platforms while little has looked at the dynamics of learning and communication through those platforms (Liddicoat and Tudini 2013). For this, this paper aims at bringing into light how the affordances of CMC intertwine with the communicative dynamism to shape online communication. To achieve this, L1 and non-L1 speakers of English and French are paired and engaged in online video conversations. The asymmetries related to languages status, proficiency and/or deficiency will be scrutinized in the light of the sociocultural theory. The motives behind undertaking such a study are mainly to highlight the potential opportunities available for online exchanges outside the boundaries of L1 speakers in order to be more inclusive of foreign language(s) learners all over the world.

2. Study Design and Corpus

This study took place in an online setting where language learners, who have different linguacultural backgrounds, are involved in synchronous conversations. These intercultural conversations were held on Skype to allow more than two interactants, myself (the researcher) and two speakers, to be involved in synchronous audiovisual conversations. Ideally, the conversations took place twice a week, one in English and the second in French. There were eight culture-related topics:

1. How people introduce themselves
2. Family gatherings
3. Neighbours
4. Punctuality
5. Foreigners
6. Women
7. Elderly
8. Celebrations

At first glance, such a design can take our attention to the use of a task-based approach in language teaching and learning. It should be recognized that there exist synergies between computer/

technology-assisted language learning and a task-based approach (Thomas and Reinders 2010). In order to have a better understanding about the nature of this study, it is of great importance to bring into light the definition of 'task'. According to Ellis (2003),

> A task is a workplan that requires learners to process language pragmatically in order to achieve an outcome that can be evaluated in terms of whether the correct or appropriate propositional content has been conveyed. To this end, it requires them to give primary attention to meaning and to make use of their own linguistic resources, although the design of the task may predispose them to choose particular forms. A task is intended to result in language use that bears a resemblance, direct or indirect, to the way language is used in the real world. Like other language activities, a task can engage productive or receptive, and oral or written skills, and also various cognitive processes. (p. 16)

Undoubtedly, there are few overlaps between this study's design and Ellis' definition of task in the sense that these language(s) learners/users get involved in this study through the use of their linguistic resources and repertoires as well as inherited and co-constructed meanings. However, evaluation is neither planned nor intended. That is, the aim of this study is to tease out the (intercultural) communicative tendencies and strategies of language(s) learner/users, especially in instances of (intercultural) non- or misunderstandings. Moreover, it should be noted that all the guidelines provided prior to the conversation do contain a clear statement whereby the interactions are meant to be as natural as possible and any deviation from the pre-set topics would be accepted. The pre-set topics along with their guidelines work as stimuli and (ready-made) initiations for the interaction, and for the speakers to return to in case they run out of ideas and topics for discussion. To make it short, I can argue that this study has been inspired by a task-based approach but it does not conform to it.

During the interactions, the researcher's role is to start the call, give the guidelines about the topic of the conversation, and then close the conversation. The role I play then is to record, observe and take notes. When the two speakers express their readiness to start the conversation, the researcher turns off the mic and cam to avoid any interruption or interference (see Figure 1).
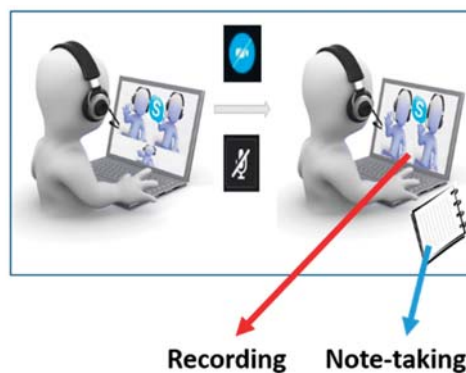
Figure 1. Data collection process (video-recording the conversations).

The pairs involved in the study are presented in Table 1. The latter informs about the linguistic and cultural backgrounds of both speakers in each pair.

After the transcription process, the conversations content was coded using NVivo. The excerpts below are taken from the code "learning opportunities". The extracts below are taken from English and French interactions of the pairs shown in Table 1. In order to make them eligible for the reader, the French extracts contain interlanguage translation with the glosses that correspond to the scope of this

paper. The incorporation of any language(s) other than the language of interaction is italicised, so that it can be distinguished.

Table 1. Participants' linguacultural backgrounds.

Pairs	Participants	Nationality	Country of Residence/Period of Stay	L1	L2/Age	FLs/Age
Pair 1	Tania	British	UK (England)	*English*	*French/11* German	N/A
	Elise	Belgian	UK/5months	*French*	*English/11*	N/A
Pair 2	Louisa	British	UK (England)	*English*	*French/10*	N/A
	Shayma	French	UK/5 months	*French*	N/A	*English/11* Beginner (German, Italian, Arabic and Russian)
Pair 3	Gracie	British	UK (England)	*English*	*French/11*	Spanish
	Sonia	Algerian	UK/1 year	Arabic	Tamazight	*French/8; English/*11; Spanish

Note: Italics denoted the languages under study.

3. Hesitating Novice and Provoked Expert

In this corpus, hesitation represents one communicative strategy through which the interactant expresses their incertitude about the correctness and/or appropriateness of linguistic items and forms, and also about their intelligibility. In most cases, the former use triggers a learning opportunity, which is the main focus of this paper. That is, the incertitude expressed by the speaker is often understood by the listener as a call for correction or confirmation. The interaction cannot move forward, at least in the same point, until this incertitude is faded away. Admittedly, because hesitation signals the speaker's "inability to move into action after making a decision (MacIntyre and Doucette 2010, p. 164), the contribution of the listener here is of great importance in making the speaker relaxed and reassured, and also in protecting the communication from any potential breakdown.

EXTRACT 1

1. Sonia:	yeah sure <EYEBROWS UP> erm my brothers never ask my mother or never tell us where they go and how they spend the day and with whom erm the parents or the mother generally is very au-tho-ri-ta-ry <SPELLING IT SLOWLY IN ENGLISH> like *autoritaire* <PRONUNCED IN FRENCH> authority <NOSE UP>
2. Gracie:	erm <HALF OF UPPER LIP UP> <LOOKING LEFT> authoritative
3. Sonia:	Authoritative <ASCENDING INTONATION>
4. Gracie:	yeah <SMILE>
5. Sonia:	on her daughter than her son

To give it a context, this extract is taken from an interactional event in an English conversation where Sonia and Gracie are discussing how social conventions dictate to females certain behaviours, and how parents in turn impose them in case daughters intentionally or unintentionally want to violate them. In turn 1, Sonia shows hesitation by articulating the word "authoritary" slowly, i.e., she almost gave a syllabification to the word. She appears not to be convinced about the correctness of the word when she browses her French repertoire to come up with *autoritaire*. The use of *autoritaire* here may have several indications. First, she is initiating a self-repair by using a shared repertoire between her and Gracie. By this, there is an uncertainty in that the word "authoritary" could have conveyed the target meaning. Second, "like *autoritaire*" may stand as a signal of linguistic weakness and a call for assistance or correction. According to both interpretations, because it is followed by "authoritative", a nonverbal

cue that indicates uncertainty, *autoritaire* has not functioned as a replacement of an equivalent English word but rather as a way to reach out the latter.

Sonia deploys hesitation followed by code-switching then hesitation. Those strategies signal the need of an expert to rescue a novice. That is, she categorises herself as a novice and provokes the role of expert to Gracie. In turn 2, after showing a slight hesitation, Gracie accepts to be an expert by correcting the token. After that, the novice role has not been abandoned. In other words, Sonia's next turn shows a need for another assistance. Repeating "authoritative" with a tone of uncertainty does indicate that she is taking a novice orientation, and emphasising the novice–expert dichotomy between her and Gracie. Likewise, Gracie does not resist or hesitate in answering Sonia's need that is correction. As a result, the interaction in this extract conforms to the self-initiated other-repair, as Schegloff et al. (1977) put it, which then ends by turn 5 when Sonia returns to completing her idea in turn 1.

Hesitations and code-switching are deployed to reflect an uncertainty attitude vis-à-vis the correctness of the linguistic token "authoritary". The uncertainty attitude creates an asymmetry regarding Sonia's use of English in this interaction, which makes her not only proclaiming a novice role but also the one managing the novice–expert orientations by taking one role and provoking another. In other words, the asymmetry is not intended nor negotiated with Gracie, yet triggered by a deficiency in Sonia's repertoire of English. The situation provokes Gracie to respond to Sonia's attitude by taking over the role of an expert. The process of being a hesitating novice and provoked expert produces a self-initiated other-repair that hinders any disruptions to achieving the speakers' communicative ends.

EXTRACT 2

1. Louisa:	elle parle <LOOKING DOWN> français <COUNTING IN FINGERS> allemagne et je pense qu'elle parle <EYES BARELY OPEN> <LOOKING LEFT> <EYEBROWS LOWERED> une langue scandinavi <HESITATING> scandinavi <ASCENDING INTONATION> <EYE CONTACT>
	(She speaks <LOOKING DOWN> French <COUNTING IN FINGERS> Germany and I think that she speaks <EYES BARELY OPEN> <LOOKING LEFT> <EYEBROWS LOWERED> a *scandinavi* language <HESITATING> *scandinavi* <ASCENDING INTONATION> <EYE CONTACT>)
2. Shayma:	*scandinave* <SMILE>
	(Scandinavian <SMILE>)
3. Louisa:	oui je sais pas si c'est-peut-être <LOOKING LEFT> *Norway* <HESITATING> <MOVING RIGHT HAND FIRST FINGER UP AND DOWN> *Norwegian* <ASCENDING INTONATION> <NOSE UP> <EYE CONTACT>
	(Yes I don't know whether it is-maybe <LOOKING LEFT> Norway <HESITATING> <MOVING RIGHT HAND FIRST FINGER UP AND DOWN> Norwegian <ASCENDING INTONATION> <NOSE UP> <EYE CONTACT>)
4. Shayma:	ah oui norvégien <LOOKING UP>
	(ah yes Norwegian <LOOKING UP>)
5. Louisa:	oui parce que je pense que <EYEBROWS LOWERED> que son père erm <LOOKING UP LEFT> il était erm <PRESSING EYES> [*Norwegian*]
	(yes because I think that <EYEBROWS LOWERED> that her father erm <LOOKING UP LEFT> he was erm <PRESSING EYES> [Norwegian])
6. Shayma:	[de] oui d'accord ahum
	([from] yes okey ahum)

This excerpt, which is taken from a French conversation, also shows how the novice role is taken while the expert is provoked. Louisa deploys some nonverbal cues (see turn 1 the cues between <>) and the token "scandinavi" to indicate the inability to find the right suffix or to form the word *scandinave*. To add, "scandinavi" could mirror how Louisa's English and French repertoires intermingle and cause such a confusion. The eye contact by which she ends her turn also serves as a signal to give away the floor to Shayma to complete the word or provide a correction. In this respect, eye contact represents a sharp edge as it distinguishes between the speaker and listener roles. Indeed, Shayma

takes a double role, speaker and expert. Each of the roles are fulfilled once a response to Louisa's need has been delivered. It is *scandinave* that indicates that Shayma has accepted being a speaker with expert orientation.

Turns 3 and 4 illustrate the same asymmetry expressed in the previous turns. However, Louisa in turn 3 utilises communicative tokens different from the ones used in turn 1. The inclusion of the English repertoire is much explicit. The use of code-switching by the inclusion of "Norway" and "Norwegian" reflects how the repertoire of English and French interconnect and interact. The way in which those items are uttered hold hesitation, a call for assistance, or more precisely for translation, and/or a confirmation for intelligibility. Shayma ignores the first call and only responds to the second. That is, she does only give the equivalent for the lastly uttered word, "Norwegian". Nonetheless, this does not deprive her from the expert role. Similarly to turn 3, turn 5 starts by *oui*, a confirmation from Louisa that Shayma's response is the one needed.

The sequence above is made up of two self-initiated other-repairs. In the two cases where Louisa signals a problem through first hesitation, then hesitation and code-switching, there is a repair offered, and hence the problem resolved. Although the dynamics of this repair differ from that in extract 1, the deployed strategies and how the expert–novice dichotomy has been invoked remain alike. In sum, extracts 1 and 2 show how the novice is an unescapable situational role while the expert is an interactionally-responsive and provoked role.

4. Implied Expert–Novice Orientations

The asymmetry may sometimes be indirect without any mechanisms, strategies, or machinery. In this situation, the expert–novice orientations emerge implicitly without being preceded or followed by any signals. In some cases, like the one illustrated below, not all speakers should cooperate or be incorporated, though they are implicitly involved.

EXTRACT 3

1. Louisa:	\<LAUGHTER> oui oui et tu as beaucoup de faire avant d'aller en Italie erm (\<LAUGHTER> yes yes you have a lot to do before you go to Italy erm)
2. Shayma:	oui (yeah)
3. Louisa:	tu as beaucoup de faire oui (you have a lot to do yeah)
4. Shayma:	oui parce que je reste une semaine puis je pars en séjour et j'ai plein de trucs à faire (yes because I stay one week then I go on holiday and I have many things to do)
5. Louisa:	tu as des choses à faire avec tes amis (you have things to do with your friends)
6. Shayma	ah oui j'aimerais bien les voir [. . .] (ah yes I would really love to see them [. . .])

Even though there is no potential nonunderstanding, misunderstanding, unintelligibility or any other risk for communication breakdown, novice–expert orientations still take place in extract 3, an interactional event in a French conversation. In Louisa's two first turns, there is a repetition of the sentence *tu as beaucoup de faire* ("you have a lot to do"). The repetition might be used to encourage Shayma to give further information about her readiness for her trip to Italy, or to seek feedback on the correctness of this phrase. Shayma's utterance, turn 4, takes a clarifying account without referring to nor correcting Louisa's sentence. Instead, she inserts *j'ai plein de trucs à faire* to emphasise how she is pressed for time.

On the other hand and according to Louisa's turn 5, the novice and expert roles are still allocated to Louisa–Shayma respectively. If we are to compare the syntactic structures of Louisa's sentence in turns 1 and 3 with the one in turn 5, the differences would be dismissing the phrase (Adj+Preposition)

beaucoup de, introducing the plural noun *choses* preceded by a plural indefinite article *des*, and adding the preposition *à*.

Louisa's adaptation of Shayma's sentence *j'ai plein de trucs à faire* to *tu as des choses à faire* idealises Shayma's use of French. That is, the identity of Shayma as a L1 speaker is highlighted by being a model whose use of the language, French in this case, should be imitated.

The change conducted on Louisa's sentence (Table 2) assigns to her a novice orientation while conceiving Shayma as a model attributes to the latter an expert orientation. It appears that Louisa chooses such an implicit division of roles based on the fact that Shayma is a L1 speaker of French. Perceiving L1 speakers as a model implies giving them the status of an expert and considering non-L1s as novices. This operation, including the change or adaptation of form, does not have an apparent linguistic or didactic orientation. None of the turns in extract 3 hold signals to any linguistic weakness or to seeking assistance and correction. Moreover, even after Louisa's adjustment, no one has given comment on the linguistic form. Instead, the conversation goes on (see turn 6) focusing on the messages' content rather than form, i.e., grammatical accuracy and correctness.

Table 2. Form/syntactic adaptation.

Turns 1 & 3	beaucoup	de	faire
Turn 4	plein	de trucs	à faire
Turn 5		des choses	à faire

In extracts 1 and 2, the L1Ss accept to take up the role of expert. As mentioned above, their responses to the hesitating novice show their acceptance to be identified as experts. On the other hand, as shown in extract 3, the expert role can be implied instead of being triggered. Besides, the novice is implicitly embraced. With no strategy indicating the need for linguistic assistance or correction, the novice, Louisa, here deploys an aspirational learner role. Despite that the interaction is not explicitly shaped to take the form of a learning environment, she ends up adjusting her utterance through imitating Shayma's use without interrupting the interaction flow or giving it a mere didactic orientation.

5. Assigned Expert–Novice Roles

L1 speakers may cherish idealisation, which can be unveiled through explicit and direct communicative practices and strategies. In most of the cases, this idealisation is performed when a non-L1 interacts as a novice learner. In this context, this novice generally gives up the language user role and identifies as a language learner. Ideally, the learner addresses the L1 speaker as a language teacher instead of a language user.

EXTRACT 4

1. Tania:	right yeah so how're your family gatherings
2. Elise:	how do you spell gatherings I don't know
3. Tania:	erm yeah erm [<TYPING ON SKYPE>]
4. Elise:	[it's like gatherings the order or]
5. Tania:	it's like
6.	<TEXT MESSAGE SENT BY TANIA RECEIVED BY ELISE>
7. Elise:	<GETTING CLOSER TO SCREEN & LOOKING DOWN TO READ THE MESSAGE> oh I've never heard of this word before <LAUGHTER>
8. Tania:	it's like special occasions like Christmas or birthdays or <DESCENDING INTONATION>
9. Elise:	ok <LAUGHTER> I've never heard of this word before so
10. Tania:	yeah <HEAD NOD> <SMILE>
11. Elise:	in my family each Sunday <SHORT PAUSE>

Extract 4 is taken from an English conversation. In turn 2, Elise identifies herself as a novice through a direct question querying the spelling of the linguistic token "gatherings" and a statement to highlight a lack of knowledge "I don't know". Tania hesitates on how to answer Elise then decides to send her the word in a text message on Skype. After receiving it, Elise asserts that the word has not been introduced to her English repertoire. This has led Tania to give examples where gatherings usually take place. In spite of this, Elise re-asserts that the word is new. This process is very straightforward and smooth. On one hand, Elise does not show any hesitation to express her novice-ness. Tania, on the other hand, takes up the expert role assigned to her.

EXTRACT 5

1. Tania:	mais la ville e::h était très belle et erm très veille /vɛj/
	(But the city e::h was very beautiful and erm very eve)
2. Elise:	<EYES BARELY OPEN> veille <ASCENDING INTONATION> vert /vɛ_R/
	<EYES BARELY OPEN> eve <DESCENDING INTONATION> green
3. Tania:	une veille *or like* vieux /vjɸ/
	(an eve or like old-MAS)
4. Elise:	eh ok vieux
	(eh ok old)
5. Tania:	vieux on dirait la ville était
	(old we would say the city was)
6. Elise:	la ville est vieille /vjɛj/
	(the city is old-FEM)
7. Tania	vieille oui la ville était vieille n'est pas moderne [. . .]
	(old-FEM yes the city was old-FEM was not modern [. . .])

In extract 5, emerged in a French interaction, the mispronunciation of the word *vielle*/vjɛj/ in turn 1 causes a nonunderstanding signaled in turn 2, which alters the interaction nature being narrative (Tania talking about her trip to a Belgian city) into a didactic nature focusing on the meaning, correctness, and appropriateness of the use of *veille*, which literally means eve. The adjustments that Tania made are *vieux*, a masculine adjective, and "old", the equivalent in English. These linguistic tokens are retrieved from the French and English repertoires respectively, and share the same meaning. As a result, this forms a four-turn other-initiated self-repair, that is signaled by Elise and repaired by Tania.

As the interaction goes on, Tania does not seem to get the assistance she aimed for when she provided the masculine form of the adjective. The incompatibility between the gender of *vieux* and *ville* leads to violating adjective–noun agreement, which she clearly wants to avoid in turn 5. Tania's strategy to do so consists of incorporating Elise in a sentence completion task. The only item that the sentence lacks is the adjective *veille*. Although turns 1 to 4 clearly show that Tania is taking the role of a novice who is looking for the correct feminine from of the adjective *vieux*, the task given to Elise may indicate that the roles are reversed. To explain, the task takes a form of scaffolding through which teachers mediate their students to encourage them to find the right answer(s).

Consequently, Tania is adopting an expert practice in order to stimulate the 'real' expert to finalise the other-initiated (turn 2) other-repair (turn 6). In the end, one can argue that Tania's strategies are deemed to be successful, especially since she adequately triggered two repairs. The first repair (turns 1 to 4) that is other-initiated self-repair contributes to the construction of the other-initiated other-repair. In addition, the process of claiming a novice identity and uptaking the expert runs smoothly from one turn to another without causing miscommunication.

What is common between extract 4 and 5 is that the asymmetry has been distributed in a systematic way. That is, the non-L1 speaker of either of the languages, French and English, assigns to herself a novice identity by which she shows lack of linguistic knowledge. By this, the L1 performs a complementary role, yet may be also seen superior to that of a novice. Being the more knowledgeable,

language-wise, assigns to her the expert role. Those roles imply unequal transformation of the roles of languages' users; one becomes the 'imperfect' whereas the other becomes the model.

6. The Outsider Expert

The imperfect-model may be contested when speakers perceive themselves as equal contributors to the interaction and users of language(s). Any difficulty, weakness, confusion, or uncertainty can be addressed to someone and/or 'something' not involved in the interaction, an outsider, instead of the expert 'by default'.

EXTRACT 6

1.	Elise:	and lot of cities organise a *parade* <PRONOUNCED IN FRENCH> <WHISPERING> <HESITATION>
2.	Tania:	here in Southampton or in Birmingham
3.	Elise:	I'm just looking for the word in English <SEARCHING ON WEB> because I don't know the word <LAUGHTER>
4.	Tania:	a parade
5.	Elise:	yup a parade

In turn 1, Elise makes use of her French repertoire to find the word "parade". Although uttered in French, it did not cause any confusion for Tania as turn 2 shows. Despite that, Elise prefers to look up the equivalent in English. This does not allow the conversation to carry on in its intended direction because being immersed in the online dictionary results in not being able to give an answer to Tania's query. Turn 3 pushes Tania to use her 'default' identity, and thus provide the searched token. Afterwards, Elise confirms Tania's answer as it apparently matches the one given by the dictionary.

According to Elise's practice of forwarding her query to the online dictionary, the latter here is undoubtedly the expert while both speakers, Tania and Elise, are novices. However, Tania challenges and also negotiates this distribution of role by spontaneously performing her 'default' identity of expert. To add, another negotiation takes place in turn 5. The act of confirming the answer of Tania does categorise Tania as a novice, or an expert with an inferior position in the presence of the online dictionary. The whole interaction illustrated in extract 6 portrays how the affordances of communication technologies may lead to rejecting the ideology of idealising L1 speakers. That is, and in this particular situation, the online dictionary plays the role of a mediator that facilitates the novice's learning of a 'new' linguistic token.

EXTRACT 7

1.	Elise:	non t'as raison <LOOKING DOWN ON HER PHONE> en traduisant sur mon dictionnaire le mot gêne veut dire *I try* <LAUGHTER> *awkwardness*
		No you're right <LOOKING DOWN ON HER PHONE> when translating in my dictionary the word awkwardness means I try <LAUGHTER> *awkwardness*
2.		<SHORT PAUSE>
3.	Elise:	[*awkWardness a w k w a r d* <SPELLING>]
4.	Tania:	[<GETTING CLOSER TO SCREEN>] *awkwardness*
5.	Elise:	*yes*

In extract 7, Elise is trying to accommodate Tania's communicative needs by explaining the French word *gêne* through English, Tania's L1. Given that this interaction is in French and her linguacultural background (Table 1), Elise is being the expert here; the one who knows the meaning of *gene*. However, "I try" in turn 1 does show that the dictionary has a superior expert position. Moreover, switching to English and not being able to pronounce "awkwardness" have promoted Tania's position from novice to an in-between position, i.e., neither a mere novice nor a mere expert. In a way, her position alternates as the language changes. Nevertheless, the alternation does deprive the dictionary from being an 'outside' expert.

EXTRACT 8

1. Gracie:	comment est-ce qu'on dira ça *like a chain chain*
	(how to say this like a chain chain)
2. Sonia:	une série
	(a series)
3. Gracie:	comment <GETTING CLOSER TO SCREEN>
	(how <GETTING CLOSER TO SCREEN>)
4. Sonia:	une série
	(a series)
5. Gracie:	<EYEBROWS LOWERED> mais est-ce qu'on peut dire <RIGHT EYE BARELY OPEN> ça pour les *shop*-magasins qui sont <MOVING PALMS IN PARALLEL POSITION ALTERNATIVELY>
	(<EYEBROWS LOWERED> but can we say <RIGHT EYE BARELY OPEN> this to the shop-shops that are <MOVING PALMS IN PARALLEL POSITION ALTERNATIVELY>)
6. Sonia:	oui <HEAD NOD> <EYEBROWS UP>
	(yes <HEAD NOD> <EYEBROWS UP>)
7. Gracie:	aussi les séries <EYEBROWS UP> <EYES WIDELY OPEN>
	(also the series <EYEBROWS UP> <EYES WIDELY OPEN>)
8. Sonia:	oui
	(yes)
9. Gracie:	ah ok je savais pas erm <LOOKING RIGHT>
	(ah ok I did know erm <LOOKING RIGHT>)
. . .	
10. Sonia:	erm à propos de *chain* on peut dire aussi chaine de magasins
	(erm concerning chain we can also say chain of shops)
11. Gracie:	chaine merci <SMILE>
	(chain thank you <SMILE>)
12. Sonia:	de rien
	(not at all)

The first four turns are similar to extracts 4 and 5. In this event extracted from a French interaction, Gracie plays the role of novice and Sonia the role of Expert. The following turns, especially turns 5 and 7, create a sense of doubt vis-à-vis the appropriateness of the use of *séries* for shops. This doubt affects Sonia's confidence, and also signals the need to negotiate or repair the meaning of *chain*. Sonia's response in turn 6 is firmer than that in turn 8. That is, in turn 6, she accompanies her verbal affirmation with the nonverbal cues, namely nodding her head and raising up her eyebrows. In turn 8, however, this affirmation was not endorsed by any nonverbal signal. After a few turns, Sonia goes back to translating the word chain through an online dictionary. At last, she makes up her answer and adopts the one provided in the dictionary. In such a case, she gives up her assigned expert role to the dictionary. This process of repair ends by Gracie appraising Sonia's effort to finding the French equivalent to *chain*. By going through the process of trigger, signal, response, then reaction, this interactional event mirrors a meaning negotiation instance (Doughty 2000; Nakahama et al. 2001).

The gender of the word *offre* creates confusion for Sonia, the 'default' expert in this French interaction. Gracie, who is the novice, expresses her relief in that even the expert could get confused and commit mistakes like her (turn 4). Sonia asserts in turn 3 and 5 that nouns' genders have always been a problem for her. This declaration then leads Gracie to think of another expert to interfere in the interaction and resolve the problem. She hence suggests Anna, the researcher. At the same time, Sonia chooses the assistance of the online dictionary to finally find out that the word *offre* is feminine and should be preceded by a feminine indefinite article *une*.

Gracie's first reaction to Sonia's confusion indicates that she perceives her as a model. The idealisation attributed to Sonia has been declined, yet transmitted to the researcher. According to Gracie, the researcher enjoys an expert position higher than that of her peer, Sonia. The latter, on the other hand and as being the expert in this interaction, considers the online dictionary as a legitimate alternative.

EXTRACT 9

1. Sonia:	[. . .] c'était un mais je sais pas si c'est un offre ou une offre <LOOKING UP>	
	([. . .] it was a-MAS but I do not know whether it is an-MAS offer or an-FEM offer <LOOKING UP>)	
2. Gracie:	<LAUGHTER>	
3. Sonia:	c'est toujours un problème entre un et une <LOOKING AROUND> <EYEBROWS LOWERED>	
	(it has always been a problem between an-MAS and an-FEM <LOOKING AROUND> <EYEBROWS LOWERED>)	
4. Gracie:	ça me fait sentir très <RIGHT HAND ON CHEST> je suis très contente quand tu fais des erreurs comme moi	
	(this makes me feel very <RIGHT HAND ON CHEST> I'm very happy when you make errors like me)	
5. Sonia:	oui c'est toujours un problème	
	(yes it's always a problem)	
6. Gracie:	oui c'est difficile <LAUGHTER>	
	(yes it's difficult)	
7. Sonia:	<SEARCHING ON WEB> ah c'est une <SHORT PAUSE>	
	(<SEARCHING ON WEB> ah it is an-FEM <SHORT PAUSE>)	
8. Gracie:	je croix Ann nous écrit si c'est un ou une <LAUGHTER>	
	I think Ann writes to us whether it is an-MAS or an-FEM <LAUGHTER>)	
9. Sonia:	<LAUGHTER> apparemment c'est un offre-une offre	
	(<LAUGHTER> apparently it is an-MAS offer-an-FEM offer)	
10. Gracie:	c'est un ou	
	(it is an-MAS or)	
11. Sonia:	une offre	
	(an-FEM offer)	
12. Gracie:	une offre très bien donc tu as ton offre	
	(an-FEM offer very good so you have your offer)	
13. Sonia:	oui en fait c'était une offre conditionnelle [. . .]	
	(yes in fact it was a-FEM conditional-FEM offer)	

7. Discussion and Conclusions

The online video interactions presented above provide many uses of the novice–expert asymmetry within the dyad. The several uses of the novice–expert dichotomy and the shifts in these roles and identities hold a great indication to the non-fixedness of the roles. This in turn contests the fixedness attributed to the presumptions and perceptions in regards to the roles assigned L1-nonL1, also labelled as "NS-NNS". The fixedness related to those dichotomies lies in considering the non-L1 as an imperfect user, or eternal learner of the language, whereas the L1 as an idealized user. This controversial view claims that the latter always represents a model for the former. That is, the learner or the novice should dedicate every effort in their learning process for the purpose of reaching the L1, i.e., the expert, use of the language. As Hua (2016) put it, the learner is thus regarded as "an unfinished product".

Admittedly, the interactants have brought into these interactions the expert–novice identities. Bakhtin's heteroglossia explicates how the language users shift to learner–teacher roles. The non-L1 interlocutors translate the EFL inherited "unfinished product" into assigning themselves novices' roles. Similarly, L1 speakers are given the idealized status of language users, i.e., the model of the "unfinished product". However, the aforementioned negotiations and shifts in assigning and accepting these identities go in line with the sociocultural approaches that "deemphasize the stability of systems and the presumptions of consistency across contexts, time periods, individuals, and communities including predefined characteristics such as 'expert' and 'novice'" (Thorne and Hellermann 2015, p. 320). Unlike the findings of Liddicoat and Tudini (2013), it is less common in this study that the L1 speaker claims the 'default' expert identity. Rather, it is more common the novice who triggers this

identity through seeking assistance. The dyads show great awareness regarding the non-fixedness of those roles. That is, they are negotiated, claimed, accepted, or denied.

Furthermore, this asymmetry, whether assigned, provoked, imposed, negotiated, or denied, does not hinder creating learning opportunities that emerge as ultimate interactional outcomes. In other words, in all the extract discussed above, at least a member of the dyad ends up acquiring a new information, grammatical form and/or a linguistic item. It can then be argued that these online video conversations do contribute to the speakers' zone of proximate development (Vygotsky 1978). This mechanism acknowledges that the learner needs an expert who teaches or guides them to acquire/learn a certain amount of sociocultural knowledge by which they can partially or totally interact independently, i.e., they develop from learners to experts. In the context of this study, the less knowledgeable, the novice, does rely whether on the peer or the internet affordances to overcome the weakness and acquire new knowledge. To put it differently, this process contributes to the construction of what Bourdieu refers to as linguistic capital (Bourdieu 1992). The participants' linguacultures or languages proficiency and status do contribute, but not hinder, to the deployment of expert–novice identities in order to achieve the learning opportunity, repair or meaning negotiation. Importantly, the multilingual repertoires of the participants enrich their interactions and encourage understanding and the success in attaining the speakers' communicative purposes. At last, and given that they are treated as situational and non-fixed, being novice or expert does not create any kind of sensitivity, inferior or superior attitudes.

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Maintaining Quality Online: Piloting an Online Language Course for Immigrants in Finland

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Abstract: Finland's educational system has aroused the interest of educational researchers worldwide. Teaching and learning with information and communication technologies (ICT) is one of the major methodologies in the present Finnish educational discourse. Feedback and assessment are questions of course design in online learning. This paper discusses and illustrates how to plan an online course for a higher education preparatory program in Finland by using digital methods with a focus on maintaining quality in the processes of feedback and evaluation. This paper also introduces and reflects recently published quality criteria that are recommended to be used in the design of online courses.

Keywords: higher education; preparatory education; immigrant; quality; feedback

1. Introduction

This article examines the processes of feedback and assessment in online language courses in higher education institutions (HEI). While online learning gathers bigger groups, teachers and institutions are forced to pay attention to the effectiveness and quality of the processes of evaluation and feedback since they have a significant impact on learning. A course should be structured so that it allows the students and teachers to reflect on their performance and to compare it with the set goals and to utilize the feedback they receive during the course.

This article discusses how to maintain quality in the processes of feedback and assessment in online language courses. The discussion is a part of the Finnish project "Getting ready—A higher education preparatory program for immigrants" which aims to develop the national recommendations for online training courses for immigrants who wish to apply to study in higher education institutions. The project group has drawn up a proposal for the preparatory program qualifications, and the first implementation of the piloting preparatory course starts in April 2019.

The article also introduces the Finnish education system and the reasons why Finland's educational system has aroused the interest of educational researchers worldwide. Teaching and learning with information and communication technologies (ICT) is one of the major methodologies in the present Finnish educational discourse. At the moment, Finnish HEIs are competing in many fields, and teaching and learning technologies are often mentioned in the institutions' profiles. Due to geographical reasons, our institution, the South-Eastern Finland University of Applied Sciences (later Xamk), has developed into one of the leading HEIs for online teaching in Finland.

The concepts of quality and feedback in higher education (particularly quality) are defined from the viewpoint of online learning. This brief theoretical background is reflected in relation to the recent quality criteria for online implementations which were published for Finnish HEIs and other educational institutions in order to build high quality online courses.

Finally, the article presents our ongoing work in the project "Getting ready—A higher education preparatory program for immigrants". We study some learning principles and quality criteria that should be taken into account when creating online implementations. Our article is not a traditional research article. Instead, we would like to open discussion on the efficiency and future development of the selected principles.

2. Online Learning in Finland

The term online learning is used interchangeably with several terms, like e-learning, digital learning, virtual learning, cyberlearning, or even distance learning in specific contexts. Network and communication technologies provide language learning solutions for delivering instructions to learners in remote locations. Online learning means that the learning process is instructed via computer networks. This provides opportunities to reach people in distant geographical locations, as well as globally. (Lim et al. 2007)

Lim et al. (2007) bring together several studies in order to compare instructional outcomes and learner satisfaction in online learning processes. Several studies (e.g., Otte and Benke 2006; Pardere 2012) suggest that online learning can offer more beneficial and flexible learning modes compared to traditional face-to-face mode. However, there are also certain obstacles which can endanger adequate learning results (see e.g., Fontaine 2002; Oh and Lim 2005; Hong and Samimy 2010). In order to achieve sufficient results in online learning, a learner is expected to be motivated and active and have a good command of learning skills. The learning outcomes are better and the development is deeper if a learner has strong engagement and self-motivation for the online learning process. A sense of belonging and a community have influence on learner satisfaction and learning effectiveness. Since online learning processes lack genuine face-to-face interaction between a teacher and a learner, it is important to create a sense of presence and a feeling of immediacy when using the resources of communication technologies. However, according to Lim et al. (2007), no significant differences were found in learning outcomes between online and blended delivery methods.

Pardere (2019) presents varying definitions for the term Blended Learning (BL). BL refers to the blend of traditional face-to-face teaching environment and online learning environment together with ICT-mediated teaching or computer-assisted learning (CAL). The term blended learning has been used synonymously with hybrid learning, hybrid instruction, mixed mode learning and technology-mediated learning or technology enhanced learning (Wang et al. 2015). In the context of Finnish education, BL often occurs when using the flipped classroom method.

In BL courses, online and other modalities are used side by side and are connected (Staker and Horn 2012). According to Wang et al. (2015), BL is a very complex system which consists of six separate but interacting subsystems: the learner, the teacher, the technology, the content, the learning support, and the institution. In the case of language studies, we may give a definition that BL combines computer-assisted language learning (CALL) technologies and face-to-face interaction. L2 education can be used to support efficient learning. BL can be beneficial, e.g., in promoting learners' motivation and empowering learner autonomy, but L2 researchers are not convinced that BL implementations always accomplish the intended benefits (Hong and Samimy 2010; Pardere 2012).

This article focuses on the Finnish preparatory online program for immigrants, and in this program, the courses are not implemented with BL methods, only the CALL mode (i.e., web-based teleconferencing and online instruction via web-based learning environments/platforms) is used, but the core of the problem is the same: We are trying to support the learners' motivation and empowered attitude, but the teacher can't be sure whether the learner reaches the intended outcomes. In online courses, the lack of real face-to-face interaction may blur the teacher's ability to observe the learner's actual level of competence and attitude. Hong and Samimy (2010) study shows that the learners' attitudes towards CALL are influenced by the learners' general computer skills, daily hours of internet use or daily hours of L2 studies on the internet, gender, age and prior language learning experiences. A positive attitude creates positive learning results and positive results improve attitudes.

   With a population of 5.5 million and an area of 338,440 square kilometers, the population density in Finland is quite low, being 18.1 inhabitants per km^2. About 25% of the population lives in the Helsinki metropolitan area. (Figure 1).

Figure 1. Facts about Finland (This is Finland 2018).

   This geographical scattering, as well as the low population density, certainly has a major effect on the increasing use of online learning. Educational institutions are located in bigger towns and, in order to make it possible for more people to participate in education, versatile ways to implement online learning have been developed. Online learning possibilities also enable diverse combinations of work and study. Online learning can improve the motivation of students because studying can be self-paced. In other words, you can learn where and whenever you want. However, online learning demands a higher degree of autonomy, self-discipline and organizational skills. Neumeier (2005) found out that, in order to support the participation rate of the students, the course should be clearly structured, in relation to, for example, the sequencing and methodological choices. According to Official Statistics of Finland (OSF 2018a), 98% of the population aged 16–64 use the Internet and 90% use the Internet many times a day.

   Due to obtaining very good PISA results at the beginning of the 21st century, Finland and its education system have been a point of interest among the actors working in the field of education worldwide. PISA stands for the Programme for International Student Assessment, which administers the testing of 15-year-old students all over the world in key school subjects (OECD 2018a). The program was established by the Organisation for Economic Co-operation and Development (OECD). Burg (2018) highlights some differences between Finland and the USA in relation to education and circumstances affecting the learning abilities of children. Two themes that undoubtedly have an impact on the realization of learning are the number of children living in poverty (Finland 5.3% and US 33%) and the number of non-native language speakers (Finland 10% and US 20%) (Burg 2018). Education in Finland is free at all levels of education. Thus, studying is possible in all phases of life and lifelong learning has been an important principle for decades.

   In Finland, there are two types of higher education institutions: universities and universities of applied sciences (also known as Vocational Universities or Polytechnic Universities). The Ministry of

Education and Culture steers and finances the activities and promotes the quality of higher education institutions. In order to develop the quality of education, the Ministry has listed several themes to be considered, e.g., teaching methods, learning environments, competence of teachers, digitalization, cooperation between institutions, flexibility in studies and recognition of prior learning. One important target is to identify the competence and educational needs of immigrants and to improve their chances of getting into the labor market. (Ministry of Education and Culture 2018).

A process to build a vision for the Finnish higher education and research in 2030 has been ongoing for one year. The target of the process is to create a future scenario for developing the Finnish higher education system. According to this vision, "flexible and personalized study paths and degrees will enable lifelong learning in different life situations. Digitalization and openness will renew teaching, learning, research and innovation activities as well as higher education institutions and will open up new channels for effectiveness." (Ministry of Education and Culture 2017).

The affiliation of the authors of this article is South-Eastern Finland University of Applied Sciences (Xamk). Xamk is the 5th largest university of applied sciences in Finland and it operates in four towns: Kotka, Kouvola, Mikkeli and Savonlinna. The distance between the farthest campuses (Kotka and Savonlinna) is 260 km (Figure 2).
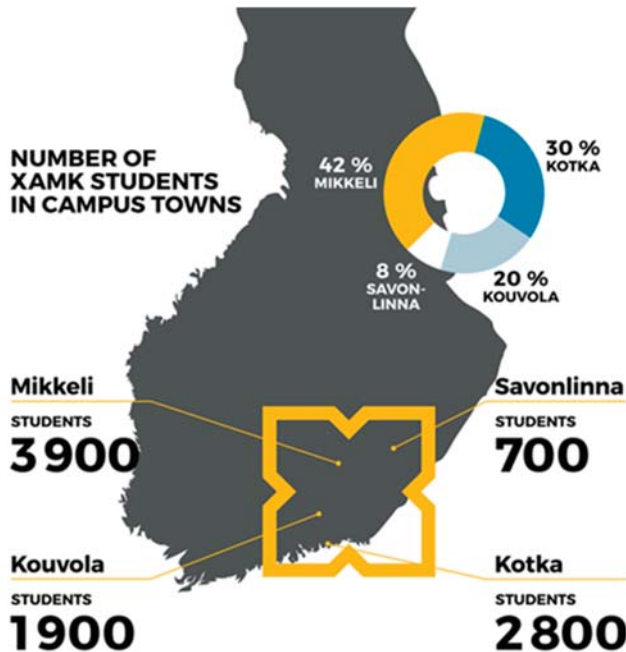
Figure 2. South-Eastern Finland University of Applied Sciences, an organization with geographical challenges (Xamk 2018).

The vision of Xamk includes similar themes and targets to those of the national vision (see Ministry of Education and Culture 2017). The Strategy 2018–2030 focuses on the following themes: education and research that are independent of time and place, identification of future professions and developing the education accordingly, development of digital learning environments and new technological means of teaching, individual learning paths and international competence of students and staff. (Strategia 2018–2030 2017).

3. Preparatory Studies for Immigrants

Finnish HEIs are responsible for organizing preparatory courses for immigrants in higher education (Act of Polytechnics 14.11.2014/932 2014, § 10). These courses should be targeted at persons who come from an immigrant background and who benefit from the development of learning abilities and language skills. However, the supply of preparatory courses, application processes, content and scope vary from one institution to another (Lepola 2017).

3.1. National Project to Standardize Preparatory Studies

The project "Getting ready—A higher education preparatory program for immigrants" (2018–2019) develops education by preparing national recommendations for preparatory studies. The project develops the regional implementations of preparatory courses, operated by HEIs all over the country. However, the main focus is on the joint online implementations in which a versatile selection of digital methods is used. (Getting Ready 2017).

The project is coordinated by Metropolia, which is the biggest University of Applied Sciences in Finland and operates in the Helsinki region. However, the project work reaches all over Finland since there are altogether nine Finnish HEIs and nearly 30 specialists working for the project. (Getting Ready 2017; Metropolia 2017). Both authors are experienced language teachers and they are also used to teaching online: Sirpa Juusola is a Senior Lecturer in the English and German languages, and in this project her responsibility is to participate in planning, creating and teaching English courses called "English for Health Care and Social Services" and "English for Higher Education Studies". Juusola also operates as a tutor and teacher of one student group. Miia Karttunen is a Senior Lecturer in the Finnish language (L1 and L2) and Communication. Karttunen participates in the planning and implementation of Finnish courses "Business and Finnish as a Second Language" and "Higher Education Studies and Finnish as a Second Language". (Figure 3).

The project is funded by the Ministry of Education and Culture. The funder expects that the project will be able to create common recommendations and practices. The project is based on social and demographic demands: Finland is a country with a decreasing population. The proportion of working-age people is continuously decreasing (OSF 2018b). Of course, there is a growing number of immigrants in Finland (OSF 2017; Honko and Mustonen 2018) but finding a job in Finland is not easy without proper skills in the Finnish language or other skills needed to study efficiently.

The aim of the current project is to increase the ability of immigrant people to enter higher education and, after that, working life. Ministry of Education and Culture (2018) states in their policy and development in higher education and science: "The higher education institutions exercise foresight and help regenerate society, culture and working life and make sure the required highly educate workforce is available." Higher education should be equally available for all, but—perhaps surprisingly—unequal opportunities for education is a growing problem in OECD countries (OECD 2018b). The preparatory program is one step towards increasing the empowerment of immigrants by giving them tools for getting on career paths through higher education.

VALME19	Higher education preparatory program for immigrants
VALME19-1000	**Common studies**
VA00DM59	Introduction to preparatory program and higher education studies
VALME19-1001	**Field specific studies Select N credits**
VALME19-1002	**Health care and social services (all chosen)**
VA00DM60	Health care and social services and Finnish as a second language 1 (B1)
VA00DM61	Health care and social services and Finnish as a second language 2 (B1)
VA00DM62	Health care and social services and Finnish as a second language 3 (B2)
VA00DM63	Introduction to mathematics in health care and social services
VA00DM64	English for health care and social services
VALME19-1003	**Business administration (all chosen)**
VA00DM67	Business and Finnish as a second language 1 (B1)
VA00DM68	Business and Finnish as a second language 2 (B1)
VA00DM69	Business and Finnish as a second language 3 (B2)
VA00DM66	Introduction to mathematics in business
VA00DM65	English for business studies
VALME19-1004	**Engineering (all chosen)**
VA00DM70	Engineering and Finnish as a second language 1 (B1)
VA00DM71	Engineering and Finnish as a second language 2 (B1)
VA00DM72	Engineering and Finnish as a second language 3 (B2)
VA00DM73	Introduction to mathematics in engineering
VA00DM74	English for engineering studies
VALME19-1005	**Other academic fields of study (all chosen)**
VA00DM75	Higher education studies and Finnish as a second language 1 (B1)
VA00DM76	Higher education studies and Finnish as a second language 2 (B1)
VA00DM77	Higher education studies and Finnish as a second language 3 (B2)
VA00DM78	Introduction to mathematics
VA00DM79	English for higher education studies

Figure 3. The study plan for the higher education preparatory program for immigrants (Xamk 2018).

3.2. Content and Schedule of the Program

Several studies (see Paakkinen 2016; Nieminen 2015) have suggested that language skills are essential when a person wants to enter the Finnish higher education system or a specialist-level occupation. English is widely spoken in Finland, but it is common that fluent Finnish skills (CERF level B2 or better; CERF refers to Common European Framework of Reference for Languages 2001, published by Council of Europe) are required as well. For that reason, Finnish language courses play a major role in the preparatory program. Finnish studies are intertwined with studies from three different professional fields (Health Care and Social Services, Business Studies, Engineering). There is also a fourth option for general higher education studies, without a professional specialization. In addition, the preparatory program offers courses in English, mathematics and common learning skills for higher education studies, including digital skills. As Figure 3 shows, there is a great variety of courses but only the first course, "Introduction to Preparatory Program and Higher Education Studies" is compulsory for all students in the preparatory program.

The other courses should be selected according to the professional field. Each student has a study plan which consists of six courses. The extent of each course is 5 ECTS (European Credit Transfer and Accumulation System), and the whole program is 30 ECTS which means full-day studies for six months. All courses will be conducted digitally, and students are able to join the studies online

from anywhere. Only the orientation day is planned to take place in Helsinki at the beginning of the studies. After meeting in Helsinki at the beginning of April, the students, teachers, tutors and student counsellors meet online.

The project "Getting ready—A higher education preparatory program for immigrants" started at the end of 2017. During 2018, we have been studying the needs and possibilities for the preparatory program, developing the national recommendations and preparing the study and implementation plans, getting to know different digital tools, online pedagogy and approaches for online tutoring. Above all, the cooperation between language specialists from different HEIs has deepened enormously. The partially digital entrance tests were organized at the beginning of February 2019. The first online implementation runs from April 2019 to September 2019, and the results of the project will be evaluated and reported for the Ministry by December 2019.

4. Feedback Creating Quality

Quality is a concept with many meanings. It is difficult to give an exact and universal definition of it. Fortunately, quality in higher education is a concept which has drawn attention in recent years. For example, the European Association of Institutions in Higher Educations EURASHE organizes conferences and publishes reports frequently (Bollaert 2014).

Finnish HEIs are committed to quality work. For example, in our home organization Xamk, each member of the community is responsible for the development of his/her own activities and the quality culture arises from individual and collective development. Maintaining quality demands systematic work in data collecting, information sharing, clarifying responsibilities, standardizing practices, spreading good practices and ensuring transparency, reliability and confidentiality. These quality processes extend through the whole organization, management, research staff, teachers and students. (Quality Management at Xamk 2018).

Xamk's quality does not grow or stay without continuous development work. This ongoing and never-ending development can be simplified with the help of Deming's PDCA cycle which is a continuous quality improvement model: the cycle starts from planning (P), continues with doing (D), checking (C) the results and acting (A) for the improvement based on the previous steps. After this, the Deming's cycle starts again from the beginning. This model is widely used in the quality processes of HEIs. (Moen and Norman 2010). When planning and piloting a course, the Deming's cycle helps the teacher to maintain quality by following the steps:

- Plan the course
- Pilot the course
- Check how the piloting succeeded
- Do the necessary improvements
- Implement the course again in an improved form.

The Getting ready project (see Section 3) is about planning, doing and checking, i.e., Deming's steps P, D and C. The last step A 'act' will take place after the project work has been completed. Hopefully, systematic development will continue after that as well.

Related to Deming's step C, checking, Finnish HEIs have systematic procedures. If management or an individual teacher want to know how the course succeeded, it is possible to collect data via a feedback inquiry. Xamk has standardized, digital course feedback forms and quite a clear process for sending inquiries to students and for later analyzing the received feedback. The Xamk students are asked to give feedback on the courses systematically and frequently, which gives teachers an opportunity to have information which is valuable when improving the courses (Quality Management at Xamk 2018). The feedback should be targeted correctly. Patton (2012, 2013) offers a U-FE check list which helps to target feedback questions and guarantee the feedback is as beneficial as possible. If students give feedback but notice later that their feedback is not used for the improvement of the course, students will easily lose their motivation. (Leckey and Neill 2001; Chadna and Frick 2011).

When students give feedback, teachers can use it for improving the course. If we change the direction of feedback, and the teacher is the one who gives feedback for a student, he/she gets the opportunity to improve his/her course performance. Giving feedback is also one form of evaluation or assessment. The evaluation process includes observing the learners' existing strengths, as well as conclusions and recommendations for future development. Evaluation or assessment are not synonymous with criticism or judgement. Evaluation can take place before, during or after the course. (Virtanen 2007).

Feedback should appear as a continuous, developmental and encouraging dialogue between a student and a teacher and it should be carried out in different ways, e.g., individual or generic feedback, peer feedback or self-evaluation. (Audit Manual for Higher Education Institutions 2018–2024 2017).

5. Quality in Online Learning

Several current projects in Finland focus on online learning. One of them is the eAMK project, which is funded by the Ministry of Education and Culture for 2017–2020. Its most important target is to create a shared offering of digital courses that is available for all universities of applied sciences. In order to broaden the selection of online courses, a coaching program will be implemented to increase staff competence on digital pedagogy. (eAMK Project 2018a).

With a similar viewpoint of online learning, the Getting ready! project (Section 3) has utilized resources and outcomes of the eAMK project. First, the eAMK project provides coaching in digital course planning for the specialists from the Getting ready! project. Second, the quality criteria for online implementation of the courses that have been developed in the eAMK project will be utilized in the Getting Ready! project as well as in Finnish online course design generally.

In the quality criteria, creating a new online course has been discussed from the following viewpoints: (1) Target group and users, (2) Learning objectives, learning process and pedagogical solution, (3) Assignments, (4) Contents and materials, (5) Tools, (6) Interaction, (7) Guidance and feedback, (8) Evaluation, (9) Development, (10) Usability and visuals, (11) Support services. (eAMK Project 2017).

Target group and users include considering the starting level requirements of the course and informing the students about them. In some cases, the starting level can be tested in order to choose the students with the adequate knowledge for completing the course. The teacher should also know the number of participants and take it into account in the course.

Learning objectives, learning process and pedagogical solution include defining the learning objectives related to field-specific and generic competences, working life orientation, and internationalization. The pedagogical solutions are chosen to help the students to reach the learning objectives.

Assignments should help the students to reach the learning objectives and to take real working life situations into consideration. The target, schedule and evaluation criteria of the assignments should be clear. The assignments should be suitable for online learning.

Contents and materials should provide the students the possibility to combine previous and new information and select the most appropriate material. The materials should be up-to-date, reliable and legally accessible.

Tools in the course have been chosen to support the achievement of the learning objectives. The tools should be free and secure and there should be clear instructions for using or downloading the tools. The course description includes the information about the equipment and application requirements.

Interaction during the course should be implemented using easy modes of interaction, e.g., Skype, Adobe connect. The purpose of interaction is to support the achievement of the learning objectives.

Guidance and feedback should be available in a timely manner and during the whole course. The implementation methods, timetable and responsible persons should be clearly presented on the

online platform. The possibility for the students to ask questions and give feedback should be available. Analysis tools of the online platform can be used for monitoring the progress of the students.

Evaluation should be implemented using versatile methods, such as peer evaluation, self-evaluation and automatic tests. The evaluation subjects are related to the learning objectives. The evaluation process is presented in the course description.

Development of the course should be continuous. All aspects of the course (e.g., methods, contents, online tools, learning objectives) should be assessed and developed. Feedback is collected from the students and the teachers, and the course is developed on the basis of the received feedback.

Usability and visuals include considering at least the following themes: structure and progress of the course, naming of the files and folders, unified style, readability (font, colors), accessibility of text formats and visual elements (pictures, videos), overall accessibility (different types of terminal devices) and security.

Support services should be available for both the students and the teachers. Information about the services and their schedule is clearly presented on the online platform.

On the basis of these criteria, the project participants have developed a tool for evaluating online courses (eAMK Project 2018b). The tool is free and available for anyone at https://eamk.fi/en/courses-offering/evaluation/. This tool will be used to steer our planning of the online preparatory courses for immigrants.

Similar criteria for designing online courses have been presented by Vai and Sosulski (2011). They have created a practical but theory-based application for designing an online course, especially for higher education purposes. Vai and Sosulski's guidelines for successful online course design suggest that an online course meets the quality demands when the following principles have been taken into account: (1) The graphical design is clear, i.e., the lay-out supports readability and visual and auditive elements are used to improve clarity, (2) The language is clear, the writing style is brief and the tone is supportive, (3) The course offers real-world multimodal examples and multiple learning resources and 4) The course has a clear structure with chapters. When planning new online courses or updating old ones, it is useful to find and study guide books in this field. For example, Meskill and Anthony (2015) offer a pragmatic overview on teaching languages online.

In Section 6, we choose for closer study some learning principles that should be taken into account in the joint online implementations. We examine these principles by utilizing the quality criteria introduced in Section 5. This study is important for us because we need to decide how to follow the quality criteria while building courses for the preparatory program.

6. Ensuring Quality in the Preparatory Training Course

The project introduced above, "Getting ready—A higher education preparatory program for immigrants" implements the first online preparatory course in April–September 2019. The planning phase of the different courses included in the entity occurs at the end of the year 2018 and at the beginning of the year 2019.

As framed in Section 2, quality in online learning has been an issue that has been considered in many recent research studies. We apply this theoretical framework in order to create an online implementation with high quality. However, our focus is on pragmatic features. On the basis of our earlier online teaching experiences, we chose three important online learning principles or challenges to be considered more carefully in the planning of our courses (Finnish and English). These principles are the teacher availability, students' expectations and feedback and evaluation. We examined these principles using the quality criteria introduced in the previous section in order to solve and foresee the possible problems in the course implementation.

6.1. Teacher Availability

When comparing contact courses to online courses, one of the most significant differences is the form of communication. In contact courses, the students see the teacher in live meetings according to

the course timetable but, in contrast, there are no live meetings for online courses. The teacher and the student don't share the same physical space and teaching and learning are asynchronous (see Vai and Sosulski 2011). This difference sets versatile challenges on the form and quality of interaction in online courses.

According to the quality criteria for online implementations, interaction during the course should be implemented using modes and tools that support learning and reaching the learning targets. In our preparatory course, the learning environment is Moodle and in weekly meetings with the students we will use Skype for Business. Quite often online courses consist of material and tasks and there are no live online sessions between the teacher and the students. In our implementations the weekly online meetings support the students in their learning and provide the ability to practice the learning objectives.

It is also important that the students know when and how they can contact the teacher. According to the quality criteria, the schedule of the course should be clearly presented on the online platform. This schedule should also include the information about the teacher availability and the teacher's contact information.

In our preparatory courses we will create video lectures about important advice related to the course (e.g., schedule, assignments). The lectures will be available on the online platform and they allow the students to review the course information as many times as they need to in order to comprehend any essential matters.

6.2. Students' Expectations

The individual learning objectives of students typically vary a great deal. One student wants to learn the basics of a new language while the other needs credits in order to ensure his or her study grant. Thus, the students' expectations can be diverse. From the preparatory course students' point of view, the learning objective for most of them is to develop the skills needed for applying to higher education. Presumably their motivation will be good and expectations will be high.

To meet the students' expectations, all parts of the quality criteria for online implementations should be considered. However, different students appreciate different qualities of courses. In any case, on the basis of the long online teaching experience of the authors, the most important qualities are a clear structure and schedule. It is essential to know what to do and when. According to the quality criteria, the assignments of the course should be clearly introduced on the online platform in relation to their purpose, schedule and evaluation criteria.

In order to meet the course participants' individual expectations, the course should be implemented so that all students get the possibility to use their strengths and to develop their weaknesses. At the end of the course all participants should feel that personal development has occurred and increased competence has been developed.

Meeting the individual expectations of the students is a problematic issue. While the group size grows, arranging time for meeting the students individually becomes challenging. In this project, we have a chance to teach rather small groups of about 20 students. However, one goal of online courses is to offer study possibilities for a massive audience. In order to enable learning for different kinds of learners and to maintain the quality, the use of versatile tools and endless imagination are needed.

6.3. Feedback and Evaluation

Feedback is a two-way dialogue between the teacher and the students of the course. The quality criteria for online implementations also supports this principle. This two-way interaction should be made possible on the online platform. In our preparatory courses there are many ways to carry out interaction, e.g., Skype-sessions and discussion areas.

Evaluation is usually one of the most challenging parts of course implementations. The different sections of the evaluation process in an online course should be clearly described on the online platform. These sections include the subjects, the method, the criteria and the schedule of the evaluation.

The criteria should be based on the learning objectives of the course so that the students are able to reflect their learning themselves, too.

Feedback and evaluation are also matters of self-confidence. In order to support students to utilize their strengths in learning and to overcome their learning challenges, the ways to give feedback and to implement evaluation should be carefully considered. Creating an appreciative atmosphere in the course starting from the beginning plays a crucial role in relation to the learning results.

7. Conclusions

To conclude our article, we wanted to use the universal SWOT analysis model to crystallize the present state and the future of the pilot online implementation. Strengths and weaknesses describe the present state of the project and its actors as well as the everyday life in HEIs in Finland. Opportunities and threats describe the future thoughts about the pilot courses. We compiled our main perceptions in Table 1.

Table 1. SWOT analysis related to the online implementation.

STRENGTHS	WEAKNESSES
- Qualified and experienced teachers participating in the project - Content competence of the teachers is comprehensive - Online learning very common in HEIs - Steady support from the Ministry of Education and Culture when creating a new model for immigrants' preparatory program	- Timetable challenges part of everyday life - Excessive workload - Fragmented duties of the teachers
OPPORTUNITIES	THREATS
- Pilot implementation doesn't need to follow the earlier "rules" - For teachers, the possibility to learn new pedagogical approaches and use new teaching and learning methods - Students' need to learn increases their motivation - Best practices from all participating institutions can be utilized	- Digital challenges of both the teachers and the students - Heterogeneous groups (varying digital, learning and language skills) - Summer vacation –> guidance and feedback during this time - Missing face-to-face interaction

Finally, the two most relevant themes to be taken into consideration while creating online courses are the encounter and the course description. A satisfied student knows the answers to the following questions: What should I do? When should I do something? Who supports me during my studies?

When the course and its pedagogical, supportive and technical arrangements are working faultlessly, the offered value meets the student's expectations. In this case, the quality criteria are achieved. If the course manages to go over the quality criteria, we have succeeded in offering some added value (Pulkkinen 2016). The Getting ready project will be completed at the end of 2019, and then we will be able to analyze whether or not we have managed to offer the preparatory program in such a way that the quality criteria were followed or even exceeded. When offering new services, in this project a new model for the preparatory education, it is critically important to gain a good reputation as a reliable education provider; that would help us to start a positive spiral in Finnish higher education for immigrants. After piloting the preparatory program, we will be able to examine our product and customer satisfaction and continue the development with a service design conception.

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Ecocomposition in the ESL Classroom: The Campus Space Compare and Contrast Assignment

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Abstract: This essay showcases a place-based compare–contrast assignment originally designed for first-year ESL composition courses at a U.S. university. This ecocomposition assignment prompts students to research and compare the technological design and visual rhetoric embodied in two spaces or buildings in their learning community. Based on my experience using this assignment for three consecutive semesters in 2017–2018, this essay discusses the grounding of the campus space compare–contrast assignment in theories of content-based instruction and place-based ecocomposition, and argues for its suitability in intermediate and advanced language learning contexts.

Keywords: ecocomposition; place-based composition; ESL/EFL writing; language teaching

1. Introduction: Ecological Approaches to Composition and Language Learning

Regardless of how engrossed they may be in their smartphones, students heading to class travel through places that play a major role in their identity formation. However, if their mobile technology and their academic courses both end up drawing students' minds away from their lived environments, then something is truly lost in their education, especially for students learning English or another language. Nonetheless, teachers often employ technology-based strategies to enhance language learners' engagement with their surroundings. The concept of "mobile-assisted language learning" ("MALL") has typically focused on the technological devices students use (e.g., Schenker and Kraemer 2017), but Rocca (2018) has recently called for further research on the inherent mobility of language learners: "A mobile language learner is a learner on the move because they keep their learning moving along in various environments, inside and outside the classroom, and through various resources, mobile and/or stabile" (p. 2). Shifting emphasis toward "mobile language learning" ("MoLL") therefore seeks to integrate not only learning technologies but also any kind of human-made or natural resource in students' environments—much in the same way that numerous educators have been applying ecological approaches in language and composition classrooms.

The emergence of ecocomposition—the linking of ecology and composition—in college English classrooms has paralleled the rise of sociocultural and other context-oriented theories of second language acquisition (SLA). Although there is considerable debate among SLA theorists, researchers have generally agreed that learning to speak and write in a new language occurs as a process embedded in a social context (Lantolf 2012; Leki 2010; Mackey et al. 2012). Ecocomposition represents a similar turn toward context, emphasizing not only the social milieu but also the broader physical ecosystem in which writing takes place (Dobrin 2001; Dobrin and Weisser 2002; Moekle 2012; Weisser and Dobrin 2001). Ecocomposition theorists such as Dobrin (2001) point to Cooper (1986) as the first to propose an ecological metaphor of seeing all writing as interwoven in a web-like social system, in which each writer not only adapts to others but also exerts influence on the ecosystem as a whole (Dobrin 2001, p. 20). Syverson (1999) further theorized an "ecology of composition" as a dynamic "meta-complex system" that unites multiple levels of complex systems in which a writer participates (p. 5), and she provided

case studies to demonstrate the appeal of such an ecological framework. As the field of ecocomposition grew, theorists began exploring the totality of interrelationships among writers, readers, discourses, non-human lifeforms, bioregions, and individual locations, thus leading to innovations in composition pedagogy (Dobrin 2001; Dobrin and Weisser 2002).

Just as composition instructors have been increasing efforts to bring ecological content into composition classrooms, language educators have also been seeking to integrate concepts from ecology into second language pedagogy. Van Lier (2004) for instance brings ecological theories into conversation with Vygotskian sociocultural approaches to SLA, proposing an "ecology of language learning" based on a worldview that recognizes humanity's intertwinement with the global ecosystem. With awareness about environmental issues continually rising, educators across the world have been applying environmental content-based instruction in ESL/EFL classrooms over the past three decades (Hauschild et al. 2012; Jacobs et al. 1998; Li 2013; McRae 1998; Nkwetisama 2011; Tangen and Fielding-Barnsley 2007; Vakhromova 2011). Teachers of various subjects have reported successful engagement of English language learners in response to place-based activities, which connect students to local natural and community resources in order to support learning of English, science, and other subjects (Manookin 2018; Powers 2004; Smith and Sobel 2010; Sobel 2005; Westervelt 2007).

In the field of English composition studies, scholars such as Elsherif (2013) and Rioux (2016) argue for the benefits of ecocomposition pedagogy and place-based writing in ESL and multilingual classrooms. However, although a number of researchers have reported on the integration of place-based and ecological content into language courses, there is need for further cross-fertilization between the fields of ecocomposition and second language acquisition.

In this essay, I share my experience developing a place-based compare–contrast writing and multimedia assignment for ESL composition students at a U.S. university. I then argue for this assignment's applicability in secondary education and collegiate language learning contexts due to its grounding in theories of content-based language instruction and place-based ecocomposition.

2. Reinvigorating the Compare–Contrast Genre

A number of scholars have discussed using campus ecology to engage students in college composition classes (Manookin 2018; Monsma 2001), but they do not specifically discuss the usage of the compare–contrast genre, which is a popular genre in secondary schools and colleges because of its emphasis on analytical skills and textual organization. Several experimental studies have focused on instructional methods for teaching compare–contrast writing in secondary education settings (Hammann and Stevens 2003; Kirkpatrick and Klein 2009; MacArthur and Philippakos 2010), but there is need for further research on using this genre in ESL/EFL, world language, and environmentally-based learning contexts

When teaching the compare–contrast genre, teachers commonly face difficulty in helping students select original topics to compare. In advanced second language composition courses, students may be expected to choose topics that are more academically-oriented than simply comparing two animals, two holidays, or two countries. As an instructor of college ESL composition, I realized that one way to help students narrow down appropriate topics for comparison is by asking them to select two places in their immediate environment and to conduct in-person and online research on those locations. While the compare–contrast essay can be considered an abstract or even stale genre, a place-based approach transforms this assignment into an opportunity to build on the inherent mobility of language learners traversing a broader ecosystem.

One perhaps underemphasized resource for place-based language learning is the presence of architectural and engineering technologies that students experience in their daily lives. Since students taking college ESL courses are usually either international students or immigrants, exploring their campus environments can be a stimulating intercultural experience. Campus environments often showcase a range of building designs and other striking landscapes such as monuments, gardens, and green spaces. From architecture echoing Greco-Roman classical forms to more modern designs

featuring abstract geometry and eco-friendly engineering, the structures on U.S. college campuses embody a variety of rhetorical messages about the character of their academic communities. Because of the potential for campus spaces to provide rich content for students to compare and write about, I modified my department's required compare–contrast assignment by instructing students to write their essays on two of their favorite buildings or spaces on campus.

3. The Design of the Assignment: Essay and Oral Slideshow Presentation

According to department guidelines at my university, the second assignment in first-year ESL composition courses requires a compare–contrast essay of about 700–900 words and a brief oral presentation accompanied by visual aids. The students transition into this compare–contrast unit, which takes about four weeks, after having completed a definition essay assignment that emphasizes basic writing concepts such as thesis statements, structure, and topic sentences. In my course, I use the compare–contrast essay to teach research and citation skills (using APA format), methods of generating points of comparison for analyzing their chosen topics, and text structure, for which students have the option of using a point-by-point structure or a subject-by-subject structure, as explained in their course textbook (Rosa and Eschholz 2012).

With departmental support, I modified this assignment to require students to choose two locations or buildings on campus, and I devised a series of lessons to raise students' awareness of the sustainable design technology and rhetorical messages embodied in the architecture on campus. To support students' research, I introduced a variety of online and print resources published by the university, such as campus news websites, historical articles at the library website, and a photographic tour book (Stout et al. 2006). An especially useful source was a university "green-tour" website featuring pictures and articles about eco-friendly technologies used in various green spaces and campus buildings, many of which have been awarded Leadership in Energy and Environmental Design (LEED) certifications by the U.S. Green Building Council (Pennsylvania State University n.d.b). I also demonstrated how to find credible sources about eco-friendly design principles and the history of architecture using the Gale Virtual Reference Library database, which includes thousands of online encyclopedias and reference books. These resources empower students to evaluate the environmental and aesthetic impact of the various campus locations they have chosen to compare.

The assignment also prompts students to compare and contrast how their chosen spaces use rhetorical techniques to communicate messages about the university. Rhetorical analysis is an essay genre of its own, commonly employed in L1 English composition courses. As rhetorical theorists such as Glenn (2017) have for several years defined rhetoric as "the purposeful use of language and images" (p. 3), many of today's compositionists seek to raise students' awareness of the rhetorical messages surrounding us in our daily lives (Lunsford and Ruszkiewicz 2016). Using the rhetorical triangle diagram—which poses the author, the message, and the audience as the three sides of a rhetorical context—I ask students to consider the campus designers and architects as "authors" sending particular messages to a rhetorical audience made up of students, staff, and visitors. I originally experimented with applying the rhetorical triangle to campus in a previous L1 composition course, in which I had students write essays about campus spaces using the rhetorical analysis strategies covered in Lunsford and Ruszkiewicz (2016) composition textbook, *Everything's an Argument*. For the compare–contrast essay in my ESL composition courses, I encouraged students to synthesize their online research about various styles of neo-classical, modernist, and sustainable architecture in order to evaluate the possible rhetorical messages that their favorite campus spaces are sending to students and staff.

Students' research for this assignment also incorporates ground-level observations. Students are instructed to take notepads and their smartphones to their locations of inquiry so they can jot down their thoughts and take photos to be used in their slideshow presentations. In order to introduce students to ground-level research methods during the first week of this unit, I incorporate a lesson that sends students in small groups to conduct an outdoor rhetorical analysis activity and report their findings to the class at the end of the period.

At the beginning of this lesson, I present a slideshow with pictures of a few campus buildings and briefly model how to analyze the rhetorical messages these buildings send. One building I discuss, devoted to the liberal arts, features neoclassical pillars outside, while a wall in the foyer displays the Ancient Greek text of a famous quote by Socrates from Plato's Apology (38a), which can be translated as "the unexamined life is not worth living" (Plato 2002, p. 41) (Figure 1). I ask students to discuss why they think the university displays this quote and what this represents about campus history.
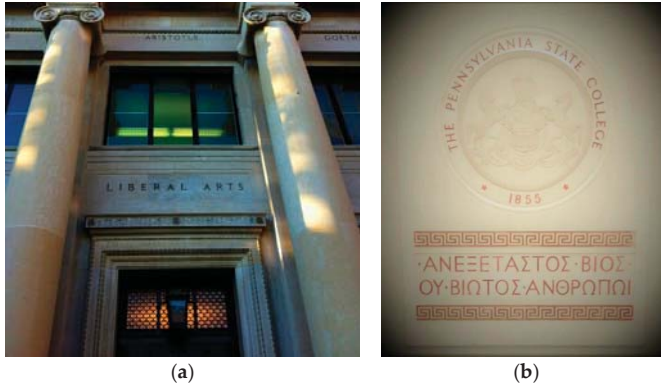

Figure 1. (**a**) Main doorway to the Sparks Building at the Pennsylvania State University. This image is sharable under Creative Commons (Penn State Liberal Arts 2011); (**b**) Located in the foyer of the Sparks Building, this commemorative plaque directly faces anyone entering the main doorway. The school's official name was Pennsylvania State College from 1874–1953. This image was photographed by the author.

Then we look at pictures of the Penn State law school building, which features postmodern glass-based architecture and well-lit, airy study spaces, and I also show them the webpage that explains the building's use of eco-friendly architecture (Pennsylvania State University n.d.a) (Figure 2). We then discuss the rhetorical messages that students might receive through experiencing the building's innovative design, which activates their thinking for the next task.

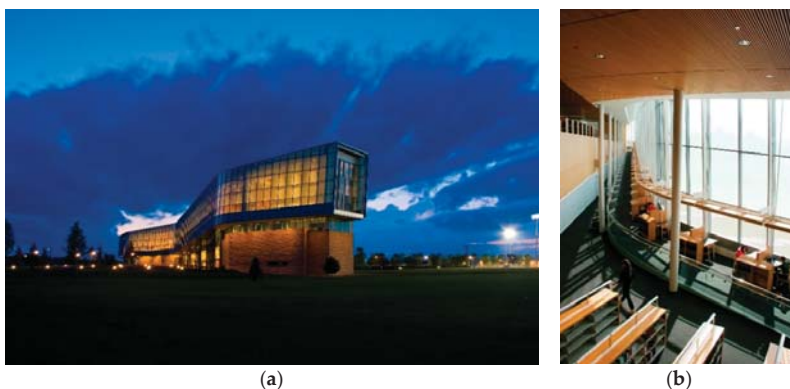**Figure 2.** (**a**) Lewis Katz Building at the Pennsylvania State University. This building features a green roof. This image is sharable under Creative Commons (Penn State Law 2009); (**b**) This is a view of the H. Laddie Montague Jr. Law Library in the Lewis Katz Building. The windows feature energy-efficient technology that adapts to summer and winter conditions. This image is sharable under Creative Commons (Penn State Law 2009).

I then send the students outside in small groups to analyze notable features within a few hundred meters of their classroom, and to prepare a brief group presentation for the class. I ask one student from each group to take a few photos of what they notice and immediately email them to me with their smartphones. When students return, I project their pictures on the front screen while each group stands up to explain their pictures and the rhetorical messages they encountered while walking outside. At the end of class, I emphasize the importance of taking a similar approach when conducting ground-level research for their own projects.

After students have drafted and peer-reviewed their essays, the compare–contrast unit culminates in a class period devoted to small group presentations. Students prepare a slideshow with photographs of their two chosen campus spaces and present four-minute presentations on the key findings they wrote about in their compare–contrast essays. In order to reduce performance anxiety and promote students' confidence, I arrange the seats in the classroom so that presentations are conducted simultaneously in groups of about five students, who display their slideshows on laptops or tablets. Thus, the students practice technical communication skills through designing their slideshows and incorporating their own photographs and captions. The students present their slideshows three times total for different groups of students, and a few minutes are provided after each presentation for small group discussion. As a result of this communal presentation experience, the English language learners practice their speaking skills while also learning from one another about their shared campus environment.

4. Personal Reflections on Students' Experiences

While using this assignment over three semesters in 2017–2018, I have made several personal observations that I would like to share. Since the content of my lessons gave an overview of three themes—visual rhetoric on campus, the history of architecture, and sustainable design—students' essays tended to focus on one or more of these themes, in varying combinations.

Some students wrote and presented on how campus architecture is often designed to appeal to students emotionally, both to create a mood conducive to studying and to connect them to campus culture, including the historical liberal arts tradition. Several students argued that various campus spaces and buildings have the ability to evoke emotions of pride in their school, to induce meditative states that support students' concentration on their schoolwork, and to promote a sense of professionalism due to the formality of certain spaces. In my assessment of their papers and presentations, I believe this group of students expressed awareness that the school is using visual rhetoric to influence their study habits and attitudes toward the school.

Another group of students, which overlaps with the first group of students discussed above, chose to focus on the use of sustainable design on campus. A number of students discussed the countless decisions that go into designing eco-friendly buildings, from choosing sustainably-sourced materials to determining the most efficient use of sunlight and rainwater. Among this group of students, some students also emphasized that the presence of these features, which are well-publicized, rhetorically communicates the university's ethical message about sustainability and the need to limit greenhouse emissions.

I have noticed that many college students are inherently interested in local campus history and in environmentally-conscious design, and I believe that these aspects of the assignment motivated students to put effort into learning how to cite research appropriately and how to structure their essays. In my opinion, I also found that using the compare–contrast genre stimulated students' thinking by encouraging them to ask focused questions about each location in light of the research they found about the other location. It has also been stimulating for me as a teacher to learn more about my workplace as I prepared these lessons and read student papers, and I gained insight into students' perceptions about the values that the university is conveying through the architecture and engineering of campus spaces.

One limitation of this essay is that my conclusions are based on my personal observations, rather than on formally collected data. In the future, I believe it may be profitable to conduct a more formal

study on campus-based writing in ESL courses in order to corroborate the observations I have made about students' positive reception of this assignment.

5. Discussion

There are a number of theoretical considerations that lead me to recommend this campus space compare–contrast assignment for adoption in ESL/EFL college composition courses, world language composition courses, and U.S. high school ESL programs. With modifications for their own program objectives and unique locality, instructors in various contexts may find this assignment beneficial for motivating intermediate and advanced language learners to tackle challenging research writing objectives. In addition, students who are newcomers to a local bioregion may initially feel alienated from their environment, but I argue that this assignment has the potential to reduce feelings of alienation and can even help students understand their environmental responsibilities in a hypermobile world. Grounded in theories of content-based instruction, place-based education, and ecocomposition, this assignment offers two main benefits for international and immigrant students in college and high school environments: enhancing students' motivation to work on linguistic skills and raising students' sense of satisfaction and belonging on campus. Researchers and theorists have argued that these benefits are linked to various instructional practices that I have endeavored to embody in the campus space compare–contrast assignment.

5.1. Content-Based Instruction

Lyster (2007) broadly defines content-based instruction as any form of teaching that uses subject matter "as a means for providing second language learners with enriched opportunities for processing and negotiating the target language through content" (p. 1). Hauschild et al. (2012) specifically advocate the use of environmentally-themed content-based instruction for its ability to strengthen language skills while helping students "become more informed citizens, both locally and globally" (pp. 1–2). Lyster (2007) reports that many researchers have found that content-based instruction, which synthesizes linguistic and cognitive development, provides the "requisite motivational basis for purposeful communication" and increases students' contact with meaningful discourse in the target language (p. 2). In my courses, the compare–contrast assignment encouraged students to explore rich content and develop their own perspectives about how to compare campus spaces. I noticed that while comparing the buildings, monuments, gardens, and other kinds of spaces, students developed questions based on their own interests and personal observations, thus gaining motivation to search for sources with content on a wide range of subjects, including U.S. and local history and culture, architectural styles, sustainable engineering, environmental science, and psychology. During this compare–contrast unit, students needed to search for vocabulary to communicate their experiences with concrete locations, they encountered new vocabulary in their research, and they also practiced manipulating advanced concepts when writing their essays and giving their presentations.

Because students were sharing their own discoveries about campus, I believe they gained the requisite motivation to organize their points using an appropriate essay structure, to provide accurate citations, and to showcase their interpretive skill—all of which require intense cognitive focus. To support this process, I scheduled individual conferences to assess their rough drafts and discuss how they might revise their essay structures. In addition, the prospect of orally presenting a slideshow with their own photographs to their peers seemed to motivate them to enhance the professionalism of the design and execution of their presentations. Although most of the presentations were given in an intimate setting of small groups, I also encouraged a handful of students to present using the front screen before the whole class since some of them were interested in tackling this kind of professional communication task. On presentation day, students would play the role of tour guides sharing the deeper significance of their own corners of campus for an interested audience.

In my experience, many students brought prior interests in solving environmental issues, and they found the engineering and sustainability content of their research to be engaging. From their own

research and from viewing classmates' presentations, students had several opportunities to gain a holistic understanding of the lifespan environmental impact of buildings, including factors related to the procurement of materials, the maintenance of the building, and even the ability to recycle the building in the future. At my university, many international students come to the U.S. to study engineering, economics, and business, and thus they resonated with these lessons on sustainability embedded on campus, and ultimately every academic and professional discipline can benefit from incorporating an ecological perspective. As Moekle (2012) states, "Bringing sustainability into the undergraduate experience through courses in rhetoric and composition is valuable precisely because the many challenges of sustainability will be solved not only through science and policy, but through writing studies that focus on communicative acts among various audiences" (p. 83). A number of my students went on to write about solutions for environmental problems for their final research essay at the end of the semester, and ultimately I would argue that the content of this compare–contrast unit empowers students with the vocabulary and concepts needed to voice their perspectives both on campus and beyond whenever they encounter environmental issues.

5.2. Ecocomposition and Place-Based Education

The application of community-oriented ecological content in the composition classroom goes by many names. I am primarily classifying this compare–contrast assignment as an ecocomposition assignment, but it also qualifies as place-based education, which is closely related. Although the concepts of ecocomposition and place-based education overlap, ecocomposition focuses on writing and rhetoric about any kind of ecological topic, whereas place-based education uses students' immediate environment and can be implemented in almost any field of teaching and learning.

Dobrin (2001) characterizes ecocomposition as an "inquiry for action" that investigates "the relationship between discourse, nature, environment, location, place, and the ways in which these categories get mapped, written, codified, defined, and in turn, the way in which nature and environment affects discourse" (p. 14). In discussing the definition of ecocomposition, Dobrin (2001) argues that it is better to leave the term open-ended rather than to strictly codify its definition, especially since he sees ecocomposition as more of a spatial metaphor, as a "site for the kind of activism that resists the oppression not just of nonhuman organisms and environments, but of all oppressive structures" (p. 14). This holistic approach recognizes that environmental problems often overlap with social justice issues related to race, class, gender, culture, and other demographic factors, as emphasized by a number of scholars of ecocomposition and ecocriticism (Dobrin and Weisser 2002, p. 175; Lynch et al. 2012, pp. 4–6; Moekle 2012, p. 77; Owens 2001a, p. xiii; Reynolds 2004, p. 11).

Compared to ecocomposition, which is broad enough to incorporate topics about anywhere in the world, place-based education by definition takes the students' current location as the starting point of inquiry. Smith and Sobel (2010) point out that an increasing number of educators in various fields are adopting location-oriented approaches, which go by various names such as service learning and environmental education. In response to these various approaches, Smith and Sobel (2010) argue that the terms "place-based" and "community-based" are the most effective for capturing the need to balance both human and "more-than-human" interests: "What place- and community-based education seeks to achieve is a greater balance between the human and non-human, ideally providing a way to foster the sets of understanding and patterns of behavior essential to create a society that is both socially just and ecologically sustainable" (p. 22). In addition, place-based education can be applied not only in rural or wilderness environments, but also in suburban and urban environments, where students may confront links between environmental degradation and social inequality in their daily lives (Leou and Kalaitsidaki 2017; Russ and Krasny 2017). Thus, place-based education shares ecocomposition's holistic approach to ethics, society, and the environment.

In recent decades, educators have been using place-based approaches at all levels of schooling for teaching a variety of subjects, including ESL, English, science, and social studies (Manookin 2018; McRae 1998; Monsma 2001; Powers 2004; Smith and Sobel 2010; Sobel 2005; Tangen and

Fielding-Barnsley 2007; Westervelt 2007). In a study evaluating four place-based education programs in primary and secondary schools, Powers (2004) reports that teachers noticed enhanced engagement not only among students in general, but also among English language learners and students with special needs (pp. 26–28). In college composition contexts, Monsma (2001) testifies to the positive impact on student writing resulting from using his campus as a resource for place-based composition assignments, and Manookin (2018) discusses the use of nature-based writing for engaging English language learners in her college ESL composition courses. In my own teaching context, I found that my students demonstrated a similar level of engagement both in learning about their campus and in improving their writing and communication skills.

One unique aspect of ecocomposition is the way it theorizes the bidirectional relationship between writing and the world, as Dobrin and Weisser (2002) explain: "ecocomposition takes as one of its primary goals the desire to encourage students to consider the relationships between (written) language and the earth's systems in which they must survive" (p. 131). Admittedly, my compare–contrast assignment might not fully actualize this goal since I did not explicitly present ecocomposition's philosophy about the mutual relationship between the world and written discourses. Nevertheless, while students primarily used their writing to elucidate the historical significance and design of campus spaces, a number of students used the conclusions of their essays and presentations to press home the point that eco-friendly rhetoric embodied on campus should inspire us to pursue sustainability. These students thus appeared to understand the role that their own writing plays in promoting the sustainability awareness of their readers. In addition, a number of my students argued that their university is using these buildings as educational tools, especially since a variety of resources publicize the campus' eco-friendly buildings, such as those with LEED certifications (Pennsylvania State University n.d.b, Stout et al. 2006). By considering the ethical messages sent on campus, students gained opportunities to see that these buildings also serve as models for designing future buildings—a topic that may in fact intersect with some of my students' eventual career paths.

In addition to introducing concepts that can help students pursue sustainability in their own lives and careers, place-based ecocomposition assignments can make a positive impact on how students' construct their identities. While learning about eco-friendly technology can raise students' sense of global citizenship, perhaps the most significant impact is the way this assignment can enhance students' sense of connection to their campus. Because of my students' level of engagement and the emotions expressed in their essays and presentations, I believe this assignment has the potential to influence students' sense of "bioregional identity."

According to landscape architecture theorist Thayer (2003), a "bioregion" is a "unique region definable by natural (rather than political) boundaries with a geographic, climatic, hydrological, and ecological character capable of supporting unique human and nonhuman living communities" (p. 3). Thayer (2003) argues that developing a sense of bioregional identity promotes ethical thinking about how to live as a citizen of a particular locality, and that gaining a bioregional identity is essential for diverse communities to cooperate across ethnic and political boundaries to work toward a "mutually sustainable future for humans, other life-forms, and earthly systems" (p. 6). Place-based education can directly impact both teachers' and students' bioregional identities. For example, environmental educators such as Leou and Kalaitsidaki (2017) report that place-based programs in New York City have raised the local environmental awareness of teachers and students, thus enhancing their sense of ethical citizenship in the Hudson River watershed.

In applying the concept of bioregionalism to college composition, Lindholdt (2001) argues that addressing ecological identity "can reintegrate an estranged citizenry and help restore degraded ecosystems if applied in writing courses" (p. 244). Owens (2001b) similarly emphasizes that college composition instructors have a special responsibility to promote an ethic of sustainability because of their broad access to incoming students and because of the interdisciplinarity of college writing (p. 29). When teaching international and immigrant students who may have recently moved to a new country for their studies, I believe it is imperative to welcome these students as full citizens of the

bioregion, in which all members share responsibility to cooperate for a more sustainable future. In an age of hypermobility, the campus space compare–contrast assignment offers students a concrete starting point for learning about how the local culture has been responding to various environmental challenges, such as reducing greenhouse emissions, reducing waste, and promoting local biodiversity.

5.3. Addressing Acculturation and Alienation through Place-Based Ecocomposition

The potential of place-based ecocomposition to impact students' sense of responsibility and bioregional identity is especially relevant to international students and immigrants studying English in the U.S., who are in the process of negotiating their identities and adapting to a new local environment and culture. During their first year of college, domestic-born students often plug into campus life bringing prior knowledge about their college's history and culture, but international students typically do not share this kind of background knowledge that is essential to forming a positive sense of student identity and belonging. Researchers have reported that international students often feel alienated from their new communities (Du and Wei 2015; Gu et al. 2010; Yeh and Inose 2003). Research has also demonstrated that international students' acculturation to a new study environment can be stressful, even leading to mental health struggles due to difficulty forming social networks, linguistic challenges, discrimination, and academic stressors (Arias-Valenzuela et al. 2016; Jung et al. 2007; Yeh and Inose 2003; Ying and Han 2006).

Jung et al. (2007) define acculturation as "the process of cultural change resulting from contact with a different culture and the process of adapting," and further explain that acculturation can in some cases result in a person turning away from his/her cultural background, but it can also result in students balancing aspects of their new and previous cultural identities (p. 609). Based on their research study on the acculturation and mental health of Chinese international students, Du and Wei (2015) argue that college staff and faculty in the U.S. can best serve international students by valuing "these students' needs for connection with people from both U.S. society and their [own] ethnic communities" (p. 321). Du and Wei (2015) also recommend that college professors and staff increase opportunities for international students to learn about their host culture, as higher levels of acculturation are shown to be associated with higher levels of life satisfaction. Jung et al. (2007), citing Birman (1998), emphasize that during the acculturation process, international students with higher familiarity with the host country's popular culture are often more likely to feel confident about communicating with members of the host culture. Based on a survey investigating the acculturation of international students in the hyperdiverse city of Montreal, Canada, Arias-Valenzuela et al. (2016) conclude that because students who reported the development of a local Montréalais identity also reported a relatively high level of satisfaction toward their new cultural group, universities should consider taking steps to encourage students to develop local identities in order to improve their overall acculturation experiences (p. 136).

Place-based writing assignments directly address some of the cultural needs of international students because learning about their campus is a concrete starting point for studying their host culture. In addition, the theme of sustainable design, as emphasized in the campus space compare–contrast assignment, provides students with opportunities to consider how the campus spaces they use on a daily basis are connected to the broader ecosystem in which we are all enmeshed. Place-based assignments are able to promote students' affiliation with their community and bioregion (Lindholdt 2001), and as literary critics Lynch et al. (2012) explain, a local bioregional identity can complement other foundations for identity, such as nationality or ethnicity (p. 4). Place-based ecocomposition assignments thus are not asking students to give up aspects of their cultural identities. Rather, I would argue that they are simply offering international and immigrant students opportunities to become more informed and engaged as members of their current bioregion. Bioregionalism emphasizes the commonality of space among inhabitants, despite linguistic, ethnic, and cultural differences, and thus place-based assignments have the potential to reduce students' feelings of alienation regarding their new environment. Being invited to participate as an ethical citizen of their school or college is affirming for English language learners,

who may initially feel alienated, and ecological content often appeals to students because they may already value sustainability due to their own cultural upbringings.

The place-based compare–contrast assignment also aims to foster students' independence and agency to construct their own meanings for the places they choose to compare. After conducting an extensive two-year study of international students at four campuses in the U.K., Gu et al. (2010) concluded that most of the students surveyed were able to adapt to their new study environment "not because of their dependence upon others, but the exercise of their own agency and resilience to achieve and succeed" (p. 18). This trend implies that support given by university staff to international students should ultimately build on the individual agency and resilience of students themselves. Place-based research assignments fulfill this criterion, as they require students to go out and interact independently with their environment.

6. Conclusions

This essay showcases the benefits of a compare–contrast essay and multimedia assignment that applies principles of place-based ecocomposition to a college ESL context. This assignment takes the common student activity of snapping photos of their school and transforms it into an opportunity for students to learn how to write in the compare–contrast genre, structure their texts, synthesize research, and practice academic speaking skills. In order to implement this assignment in ESL/EFL courses and intermediate/advanced language courses in secondary schools and colleges, instructors first need to conduct their own ground-level and online research on their school and community as a part of lesson planning. Instructors using this assignment can expect a number of benefits for students: the content is able to engage and motivate students to work on their writing and other language skills, the ecological emphasis can promote an ethic of sustainability, and the place-based research experience has the potential to improve the experience of international and immigrant students by increasing their sense of connection to their community at a time when they may be struggling with acculturative stress and alienation.

This essay also identifies a significant gap in research on the acculturation experiences of international students, as the role of bioregional identity has not been fully explored in the literature. In discussing the relative lack of research on environmental approaches to pedagogy and cultural studies, Reynolds (2004) states, "While race, class, and gender have long been viewed as the most significant markers of identity, geographic identity is often ignored or taken for granted. However, identities take root from particular sociogeographical intersections, reflecting where a person comes from" (p. 11). In addition to bringing unique bioregional identities into the classroom, students experience further influences on their bioregional identities due to living in a new school community. A critical skill for students in today's hypermobile world is taking responsibility for their ecological impact when moving into a new environment, and place-based assignments can open both students' and instructors' minds to the unique environmental needs in their communities.

This kind of place-based approach can also be enlightening for instructors who are curious about students' perspectives on their lived environments. In my experience implementing this place-based compare–contrast assignment over several semesters, students expressed a variety of positive emotions about their campus community, and many of them concluded that their campus sends a strong rhetorical message about the value of history, diversity, and sustainability. With its content-based approach, this assignment ultimately provides students with vocabulary and concepts for talking about sustainability in future academic, professional, and community contexts, thus empowering them to address the looming environmental issues of our world.

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Communication

Virtual Reality in the Teaching of FLE in a Brazilian Public School

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Abstract: Considering the emergence of digital information and communication technologies in the contemporary educational context, this work aims to explore the possibilities offered by Virtual Reality (VR) headsets in the school environment, and also to verify how they can contribute to foreign language teaching and learning. The motivation of this work is a result of a pedagogical practice experience carried out by the researcher during French classes in a Brazilian foreign language teaching project in public schools. This pedagogical practice later became the subject of their master's research, which is currently being conducted in the same educational context in two French language classes. The main objective consists of verifying to what extent VR can contribute to foreign language teaching/learning, focusing on the four linguistic competences and motivation. The methodology of this work has a qualitative nature with some quantitative results, and is characterized as Action Research, as the researcher participated in the activities. These activities consisted of using Google Cardboard, a VR headset, to present interactive 360° videos and tours of real places. The preliminary results show that activities with VR can promote a high level of motivation and engagement, also contributing to the development of the four linguistic competences.

Keywords: Virtual Reality; language learning; Français Langue Étrangère; Google Cardboard

1. Introduction

The way people interact with the world and with themselves is being changed through technology. Gradually, new devices and digital resources enter the field of education, bringing several contributions to the improvement of teaching and learning in different spheres of knowledge. Concerning foreign language teaching and learning, this is not different. New tools emerge every day, which can be used inside and outside the classroom, providing different educational paths for teachers and learners. The current work arises from this context, aiming to investigate a new pedagogical practice using Virtual Reality headsets in foreign language teaching. This study presents preliminary results from a master's degree research taking place in Brazil in two French language classes in a Brazilian public school.

Analogous/similarly to the emergence of new tools and devices, many methods and approaches in language teaching emerged throughout the 20th and 21st Centuries (Richards and Rodgers 1999; Larsen-Freeman and Anderson 2011). From the structuralist Grammar–Translation Method to the innovative Communicative Approach, teachers, learners and schools have sought the best method to learn languages. However, as Prabhu (1990) declares, there is no best method. Language learning is a complex process, composed by intrinsic (affective, physical and socio-cognitive) and extrinsic variables (learning material, time to study, exposition to the target language), in which different configurations lead to different ways of learning (Almeida Filho 2007).

Kumaravadivelu (2003) also recognizes the existence of different variables concerning language teaching and learning, described in his Postmethod Pedagogy, structured in a three-dimensional

system, composed by the parameters of particularity, practicality and possibility. He argues, specifically in the parameter of particularity, that the concept of method is limited to explaining the complexities of language learning, entailing factors such as the cultural and sociopolitical contexts, the learner's needs, and the cognition of learners and their teachers. In the parameter of practicality, the author sustains the autonomy of teachers, as this parameter understands them as theory generators from their practices, since they possess the tools needed to produce a practical theory. The parameter of possibility seeks social transformation and a continual quest for identity formation through the sociopolitical consciousness brought by the participants to the classroom. Thus, language teachers and learners have the opportunity to impact the context in which they are inserted.

Prabhu (1990) and Kumaravadivelu (2003) conducted research on methods and approaches to language learning. In the Postmethod Pedagogy, considerable efforts are made to go beyond the restraints of methods and approaches, especially in the context where teachers and learners are situated.

We comprehend the autonomy supported by the Postmethod Pedagogy as favorable to using new technologies in language learning, because teaching is not restrained by a particular set of rules or instructions found in some methods, thus the teacher is free to make use of the best tools needed to support the characteristics described in the parameters of particularity, practicality and possibility, as well as the micro and macro strategies proposed by the Postmethod.

Despite all of the attempts to diffuse new technologies in education, there is still resistance within educational contexts (Paiva 2015). This resistance is not solely found in teachers, professors or educational administrators, but also in students. We agree with Lévy (1999) that we need to build new models of knowledge spaces, which are emergent, open, and continuous.

1.1. Computer-Assisted Learning (CALL) and Mobile-Assisted Language Learning (MALL) in a Brazilian Educational Context

Taking into account the Brazilian educational context, where the present research takes place, the use of digital resources is in constant debate. A recent study (TpE and DRI 2017) has shown that 55% of public school teachers make use of digital technology; however, 54% of teachers declared that they could use more of this resource as long as it does not implicate a higher workload. Considering that four in 10 teachers (41%) in Brazilian basic education also work in complementary activities to increase their income (Todos pela Educação and INEP 2015), inside and outside the educational domain, workload is an important element which must be pondered. Besides workload, other factors such as poor infrastructure, a lack of continuing education, low income and issues inside the classroom affect the Brazilian educational landscape, preventing the effective diffusion of digital technologies for educational purposes. Regarding language learning, the normalization phase of Computer-Assisted Language Learning (CALL) (Bax 2003; Paiva 2015) is still far from being a reality when we consider the current scenario. Even though several Brazilian institutions are making efforts to change it, such as universities, governmental and non-profit organizations, as well as private institutions, there is a considerable amount of work yet to be done.

Nonetheless, with the emergence of mobile devices such as smartphones, tablets and small laptops, there has been a shift towards the normalization of CALL, as described by Bax (2003), especially concerning the physical position of computers "in every classroom, on every desk, in every bag" and this type of feedback "interpreting, evaluating, commenting, stimulating thought" (p. 21). Concerns related to infrastructure, for example, are no longer an issue. The need for computer laboratories, costly and sizable spaces to maintain a set of equipment, is overlapped by powerful devices small enough to fit in the palm of our hands. Leffa and Irala (2014) stated that with smartphones, we carry the world in our pocket. This is a significant statement, since teachers and students can nowadays easily access a plethora of information and connect with anyone in the world, making new possibilities feasible in education. In the domain of language learning, mobile devices have facilitated the access to content in the target language once restricted or difficult to find. CALL is continuously growing, and is occupying an important place in classrooms and homes.

In Brazil, there is a recurring debate over the use of smartphones in classrooms. There are teachers, principals and educational supervisors whose opinions and actions are against the use of mobile devices. On the other hand, many others support their use, recognizing the pedagogical benefits provided by these devices. Within the governmental framework, there are laws which forbid the use of mobile devices, especially smartphones; however, some Brazilian states have recently allowed schools to use them for 'pedagogical practices', which is the case of São Paulo State, where this research takes place (Balestrini et al. 2018). Despite the current scenario, efforts are being taken to promote the use of these devices in schools. In São Paulo state, for example, courses and projects within the Education Department seek to promote the use of digital technologies and mobile devices in schools (Balestrini et al. 2018). Universities also have a crucial role, since they are responsible for teacher training, as well as research that can contribute to the changing of this scenario.

1.2. Virtual Reality

The world is within our reach, not only using our hands (via devices such as smartphones) but also through our eyes, by using Google Cardboard (https://vr.google.com/cardboard), a virtual reality (VR) platform which uses smartphones and affordable headsets to promote VR experiences. The platform was launched in 2014, and since then it has generated substantial interest among media, enthusiasts and the general public. A complete description of the platform and its use will be provided in detail in Section 2. Along with Google Cardboard, other platforms, such as Oculus Rift (https://www.oculus.com/rift/), HTC Vive (https://www.vive.com/us/) and Steam VR (steamvr.com/) are also responsible for VR popularization in recent years.

However, VR is not as new as some people might think. The history of VR began in 1962 with Sensorama, the first attempt to create an immersive, multi-sensory technology. The machine was created by Morton Heilig and was able to display stereoscopic images, stereo sound and also aromas during movie playback (Tori 2010). In 1968, Ivan Sutherland created the first head-mounted display (henceforth HMD) and conducted the first immersion experiments. Nonetheless, it was during the 1980s that VR made further progress (Tori et al. 2006). Since then, this technology has reached the domains of computer sciences, entertainment and education. It is used, for example, in medical simulations, military training, automobiles and aviation.

Sherman and Craig (2003) affirm that VR is still being defined, due to the fact that this technology is in constant development and researchers, as well as users, have their own point of view. Morie (1994) declares that there are three basic ideas which define the essence of VR: immersion, interactivity and involvement. Another definition is made by Tori et al. (2006), who comprehend VR as an advanced interface for computational applications, characterized by user navigation and interaction, in real time, within a three-dimensional environment. The user can make use of multisensorial devices to act and receive feedback in the environment. Lastly, we agree with Latta and Oberg (1994), who describe VR as an advanced human interface, where real-world scenarios are simulated in a realistic way.

In education, VR has a strong potential to provide news paths and possibilities for learning. Now, students are able to cross the barriers of blackboards, books, digital screens and even physical places. They can go as deep as our DNA and see how new cells are formed, within an interactive environment. They can travel to planets with their colleagues, without the physical limitation of gravity, while the teacher explains the characteristics of our solar system. Now, it is possible to leave the freezing Artic and enjoy the beautiful Amazon River in just a matter of seconds, in 360 degrees. The possibilities are vast. As Braga (2001) states, VR represents a new dynamic and creative paradigm in education, where learners are placed at the center of the learning process. They are able to interact, modify and create, promoting active learning.

Particularly in language learning, VR can promote a high level of motivation, which will be discussed in the Results and Discussion sections, since students are able to travel virtually to places where their target language is spoken. Applications with VR support are growing every day. Some of them are specifically appropriate for people to learn languages, such as Mondly VR (www.mondly.com),

but others can also be used to promote language learning. Interaction with other people in the target language, for example, can shift from digital screens to virtual social networks through apps like vTime (vtime.net) and Facebook Spaces (www.facebook.com/spaces). In this study, specifically, we have worked with 360° videos using a VR media player and Google Tour Creator (vr.google.com/tourcreator/), a platform where users can visit tours created by other users and also create their own tours using imagery from Google Street View or their own 360° photos.

Concerning studies in this field, Lin and Lan (2015) developed a survey focusing on the use of VR for language learning. The authors reviewed publications (between 2004 and 2013) in scientific journals on computer-mediated language learning. In the survey, they analyzed 29 published articles in terms of: number of VR-related publications, topics on language learning investigated, target audience, and the types of technology used in VR studies (considering the three types categorized by (Sykes et al. 2008): open social virtualities, massively multiplayer online games and synthetic immersive environments). The authors verified that only 3.6% of the articles published in the four journals were related to the VR field, but the number of works with this focus is increasing, since it is a feature that allows multimodal communication and reduce learning barriers, such as anxiety and inhibition. The most common topic is related to learners' differences in interactive communication, followed by learning tasks. The least common theme is collaborative learning. It can be observed, however, that there are only a few papers that focus on the teacher, such as his/her role in a classroom setting with VR or ways of integrating VR into pedagogical activities. The most popular tool investigated is Open Social Virtualities (OSV).

In terms of ways of integrating VR into the classroom, this study has the main objective of investigating how activities with VR can contribute to language learning, specifically French, focusing on motivation and the development of the four linguistic skills—oral comprehension/production and written comprehension/production.

2. Materials and Methods

As mentioned earlier, the central objective of this research is to understand how VR can contribute to the learning processes of individuals in a language learning class. Therefore, to achieve this objective, we adopted the methodology of Action Research, characterized as a social investigation of a particular problem, with an empirical basis, in which the researchers and participants are involved in a cooperative or participatory mode (Thiollent 1998; Fonseca 2002; Tripp 2005). This study is predominantly characterized as qualitative, since the majority of results cannot be quantified, and we seek to understand the relationship between the individuals and the VR device (Bogdan and Biklen 1999). Therefore, we also include some quantitative data and results.

The researcher also aims to gain a better understanding of the outcomes and issues of this practice, cooperatively with the participants, i.e., the teacher and the students. Furthermore, this intervention also aims to change the environment in which the research takes place, since it seeks to contribute to the linguistic development of the learners, considering the four linguistic abilities and the increase in motivation. The implementation of a new practice, i.e., the use of VR in language learning, which has been used in other areas, e.g., medical training and physics teaching, in order to investigate and develop contributions to a particular environment characterizes this research as a Practical Action Research (Tripp 2005; Grundy and Kemmis 1982).

We adopted the basic cycle of action research (Tripp 2005; Grundy and Kemmis 1982), consisting of four stages: 1. planning activities and the practice; 2. acting, which consists of implementing these activities and this practice; 3. observation and description of the results; 4. reflecting on the results and the beginning of another cycle with improvements. To support stages 3 and 4, the instruments used for observation and reflection comprise video recordings, researcher diaries, questionnaires and interviews, which are described in detail in Section 2.6.

2.1. The Virtual Reality Device

To carry out language learning activities with VR, we have chosen Google Cardboard as the VR platform due to the fact that it is easy to obtain and inexpensive. This platform can be used through three elements: 1. Cardboard Viewer; 2. Smartphone; 3. Android Application. The Cardboard Viewer, also called HMD, is the hardware used to display the VR content and features: the holder/enclosure for smartphones, a pair of special lenses and a button used to perform actions, with an application which supports the Cardboard. The smartphone needs to support Android or iOS, and must have a built-in gyroscope in order to work properly. The gyroscope is a sensor used to measure orientation and angular velocity, which enables head movement tracking. Lastly, the Android application is the software that will run the content that will be displayed in the headset.

The Cardboard original project (Figure 1a) can be easily assembled, since it is basically cardboard paper and a pair of biconvex lens. The blueprint is available to download on the Cardboard website, along with the assembly instructions. However, many companies produce headsets based on the project. For this research, we have chosen to buy a few VR BOSS Z5 headsets (Figure 1b), featuring built-in headphones, microphones and superior lenses.

(**a**)   (**b**)

Figure 1. Example of Virtual Reality headsets. (**a**) Google Cardboard. (**b**) VR BOSS Z5.

2.2. Participants and Structure of the Activities

The participants are students from two classes where French language is taught, in a project called *Centro de Estudo Línguas* (henceforth CEL), which takes place in Brazilian public schools in the State of São Paulo. Along with the students, their teacher also took part in the research. The French course in CEL is divided into six stages of one semester each, which totalizes three years. The first class was at the first stage, which we call F1, where 10 students participated in the research. In the other group, there were two levels in the same class, F3 and F6, consisting of 13 students. This is a recurrent problem in CEL, since it merges two different classes, even from different levels, when one of them has a low number of students. The age of the students varied from 11 to 18 years old.

Since this research is still in progress, we will present the preliminary results from the second semester of 2018, when the first activities took place. In F1, a total of 3 activities were carried out, and in F3/F6, 2 activities. It is important to highlight that, since this is an interventional study including humans, all participants gave their consent for data use before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of the Universidade Estadual Paulista "Júlio de Mesquita Filho" (CAAE: 87273518.0.0000.5400).

The activities were planned with the class teacher in order to suit the semester syllabus. Thus, they would be in accordance with the French course curriculum of CEL. At first, five activities were planned for F1 and four for F3/F6. However, as we will discuss further ahead, we could not complete all of them. The structure was divided into three parts: the first, called pre-activity, consisted of the work before using VR; the second was the central activity, in which VR was used; the third, called post-activity, included the activities after using VR. It is important to highlight that all parts are equal

in importance. We called the second one "central" since all the activities revolve around VR, but all of them were essential.

2.3. Activity Plan

The activities were planned considering the three basic ideas of VR: immersion, interactivity and involvement (Morie 1994). However, they were conducted bearing in mind an interactivity gradation from the first to the last activity. The first experience was carried out using 360° videos, in which interaction was limited to head tracking movements, called rotational navigation. It can be defined as navigational interactivity (Naimark 2016), given that the user can see and hear within the environment but cannot affect it in any way. The last experience increased the degree of interaction, as it consisted of using the Google Tour Creator to visit places available in Google Street View designed as tours. This means that these tours display 360° images with additional information as pop-ups, comprising texts, images and audios. The user can interact with these pop-ups by pressing the action button on HMD.

The pre- and post-activities were planned to apply the macro and micro strategies proposed by the Postmethod (Kumaravadivelu 2003 as the pedagogical background, as well as Active Learning Methodologies (Morán 2015; Valente 2014)). Therefore, students were put in the center of the learning process, performing activities such as: using their own mobile phones to experience VR through Cardboard; researching and presenting information to the teacher and other students; group discussions and group work; and creating their own tours in VR; among others which will be discussed further ahead.

2.4. Activities with 360° Videos

Videos in 360° were chosen bearing in mind that they are one of the simplest ways to experience VR through Cardboard, since players in VR are lightweight and do not require mobile devices with high processing power to run videos. This type of media is also easily available through streaming services such as Youtube (youtube.com) and Vimeo (vimeo.com). In addition, videos are a useful pedagogical tool for language learning in the classroom (Watkins and Wilkins 2011), facilitating access to cultural and linguistic content in the target language. Furthermore, with the ascension and popularization of VR, the limited playback through screens is surpassed by a stereoscopic immersion, allowing students to be involved, even if virtually, in an enhanced experience.

The chosen VR player for the activities was the VR Player Free (http://www.vrplayer.com) (Figure 2), due to its small size (2.8 mb) and simplicity. The video content was aligned with the topics of the French course, comprising countries and nationalities, dreams and desires, vacations and traditional events, among others that are described in the Section 7. Students used HMDs to experience VR videos between the pre- and post- parts of activities.

Figure 2. VR Player Free (VIMERSIV, Inc., Terrebonne, QC, Canada, www.vrplayer.com) playback screen.

2.5. Activities with Virtual Tours

For these activities, the Google Tour Creator was chosen due to its user-friendly interface, high compatibility through operating systems and large amount of available content, since it is connected to Google Street View, allowing the use of 360° images of many places around the globe. Regarding high compatibility, this is a result of its technology which enables tours to be played on Internet browsers, therefore allowing users from different operating systems, on mobile and desktops, to access the content.

Virtual tours created by the researcher were introduced in activity number 2 of F1. Previously, past activities only supported rotational navigation. However, the Google Tour Creator supports an increased interaction and feedback, since users can activate an action button to interact with the environment through pop-ups, called points of interest, containing text, images and audio, presented in Figure 3. In activity 2 (F1), students experienced a virtual tour with two scenes in Paris: the Eiffel Tower and the Louvre Museum outdoors.

(**a**)   (**b**)

Figure 3. Google Tour Creator (Google LLC, Mountain View, CA, USA, vr.google.com/tourcreator) visualization screen of a student created tour: (**a**) Desktop internet browser screen; (**b**) Smartphone internet browser screen in VR mode.

In the next activity, number 3 (F1), the students created their own virtual tours based on their dreams and desires. They used the school computer laboratory to create their tours, while using online tools, such as dictionaries and wikis, to search for information to complete the task. Then, in the next part of the activity, they published their own virtual tours in VR using the HMDs online, and presented them to the teacher and other colleagues.

2.6. Data Collection

The activities with VR began in early September 2018 and continued through early December 2018. A total of 5 activities were completed, 3 in F1 and 2 in F2. However, all the activities lasted more than one class to be completed, totalizing 12 meetings, due to issues related to course planning and availability to carry out the activities in classes, since we avoided interference in the semester progress. It is also important to highlight that at the beginning of the research we only had 1 HMD, an issue that was later solved by purchasing 4 HDMs.

For data collection, we recorded the activities on video, and asked students and teachers to fill in questionnaires for each activity and also a final questionnaire. We also interviewed students and the teacher (nonetheless, we were not able to distribute the final questionnaire to F1, totalizing 6 students). Therefore, the teacher answered 5 questionnaires, the researcher conducted 13 interviews with students, and he also kept diaries where he noted down observations and descriptions of each activity.

Given that we followed the basic cycle of action research during each activity, improvements to questionnaires were made during the reflection stage of the cycle. As we will present general results, we considered only the final questionnaires of each class and the most relevant questions and answers

(see Section 7 for the full questionnaires). For multiple choice questions, we used the Likert scale to gather information from students. We also included free text questions. Questions asked during interviews are described in Section 7—Common questionnaire questions.

3. Results

This section presents a summary of the data from the questionnaires, diaries, interviews and video recordings. It is important to highlight that this study is still in progress and the completion of activities is planned for June 2019, thus we will present preliminary results from the first stage that took place in the second semester of 2018. It is also important to make clear that, for this paper, we decided to present a general view of the results, consequently not discussing in detail each activity and each collected datum.

3.1. Teacher

The teacher totally agreed that the activities carried out during the semester contributed to the lessons and the learning process of the students, highlighting that they aroused greater interest in the French classes, drawing students' attention and allowing them to immerse themselves in an unknown environment. She also emphasized that students were able to act as agents in their own learning, especially in the tour creation activities, not being merely spectators.

Regarding the development of the four linguistic competences, she pointed out that all of them were equally covered and well developed. The tasks with video playbacks, for example, greatly contributed to their oral comprehension, as students could listen to people in a virtual environment, increasing their attention to oral segments of speech. Group discussions after the video playbacks also contributed to their oral production, as well as the tour creation activity, since students had to record audio tracks to present some information in their virtual tours as a narration.

The teacher also noted that written competence was greatly improved through the production of texts related to the VR activities. She declared that they felt more motivated to produce these texts, and most subjects studied in lessons were in use during these activities, e.g., vocabulary, verb conjugations and verb tenses. Written comprehension was considered through the activities where students had to search for more information about some places seen in a virtual environment, e.g., Martinique and Nigeria.

Concerning motivation, she affirmed that it was especially taken into account while using VR, since the process of learning could go beyond the traditional resources commonly used in classes. She also stressed that these resources, i.e., text, audio, images and video, could even be used simultaneously during the activities. She pointed out the fact that by using VR, students could get closer to the culture of their target language, which is sometimes far away from their realities. This was an important motivation factor, since students were taken away from their physical space and could experience a different reality, even if only virtually.

She also stated that students showed better progress during the lessons, when compared to another class at the same level. She argued that in classes at F1 level, students normally do not practice oral production. However, when it was induced in activities with VR, students were more engaged and completed the activities without the usual resistance found in students at this level. In F3/F6, the teacher suggested an improvement in written production and comprehension, since they were engaged in writing activities after watching VR videos.

3.2. Students from F3/F6

A total of seven students answered this questionnaire. For the question "Did you like the activities carried out with VR during the semester", 71% of the students answered, "Totally agree", while 29% chose "Agree". The exact same percentage applies to the question "Do you believe that the activities contributed to the retention of the content worked in lessons?" and "Would you like to do more

activities with VR?". Regarding the question "Did you feel motivated during the activities carried out through the semester", 57.1% of the students answered "Totally agree", while 42.9% chose "Agree".

Regarding the questions related to the four linguistic competences, we asked the students to evaluate, on a scale from 1 to 5, how much the activities with VR were effective in the development of a particular competence, considering their experience during the semester. The following charts represent (Figures 4 and 5) the score attributed to each competence.
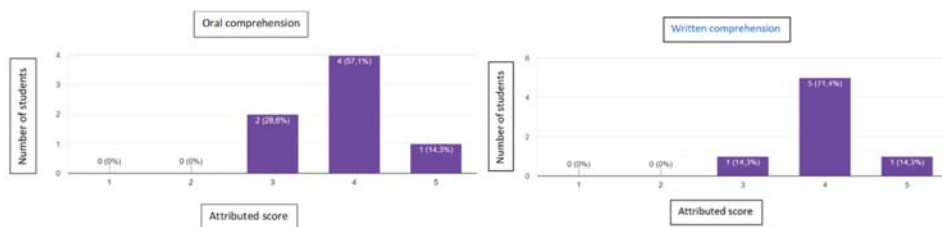

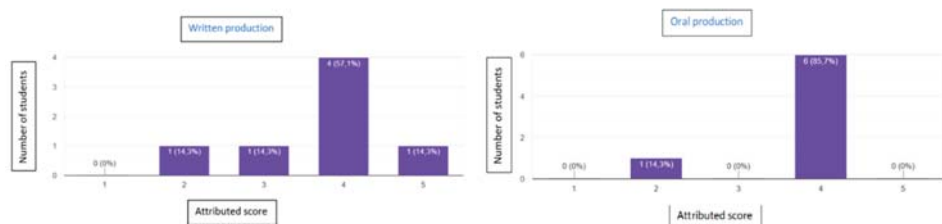**Figure 4.** Comprehension competences chart of F3/F6 students.

Figure 5. Production competences chart of F3/F6 students.

In open-ended questions, all students affirmed that they believe that the activities with VR can help with learning foreign languages, and all of them want to carry on with the activities. Only one student experienced discomfort during the activities with VR.

3.3. Students from F1

A total of five students answered the questionnaire. For the questions "Did you like the activities carried out with VR during the semester" and "Do you believe that the activities contributed to the retention of the content worked in lessons?", 100% of the students totally agreed. For the question "Did you feel motivated during the activities?", 60% answered "Totally agree", while 40% chose "Agree".

Students from F1 also answered a question about their sense of immersion during the last activity, in which 75% of students attributed a score of 4 and 25% a score of 5. As for the four linguistic competences, when asked to give a score from 1 to 5, most students attributed 4 and 5 to the effectiveness of linguistic production and comprehension competences during the activities with VR.

In the answers of open-ended questions, students considered that VR can help with the learning of foreign languages, and some students asked for more activities with VR, highlighting a great contribution to their comprehension of the French language and their understanding of other cultures. None experienced discomfort during the activities and when using HMDs.

4. Discussion

The preliminary results of this study show that the utilization of VR, especially through the Cardboard platform, can be a powerful tool in language learning. Firstly, due to the fact that Cardboard requires only a supported smartphone and a cheap headset, the promotion of MALL and digital technology in classrooms and schools can be expanded. The issues regarding spending a considerable

amount of money to buy computers, build laboratories and purchase other expensive equipment can be solved by using smartphones, representing, as we discussed in the Introduction, a step towards the normalization phase of computers in language learning (Bax 2003; Chambers and Bax 2006; Paiva 2015).

In addition, as a result of this promotion, the problem concerning smartphones in Brazil (Balestrini et al. 2018) can also move a step further toward a better understanding and acceptability in Brazilian schools. By using VR with the Cardboard platform, and consequently using smartphones, we have fertile ground to promote the idea that with smartphones, we can carry the world in our pockets (Leffa and Irala 2014). For this reason, teachers and educational administrators are able to perceive it as a useful tool, in contrast to the idea of having a negative effect, which is found in many Brazilian schools.

The development of active learning was also observed during the activities with VR. As the teacher stated, the learners could act as agents in their own learning through activities such as virtual tour creation, group work and discussions. Learners were encouraged to leave their comfort zone, i.e., their desks and their traditional learning methodologies, and were able to experience new places and cultures through VR and the related activities. Therefore, learners were in the center of learning processes, not being merely spectators, but acting dynamically in the classroom.

The harmony of the activities with the Postmethod principles (Kumaravadivelu 2003), in terms of the autonomy of teacher and learners, raising social consciousness, integrating linguistic skills, maximizing learning opportunities, and contextualizing linguistic inputs were all observed while carrying out the activities. This supports the idea that digital information and communications technology (DICT) contributes to effective language learning (Valente 2014) in the contemporary context.

Regarding the four linguistic skills, the teacher and the students recognized that the activities were notably positive in their development. As the teacher stated, all the four skills were equally well considered during the activities. Students were encouraged to work even with the those who were less developed in the context of CEL, i.e., oral production and oral comprehension.

Motivation, however, was the salient point in all the activities. The teacher and the researcher observed that all the students were highly motivated before, during and after using VR. At first, as they declared in the interviews and questionnaires, it was the innovative aspect of this technology that attracted them. Throughout the activities, they demonstrated great interest and enjoyment when watching the videos and interacting with the tours, which were presented in the textbook or mentioned during lessons.

Subsequently, better engagement was observed, resulting in more interest regarding lessons, the French language and francophone culture. We understand these consequences as a fostering of intrinsic motivation (Brown 1990; Dörnyei 1994), where the possibilities brought by VR awaken natural curiosity concerning the target language and culture, promoting enjoyable learning.

Despite the results, we recognize that further investigations related to the development of linguistic skills within the virtual environment still need to be made. This study considered the broader context of the pre-activities and post-activities, thus not investigating the virtual environment itself at a deeper level. Language learning activities in virtual spaces where the students get together is possible; however, it is still restricted to factors such as smartphones with higher processing power and a good internet connection.

5. Limitations of the Study

Since this study is still in progress, there are some limitations. Firstly, more activities need to be conducted considering the final feedback given by the teacher and the students, as well as the researcher's observations. A new set of activities can contribute to a new Action Research cycle, allowing more consistent results and discussion.

The fact that this study is being conducted in a specific school setting, with a low number of students, can also be taken as a limitation. However, it demonstrates a good starting point for future research on this subject, allowing for important considerations when using VR in language learning.

Other classes and groups of students who did not use the technology were initially considered as a means of comparison. Nonetheless, due to the low number of students, the complexity of the language learning process, which comprehends various variables (Almeida Filho 2007) and, lastly, the impossibility to follow other classes during this first cycle of the research, we chose not to make comparisons.

During the activities, the researcher also had limitations concerning the number of devices. As we said, initially, only one HMD and one smartphone were used. Later, more devices were acquired, allowing a better development of the activities. Nevertheless, the researcher is still depending on the students' smartphones in order to complete the activities. Even with a higher number of HMDs (a total of five), sometimes only some of them were used because students did not have compatible smartphones available. This limitation shows that the use of VR can still be difficult in some contexts, especially those whose financial support is restricted.

6. Conclusions

The recent popularization of VR represents a noticeable phenomenon, especially with the creation of the low-cost VR platform Google Cardboard. In education, VR can be considered as a powerful tool to enhance learning in different fields of knowledge. Previously used only in restricted fields, e.g., medical simulation and aviation training, now we observe an expansion of possibilities, as new VR devices and applications are being created and developed in great numbers, allowing more access at lower costs, if we compare them to previous VR devices. Considering tools such as Google Tour Creator and the A-frame (https://aframe.io), a web framework for developing VR applications, people can easily create VR experiences and share them with others.

There are many possibilities regarding language learning. This study mainly focused on using VR as an integration into pedagogical activities; however, as Lin and Lan (2015) presented, there are other ways to explore the potential of this technology. New VR tools and applications are being developed with a focus on language learning, for example, Mondly VR (www.mondly.com). Probably, in the near future, educators will have a good set of tools to choose from, and whether focused on language learning or not they will still be of great use in this field. Nevertheless, especially in the Brazilian educational context, we still need to promote the use of educational technology in schools, particularly using smartphones, which is proving to be a great tool in educational contexts.

This study has shown some results concerning the motivation and development of four linguistic abilities in language learning using VR. However, we still need to plan and carry out more activities with more students in different educational contexts, also considering a longer period of time. Then, we will have consistent results and a better understanding of how this technology can contribute to language learning. Next semester we intend to use the feedback given by the students, the teacher and the researcher's observations to design more activities using VR. We also intend to review the methodological procedures to improve data collection and the development of the activities.

Finally, with the advancement of this study, we hope to encourage educators and researchers to use VR in language teaching and learning, demonstrating the capabilities of this device in this field, as well as the needs and demands for academic research on this subject. We also aim to promote the use of educational technology in Brazilian schools, by disseminating the results of this study.

7. Common Questionnaire Questions

These questions were present in all questionnaires. Some questionnaires had dedicated questions to cover specific activities. We decided to present only common questionnaire questions since we do not have full results of the activities presented on this paper.

1. Did you like the activity?
2. Do you think that you have used efficiently the content you have learned during the classes in the activity with VR?

3. Do you think that the activity has collaborated with the retention of lesson content?
4. The activity with VR has fit the lesson theme?
5. Did you feel motivated during the activity?
6. Did you feel immersed during the activity?
7. From 1 to 5, how much would you like to know the places shown in the activities?
8. From 1 to 5, how much the activity was effective in your oral comprehension?
9. From 1 to 5, how much the activity was effective in your oral production?
10. From 1 to 5, how much the activity was effective in your written comprehension?
11. From 1 to 5, how much the activity was effective in your written production?
12. Did you experience any discomfort during the use of VR headsets?
13. Would you like to have more activities with VR?
14. What did you like that most in the activity? Consider all the moments.
15. From this experience, do you think that VR can contribute to the learning of foreign languages?

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Communication

Coptic Language Learning and Social Media

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Abstract: This study explored the potential of using the Internet, including existing social media platforms, for Coptic language learning. Through global exposure, endangered language maintenance and revitalization efforts may benefit from having a presence on social media. The researcher created Coptic language learning material, social media accounts on multiple platforms, and a website. Data were collected through a survey with questions focused on social media users' background and experience with the Coptic language learning material. In addition to the survey, analytics from the social media and website platforms were documented. The results indicated that social media provided a global audience and the Coptic language learning material blended into survey respondents' daily lives with positive acceptance.

Keywords: Coptic; social media; language learning; endangered language; language revitalization; language maintenance

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1. Introduction

The rapid development of mobile technology continually creates new opportunities for language learning. These new opportunities include novel approaches to language education as well as platforms for exposure to endangered languages (Cunliffe 2007). There are 7111 languages in the world (Eberhard et al. 2019) and the majority of languages are endangered (Krauss 2007). Languages can be classified as extinct if speakers no longer exist or, on the other end of the spectrum, safe if the number of speakers is expected to grow. In between extinction and safety, there are several degrees of endangerment (Krauss 2007). Coptic, a language of Egyptian origin, associated with the Coptic Orthodox Church (Takla 2014), is among the languages that are classified as severely endangered, dormant, or even extinct (Eberhard et al. 2019). What can be done to support and protect such endangered languages and prevent their loss? Crystal (Crystal 2014) theorized factors that can strengthen the position of endangered languages; among them is the use of electronic technology. The study presented here explores how the affordances of technology can be engaged as a resource to restore and develop the Coptic language.

2. Background

Motivated individuals and communities have served as actors for language revitalization and maintenance efforts. They employ various strategies to strengthen the position of an endangered language, such as the establishment of immersion schools. This approach has been examined for the Hawaiian (Warner 2001), Ojibwe, and Māori languages (Hermes and Kawai'ae'a 2014), among others. Although the literature largely focuses on revitalization efforts that are still in progress, research has reviewed past success of similar efforts. For example, an exemplary case of language revitalization is that of Hebrew. Over the course of approximately 25 years, starting at the end of the nineteenth century, the position of Hebrew strengthened dramatically through a persistent effort. This success can partly be attributed to the consistent and centuries-long use of Hebrew as a religious language for Jewish prayer (Spolsky 1995).

Recently, ongoing language revitalization efforts have been incorporating electronic technology as a tool for language learning outside of traditional education settings. The language learning application Duolingo currently offers 33 language courses for English speakers, including several endangered languages. In addition to the 21.8 million learners of Spanish, Duolingo also claims to have 173 thousand learners of Navajo, 286 thousand learners of Hawaiian, and 336 thousand learners of Welsh (Duolingo n.d.). Still, mainstream language learning technology such as Duolingo has not accommodated the needs of all endangered language learners. Efforts, such as that of Ojibwe, have found it necessary to create their own language learning material. Hermes and King (2013) examined the use of a computer software program among families of beginner level Ojibwe language learners. The software included videos, flash cards, games, exercises, and quizzes. The participants consistently used the software over a period of eight weeks by dedicating time to use it each day. The results from the study suggested that the consistent use of the software provided the adult participants in particular with the confidence and skills that they needed to start using the language.

More specifically within electronic technology, research suggests that the Internet has been used for endangered language learning through various websites and applications. Although there are people without access to the Internet, the Internet provides equality for communities that may not be able to afford traditional sources of media (Crystal 2014) and do have access to the Internet. For example, Jones (2015) investigated the use of digital technology for Welsh language learning. All of the participants in Jones' study reported using the Internet in various ways to learn Welsh. They watched YouTube videos, read Facebook and blog posts, wrote emails, participated in Skype conversations, created iTunes U flash cards, and used Google Translate. They also used language learning resources and viewed Welsh television programs on British broadcast websites.

2.1. Social Media

Social media is potentially effective because it is ubiquitous and manageable. It incorporates feeds that provide mobile device users with small segments of information. Common practice of mobile social media involves moving through a feed while absorbing information actively or passively. The Pew Research Center reported that within the United States, 74% of Facebook users, 63% of Snapchat users, 60% of Instagram users, 46% of Twitter users, and 45% of YouTube users access the platforms at least once a day (Smith and Anderson 2018). Jones et al. (2013) investigated the use of Twitter among Welsh speakers. The results indicated that the majority of participants expected to read and write in Welsh when they signed up for a Twitter account and chose to follow other Twitter accounts based on their use of Welsh. They considered Twitter to be an easy platform to frequently produce and engage with Welsh content as well as connect with other Welsh speakers.

Thus, through global exposure, endangered language maintenance and revitalization efforts can benefit from having a presence on social media. Stern (2017) explored the role of Facebook in Balinese revitalization efforts by administrators and members of a Facebook group. Although the group page was visible to the public, only members of the group could post. The members of the group, mostly teenagers and young adults, posted a variety of content in Balinese, but not necessarily about the Balinese language. The results suggested that the presence of Balinese on Facebook transcended time and space by reaching an international audience that could interact continuously. Similarly, Cru (2015) explored the role of Facebook in Yucatec Maya revitalization efforts. The results indicated that youth encouraged the use of Yucatec Maya by posting in the language. Other Facebook users engaged with the posts by reading and replying to them, creating a written dialogue. Although most of the post replies indicated that users had some degree of proficiency in the language, one example indicated that a Facebook user was not proficient enough in the language to use it but was interested in learning it. The results suggested that the presence of Yucatec Maya on Facebook could reach speakers and learners on a global level and appeal to youth because of the relevance of Facebook in their modern lives.

2.2. Coptic Language

The present study explored the presence of social media specifically dedicated to Coptic language learning. Coptic is an indigenous language of Egypt and a member of the Afroasiatic language family. It is the last stage of the Ancient Egyptian language, which dates back to 3000 BC. The writing systems of the Egyptian language evolved from the hieroglyphic system to Hieratic, and then Demotic (Loprieno and Müller 2012). By the third century BC, the Egyptian writing system further evolved to incorporate Greek, a dominant language at the time, and was henceforth referred to as Coptic.

Coptic was once the majority language in Egypt with different regional dialects, but it slowly became a minority language (Ishaq 1991). Although empirical research on the vitality of the Coptic language has yet to be conducted, organizations still estimate the vitality of the language. For example, UNESCO currently classifies the Coptic language as extinct (Moseley 2010) based on their language vitality and endangerment framework. Extinct is the highest degree of endangerment within this framework and implies that there are no speakers left (Brenzinger et al. 2003). Another organization, SIL International, recently updated their classification of Coptic based on a different framework, the Expanded Graded Intergenerational Disruption Scale. Coptic was previously classified as dormant, which is the last level of endangerment before extinct. A dormant language is defined as only being used symbolically for ethnic identity (Simons and Fennig 2018). The current classification of Coptic was downgraded to second language only, which is defined as no longer being a heritage language of an ethnic community (Eberhard et al. 2019). This updated classification may not accurately depict the vitality of the language, including one of its dialects, Bohairic.

Despite Coptic language loss, the Coptic dialect, Bohairic, has been used continuously within the Coptic Orthodox Church. Bohairic Coptic has survived for centuries in a diglossic context (Ishaq 1991) along with Arabic. Priests, deacons, and parishioners continue to perform Coptic hymns during church services. These hymns have been performed throughout the history of the Coptic Orthodox Church (Ramzy 2013). Although priests and deacons can use other languages in religious services, they often choose to use Coptic in order to maintain the rhythmic and melodic musical features that incorporate the syllabic features of the Coptic language (Ragheb 2018). Furthermore, Coptic language education has continued through classes organized by churches and through books published by churches (Younan 2005).

In the 1960s, the Coptic diaspora started growing in North America, Europe, and Australia (Botros 2006). Through migration, the use of the Coptic language expanded beyond the borders of Egypt. Churches in the diaspora mount screens that display the text of the liturgy in real time in three languages side-by-side, Arabic, Coptic, and English (Saad 2010). Forms of electronic media, such as satellite television broadcasting, Internet streaming, mobile applications, and social network platforms, have connected Copts throughout the diaspora as well as Copts in Egypt. Electronic media has created a Coptic community that is not separated or divided by territorial borderlines (Westbrook and Saad 2017). Although the literature highlights the use of electronic media within the Coptic community, questions still remain about the use of electronic media for Coptic language learning.

2.3. Research Questions

The researcher developed digital resources for learners of Coptic and made them available to the public via the Internet. The research questions that this study addresses are:

1.   Who would use Coptic language learning material made available on the Internet?
2.   How would they describe their experience using the Coptic language learning material?
3.   How much exposure would the Coptic language learning material receive?

3. Materials and Methods

The researcher created Coptic language learning material, social media accounts on multiple platforms, and a website. The social media accounts were public and were created on Facebook,

Instagram, and Twitter. The posts on the social media accounts were consistent with each other and anyone could view posts, regardless of whether they had an account or not, and regardless of whether or not they were followers of the account. The website was created using WordPress and included all of the content posted on the social media accounts as well as additional resources. Links to the website were included on the social media accounts.

The language learning materials that were posted first consisted of short videos for each Coptic phoneme-grapheme correspondence. There are 31 letters and 1 number in the Coptic alphabet. The majority of the letters in the Coptic alphabet are Greek letters. However, 7 of the letters are Demotic, which is the previous writing system for the spoken Coptic language (Ishaq 1991). Phoneme-grapheme correspondence was chosen as the focus of the initial language learning materials because decoding is a necessary skill in reading (Gough and Tunmer 1986). A video was created for each letter with a format that consisted of an image of the lowercase letter with a voice recording of the letter name and letter sound, followed by the uppercase letter with a repeat of the voice recording of the letter name and letter sound (see Figure 1). Research has shown that learning letter names is beneficial for learning letter sounds and reading (Foulin 2005). Videos were also created for letter combinations that corresponded with different sounds.
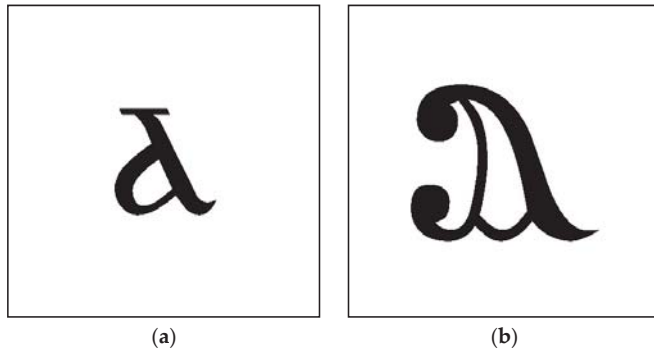

(**a**)	(**b**)

Figure 1. Video frames of the first letter of the Coptic alphabet. (**a**) Lowercase; (**b**) Uppercase.

In 2018, the first 38 videos were posted one at a time, every day, and were organically promoted mostly through the use of hashtags (i.e., #coptic). Hashtags allow social media users to share and discover content based on phrases or words that describe the content. A short description accompanied each video post. Although the descriptions were in English, they could be translated into other languages using the platforms' translation tools. The description for the first video was *This is the name and sound of the first letter of the Coptic alphabet*.

A survey was developed, and then created on Qualtrics, to collect information from social media users. Usability tests and retrospective think-alouds were conducted in order to pretest the survey (Groves et al. 2009). The survey had a total of 27 questions, including sub questions, focused on social media users' background and experience with the Coptic language learning material. The items included multiple choice, Likert scale, and short open-ended responses (see Appendix A). The survey was anonymous and conducted in English. Immediately after the first 38 videos were posted, requests to participate in the anonymous survey were posted. The survey was only active for one week. The timing of the survey was designed to increase the accuracy of the respondents' memory recall on questions such as, *How often did the videos appear in your social media feed?* All respondents provided their informed consent before completing the survey. All of the open-ended responses were manually coded by the researcher and then organized into themes that emerged from the data (Saldaña 2016).

In addition to the survey, web analytics from the social media accounts and the website were documented. This included the number of video views on each of the social media accounts, the

number of visitors and the number of page views on the website, as well as the country location of the visitors on the website. This study, IRB-FY2018-2096, was approved by the author's University Committee on Activities Involving Human Subjects.

4. Results

4.1. Survey

During the one-week time frame that the survey was active, 27 respondents submitted the survey. However, one respondent's survey was deleted because it was incomplete, leaving a total of 26 respondents. Based on the small sample size, descriptive statistics were used to report on the quantitative data collected from this group of social media users.

4.1.1. Respondent Demographics

The results from the background questions indicated that the respondents' average age was 28.5 years (S.D. = 9). They lived in the United States, Australia, Canada, and Italy. They were born in the United States, Egypt, Australia, Canada, Italy, and Germany.

4.1.2. Respondent Language Background

The respondents reported having some degree of proficiency in languages including English, Arabic, Spanish, French, German, and Italian, which all have different writing systems than Coptic. Additionally, 12 of the respondents reported having some degree of proficiency in Coptic and ranked their proficiency in speaking, listening, reading, and writing on a scale of 0 to 5, with 5 being described as fluent. Their average self-reported proficiency in speaking was 1.67 (S.D. = 1.03), listening was 1.92 (S.D. = 1.08), reading was 2.25 (S.D. = 1.36), and writing was 0.75 (S.D. = 0.75).

Only 10 of the respondents had taken a Coptic language class in the past and they all reported that their Coptic language class was held at a church. Exactly half of the respondents reported that they had tried to teach themselves Coptic. As illustrated by the sampling of responses in Table 1, some described their challenging experience teaching themselves Coptic, whereas others described the strategies that they used to teach themselves the language.

Table 1. Description of experience teaching oneself the Coptic language.

Theme	Responses
Challenging experience of teaching oneself	"Impossible! Books are too verbose and an impersonal way to learn a language so far from English/Arabic in structure" "I have only just started but the differences between Bohairic and Sahidic are annoying to decipher and there are not many resources dedicated to Coptic as a social language, more liturgical" "Difficult" "Frustrating to learn by yourself"
Strategies used to teach oneself	"I learnt the alphabet in a week and then practiced reading every day for a few months. Once a week I would ask one of the boys from church to let me read to them so they could fix my mistakes and help with pronunciation" "Just learning vocabulary by comparing translations during liturgy or other services" "I occasionally study it with a friend, brush up with a book, or occasionally attend a Coptic Orthodox Church but not regularly" "Learning Greek alphabet and reading Coptic icons" "My husband helped me learn to read it" "Mainly learning through reading the translation in the liturgy book"

When asked why they were interested in learning the Coptic language, their reasons, which are listed in Table 2, included comprehension of and participation in worship, the ability to read

ancient manuscripts, preservation of the Coptic heritage and language, as well as the historical value of the language.

Table 2. Source of interest for learning the Coptic language.

Theme	Responses
Comprehension of and participation in worship	"I am interested in learning the Coptic language because it is the language of our fathers and so I may participate in the hymns of the church" "Understanding the liturgy more and being able to teach my child" "Understand church services better"
Ability to read ancient manuscripts	"At first it was to be able to sing Coptic hymns, now I think I would take it further to be able to read manuscripts" "For worship, and to explore further the ancient manuscripts and stories of desert fathers and mothers" "I am interested in ancient Coptic manuscripts and writings"
Preservation of the heritage and language	"To go back to my roots and preserve our heritage" "Heritage. While I believe that prayer should be easy to understand for all, I also don't want our Coptic heritage to die" "Language revival of my ancestors" "To preserve the language of our forefathers" "The heritage of the Coptic people needs preservation"
Historical value of the language	"I am interested to learn more about an enduring and vibrant culture through language" "It has an interesting history" "Due to its historical and cultural value"

4.1.3. Respondent Experience with the Coptic Language Learning Material

The results from the questions that focused on their experience with the Coptic language learning material indicated that many of the respondents used more than one type of device and more than one type of platform to view the videos. Twenty-five of the respondents used a smartphone to view the videos, 9 used a laptop, 3 used a tablet, and 3 used a desktop. Eighteen viewed the videos on Instagram, 8 viewed the videos on Facebook, 4 viewed the videos on Twitter, and 3 viewed the videos on the website. As shown in Figure 2, twelve reported that the videos appeared in their social media feed once a day, 11 reported that they appeared once every few days, 2 reported that that they appeared more than once a day, and only 1 reported that they never appeared in their social media feed. Fifteen viewed the videos 1 time and 11 viewed the videos 2–5 times. Eight reported that they always had sound on while viewing the videos, 11 had sound on most of the time, 2 had sound on about half the time, and 5 had sound on sometimes.
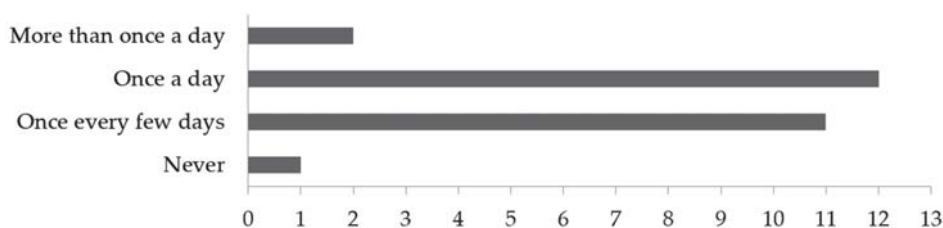

Figure 2. Frequency of video appearance on social media feed.

Exactly half of the respondents reported that the content helped them learn letter names, 16 reported that it helped them learn letter sounds, 9 reported that it helped them learn letter combination sounds, and 5 reported that it helped them find other Coptic language learning resources. Twenty-four reported that they were interested in continuing to learn Coptic, whereas only 2 reported that they

were unsure if they would continue to learn Coptic, and none of the respondents reported that they were not interested in continuing to learn.

In response to an open ended question that asked the respondents to provide additional information about their experience, they reported that, "It was great, I've never had a resource for learning another language on social media"; "Very useful to understand the language and know how it sounds"; "Videos are straightforward and reliably the same high quality"; It is not my first exposure to the Coptic language so I mostly viewed it to make sure that what I had previously learned was the same as what was on this site"; "Personally need more usage examples and context to learn".

4.2. Web Analytics

After the social media accounts and the website were launched, web analytics were documented. At the time of the survey administration, the website had a total of 50 visitors and 125 page views. The country locations of the website visitors included the United States, Canada, the United Kingdom, Egypt, Australia, and Russia. One year later, the website had accumulated a total of 249 visitors and 847 page views. The website pages that contain the phoneme-grapheme correspondence videos accumulated a total of 107 views. The country locations of the website visitors included the addition of Germany, France, China, Mexico, Italy, Indonesia, Ireland, Japan, Mongolia, Seychelles, the United Arab Emirates, and Sweden. Figure 3 shows a world map of the country locations of the website visitors. Visitors clicked on the website link 124 times through the Facebook, Instagram, and Twitter accounts, as well as 34 times through search engine results from Google, Yahoo, and Bing.

Figure 3. World map of website visitor country locations.

The number of views for each of the first 38 videos posted on Facebook, Instagram, and Twitter were added together as the total number of views per video. The video views were added together for this initial stage of the research, as the comparison of the different social media platforms would be premature at this stage. One year after the 38th video was posted, the combined total number of video views was 3049. The average number of views per video was 80.24 (S.D. = 38.52) and the range of the total number of views per video was 31 to 241. Figure 4 shows a quadratic regression model of the total number of views per video and the order that the videos were posted. The video that was viewed the most was the first video that was posted and the video that was viewed the least was the sixteenth video that was posted.
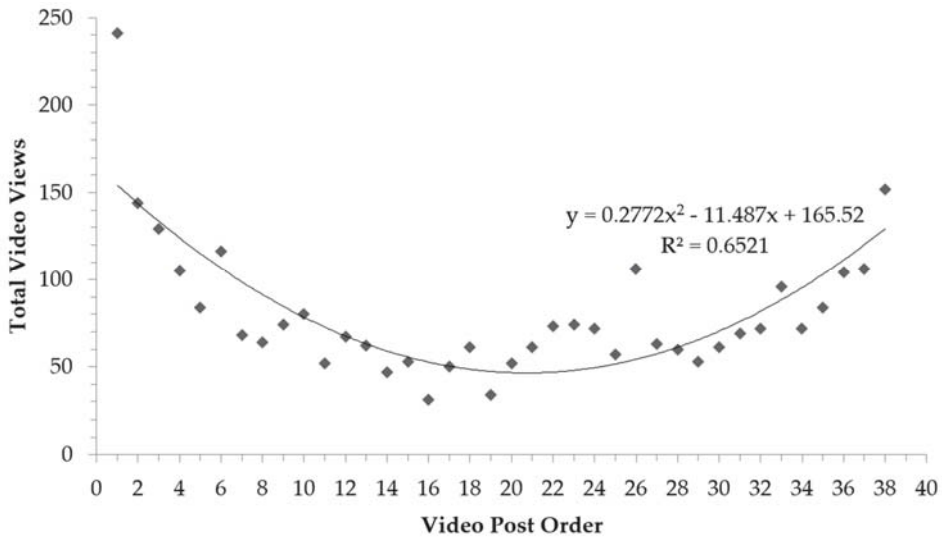
Figure 4. Quadratic regression model of total video views and video post order.

5. Discussion

5.1. Research Question 1

The results from the survey background questions, as well as the website analytics, address the first research question by describing the people who used Coptic language learning material made available on the Internet. Overall, the survey respondents and the website visitors were an international group that were located in the United States, Canada, the United Kingdom, Egypt, Australia, Russia, Germany, France, China, Mexico, Italy, Indonesia, Ireland, Japan, Mongolia, Seychelles, the United Arab Emirates, and Sweden. This finding aligns with the literature that describes the Coptic diaspora having started in North America, Europe, and Australia (Botros 2006). This finding also supports suggestions in the literature that the Internet provides endangered language revitalization and maintenance efforts with a global audience (Cru 2015; Stern 2017). Considering the overall low cost of this effort, and that the content was mostly promoted organically through the use of hashtags within a short period of time, the results suggest that the Coptic language learning material developed a presence on the Internet. However, it may be beneficial for future efforts to promote websites and social media accounts more actively if the goal is to create a wider presence.

All of the survey respondents that indicated that they had taken a Coptic language class in the past reported that the classes were held at a church. This supports the notion that Coptic language education has continued through classes organized by churches (Younan 2005). Almost half of the survey respondents reported that they had some degree of proficiency in Coptic. However, their average self-reported proficiency levels in speaking, listening, reading, and writing were low. This may suggest that language learning material on social media may be especially useful for beginners. This could also suggest that posting beginner level language learning material on social media may attract beginner learners. Half of the respondents reported that they had tried to teach themselves the Coptic language and explained the challenges they experienced as well as the techniques they used. Although it is common for people to teach themselves a language, the results suggest that Coptic language learners may not have the variety of self-teaching resources that other language learners have (Duolingo n.d.).

Several of the survey respondents attributed their interest in learning the Coptic language to reasons related to the preservation of their Coptic heritage. This contradicts the current classification of Coptic in the literature. SIL International classifies Coptic as second language only, which is defined

as no longer being a heritage language of an ethnic community (Eberhard et al. 2019). Further research could determine the vitality of the Coptic language and could update classifications if necessary.

5.2. Research Question 2

Results from the survey address the second research question by describing people's experience using the Coptic language learning material made available on the Internet. The Coptic language learning material blended into the respondents' daily lives with positive acceptance. More than half of them reported that posts appeared in their social media news feed at least once a day. This suggests that the language learning material was often delivered to the learner without requiring the learner to actively seek it. As reviewed in the literature, the development of confidence and skills in the language learning process benefits from consistency (Hermes and King 2013), which further supports the important role that social media can have in learning any language.

Almost all of the respondents reported that they used a smartphone to access the language learning material, which suggests that social media users may be mobile. The development of language learning material for social media should take mobility into consideration. One of the respondents commented on the high quality and straightforwardness of the videos. Although the language learning material was provided to the public informally and without financial cost, it was still designed purposefully and created carefully. Another respondent commented on the usefulness of knowing how the language sounds. Furthermore, all of the respondents indicated that they had the sound on while watching the videos at least sometimes and more than half indicated that they had the sound on at least most of the time. The availability of audio is particularly salient for learners of an endangered language because access to the spoken language may be limited.

5.3. Research Question 3

Results from the web analytics address the third research question by quantifying the exposure of the Coptic language learning material based on social media video views, website page views, and website visitors. Over the timespan of one year, the videos posted on social media accumulated a total of over three thousand views and more than two hundred people visited the website. This supports the theory that electronic technology, including the Internet, has the potential to help strengthen the position of endangered languages (Crystal 2014).

A possible explanation for the range between the video with the most views and the video with the least views could be the order that they were posted. Social media users that discovered the social media accounts may have viewed the most recent posts and may also have been interested in viewing the earliest posts. However, social media users that were actually using the language learning material may have viewed all of the posts, including those in the middle. The content of the videos was limited to phoneme-grapheme correspondences, which may not have been useful for every social media user that discovered the accounts. Although decoding is a necessary skill in reading (Gough and Tunmer 1986), it is a beginner level skill that more proficient language learners may already have.

It should be expected that social media users have different needs based on their varying levels of proficiency. This is similar to what was reviewed in the literature. The majority of the members of a Yucatec Maya Facebook page were proficient enough to communicate with each other. However, one member was interested but was not proficient enough to join the conversation (Cru 2015). Future efforts should determine what content would be most useful but not be discouraged by low engagement. Older content can be reposted if it is determined that it needs more exposure. Furthermore, future research could examine the relationship between social media post engagement and post order over a longer period of time and with a variety of content.

6. Conclusions

This study must be considered purely exploratory. The sample was self-selected and may not be representative of the larger population with an interest in learning Coptic. Moreover, promotion was

limited and time for the project was constrained. Although generalizations cannot be made from the small self-selected sample size, the results are still promising and can guide future research related to the Coptic language, as well as other endangered languages.

Future research should focus on the vitality of the Coptic language. The current classification of the language did not align with the survey respondents' comments regarding its role as a heritage language. Therefore, it should be determined if the position of the language is different than what is depicted in the literature. Furthermore, the vitality of Coptic, as well as other endangered languages, should be measured on more than one occasion, and over time, to determine if revitalization and maintenance efforts are effective in improving the position of the language.

The use of existing platforms, such as social media, for language learning should continue to be examined. The majority of the survey respondents in this study reported that they learned from the posts and were interested in continuing to learn the Coptic language. Future research could focus on the effectiveness of learning an endangered language through social media through longitudinal studies.

In addition to providing direction for future research, the implications of global exposure should be promising for endangered language efforts. The survey respondents and the website visitors in this study were people with Internet access that were located all over the world. A global audience is essential for endangered language exposure since diasporas take their languages outside of their indigenous boundaries.

Conflicts of Interest: The author declares no conflict of interest.

Appendix A Survey

1. How old are you?

2. What country were you born in?

3. What country do you live in?

4. What languages do you know? Select all that apply.

   □ Arabic □ Coptic □ English □ Other

4.1. Rate your Arabic proficiency. 4.1.a. Speaking 4.1.b. Listening 4.1.c. Reading 4.1.d. Writing

   □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 Fluent

4.2. Rate your Coptic proficiency. 4.2.a. Speaking 4.2.b. Listening 4.2.c. Reading 4.2.d. Writing

   □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 Fluent

4.3. Rate your English proficiency. 4.3.a. Speaking 4.3.b. Listening 4.3.c. Reading 4.3.d. Writing

   □ 0 □ 1 □ 2 □ 3 □ 4 □ 5 Fluent

5. What languages were used in your home when you were a young child? Select all that apply.

   □ Arabic □ Coptic □ English □ Other

6. Do you attend a Coptic Orthodox church?

   □ Yes □ No

6.1. At what age did you start attending a Coptic Orthodox church?

   □ Under 3 years old □ 3–11 years old □ 12–18 years old □ Over 18 years old

6.2. What languages are used in the church services you attend? Select all that apply.

☐ Arabic ☐ Coptic ☐ English ☐ Other

7. Have you ever taken a Coptic language class?

☐ Yes ☐ No

7.1. Where have you taken Coptic language classes? Select all that apply.

☐ At a church ☐ At a college or university Other

8. Have you ever tried to teach yourself the Coptic language?

☐ Yes ☐ No

8.1. Describe your experience teaching yourself the Coptic language.

9. Why are you interested in learning the Coptic language?

10. What types of devices did you use to view videos from Coptic Literacy? Select all that apply.

☐ Smartphone ☐ Tablet ☐ Laptop ☐ Desktop

11. Where did you view videos from Coptic Literacy? Select all that apply.

☐ Website ☐ Facebook ☐ Instagram ☐ Twitter

12. How many Coptic Literacy videos have you viewed?

☐ 1–9 ☐ 10–19 ☐ 20–29 ☐ 30 or more

13. How many times do you typically view each Coptic Literacy video?

☐ 1 time ☐ 2–5 times ☐ More than 5 times

14. How often did videos from Coptic Literacy appear in your social media feed?

☐ Never ☐ Once every few days ☐ Once a day ☐ More than once a day

15. How often did you have sound on while viewing videos from Coptic Literacy?

☐ Always ☐ Most of the time ☐ About half the time ☐ Sometimes ☐ Never

16. How often did you repeat out loud while viewing videos from Coptic Literacy?

☐ Always ☐ Most of the time ☐ About half the time ☐ Sometimes ☐ Never

17. What did Coptic Literacy help you with? Select all that apply.

☐ Letter names ☐ Letter sounds ☐ Letter combination sounds ☐ Finding Coptic language resources

18. Are you interested in continuing to learn Coptic?

☐ Yes ☐ Maybe ☐ No

19. What are you interested in learning? Select all that apply.

☐ Grammar ☐ Vocabulary ☐ Writing

20. Provide any additional information about your experience using Coptic Literacy.

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Ethics-Based Computer Science in Bilingual and Multicultural Schools

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Abstract: For decades, schools have adapted to a technologically-dependent world—developing courses, faculty positions and curricula to begin explicitly teaching with and about technology. Recognizing the need for deepening education in this area, the Lycée Français de New York, a bilingual and multicultural school, developed the digital learning department to lead the school's thinking and practice around technology and computer science education. Over time, the department shifted its focus from first only the use of computer applications, to an emphasis on computer programming, to a more recent era which includes technology ethics as an equally important area of study. In serving a bilingual school, the Lycée's digital learning team adapted teaching methods for a bilingual student body. The multiculturalism of the school presents the opportunity for fertile ethics discussions, since cultural values often impact values regarding technology use.

Keywords: ethics; computer science; bilingualism; multiculturalism; technology

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1. Introduction

Given the current speed of technological change, the proliferation of technology into personal spaces and the young age at which children first encounter technology, the educational community needs to shift our priorities and our discourse in reference to technology and computer science education. This essay aims to encourage computer science educators to focus significant time and energy on ethics in order to foster student development of habits and attitudes that support healthy relationships with technology.

This essay is structured to first explore the background of technology and computer science education and then explains how the evolution of the field impacted the experience of one bilingual and multicultural school, the Lycée Français de New York.

The section that follows will discuss the challenges and opportunities of teaching technology with an ethical focus while also immersing students in multiple languages and cultures. Differences in linguistic backgrounds, cultural norms and legal systems often impact the development of values regarding what is ethical. Exploring these value differences can unearth key realizations about beliefs regarding technology use and design.

Finally, the essay will advocate for the need for more student voice in ethics-based computer science and technology education. Much of the technology that students use currently will be drastically changed or obsolete by the time they reach the workforce. Therefore, it is imperative that teachers engineer learning experiences that help students develop strategies regarding how they use technology now, not how they anticipate they might do so in the future.

2. Background

The work of educators has changed dramatically in the Internet age. Teachers and professors are no longer considered to be the sole sources of information, the only providers of skill development, nor the only sounding board for critical feedback. Where we have previously likened students to

"empty vessels" (Rodriguez 2012, p. 177), all Internet users and children especially, are now more accurately compared to "drinking from a fire hose"—inundated with information, various forms of media and buzzing and blinking notifications (Stover 2000, p. 45). Given this reality, teachers maintain a critical role in assisting children in developing the skills necessary to navigate this always-on media environment and an ever increasingly technologically dependent world.

The field of computer science and technology education has evolved substantially over recent decades to accommodate the quickening pace of technological development and societal expectations regarding the workforce. For years the focus of the field was preparing a "technologically literate labor force" (Apple 1992, p. 47) and then in the late 2000s "preparing students for jobs that don't even exist yet" (Su 2009, p. 167).

Gone was the idea that students would succeed in school, go off to college, study in one area and work in that field for the rest of their lives. The role of educators shifted towards the ambiguous duty of preparing students for an unknown future in a technologically-dependent world. What resulted was a national emphasis on STE(A)M (the integration of science, technology, engineering [arts] and math) and 21st century skills.

In his 2009 article "STEM, STEM Education, STEMMania," Mark Saunders provides a history of STEM. The term "STEM" grew out of a program from the National Science Foundation in the 1990s, to create an acronym for science, technology, engineering and math (Saunders 2009, p. 20). In 2005, Thomas Friedman included a warning in The World is Flat, claiming that Chinese and Indian advances in STEM would leave Americans behind in global competitiveness. What followed was a flurry of activity from business and government. In 2007, the National Science Board wrote a STEM action plan and in the same year, the National Governors Association targeted funding for STEM education (Saunders 2009, p. 25). In fact, in his 2011 State of the Union Address, President Barack Obama promised, "And over the next 10 years, with so many baby boomers retiring from our classrooms, we want to prepare 100,000 new teachers in the fields of science and technology and engineering and math" (Obama 2011).

During the same decade, economists, educators and business leaders examined how the rise of advancing technology would affect the American workforce. Autor, Levy and Murnane argued that computerization would replace the jobs of those performing routine manual and cognitive tasks and technology would aid those who were conducting "nonroutine problem solving and complex communications tasks" (Autor et al. 2003, p. 1279). Such a shift would require schools to emphasize new skills. In 2009, the Partnership for 21st Century Skills published the "vision for 21st century learning", working with parents and experts across educational sectors and business (Kay 2010, p. xvi). In addition to traditional academic skills, this model emphasizes "learning and innovation skills"—communication, collaboration, critical thinking and creativity, along with "information, media and technology skills" (Partnership for 21st Century Learning 2015).

3. Computer Science and Technology Education at the Lycée Français de New York

The Lycée Français de New York was founded in 1935 and is a pre-K through 12th-grade bilingual, multicultural school on the Upper East Side of Manhattan. Combining American and French curricula in one program, each year at the Lycée, over 1300 students learn with faculty who represent francophone and anglophone countries throughout the world.

By the early 2000's, the field had already accepted that students would need technology skills to succeed in future careers (Apple 1992, p. 47) and the Lycée began to transform learning and teaching to prepare students appropriately. The Lycée purchased and installed SMART Boards for each classroom, trained teachers and offered technology classes for students in grades 1–7.

In recent years, the Lycée has experienced three major eras in our computer science and technology education philosophy. The first era was that of treating technology as a support tool for other subjects. Technology classes (not computer science classes at that time) focused on teaching students to navigate and use computer applications such as Microsoft Word or PowerPoint.

In 2012, the Lycée piloted its first 1:1 device program, providing individual iPads to 6th grade students who chose to study Italian as their foreign language. Following notable results in the pilot study (Rocca 2015), the Lycée embarked on a gradual 5-year rollout of a 1:1 device program. Students in grades 3–8 use iPads (only taking them home in grades 6–8) and students in grades 9–12 are each required to bring a laptop to school. The goals of this program are to (a) foster technological productivity and the inclusion of 21st century skills in students' academic work and (b) teach students to develop critical skills related to being responsible for a device (e.g., device care, balancing time on and off the device, staying focused on the task at hand). The digital learning team philosophy was and still is that students need to have hands-on experience with the devices. Students need to live through both successes and pitfalls within a safe environment, to help them hone their skills before they leave the safety net of school.

With the introduction of the 1:1 program and teachers becoming more accustomed to teaching with technology, the use of computer applications became more prominent in other subject areas. Therefore, these skills no longer needed to be the focus of computer science instruction. From about 2012–2017, the aim of the computer science program gradually shifted away from teaching students how to use computer applications and moved towards a focus on computer programming. In 2012, the Lycée introduced object-oriented, block-based programming in the most advanced computer science class, which at the time was in grade 7. Block-based computer programming was rolled out in the elementary levels over time, allowing for middle school students to move to text-based languages and create more sophisticated projects.

In recognition of a greater prominence and purpose for computer science and digital learning as a discrete subject area, in 2013, the Lycée created the digital learning department—committed to enriching and equipping student learning through the integration of technology. The department *enriched* work of learning in all areas of the school through providing tools and training that faculty could use to achieve domain-specific learning goals. Digital learning *equipped* students with the skills necessary to succeed in a technology-dependent world by teaching computer programming, media production, media literacy and digital citizenship.

From the years 2013–2017, the digital learning department focused on preparing students for jobs that did not exist yet, by assuring that they had critical skill development in STEAM and 21st century skills, enriching education and equipping our students for the technologically-dependent unknown. In 2016, the Lycée expanded mandatory computer science courses through grade 9, with electives rolled out gradually in grades 10, 11 and 12 over the next few school years. Also in 2016, the Lycée opened a media lab, (to prioritize media literacy and media production) and a Makerspace (to prioritize design and fabrication with a combination of high and low-tech tools).

In early 2017, a few members of the Lycée attended the NYSAIS (New York State Association of Independent Schools) Education & Information Technology conference with other independent school technologists and technology educators. One of the speakers, Tristan Harris, former design ethicist at Google, spoke about the intentional persuasive design of social media and websites, seeking to gain and maintain user attention (Harris 2017). Given adolescent brain development and the resulting novelty reward-seeking behavior (Siegel 2014), the educators present recognized that students would likely be significantly affected by the design decisions made by technology and social media platforms.

The digital learning department at the Lycée began to reconsider its mission and work. The concern was two-fold. First, the department faculty wanted to assure that students were informed and engaged consumers, introspective and aware enough to recognize how and why technology companies seek to influence behavior. Second, the digital learning team recognized that the students we teach will likely influence the current or future technological landscape in their roles as designers, executives or users. Our goal is to assure that as future designers, our students have a grounding in ethics. We adopted the mission of "helping students become conscious consumers and human-centric designers of technology". We intentionally reprioritized, holding four areas of practice in equal esteem—computer

science, citizenship and ethics, technology for productivity and making and media. See Figure 1 for a visual representation of this work.
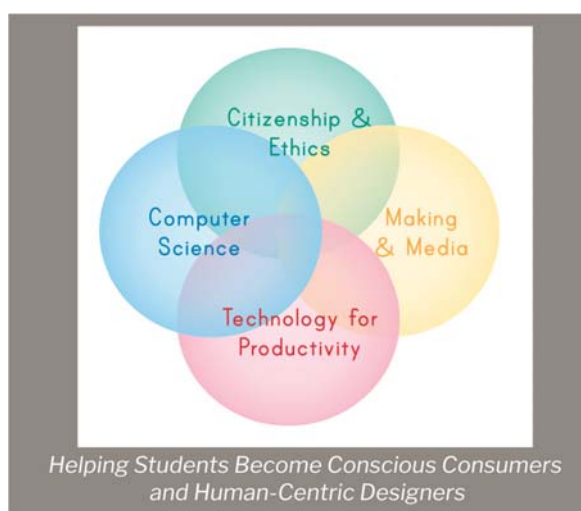

Figure 1. Digital Learning at The Lycée Français de New York (Charrel et al. 2019).

4. Challenges in Teaching Computer Science in a Bilingual Environment

Though most of the faculty at the Lycée Français de New York are bilingual in English and in French, not all of the members of the digital learning team are. However, the department is committed to meeting the needs of all students, regardless of the language profile of the student or the teacher. Monolingual and bilingual teachers use a number of strategies to reach bilingual students. They provide key vocabulary in both languages (see Figure 2 for an excerpt of a presentation to students about parts of the computer), translate instructional material into both languages and faculty often allow students to turn in work in the language in which they are most comfortable. Therefore, teachers use a variety of strategies or models to accommodate varying language abilities.
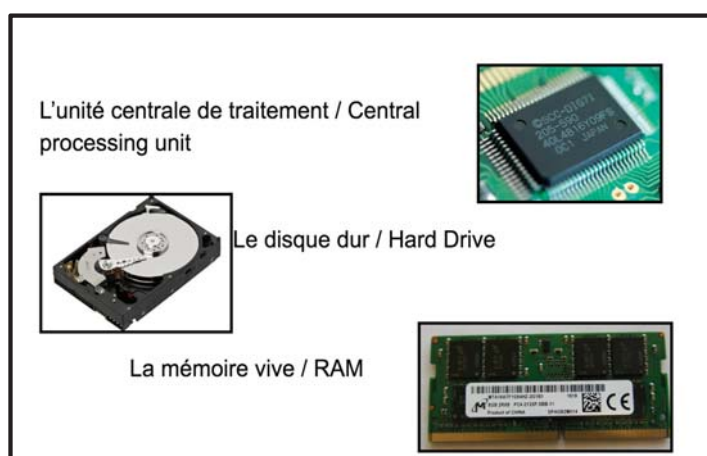

Figure 2. Example of definition of terms in French/English (Flora 2018) Class Notes.

Obviously, preparing lesson materials in more than one language takes extra time, a precious resource for teachers. This challenge is evident, especially when teachers develop a new unit and teach it for the first time. Similarly, grading student work in a language in which the teacher is not fluent takes a great deal of time and effort. Teachers often find a colleague to assist with bilingual grading. Additionally, the department is exploring peer-assessment opportunities, where students can provide feedback to one another, which tend to alleviate some linguistic obstacles.

When ethics is introduced to the curriculum, nuanced language is important to convey meaning appropriately. Therefore, both monolingual and bilingual teachers need to approach the work of translating content thoughtfully and carefully.

5. Multiculturalism as an Asset to Teaching Technology Ethics

Codes of ethics are influenced by culture. The bilingual and bicultural nature of the Lycée provides the opportunity to explore the intersection of culture, ethics and technology. One example of an international set of standards, created by the International Society for Technology in Education, remains quite vague regarding whose definition of ethics is necessary for students to understand. Standard 2b, under the "Digital Citizen" category, states that "Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices" (International Society for Technology in Education 2016, emphasis mine).

At first glance, this standard may be fairly straightforward, albeit a tall order and a teacher in a monocultural environment could design a myriad of lessons to help students work towards this goal. In a multicultural environment, this work is much more complex. At the Lycée, we need to consider how technology use can be interpreted in both the American legal and ethical system (largely focused on individual rights and freedom of expression) and the French legal and ethical system (with a much greater focus on individual privacy). In doing so, teaching legal and ethical behavior related to technology becomes an interesting way to evaluate how values get formed across cultures and how these values influence the design and use of technology. And what follows is often that, technology, in turn, influences cultural values and norms.

An example of differences in cultural values affecting attitudes towards the use of technology could be illustrated through two 2016 articles—one from *The Telegraph* and one from *The Atlantic*. In *The Telegraph*, French legal experts predicted that it may be possible for French children to sue their parents for posting pictures of them online as minors—resulting in a hefty fine and even jail time, if the child wins the suit (Chazan 2016). Contrast this idea with reporting from *The Atlantic*, which revealed that 80% of American children under two-years old already have a presence on social media (Lafrance 2016).

In a bicultural environment, the responsibility of the computer science or technology teacher is to take advantage of the value differences across cultures and examine them with students. Allow students to play the role of the technology designer and determine how these values might or should impact the design of new tools or the redesign of existing technology. Such ethical conversation allows students to develop empathy skills, as well as user-experience skills that will impact their ability to design culturally-inclusive technology. The Lycée continues to explore how best to practically apply the intersection between culture and ethics and this topic will be the subject of future study.

6. Student Voice as a Requirement

In this field particularly, students face challenges that are unfamiliar to adults. Teachers must listen to their students, provide room for them to explore their passions and ideas in student projects and let them express their frustration with the technologically-dependent world in which they have always lived. At the Lycée, we give freedom of exploration and expression in a number of ways:

With our youngest students, we develop a culture that does not punish them for bringing their curiosity or concerns to adults. We are proactive in teaching students that they are likely to find something that makes them feel uncomfortable. When they do, they should not fear being punished

but rather they should tell a trusted adult. If teachers punish students for their Internet searches, children will be reluctant to show their teachers when they find shocking or disturbing content. In such a punitive environment, students will learn that they should process their (often difficult) emotions alone and the teachable moment will be missed.

In middle school, we create projects that require students to delve deeper into the technology they use every day. Students keep diaries of their technology use, analyze their results and discuss the implications of their findings. Eighth graders choose a social media platform to explore and investigate the implementation of persuasive techniques within that platform. Finally, the students provide alternatives that they hypothesize would improve the well-being of users.

Our high school students explore concepts such as data analysis and they are asked to examine the impacts of more cutting edge technologies such as artificial intelligence or virtual reality.

Most importantly, children of all ages need room to make mistakes and to learn from these mistakes. These essential moments are the most teachable, allowing students to develop stronger skills based on their past failures. In her 2015 book, *The Gift of Failure*, Jessica Lahey points out, through a series of evidence that "gritty students succeed and failure strengthens grit like no other crucible" (Lahey 2015, p. xxi).

7. Conclusions

In the field of computer science and technology education, teachers are trying to hit a moving target. The technology will continue to change at faster rates and our understanding of human brain development will continue to deepen. Therefore, it is important that we step back and examine what is truly valuable about our work, what we hope our students will remember long after they leave our classrooms and long after the tools we use are obsolete.

Part of this work is to provide technical skills and problem-solving strategies. Though, in the author's opinion, more importantly, the work is to assure that we are helping students develop habits and dispositions that will provide them with a foundation for remaining human in an automated world. As Lycée Français de New York third-graders learn, people have choices about their technology and media habits. However, people are designing technology to constantly becoming more skillful in guiding the user's choice in a specific direction. We seek to give students agency over their own behavior, so that they are controlling their technology, not the other way around.

In bilingual and bicultural teaching contexts, schools will need to examine what the teaching of computer science and technology looks like, both in terms of linguistic teaching methods as well as explicitly teaching how cultural differences can impact user behavior and beliefs. Providing students with this foundational understanding will hopefully allow them to be more empathetic and globally-minded as they begin their own careers.

And last, we must stop dictating and do more listening—welcoming mistakes. Our students are the most technologically connected generation. Let's allow them to be introspective and reflective, so their connections can add value for all of us.

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