



# CALL FOR WIDENING PARTICIPATION: short papers from EUROCALL 2020

Edited by Karen-Margrete Frederiksen,  
Sanne Larsen, Linda Bradley,  
and Sylvie Thouésny

# **CALL for widening participation: short papers from EUROCALL 2020**

Edited by Karen-Margrete Frederiksen, Sanne Larsen,  
Linda Bradley, and Sylvie Thouésny

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**CALL for widening participation: short papers from EUROCALL 2020**  
Edited by Karen-Margrete Frederiksen, Sanne Larsen, Linda Bradley, and Sylvie Thouéšny

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## Preface – CALL for widening participation

Karen-Margrete Frederiksen<sup>1</sup> and Sanne Larsen<sup>2</sup>

Despite the Covid-19 pandemic, the EUROCALL society succeeded in holding the 28th EUROCALL conference, EUROCALL2020, on 20-21 August as an online, two-day gathering. The transition process required to make this happen was demanding and insightful for everyone involved, and, in many ways, a logical consequence of the core content and purpose of EUROCALL. Who would be better suited to transform an onsite conference into an online event than EUROCALL?

The Online Gathering was organised in collaboration between the EUROCALL executive committee and the Copenhagen team, Patrick Wonsyld, Sanne Larsen, and Karen-Margrete Frederiksen. The conference was to have taken place at the University of Copenhagen from 19-22 August. The annual EUROCALL conference has never been held in Denmark, and both conference organisers and participants were much looking forward to this venue for EUROCALL.

CALL for widening participation was this year's theme – widening participation in many senses. *Vis-à-vis* one sense of the word, we had involved the local Danish section of Scholars at Risk, who were pleased to give the EUROCALL community insight into their work with protecting threatened scholars and promoting academic freedom around the world. We hope this can come to fruition at another occasion. CALL for widening participation also related to the effort made to widen the outreach to foreign language teachers in primary and upper secondary school settings.

We welcomed contributions from both theoretical and practical perspectives in relation to the many forms and contexts of CALL. We particularly welcomed longitudinal studies or studies that revisited earlier studies. The academic

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1. Copenhagen University, Copenhagen, Denmark; [nkd633@hum.ku.dk](mailto:nkd633@hum.ku.dk); <https://orcid.org/0000-0003-4587-3078>

2. Copenhagen University, Copenhagen, Denmark; [sannela@hum.ku.dk](mailto:sannela@hum.ku.dk); <https://orcid.org/0000-0001-6062-2838>

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committee accepted 300 abstracts for paper presentations, symposia, workshops, and posters under this theme.

While some authors took the opportunity to postpone or further develop their work, 61 paper presentations and a number of posters were submitted and uploaded to EUROCALL's YouTube channel (<https://www.youtube.com/channel/UCRYxp-MEw0KrOaZqPzh3IBw>) for the Online Gathering and for further study since the EUROCALL YouTube channel will remain open. On the YouTube channel, you also find recordings of the Online Gathering programme, covering the two keynotes, Professor John Gillespie, Ulster University, for the Graham Davies Keynote, and Professor Vincent Hendricks, University of Copenhagen, seven workshops and five symposia.

The EUROCALL2020 gathering YouTube channel has 235 subscribers and 5,940 views<sup>3</sup> so it has proved to be a success. The presentations available on YouTube are the point of departure for the present publication.

We would like to thank all participants, presenters, keynotes, and special interest groups who made the Online Gathering a success. Special thanks go to Teresa MacKinnon, the University of Warwick, and Kate Borthwick, the University of Southampton, who worked technical and communicative magic, both before and during the event.

We would also like to thank the authors of the papers along with the many reviewers who gave insightful feedback and shared their expertise. Finally, we express our gratitude to Sylvie Thouéšny and Linda Bradley for their continuous dedication to the EUROCALL short paper publication.

We hope you will enjoy reading this volume, the first one to reflect a one hundred percent online EUROCALL conference/Online Gathering. We look forward to exploring the next step at EUROCALL2021.

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3. By 20 November 2020

# From self-study to studying the self: a collaborative autoethnography of language educators as informal language learners

Antonie Alm<sup>1</sup> and Louise Ohashi<sup>2</sup>

**Abstract.** This article reports on an autoethnography by two authors who analysed the interrelationship of their experiences as foreign language learners, educators, and researchers. Both participant-researchers had taken advantage of the accessibility of online learning resources to learn new languages, had incorporated digital tools into their teaching practices, and had researched how technology could be used as a learning aid for students inside and outside the classroom. In this collaborative autoethnography, they turned the research lens upon themselves and each other to develop understandings of the way their experiences as language learners and researchers impacted upon their teacher cognition and teaching practices.

**Keywords:** collaborative autoethnography, informal language learning, multilingualism, teacher cognition.

## 1. Introduction

This paper examines how the authors' informal online L2 learning experiences impacted upon their teaching practices, as “teachers’ cognitions can be powerfully influenced by their own experiences as learners” (Borg, 2009, p. 3). It also extends to their role as researchers by examining the interconnectivity of the teacher, learner, and researcher dimensions. This study is autoethnographic, following studies in teacher education (Yazan, 2019), CALL (Clark & Gruba, 2010) and instructional design and online education (Park, Jung, & Reeves, 2015). Mirhosseini (2018)

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1. University of Otago, Dunedin, New Zealand; antonie.alm@otago.ac.nz; <https://orcid.org/0000-0002-1232-9204>

2. Meiji University, Tokyo, Japan; ohashi@meiji.ac.jp

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has called for more autoethnographic research in TESOL<sup>3</sup>, which is still relatively rare despite its potential to deepen epistemological understanding in this field. The authors take this challenge and extend it by conducting a collaborative autoethnography in a multilingual context.

## **2. Method**

### **2.1. Participants**

The participant-researchers share several similarities. Both are multilingual and teach their L1 as a foreign language. Louise teaches English in Japan and speaks Japanese, French, and Italian at various levels of proficiency. Antonie teaches German in New Zealand, is proficient in English and French, and is learning Spanish. As Computer/Mobile Assisted Language Learning (CALL/MALL) researchers, they have both been exploring the role digital technology plays in their students', and more recently in their own, L2 development.

### **2.2. Collaborative autoethnography**

The participant-researchers undertook a collaborative autoethnography, a method which involves “researchers pooling their stories to find some commonalities and differences and then wrestling with these stories to discover the meanings of the stories in relation to their sociocultural contexts” (Chang, Ngunjiri, & Hernandez, 2016, p. 17). To gain an understanding of the way their identities and experiences as language learners, teachers, and researchers intertwined, they followed Chang et al.'s (2016) iterative process of collaborative autoethnography. This approach involved four stages – preliminary and subsequent data collection, data analysis, and report writing – shifting at each level between individual and collaborative (see [supplementary materials](#) for a full overview).

## **3. Results and discussion**

This section explores three central, inextricably interconnected dimensions that emerged in the analysis, reflecting the participant-researchers' transitions from language educators who engaged in L2 self-study to researchers who engaged in studying the self.

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3. Teaching English to Speakers of Other Languages

### 3.1. The learner dimension

While engaging in the iterative process of collaborative autoethnography, the authors re-examined their language learning histories, identifying successful informal and unsuccessful formal learning episodes. These experiences were partly behind their shift towards autonomous learning. They experimented with a range of learning resources and felt drawn to ‘the digital wilds’, a term defined by [Sauro and Zourou \(2017\)](#) as “informal language learning that takes place in digital spaces, communities, and networks that are independent of formal instructional contexts” (p. 186). The authors explored the digital wilds through multiple tools but focus on their use of Netflix below.

Louise began using Netflix in Italian in December 2018, 16 months after commencing her studies. She had previously used Netflix for entertainment in English and felt it could offer an enjoyable way to improve her L2 skills. When watching in Italian she initially understood little and needed substantial English audio/subtitle support, often accessed during subsequent viewings, but enjoyed the shows and the challenge of watching them in her L2. In early 2019, her reliance on English was still high, but later that year she noticed a dramatic improvement in her vocabulary recognition, listening/reading comprehension, and reading speed. By 2020, she was comfortably watching shows solely in Italian for pleasure.

Antonie started watching Netflix series in Spanish in June 2017, after six months of Spanish practice with language apps ([Alm, 2016](#)). She initially made extensive use of the replay function and used subtitles in Spanish and English. Having developed a daily viewing routine, she noticed, like Louise, steady improvement in her understanding. A further source of satisfaction was the cultural knowledge she gained, and a growing familiarity with sites and actors she encountered over time in different series, nurturing her emerging L2 self.

### 3.2. The teacher dimension

Their personal experiences strongly impacted on their teacher cognition and, in turn, this influenced their teaching practices. Louise’s successful experiences with informal learning pushed her to seek ways to support out-of-class online learning in her English and self-directed learning courses. She guided students through planning-action-reflection cycles ([Ohashi, 2018](#)) to help them reach goals they determined for themselves. Informed by self-determination theory, Antonie’s approach to language teaching equally placed a strong emphasis on learner autonomy, self-reflection, and collaboration ([Alm, 2006](#)).

The researchers' use of particular tools as learners impacted upon the way they guided students and structured their courses. Louise's use of Netflix led her to present it as an L2 resource, encouraging students to use it and share their learning experiences with each other. Similarly, Antonie's positive experiences led her to include a Netflix project in her German course. To foster learner agency, students were guided to self-select German series, and to encourage peer learning, they shared their viewing experiences with classmates through blogs. Learning from students' self-reflections, and reflections on each other's experiences, she adjusted the assignment in subsequent iterations, increasing its length and providing increasing self-control over learning tools (e.g. use of subtitling apps such as Mate<sup>4</sup> or Memrise<sup>5</sup> for vocabulary revision).

Assuming a learner position reinforced their understanding of the dynamic nature of out-of-class L2 engagement. They were confronted with impediments that they had not foreseen but also found ways of becoming creative with their time constraints. They knew how they optimised Netflix in their own contexts and wondered how the viewing practices of their students were shaped by their lives and routines. Their discussions during this collaborative autoethnography led them to two important questions: what can we learn from our students? What can they learn from each other and from us? Asking these questions opens a dialogue between teachers and learners that creates a more egalitarian structure than conventionally found in the classroom.

### **3.3. The researcher dimension**

Through sharing narratives and engaging in discussions, the researchers realised that sharing their informal learning experiences with each other and their students validated and empowered their own learner voices, which brought them closer to their students and their experiences. They also identified within themselves a desire to be L2 role models and teachers who give agency to students within formal learning environments by offering them options, recognising their learning choices, and encouraging them to engage in activities that meet their individual needs.

Antonie has used the term 'intra-formal' language learning (Alm, 2019) to describe the synergy between informal and formal learning, which informs the learning experiences of both students and teachers who engage in informal language practice. Through turning the analytical lens upon themselves and each other in this collaborative autoethnography, the researchers not only solidified their

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4. <https://gikken.co/mate-translate/netflix/>

5. <https://www.memrise.com/>

understanding of the important role they saw for informal learning in their own and their students' L2 development, but also recognised how their experiences had pushed them to actively draw students into intra-formal learning.

## 4. Conclusions

This study has highlighted the interdependent relationship between the authors' teacher cognition and teaching practices, their language learning experiences, and their engagement as researchers. Having observed colleagues learning L2s, they believe their experiences are not unique and are responding to EUROCALL 2020's conference theme of 'widening participation' by calling for others to add their voices. This exploratory article and their EUROCALL 2020 presentation (<https://www.youtube.com/watch?v=l8MBDzUpuuc>) offer an example and endorsement of collaborative autoethnographic research within the CALL context, an area the authors hope colleagues will help expand.

## 5. Supplementary materials

<https://research-publishing.box.com/s/m30e55a71e61sh351e81v16ywk2b5y8w>

## References

- Alm, A. (2006). CALL for autonomy, competence and relatedness: motivating language learning environments in Web 2.0. *JALTCALL Journal*, 2(3), 29-38. <https://doi.org/10.29140/jaltcall.v2n3.30>
- Alm, A. (2016). An auto-ethnographic study on the use of apps for language learning. Digital presentation at L2 & AZCALL 2016: a hybrid symposium on research and practice. <https://youtu.be/46fEa1jmh9E>
- Alm, A. (2019). Piloting Netflix for intra-formal language learning. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thouésny (Eds), *CALL and complexity: short papers from EUROCALL 2019* (pp. 13-18). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.979>
- Borg, S. (2009). *Introducing language teacher cognition*. <http://www.education.leeds.ac.uk/research/files/145.pdf>
- Chang, H., Ngunjiri, F. W., & Hernandez, K. C. (2016). *Collaborative autoethnography*. Routledge.
- Clark, C., & Gruba, P. (2010). The use of social networking sites for foreign language learning: an autoethnographic study of *Livemocha*. In C. H. Steel, M. J. Keppell, P. Gerbic & S. Housego (Eds), *Curriculum, technology & transformation for an unknown future. Proceedings ascilite Sydney 2010* (pp. 164-173).



- Mirhosseini, S. A. (2018). An invitation to the less-treaded path of autoethnography in TESOL research. *TESOL Journal*, 9(1), 76-92.
- Ohashi, L. (2018). Self-directed learning and the teacher's role: insights from two different teaching contexts. In P. Taalas, J. Jalkanen, L. Bradley & S. Thouësny (Eds), *Future-proof CALL: language learning as exploration and encounters – short papers from EUROCALL 2018* (pp. 236-242). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.843>
- Park, Y., Jung, I., & Reeves, T. C. (2015). Learning from MOOCs: a qualitative case study from the learners' perspectives. *Educational Media International*, 52(2), 72-87. <https://doi.org/10.1080/09523987.2015.1053286>
- Sauro, S., & Zourou, K. (2017). Call for papers. *Language Learning & Technology*, 21(1), 186. <https://doi.org/10.125/44603>
- Yazan, B. (2019). An autoethnography of a language teacher educator: wrestling with ideologies and identity positions. *Teacher Education Quarterly*, 46(3), 34-56.

# e-Tandem jitters: a study of online learners' foreign language anxiety

Christine Appel<sup>1</sup> and Blanca Cristòfol Garcia<sup>2</sup>

**Abstract.** Due to the increasing use of technology to enhance Foreign Language (FL) education, research on learners' emotions in new learning environments is calling for more attention (Beirne, Mac Lochlainn, Nic Giolla, & Mhichíl, 2018). In this study, we focus on Foreign Language Anxiety (FLA), a debilitating emotion; and e-Tandem learning, a telecollaborative Foreign Language Learning (FLL) practice. e-Tandem has a vast potential to foster learners' FL skills (Cziko, 2013), although it might trigger learners' FLA as well. Since little research has been carried out, hitherto, on FLA in e-tandem learners, this investigation aims to gain new insights into this topic. First, we want to analyze the appropriateness of the Foreign Language Classroom Anxiety Scale (FLCAS) (Horwitz, Horwitz, & Cope, 1986) to assess e-tandem learners' FLA. Second, we want to observe to what extent e-tandem contributes to reduce learners' FLA over time. Descriptive statistics are carried out and results are discussed.

**Keywords:** e-tandem, foreign language learning, telecollaboration.

## 1. Introduction

FLA is described as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (Horwitz et al., 1986; p. 128). It is a negative and debilitating emotion (Gregersen, MacIntyre, & Meza, 2014), considered both a threat (Dewaele, 2011) and a predictor for FL achievement (Onwuegbuzie, Bailey, & Daley, 1999).

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1. Universitat Oberta de Catalunya, Barcelona, Spain; mappel@uoc.edu; <https://orcid.org/0000-0002-9528-7002>

2. Universitat Oberta de Catalunya, Barcelona, Spain; beristofolg@uoc.edu; <https://orcid.org/0000-0002-8012-0410>

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Due to the increasing use of technology to enhance FL education, language learning scenarios are changing, although learners' emotions remain the same. In this study, we focus on learners' FLA when taking part in e-tandem, a technology-based FLL practice. Within e-tandem, two learners who are physically distant and who have a different native language communicate in order to learn each other's language (Brammerts, 2001).

e-Tandem contributes, among others, to the improvement of learners' FL skills (Cziko, 2013) and self-confidence when performing in the FL (Appel, 2012). Nevertheless, e-tandem might potentially trigger learners' FLA (El-Hariri, 2017). Despite the fact that FLA has been widely investigated (MacIntyre & Gregersen, 2012), little research has been conducted, hitherto, on this emotion in e-tandem contexts.

In this work, we aim to analyze the applicability of the FLCAS (Horwitz et al., 1986), a broadly used instrument to assess FLA in e-tandem contexts. Moreover, we want to observe to what extent this practice helps to reduce learners' FLA over time. Our Research Questions (RQs) are:

- RQ1: Does the FLCAS predict learners' FLA in e-tandem contexts?
- RQ2: Does practice in e-tandem help to reduce learners' FLA?

## 2. Methodology

### 2.1. Participants

In total, 101 adult FL learners enrolled in an online FL course based on e-tandem activities form the purposive sample of the study. Participants are Native Speakers (NSs) or proficient speakers of English who are learning Spanish as a FL (SFL), or NSs or proficient speakers of Spanish who are learning English as a FL (EFL). They have an intermediate or upper level of the FL learned and have completed, at least, one e-tandem activity within the course in pairs. Partnerships could be assigned randomly by the system, or arranged by the learners themselves.

The sample counts with 57 learners of EFL and 44 learners of SFL. Overall, there are 47 males and 54 females, aged between 18 and 71 years old ( $\bar{x}=42.2$ ;  $Mo=42$ ). Participants reside in 17 different countries, being Spain (53), USA (18), and UK (10) the most frequent ones. In line with this, participants' native languages are also varied, although Spanish (45), and English (36) are the predominant ones.

## 2.2. Research context

The research context is *TandemMOOC*, a free and open English-Spanish FL speaking course organized by the Universitat Oberta de Catalunya in Spain. The course has a duration of six weeks and is based on e-tandem activities, designed to be carried out via videoconference. Each activity counts with an introductory task to be completed in both English and Spanish; one English task and one Spanish task.

## 2.3. Research instruments

The employed research instruments are: (1) a socio-demographic questionnaire, (2) a short version of the FLCAS (Park, 2014), and (3) an adapted version of the Anxometer (MacIntyre & Gardner, 1991), a one item 5-point Likert scale, designed to assess learners' FLA while participating in e-tandem activities.

Before enrolling into the course, learners answer the socio-demographic questionnaire. Afterwards, they voluntarily complete the short version of the FLCAS, which allows us to classify them as High Anxiety Participants (HAPs) and Low Anxiety Participants (LAPs). Finally, they self-rate their FLA through the Anxometer which appears automatically on their screen at the end of each task.

## 2.4. Analysis

In the first place, data was anonymized. Afterwards, according to the FLCAS scores, participants were classified as HAPs and LAPs. Subsequently, correlation analyses were carried out in order to study the link between participants' FLCAS scores and the Anxometer mean scores (RQ1), as well as the link between the number of tandems done by each subject and the Anxometer mean scores (RQ2).

# 3. Results

## 3.1. RQ1

According to participants' FLCAS scores, the sample counts with 54 HAPs and 47 LAPs. Analysis Of Variance (ANOVA) showed no significant gender ( $F(1.99)=.435$ ,  $p=.511$ ) nor age ( $F(5.96)=1.42$ ,  $p=.223$ ) differences in this classification. Concerning the correlation between the FLCAS scores and the Anxometer mean scores, the average Anxometer mean score was calculated for

HAPs and LAPs. The average Anxometer mean score is slightly lower for LAPs (see [Table 1](#)). Finally, correlation analysis revealed no significant correlation between these variables (see [Table 2](#)).

Table 1. Anxometer mean scores

Participants	N	Anxometer mean scores	
		$\bar{x}$	SD
HAPs	54	-2.36	2.01
LAPs	47	-2.51	1.80

Table 2. Correlation analysis between FLCAS scores and Anxometer mean scores

Correlation	
Anxometer mean scores (Pearson $r$ )	FLCAS (n = 101)
	.691

### 3.2. RQ2

The average number of e-tandem activities carried out per participant was 5.53 ( $SD=6.29$ ). The minimum amount of e-tandem activities per participant was 1 and the maximum amount was 35. The average number of e-tandem activities per participant was similar for HAPs and LAPs, being slightly higher for LAPs (see [Table 3](#)).

Table 3. e-Tandem activities carried out per participant

Participants	N	e-Tandem activities	
		$\bar{x}$	SD
HAPs	54	5.50	6.58
LAPs	47	5.85	6.07

Concerning the link between the amount of e-tandem activities completed by participant and the Anxometer mean scores, significant negative correlation was found between these two variables (see [Table 4](#)).

Table 4. Correlation analysis between the tandems per participant and Anxometer mean scores

Correlation	
Anxometer mean scores (Pearson $r$ )	Number of tandems completed
	-0.300*

\* $p < 0.1$

## 4. Conclusion

First, results show no correlation between the FLCAS scores and the Anxometer mean scores, meaning that participants' prior classification as HAPs and LAPs did not predict the FLA they experienced while taking part in e-tandem activities. Hence, although the FLCAS is a widely used research instrument with acknowledged reliability, its applicability in certain online learning contexts seems to be limited. Recent studies have developed new research instruments for telecollaborative contexts (e.g. Chametzky, 2019; Fondo & Jacobetty, 2020), although their usage is still very narrow.

Second, significant negative correlation was found between the number of e-tandem activities carried out per participant and the Anxometer mean scores. This result suggests that practice in e-tandem helps to reduce FLA over time. Indeed, previous studies reported similar findings (e.g. El-Hariri, 2017; Melchor-Couto, 2017). Although the results of this investigation allowed us to answer our RQs, further research with larger and less heterogeneous samples would provide us with deeper knowledge on this topic.

## References

- Appel, C. (2012). Aprentatge peer-to-peer en assignatures de llengües estrangeres. In B. Gros & X. Mas (Eds), *La Comunicació en les espais virtuals. Enfocaments i experiències de formació en línia* (pp. 47-64). UOC Innova.
- Beirne, E., Mac Lochlainn, C., & Nic Giolla Mhichíl, M. (2018). Moody MOOC: an exploration of emotion in a LMOOC. In *Proceedings of the 10th European Distance and E-Learning Network Research Workshop, Barcelona, 24-26 October*.
- Brammerts, H. (2001). Autonomes Sprachenlernen im Tandem: Entwicklung eines Konzepts. In H. Brammerts & K. Kleppin (Eds), *Selbstgesteuertes Sprachenlernen im Tandem: ein Handbuch* (pp. 9-16). Stauffenburg Verlag.
- Chametzky, B. (2019). The online world languages anxiety Scale (OWLAS). *Creative Education*, 10(1), 59-77. <https://doi.org/10.4236/ce.2019.101005>
- Cziko, G. (2013). Electronic tandem language learning (eTandem): a third approach to second language learning for the 21st century. *CALICO Journal*, 22(1), 25-39. <https://doi.org/10.1558/cj.v22i1.25-39>
- Dewaele, J.-M. (2011). Reflections on the emotional and psychological aspects of foreign language learning and use. *Anglistik: International Journal of English Studies*, 22, 23-42.
- El-Hariri, Y. (2017). eTandem language learning and foreign language anxiety among Colombian learners of German. *Colombian Applied Linguistics Journal*, 19(1), 22-36.

- Fondo, M., & Jacobetty, P. (2020). Exploring affective barriers in virtual exchange: the telecollaborative foreign language anxiety scale. *Journal of Virtual Exchange*, 3(SI), 37-61. <https://doi.org/10.21827/jve.3.36083>
- Gregersen, T., MacIntyre, P. D., & Meza, M. (2014). The motion of emotion: idiodynamic case studies of learners' foreign language anxiety. *The Modern Language Journal*, 98(2), 574-588.
- Horwitz, E. K., Horwitz, M., & Cope, J. (1986). Foreign language classroom anxiety. *Modern Language Journal*, 70(2), 125-132.
- MacIntyre, P. D., & Gardner, R. C. (1991). Investigating language class anxiety using the focused essay technique. *The Modern Language Journal*, 75, 296- 304.
- MacIntyre, P. D., & Gregersen, T. (2012). Affect: the role of language anxiety and other emotions in language learning. In S. Mercer, S. Ryan & M. Williams (Eds), *Psychology for language learning* (pp. 103-118). Palgrave Macmillan. [https://doi.org/10.1057/9781137032829\\_8](https://doi.org/10.1057/9781137032829_8)
- Melchor-Couto, S. (2017). Foreign language anxiety levels in Second Life oral interaction. *ReCALL*, 29(1), 99-119. <https://doi.org/10.1017/s0958344016000185>
- Onwuegbuzie, A., Bailey, P., & Daley, C. (1999). Factors associated with foreign language anxiety. *Applied Psycholinguistics*, 20(2), 217-239. <https://doi.org/10.1017/s0142716499002039>
- Park, G. P. (2014). Factor analysis of the foreign language classroom anxiety scale in Korean learners of English as a foreign language. *Psychological Reports*, 115(1), 261-275. <https://doi.org/10.2466/28.11.pr0.115c10z2>

# Icelandic Online: twenty years of development, evaluation, and expansion of an LMOOC

Birna Arnbjörnsdóttir<sup>1</sup>, Kolbrún Friðriksdóttir<sup>2</sup>, and Branislav Bédi<sup>3</sup>

**Abstract.** In this article, the developers of seven Language Massive Open Online Courses (LMOOCs), Icelandic Online (IOL, <https://icelandiconline.com/>), describe the technological and pedagogical principles that have contributed to the program's longevity. Development began in 2001 with a courseware system later upgraded to a multiplatform app. Over 80,000 users have completed one or more of the curated and pedagogically driven courses, which are monitored by a tracking system. The tracking system and follow-up surveys generate unique, large-scale empirical data enabling sustained engagement with participants' views and behaviors as they go through the courses, some of which are offered in three different delivery modes. Finally, further development projects based on the versatile IOL non-language specific, multiplatform system are presented, including Virtual Reality (VR) projects, courses in other languages, and L2 literacy courses for children.

**Keywords:** sustained engagement, online L2 pedagogy, feedback, Icelandic Online, LMOOCs, open access.

## 1. Introduction

In his review of research into Computer Assisted Language Learning (CALL), Gillespie (2020) identifies commonalities between empirical studies of CALL. He found that most studies involve few subjects, cover a short period of time, and are seldom followed up. This article offers an overview of a large-scale, long-term project (IOL), which involves tens of thousands of participants. The development of IOL started in 2001, and the first courses were launched in 2004. IOL offers seven

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1. University of Iceland, Reykjavík, Iceland; birnaarn@hi.is; <https://orcid.org/0000-0002-5491-4460>

2. University of Iceland, Reykjavík, Iceland; kolbrunf@hi.is; <https://orcid.org/0000-0002-1032-4397>

3. The Árni Magnússon Institute for Icelandic Studies, Reykjavík, Iceland; branislav.bedi@arnastofnun.is; <https://orcid.org/0000-0001-7637-8737>

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free and open online courses to adults learning Icelandic as an L2. The courses have five proficiency levels from A1 to C1 on the Common European Framework of Reference (Council of Europe, 2001), and some are offered in three different delivery modes (blended, distance, and open self-directed). Over 80,000 users have completed one or more of the courses, and the program has received several national awards. It has an integrated tracking system to monitor students' behavior from the time they enter a course until they leave. Insights offered by the tracking system provide a unique opportunity to examine longitudinally the development and usage of this large-scale CALL program through sustained engagement (Arnbjörnsdóttir, 2004; Friðriksdóttir, 2018, 2019, *in press*; Friðriksdóttir & Arnbjörnsdóttir, 2018). The first part of this overview article describes the pedagogical principles that guide the development of the curated online courses, as well as the program's evolution from a local PC courseware platform (heavily dependent on Flash) to a multiplatform, multipurpose LMOOC application that is still relevant. The second part focuses on findings based on retention data generated by the tracking system and a follow-up survey of students' views on and experiences with the LMOOC, including different modes of delivery. The third part of the article outlines the ongoing multiple uses offered by the courseware program, including courses at primary and secondary levels in different languages and VR projects. The article ends with a few concluding remarks.

## 2. IOL: 20 years of development

The development of IOL began in 2001 in response to a call for online resources to support Icelandic instruction at various universities throughout the world and to provide courses for the many – but scattered – individuals worldwide interested in Icelandic language and culture. The initial seven courses were based on an authoring tool and course editor developed for this purpose that included over 40 patterns (including videos, audio, exercises, and Flash) that could be curated to create any course, for any language, at any level, and for any target group, without the assistance of a programmer.

The course development was pedagogically driven, taking into consideration that Icelandic is a lesser-taught language heavily dependent on nominal morphology in the initial stages of acquisition, which most adult learners find challenging. The technology serves the pedagogical goals. The content of the courses is Icelandic language and culture. The initial target group was adults at university, and a pedagogical framework was thus developed based on the needs and interests of that specific target group (Arnbjörnsdóttir, 2004). Later, a curated course for

immigrants to Iceland was added using the same courseware, but driven by a different pedagogy with different content. IOL is aided by auxiliary features, such as dictionaries and grammar support from a Resource Center.

The use of technology to advance pedagogical aims accounts for the longevity of the IOL system. This includes a defined target group, clear SLA-based pedagogical principles, and curated, meaningful content that provides cultural context for the language. Participants work toward clear goals for vocabulary development, accuracy, and pragmatics, always in a meaningful context. The initial pedagogy was based on [Chapelle's \(1998\)](#) 'relevant SLA principles'. The material and the instruction is scaffolded, follows the principles of *Focus on Form* ([Doughty & Williams, 1998](#)), and is guided by the notion that frequency of input depends on whether morphological forms are rule-based or irregular ([Pinker & Prince, 1988](#)). Ten years later, the courseware system was updated to a multiplatform system that included both PCs and mobile devices, and now an app. An integrated tracking system and user surveys provide a good overview of the factors that affect student response and retention in the courses. The results are described in the next section.

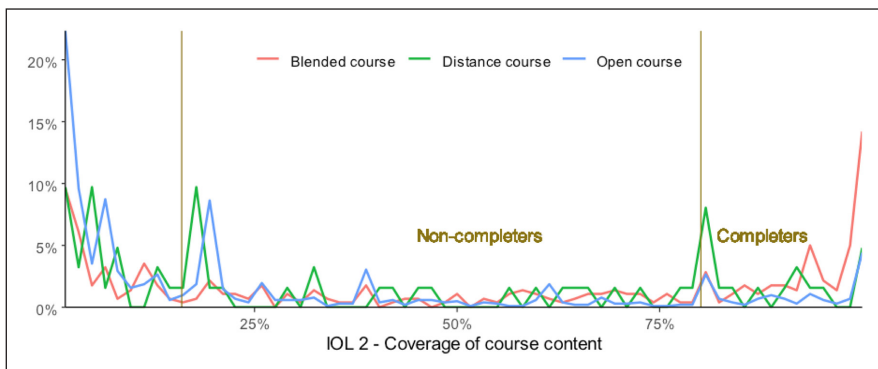
### **3. Student behavior: tracking, retention and feedback**

Studies showing low completion rates in LMOOCs have raised concerns about whether such courses are suitable learning environments for L2 learners, including that LMOOCs lack engaging forms of pedagogy and design strategies ([Colpaert, 2014](#)). Based on IOL's tracking system, a mixed-method study was carried out to investigate critical factors of retention and engagement in LMOOCs in the context of the IOL program. The study examined the tracked retention data (n=43,000) in all courses and delivery modes, as well as patterns of engagement and attrition across the courses. Second, a follow-up survey study (n=400) examined learners' views on the importance of the instructional design, tutor support, and other factors for their motivation, and the impact on retention as measured against the same learners' tracked retention data. Finally, the study investigated learners' reflections, elicited through the survey, on why they completed a course (112 informants) or disengaged earlier (62 informants).

The findings revealed, first, low completion rates in all courses, spanning 2.5% to 18%, depending on the course/mode. Course completion means learners who cover 100% of a course's content. The blended mode was most effective in retaining students, with a 14% completion rate, compared to 5% in the distance mode, and 4% in the open self-directed mode. The application of learning analytics found a

regular pattern of attrition among non-completers across the three delivery modes, shown in [Figure 1](#), with sharp attrition initially and relatively high attrition peaks at certain junctures throughout a course, some of which appeared very late in the courses. A pattern of user engagement was also found across the seven IOL courses, suggesting that many learners who would generally be considered as non-completers of a course did, however, complete most of the content of a course. These findings ([Friðriksdóttir, 2018](#)) called for a re-evaluation of earlier methods of measuring course completion in the follow-up survey study, where course completion was defined as learners who had completed 80% to 100% of a course's content ([Friðriksdóttir, 2019, in press](#)).

Figure 1. Progress and parameters set for course completers and non-completers in IOL 2



Second, in the follow-up survey study, users in IOL 2 identified specific factors related to the content of the course and the tutorial modes that affected their engagement in and retention of the program, including gradual and scaffolded presentation of input ([Friðriksdóttir, 2019, in press](#)). The qualitative data analysis shows that multiple course-related and motivational factors affect learners' completion, such as satisfying course content ([Friðriksdóttir, 2019](#)), while external factors, such as time constraints, mainly explain non-completion of a course ([Friðriksdóttir, in press](#)).

#### 4. The potential of IOL in other projects

Throughout the 20 years of the project, the IOL LMOOCs' infrastructure has played an important role in the development and support of other online projects.

This includes online courses for learning Finland Swedish<sup>4</sup> and Faroese<sup>5</sup>, and the development of IOL to support literacy in Icelandic as L2 for children. Another IOL-supported project was *The Icelandic Language and Culture Training in Virtual Reykjavik* which included features from artificial intelligence enabling learners to practice spoken interaction through conversation with animated characters. The *Virtual Reykjavik* project provides an interim learning space enabling L2 learners of Icelandic to play a serious VR game in order to develop communicative skills in a context-specific situation (Bédi et al., 2016; Bédi, Arnbjörnsdóttir, & Vilhjálmsson, 2017).

## 5. Discussion and conclusion

The IOL project has grown in recognition, and its development has been supported by university, Icelandic, Nordic, and European funding. However, securing operational funding remains a challenge, and it remains driven by individual initiatives. Academic recognition for the development work has been slow. Its remarkable longevity and relevance after 20 years may be credited to a principle that technology should serve the pedagogy. As Garrett (2009) suggests, “CALL” is not shorthand for “the use of technology” (p. 719). The content of each IOL course is curated to meet the needs of the target learners. Tracking student progress and engagement has shown that a range of significant determinants affect retention, including instructional design, course content, modes of delivery, and external factors. The limits of the current IOL system are its lack of effective conversation practice, although VR applications are promising, and the fact that learning objects do not provide adequate writing feedback. Both features depend on the appropriate language technology tools being available for Icelandic, which they are not. Future work includes the role of language and culture in student motivation and engagement in CALL (Gillespie, 2020). The new system has the added advantage that it enables graphs and visualizations for research to be performed by non-data specialists. This research is ongoing. Based on the available data gathered through IOL’s tracker and users’ surveys, one of the key takeaways from the IOL program is the value of an in-built tracking system for CALL systems to provide better understanding of student engagement in relation to their learning context. Also, data analysis highlights the importance of using instructional resources in CALL and SLA pedagogical approaches for the LMOOC learner.

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4. <https://finlandswedishonline.fi>

5. <https://faroeseonline.com>

## References

- Arnbjörnsdóttir, B. (2004). Teaching morphologically complex languages online: theoretical questions and practical answers. In P. J. Henrichsen (Ed.), *CALL for the Nordic languages. Tools and methods for computer assisted language learning* (pp. 79-94). Samfundslitteratur.
- Bédi, B., Arnbjörnsdóttir, B., & Vilhjálmsón, H. (2017). Learners' expectations and experiences in virtual Reykjavik. In *Proceedings of CALL in Context, University of California in Berkeley, 7-9 July 2017, Berkeley, CA, USA*. [http://call2017.language.berkeley.edu/wp-content/uploads/2017/07/CALL2017\\_proceedings.pdf](http://call2017.language.berkeley.edu/wp-content/uploads/2017/07/CALL2017_proceedings.pdf)
- Bédi, B., Arnbjörnsdóttir, B., Vilhjálmsón, H., Helgadóttir, H., Ólafsson, S., & Björgvinsson, E. (2016). Learning Icelandic language and culture in virtual Reykjavik: starting to talk. In S. Papadima-Sophocleous, L. Bradley & S. Thoušny (Eds), *CALL communities and culture – short papers from EUROCALL 2016* (pp. 37-43). Research-publishing.net. <https://doi.org/10.14705/rpnet.2016.eurocall2016.535>
- Chapelle, C. (1998) Multimedia CALL: lessons to be learned from research on instructed SLA. *Language learning & technology*, 2(1), 22-34.
- Colpaert, J. (2014). Conclusion. Reflections on present and future: towards an ontological approach to LMOOCs. In E. Martín-Monje & E. Bárcena (Eds), *Language MOOCs. Providing learning, transcending boundaries* (pp. 161-172). De Gruyter Open. <https://doi.org/10.2478/9783110420067.10>
- Council of Europe. (2001). *Common European framework of reference for languages: learning, teaching, assessment*. Language Policy Unit, Council of Europe. [http://www.coe.int/t/dg4/linguistic/Source/Framework\\_EN.pdf](http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf)
- Doughty, C., & Williams, J. (1998). *Focus on form in classroom second language acquisition*. Cambridge University Press. <https://doi.org/10.1080/09588220701746013>
- Friðriksdóttir, K. (2018). The impact of different modalities on student retention and overall engagement patterns in open online courses. *Computer Assisted Language Learning*, 31(1-2), 53-71. <https://doi.org/10.1080/09588221.2017.1381129>
- Friðriksdóttir, K. (2019). The effect of tutor-specific and other motivational factors on student retention on Icelandic Online. *Computer Assisted Language Learning*, 1-22. <https://doi.org/10.1080/09588221.2019.1633357>
- Friðriksdóttir, K. (in press). The effect of content-related and external factors on students' retention in LMOOCs. *ReCALL*.
- Friðriksdóttir, K., & Arnbjörnsdóttir, B. (2018). The resourceful CALL learner and effective blended learning. In J. Colpaert, A. Aerts & F. Cornillie (Eds), *CALL your data: proceedings of the 2018 Eurocall conference* (pp. 135-138). KULeuven & imec.
- Garrett, N. (2009). Computer-assisted language learning trends and issues revisited: integrating innovation. *The Modern Language Journal*, 93, 719-740.

- Gillespie, J. (2020). CALL research: where are we now? *ReCALL*, 32(2), 127-144. <https://doi.org/10.1017/S0958344020000051>
- Pinker, S., & Prince, A. (1988). On language and connectionism: analysis of a parallel distributed processing model of language acquisition. *Cognition*, 28(1), 73-193. [https://doi.org/10.1016/0010-0277\(88\)90032-7](https://doi.org/10.1016/0010-0277(88)90032-7)

# Constructing an interactive Old Norse text with LARA

Branislav Bédi<sup>1</sup>, Haraldur Bernharðsson<sup>2</sup>, Cathy Chua<sup>3</sup>,  
Birgitta Björg Guðmarsdóttir<sup>4</sup>, Hanieh Habibi<sup>5</sup>, and Manny Rayner<sup>6</sup>

**Abstract.** We describe how the open-source Learning and Reading Assistant (LARA) platform was used to convert a classic Old Norse text, the *Völuspá*, into an interactive online form. The LARA version includes high-quality recorded audio, translations, notes on key words and phrases, an automatically generated concordance, and links to other online resources. The interactive text was created in two different editions, one with Modern Icelandic translations designed to support Icelandic school students who read the poem as a set text, and one with English translations designed for English readers with basic Old Norse who wish to be able to appreciate the poem in the original as a piece of literature. Initial feedback from groups has been positive.

**Keywords:** collaborative work, computer assisted language learning, interactive text, Old Norse, reading.

## 1. Introduction

LARA<sup>7</sup> (Akhlaghi et al., 2019) is an open-source learning-by-reading platform that has been under development since 2018. The basic philosophy is in line with Krashen's (1982) input hypothesis: students develop language skills best in a low-anxiety situation using comprehensible input they want to engage with. LARA implements this abstract idea by providing tools that transform text into an annotated multimedia form designed to provide cognitive scaffolding that supports learning of pronunciation and meaning.

1. The Árni Magnússon Institute for Icelandic Studies, Reykjavik, Iceland; branislav.bedi@arnastofnun.is; <https://orcid.org/0000-0001-7637-8737>

2. University of Iceland, Reykjavik, Iceland; haraldr@hi.is; <https://orcid.org/0000-0003-1353-547X>

3. University of Adelaide, Adelaide, Australia; cathy.chua@adelaide.edu.au; <https://orcid.org/0000-0002-5462-2441>

4. University of Iceland, Reykjavik, Iceland; bbg14@hi.is; <https://orcid.org/0000-0002-5032-6303>

5. University of Geneva, Geneva, Switzerland; hanieh.habibi@unige.ch; <https://orcid.org/0000-0001-7602-2933>

6. University of Geneva, Geneva, Switzerland; emmanuel.rayner@unige.ch; <https://orcid.org/0000-0002-6002-2434>

7. <https://www.unige.ch/callector/lara/>

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Figure 1. The controls at the top allow navigation (1); each verse is provided in audio form (2); text is presented in both original (3) and modern orthography (4); lines are highlighted as they are played (5); clicking on a word (here, *heima*) (6) brings up a word information page for the associated lemma (here, *heimr*) (9), containing links to online resources (10) and a concordance (11); hovering over a word shows a popup word translation and over the Runic character shows a popup segment translation (8); words marked in red in the main text (7) are linked to notes (12); additional lists of frequency and alphabetical indexes are included (13)

The screenshot displays the LARA interface with several numbered callouts (1-13) pointing to specific features:

- 1:** Navigation controls (back, forward, search) and a "Table of Contents" link.
- 2:** Audio player controls (play/pause, progress bar, volume, settings).
- 3:** A popup window showing a word translation for "heima".
- 4:** The original Old Norse text: "Ek man jötna ár um borna, þá er forðum mik fædda höfðu; niu man ek heima, niu íviðjur, mjötvið mæran fyrir mold neðan. Ƿ".
- 5:** A yellow highlight under the line "ár um borna".
- 6:** A red highlight under the word "heima".
- 7:** A red highlight under the word "mæran".
- 8:** A popup window showing a Runic character translation for "mæran".
- 9:** The word information page for the lemma "heimr".
- 10:** Links for "Grammar information" and "Lexicon poeticum entry".
- 11:** A concordance list showing the word "heimr" in context.
- 12:** A link to "Notes" for the word "heimr".
- 13:** Links to "Frequency index" and "Alphabetical index".



In [Bédi et al. \(2020, this volume\)](#), we describe how we used LARA to construct an interactive online version of a classic Old Norse epic poem, the *Völuspá*. We had two user populations in mind. First, we wanted the resource to be useful to Icelandic middle-school students, who study Old Norse literature as a required subject. Modern Icelandic has evolved from Old Norse. Although the two languages are still closely related, the grammars are no longer the same; many words have changed spelling or meaning, while others have disappeared, and cultural references which were commonplace in medieval Scandinavia are now obscure. In general, it is by no means easy for an Icelandic middle-school student to understand the *Völuspá*. The second group of users was anglophones interested in medieval Icelandic literature; the *Völuspá* is highly regarded, and many people would, in principle, like to be able to read it in the original language. The LARA version aims to address the needs of both groups, and make the text comprehensible and enjoyable to experience. With regard to ‘comprehensible’, words are presented in both modern and original orthography, and linked to translations, explanatory notes, automatically generated concordances, and pages from the *Lexicon Poeticum* online resource. With regard to ‘enjoyable’, each verse is prefaced by a high-quality audio recording produced by a near-professional voice (see [Figure 1](#)).

## 2. Constructing *Völuspá* in LARA

The LARA *Völuspá* was constructed in two editions, one with Icelandic word translations, and the other with English. The starting point was a hand-tagged XML-formatted version of the text associating each word with its lemma. A member of the team with software engineering skills wrote a script which converted this into LARA form; the linguist members of the team cleaned up a few inconsistencies by hand, and the software engineer wrote a second script to insert the forms of the lines in the original orthography and other HTML formatting, including the audio controls. After this, the bulk of the work was done through the LARA portal by the linguists, comprising the following:

- annotation of multiword expressions, in particular *kennings*, nominal compounds expressing a poetic simile and characteristic of Old Norse poetry;
- addition of word translations. This was the largest single task, and was carried out using the portal function shown in [Figure 2](#); and

- recording of the audio. This was done using an online recording tool integrated into LARA. The portal automatically handles the book-keeping, creating the recording script, downloading the recorded audio files and associated metadata, and linking them into the text.

Finally, the timing figures that were needed to support synchronised audio highlighting were manually added, using the Audacity tool to review the audio files. The total effort was about four person-weeks.

Figure 2. Example LARA translation window for *Völuspá*. Each verse (1-4) includes a group of three lines: source text on top, translator fills in the middle line, and the third is the verse-level translation from a different source

### 3. Initial user feedback

The English edition of the LARA *Völuspá* was trialed in a reading group hosted on the Goodreads<sup>8</sup> review site during March-April 2020. Several people met intermittently online, and exchanged comments about the text. The group accumulated a total of 54 posts and 63 views. Though small in scale, this experience was quite positive; the comments posted were often long and well-informed, and

8. <https://www.goodreads.com/topic/show/21221144-v-lusp-reading-group-verses-1-6#>

the people who had tried out the resource were enthusiastic, particularly about the recordings.

The Icelandic edition was trialled by a small group of Icelandic speakers, selected from a group of acquaintances and contacted by email, in late July 2020. Twenty participants agreed to cooperate, 11 male and 9 female, aged 17-27; each participant got a link to the online text. Afterwards, they received an anonymous online questionnaire adapted from the one in Bédi et al. (2019), which included 31 questions about learners' backgrounds and perceived usefulness with Likert-scale answers (see results in Table 1), and some open-ended questions.

Table 1. Readers' perceived usefulness of reading Old Norse in Icelandic edition of LARA

No.	Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.	The reading task would be difficult to perform without this application.	7	7	4	2	
2.	Using this application gives me greater control over my reading task.	11	6	1	2	
3.	Using this application improves my understanding of the text.	11	6	1	2	
4.	Using this application saves me time when reading the text.	9	6	4	1	
5.	This application enables me to accomplish the reading tasks more quickly.	10	7	2	1	
6.	This application supports critical aspects of my learning.	8	7	1	3	1
7.	Using this application allows me to accomplish more reading tasks than would otherwise be possible.	10	4	5	1	
8.	Using this application reduces the time I spend on unproductive activities.	8	6	4	1	1
9.	Using this application enhances my effectiveness in reading.	8	5	5	1	1
10.	Compared to using books, using this application improves the quality of reading.	8	3	4	3	2
11.	Using this application increases my learning productivity.	9	5	3	3	
12.	Using this application makes it easier for me to read texts in Old Norse.	13	2	3	2	
13.	Using this application makes it easier for me to learn vocabulary in Old Norse.	11	5	2	2	

14.	Using this application makes it easier for me to learn grammar in Old Norse.	6	4	5	5	
15.	Using this application makes it easier for me to learn pronunciation in Old Norse.	8	3	5	3	1
16.	Overall, I find this application useful in gathering knowledge about vocabulary in Old Norse.	7	10	1	1	1
17.	Overall, I find this application useful in gathering knowledge about vocabulary in Modern Icelandic from translations of Old Norse.	6	4	6	3	1
18.	Overall, I find this application useful in having translations in Modern Icelandic.	10	4	3	3	

Even though a few participants experienced some technical problems when using LARA, in particular with audio, all but one of them liked it as a tool for learning Old Norse. Suggestions for improvements included making it possible to switch off audio or change the font size, excluding ‘z’ from the spelling to enable compatibility with the grammar information in DIM<sup>9</sup>, colour-marking words that no longer exist in Modern Icelandic, and adding summaries of verses, page numbers, manuscript facsimiles, and instructions.

#### 4. Summary and future work

We have presented an overview of the online *Völuspá* that we have constructed using LARA. Even though work on using LARA for Old Norse is still at an early stage, responses so far are encouraging. Next, we plan to develop more texts of this kind, test more rigorously with both groups of users, and improve the interface in line with initial feedback.

#### 5. Acknowledgements

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9. Database of Icelandic Morphology (DIM), <https://bin.amastofnun.is/>

## References

- Akhlaghi, E., Bédi, B., Butterweck, M., Chua, C., Gerlach, J., Habibi, H., Ikeda, J., Rayner, M., Sestigiani, S., & Zuckermann, G. (2019). Overview of LARA: a learning and reading assistant. In *Proceedings of SLaTE 2019: 8th ISCA Workshop on Speech and Language Technology in Education* (pp. 99-103). <https://doi.org/10.21437/slate.2019-19>
- Bédi, B., Butterweck, M., Chua, C., Gerlach, J., Guðmarsdóttir, B. B., Habibi, H., Jónsson, B. Ö, Rayner, M., & Vigfússon, S. (2020). LARA: an extensible open source platform for learning languages by reading. In K.-M. Frederiksen, S. Larsen, L. Bradley & S. Thouéšny (Eds), *CALL for widening participation: short papers from EUROCALL 2020* (pp. 20-26). Research-publishing.net. <https://doi.org/10.14705/rpnet.2020.48.1160>
- Bédi, B., Chua, C., Habibi, H., Martinez-Lopez, R., & Rayner, M. (2019). Using LARA for language learning: a pilot study for Icelandic. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thouéšny (Eds), *CALL and complexity – short papers from EUROCALL 2019* (pp. 33-38). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.982>
- Krashen, S. D. (1982). *Principles and practice in second language acquisition* [First Internet Edition July 2009]. Pergamon.

## LARA: an extensible open source platform for learning languages by reading

Branislav Bédi<sup>1</sup>, Matt Butterweck<sup>2</sup>, Cathy Chua<sup>3</sup>, Johanna Gerlach<sup>4</sup>,  
Birgitta Björg Guðmarsdóttir<sup>5</sup>, Hanieh Habibi<sup>6</sup>, Bjartur Örn Jónsson<sup>7</sup>,  
Manny Rayner<sup>8</sup>, and Sigurður Vigfússon<sup>9</sup>

**Abstract.** Learning and Reading Assistant (LARA) is an open source platform that enables conversion of plain texts into an interactive multimedia form designed to support second- and foreign-language (L2) learners. In this workshop, we illustrate the open source aspects using collaborative work carried out during a six-week summer project at the Árni Magnússon Institute for Icelandic Studies. Three undergraduate level students extended the platform in different directions in cooperation with other members of the international LARA team. The three subprojects were respectively concerned with adding automatically generated flashcards, adding multimedia versions of poetic texts in the archaic language Old Norse, and extending LARA to allow the inclusion of sign language content in Icelandic sign language – Íslenskt TákMál (ÍTM). All three reached successful conclusions.

**Keywords:** archaic language, flashcards, interactive text, open source, sign language.

1. The Árni Magnússon Institute for Icelandic Studies, Reykjavík, Iceland; branislav.bedi@arnastofnun.is; <https://orcid.org/0000-0001-7637-8737>
2. Independent researcher, Hagen, Germany; [mbutterweck@t-online.de](mailto:mbutterweck@t-online.de)
3. University of Adelaide, Adelaide, Australia; [cathy.chua@adelaide.edu.au](mailto:cathy.chua@adelaide.edu.au); <https://orcid.org/0000-0002-5462-2441>
4. University of Geneva, Geneva, Switzerland; [johanna.gerlach@unige.ch](mailto:johanna.gerlach@unige.ch); <https://orcid.org/0000-0002-3371-4021>
5. University of Iceland, Reykjavík, Iceland; [bbg14@hi.is](mailto:bbg14@hi.is); <https://orcid.org/0000-0002-5032-6303>
6. University of Geneva, Geneva, Switzerland; [hanieh.habibi@unige.ch](mailto:hanieh.habibi@unige.ch); <https://orcid.org/0000-0001-7602-2933>
7. University of Iceland, Reykjavík, Iceland; [boj8@hi.is](mailto:boj8@hi.is)
8. University of Geneva, Geneva, Switzerland; [emmanuel.rayner@unige.ch](mailto:emmanuel.rayner@unige.ch); <https://orcid.org/0000-0002-6002-2434>
9. The Communication Centre for Deaf and Hard of Hearing, Reykjavík, Iceland; [siggivig@gmail.com](mailto:siggivig@gmail.com); <https://orcid.org/0000-0002-7258-1209>

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## 1. Introduction

LARA<sup>10</sup> (Akhlaghi et al., 2019) is a collaborative open source<sup>11</sup> project, active since mid-2018, whose goal is to develop tools that enable conversion of plain texts into an interactive multimedia form designed to support development of L2 language skills by reading. The basic approach is in line with Krashen's (1982) influential theory of input, suggesting that language learning proceeds most successfully when learners are presented with interesting and comprehensible L2 material in a low-anxiety situation. LARA implements this abstract programme by providing concrete assistance to L2 learners, making texts more comprehensible to help them develop their reading, vocabulary, and pronunciation skills. In particular, LARA texts include translations and human-recorded audio attached to words and sentences, and a personalised concordance constructed from the learner's reading history. The learner, just by clicking or hovering over a word, is always in a position to answer three questions: what does it mean, what does it sound like, and where have I seen it before? Figure 1 shows an example.

Related platforms, from which we have adapted some ideas, include Learning With Text<sup>12</sup> and Clilstore<sup>13</sup>. LARA, however, offers considerably more functionality. In particular, generation of learner-specific concordances is, as far as we know, unique to LARA. The LARA tools are made available through a free portal, divided into two layers. The core LARA engine consists of a suite of Python modules, which can also be run stand-alone from the command line. These are accessed through a web layer implemented in PHP<sup>14</sup>. There is comprehensive online documentation<sup>15</sup>.

In this paper, we will concentrate on the open source aspects. We illustrate this using work carried out during a six-week summer project at the Árni Magnússon Institute for Icelandic Studies, where three BA students, who had previously not worked with LARA, extended the platform in different directions with some assistance from other members of the LARA team. The three subprojects were respectively concerned with adding automatically generated flashcards; creating multimedia versions of poetic texts written in the archaic language Old Norse; and extending LARA to allow inclusion of sign language content. In sections 2 to 4, we briefly sketch the three subprojects. The final section summarises and concludes.

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10. <https://www.unige.ch/collector/lara/>

11. <https://sourceforge.net/projects/collector-lara/>

12. <https://sourceforge.net/projects/lwt/>

13. <http://multidict.net/clilstore/>

14. <https://www.php.net/>

15. <https://www.issco.unige.ch/en/research/projects/collector/LARADoc/build/html/index.html>

Figure 1. Example of a LARA document: *Le petit prince*. The user navigates using the controls at the top (1); the text is in the upper pane, clicking on a word displays information about it in the lower pane; here, the user has just clicked on part of the multiword *il y a* ('there is') (2), showing an automatically generated concordance (4); hovering the mouse over a word plays audio and shows a popup translation; clicking on a loudspeaker plays audio for the preceding sentence (3); the back-arrows (5) link each line in the concordance to its context of occurrence; a link to the document can be found on the LARA content page<sup>16</sup>

◀ ▶ ▶ Table of Contents (1)

Ça ne pouvait pas m'étonner beaucoup. Je savais bien qu'en dehors des grosses planètes comme la Terre, Jupiter, Mars, Vénus, auxquelles on a donné des noms, il y en a des centaines d'autres qui sont quelquefois si petites qu'on a beaucoup de mal à les apercevoir au télescope. Quand un astronome découvre l'une d'elles, il lui donne pour nom un numéro. Il l'appelle par exemple : « l'astéroïde 3251. » (3)

J'ai de sérieuses raisons de croire que la planète d'où venait le petit prince est l'astéroïde B 612. Cet astéroïde n'a été aperçu qu'une fois au télescope, en 1909, par un astronome turc.

**il y avoir** (4)

← Et en effet, sur la planète du petit prince, **il y avait** comme sur toutes les planètes, de bonnes herbes et de mauvaises herbes.

← Or **il y avait** des graines terribles sur la planète du petit prince... c'étaient les graines de baobabs.

← **Il y avait**, sur une étoile, une planète, la mienne, la Terre, un petit prince à consoler !

← **Il n'y a** pas de tigres sur ma planète, avait objecté le petit prince, et puis les tigres ne mangent pas l'herbe.

← Mais **il n'y a** personne à juger ! - On ne sait pas, lui dit le roi.

← **Il n'y en a** qu'un. (5)

← **Il n'y a** rien à comprendre, dit l'allumeur. La consigne c'est la consigne. Bonjour.

← Ici c'est le désert. **Il n'y a** personne dans les déserts.

← **Il y a** une fleur... je crois qu'elle m'a apprivoisé...

← **Il me semblait** même qu'**il n'y eût** rien de plus fragile sur la Terre.

16. <https://www.unige.ch/collector/lara-content/>

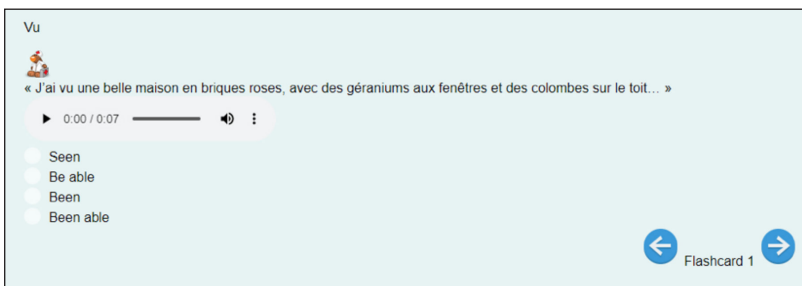


## 2. Extending LARA with flashcards

A common suggestion we have received from LARA users is that it would be useful to make the platform more interactive and include functionality that allows learners to test their understanding of a text. The first subproject, carried out by a student who had just completed a Bachelor of Science in computer science, addressed this idea by adding capabilities to create flashcards automatically extracted from a LARA text. A member of the core LARA team first wrote a toy version of the flashcard module in Python, showing how to extract the necessary information from the internalised form. The student then worked autonomously, except for a couple of requests for low-level functions to obtain other types of internal information. Finally, the flashcard module was incorporated into the web layer by another member of the core LARA team, working together with the student.

The final version of the flashcard module supports five different kinds of flashcards. A new set of flashcards is generated from the text each time the functionality is accessed; the choice of examples is random, but the ‘distractors’ (incorrect answers) are constrained so that they are made as similar as possible to the correct answer. An example of the simplest kind of flashcard is shown in [Figure 2](#). Examples of other kinds of flashcards are shown in the sections on Old Norse and sign language further down.

Figure 2. Example of LARA flashcard for *Le petit prince*. The student has to pick the most appropriate translation for the word presented at the top, ‘Vu’, out of the four alternatives. The context for the word is presented in both text and audio form



## 3. Using LARA for Old Norse

In most countries, students at middle schools are required to read classic works of literature that play an important part in the relevant country’s cultural history:

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English children read Shakespeare, French children Molière, etc. The archaic language of the texts is, in general, not fully comprehensible to the students without some explanation. Our second subproject was designed to see if LARA could provide assistance in this kind of situation. In Iceland, the appropriate culture referent is the Poetic Edda, a poem-cycle first written down in the late 13th century, but composed earlier. The Edda is written in Old Norse, the language spoken in Iceland between the 8th and 14th centuries, from which Modern Icelandic has developed. Old Norse is much closer to Modern Icelandic than English is to Old English, but still displays substantial differences: the grammar is not exactly the same, many words have shifted in meaning or have different spellings, and some have disappeared.

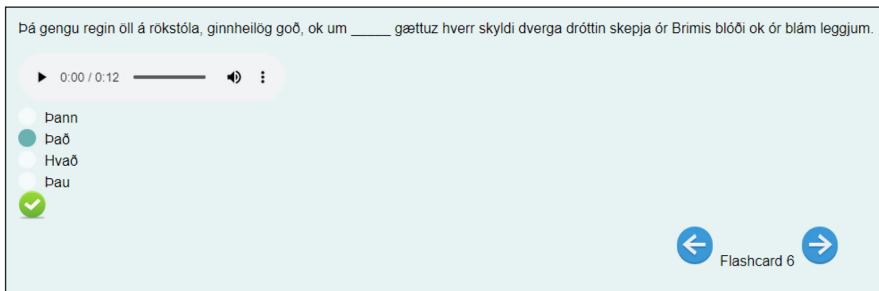
Figure 3. Example of LARA document in Old Norse (*Völuspá*) showing navigation controls (1); recorded audio for each verse (2); text in both original (3) and modern orthography (4); words in red are linked to informative notes (5); clicking on a word, here *skein*, displays the information page for the lemma, here *skína* (6); runic symbol (7) displays translation of verse; automatically generated links (8) to online resources; automatically generated concordance (9); list of notes (10); frequency and alphabetical indexes (11); hovering the mouse over a word plays audio and shows a popup translation (not featured)

The screenshot shows the LARA interface for Old Norse text. At the top, there is a 'Table of Contents' (1) with navigation arrows. Below it is an audio player (2) showing a progress bar from 0:00 to 0:15. The main text area (3) displays the original Old Norse text and a modern orthography version (4). Red words in the original text are linked to informative notes (5). A word 'skein' is highlighted, and a popup window (6) shows the lemma 'skína'. A runic symbol (7) is also present. Below the text are automatically generated links (8), a concordance (9), a list of notes (10), and frequency and alphabetical indexes (11).

The student responsible for the subproject, who had just completed her second year of a BA degree in Icelandic, used the LARA portal to create versions of the two best-known Edda poems, *Völuspá* and *Hávamál*; in contrast to the other subprojects, this did not involve developing any new platform functionality.

The poems are annotated with glosses in Modern Icelandic, and read with adapted Old Norse pronunciation. Key words and phrases, most often names of gods and places, are linked to explanatory notes. An interesting aspect concerns *kennings*, poetic phrases typically of two or three not necessarily contiguous words characteristic of the Edda and related Old Norse poems. These could successfully be handled by the multiword annotation scheme illustrated in Figure 1, a use of this mechanism we had not anticipated. An example of a page from an Edda text is shown in Figure 3, and a ‘sentence with gap’ flashcard in Figure 4. This work is described at greater length in Bédi et al. (2020, this volume).

Figure 4. Example of LARA flashcard for *Völuspá*. The student has to find the missing word in the incomplete verse presented at the top; after they have answered correctly, they can listen to the whole verse using the audio control



## 4. Adding sign language to LARA documents

The theme of the third subproject was sign language. Here, the intention was to create an initial version of a LARA text designed for Deaf learners. The starting point was an existing LARA text for an Icelandic children’s story, *Tína fer í fri*; this story had been constructed for a previous experiment (Bédi et al., 2019), where it had been used by beginner/intermediate L2 learners in an Icelandic-for-foreigners course. In the current project, we repurposed the text so that it could be used by

Deaf signers of ÍTM who wished to strengthen their Icelandic reading skills. Like all sign languages, ÍTM has no grammatical connection with the surrounding oral/aural language, here Icelandic. It is thus by no means assured that native signers of ÍTM will have strong reading skills in Icelandic, which, for them, is a second language.

As with the other two subprojects, core members of the LARA team did a small amount of preparatory work, generalising the treatment of multimedia so that word and sentence annotations could be supplied in video and audio forms. The rest of the project was performed by the student, who had just completed a BA degree in ÍTM and translation. He created signed videos for the words and sentences in the text, using the online recording tool integrated with LARA, after which the LARA platform scripts downloaded and linked everything together to create the final document.

The signed video extension was incorporated into the flashcard module developed during the first subproject. Examples of LARA pages and flashcards for ÍTM are shown in Figure 5 and Figure 6. This work will be presented at greater length elsewhere.

Figure 5. Example of LARA document in Icelandic with ÍTM annotation: controls are similar to Figures 1 and 3; concordance pages contain signed video for the word in question (right); clicking on a camera icon opens a signed video for the preceding sentence (left)

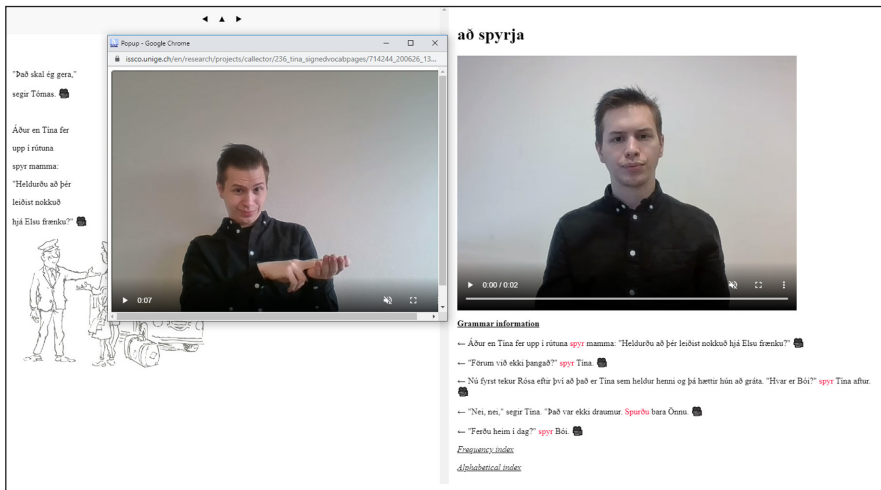
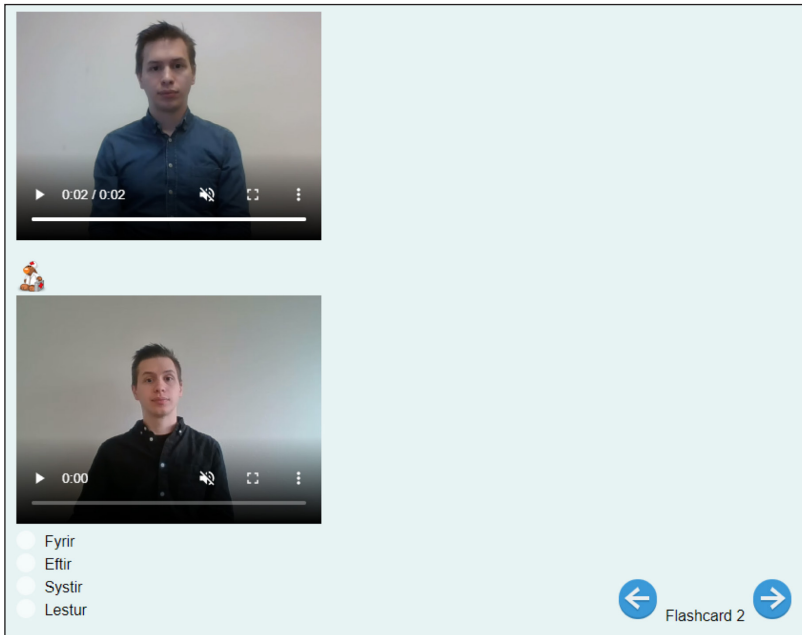


Figure 6. Example of flashcard for signed LARA text: the upper video is the question, and the lower video is the context



## 5. Summary and further directions

We have briefly described three summer projects where students without previous exposure to LARA extended it in different directions over a six-week period. This ambitious program was completed in half the time that was originally planned; encouraged by the successful results, we envisage further collaboration with the same and new collaborators. If you are interested in developing other open source extensions to LARA and need assistance, please feel free to contact us at the addresses given above.

## 6. Acknowledgements

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## References

- Akhlaghi, E., Bédi, B., Butterweck, M., Chua, C., Gerlach, J., Habibi, H., Ikeda, J., Rayner, M., Sestigiani, S., & Zuckermann, G. (2019). Overview of LARA: a learning and reading assistant. In *Proceedings of SLaTE 2019: 8th ISCA Workshop on Speech and Language Technology in Education* (pp. 99-103). <https://doi.org/10.21437/slate.2019-19>
- Bédi, B., Bernharðsson, H., Chua, C., Guðmarsdóttir, B. B., Habibi, H., & Rayner, M. (2020). Constructing an interactive Old Norse text with LARA. In K.-M. Frederiksen, S. Larsen, L. Bradley & S. Thouéšny (Eds), *CALL for widening participation: short papers from EUROCALL 2020* (pp. 27-35). Research-publishing.net. <https://doi.org/10.14705/rpnet.2020.48.1159>
- Bédi, B., Chua, C., Habibi, H., Martinez-Lopez, R., & Rayner, M. (2019). Using LARA for language learning: a pilot study for Icelandic. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thouéšny (Eds), *CALL and complexity – short papers from EUROCALL 2019* (pp. 33-38). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.982>
- Krashen, S. D. (1982). Principles and practice in second language acquisition [First Internet Edition July 2009]. Pergamo

# Development of an online tense and aspect identifier for English

John Blake<sup>1</sup>

**Abstract.** This article describes the development of a tense and aspect identifier, an online tool designed to help learners of English by harnessing a natural language processing pipeline to automatically classify verb groups into one of 12 grammatical tenses. Currently, there is no website or application that can automatically identify tense in context, and the tense and aspect identifier fills that niche. Learners can use the tool to see how grammatical tenses are used in context. Finite verb groups are automatically identified, and the relevant words in the verb group are highlighted and colorized according to the tense identified. The latest deployed system can identify tenses in simple, compound, and complex sentences. False positive results occur when there is ellipsis of auxiliary verbs or when the tagger assigns the incorrect part-of-speech tag. The user interface of the tense identifier is a web app created using the Flask framework and deployed from the Heroku platform. The tool can be used for inductive and deductive teaching approaches, or even to check for tense consistency in a thesis.

**Keywords:** tense, aspect, iCALL, visualization.

## 1. Introduction

Basic internet searches identify websites that explain the form and function of tenses, and numerous examples of each tense can be found. However, when teachers or learners want to identify the tense and aspect in a particular sentence, no online tool was discovered that could automatically identify the grammatical tense of sentences submitted by users.

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1. University of Aizu, Aizuwakamatsu, Japan; [jblake@u-aizu.ac.jp](mailto:jblake@u-aizu.ac.jp); <https://orcid.org/0000-0002-3150-4995>

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As pointed out by [Blake \(2019, p. 76\)](#), the tense and aspect identifier is designed to fill that niche by harnessing a natural language processing pipeline to automatically classify verb groups by grammatical tense. A tool that could identify tense would help learners recognize tenses in context, raising awareness of their usage. As [Schmidt \(1990\)](#) asserts in his noticing hypothesis, learners need to pay attention to particular language features before they can be learned.

The following section introduces the relevant grammatical concepts that underpin this research. The development and evaluation methods are then briefly described. The main deliverable, the tense and aspect identifier, is presented in the results and discussion section. The conclusion describes the usage of the tool, its limitations and future work.

## 2. Background

The majority of published coursebooks designed for English language learning are structured so that learners are exposed to grammatical tenses in a systematic manner, frequently starting with present tenses. The choice of tense and verb impacts meaning, and so learners need to understand these grammatical tenses. There are two tenses in English: present and past; and three grammatical aspects, namely future, perfect, and progressive. These combine to create 12 verb forms as shown in [Table 1](#). Eight of these forms are tensed (past or present forms) while four are modalized (future forms).

Table 1. Twelve verb forms (grammatical tenses)

	<b>Simple</b>	<b>Progressive</b>	<b>Perfect simple</b>	<b>Perfect progressive</b>
Past	Past simple	Past progressive	Past perfect simple	Past perfect progressive
Present	Present simple	Present progressive	Present perfect simple	Present perfect progressive
Future	Future simple	Future progressive	Future perfect simple	Future perfect progressive

Textbooks designed to help non-native speakers of English make extensive use of these 12 verb forms or grammatical tenses ([Yule, 1998](#)). According to [Biber et al. \(1999\)](#), 85% of all verb forms in spoken English are tensed. The frequency distribution of tenses is skewed to favor simple forms that account for 90% of all cases. The four verb forms that are classed as perfect progressive make up less



than 0.5% of all verb forms. Despite their relative rarity, they regularly feature in language tests that focus on grammar, such as Japanese university entrance examinations. Tense usage varies greatly between languages. Table 2 shows three sentences using present progressive tense in Japanese, which when translated into English result in three different tenses. This lack of a one-to-one mapping causes significant challenges for learners.

Table 2. One-to-many mapping between verbs in present progressive in Japanese and English

Japanese	Transliteration	English translation	Tense for translation
本を読んでいる。	hon o yonde iru	She is reading a book.	Present continuous
愛している。	ai shite iru	I love you.	Present simple
日本に十年滞在している。	Nihon ni jyuunen saizai shite iru	He has stayed in Japan for ten years.	Present perfect simple

### 3. Method

Automatic identification of grammatical tense is a non-trivial task. Six different systems were created using different approaches. The approaches included a rule-based approach, a hybrid machine learning approach, a deep learning model, and different design structures using the Natural Language ToolKit (NLTK) (Bird, Loper, & Klein, 2009). The NLTK is a popular collection of libraries and programs that can be used by software or scripts written in Python to process English texts.

A mobile-first approach was adopted for the design of the graphical user interface in all the systems. Scalability was also prioritized to cope with large numbers of simultaneous users. The systems were compared on usability, accuracy, and processing speed. A series of problem-discovery usability tests were conducted with 30 Japanese computer science majors undertaking a course in computational linguistics and educational technology. Each test involved students attempting tasks with the aim of uncovering problems with the interface and system.

Accuracy tests were also carried out by the undergraduates using two tailor-made datasets: one dataset balanced by tense and voice, and the other balanced by tense and function. Processing speed was measured coarsely as *fast* when results were displayed immediately or *slow* when users had to wait for results to load.

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## 4. Results and discussion

The system with the highest scores for usability and accuracy was achieved via a pipeline created using NLTK and a parse tree stored server-side in a Python dictionary. This system is the focus of this article. The systems that processed only single sentences, however, were significantly faster with no noticeable wait time before the results were displayed. The user interface of the NLTK tense and aspect identifier is a web app created using the Flask framework and deployed from the Heroku platform.

This tool automatically identifies finite verb groups, highlights the relevant words, and colorizes the background of the verb groups according to their grammatical tense. Teachers and learners of English can use this tool to identify the 12 grammatical tenses in any sentence, simply by typing or copy-and-pasting sentences into the input box. The result is displayed once the text is submitted. [Figure 1](#) shows the output of a simple short story.

Figure 1. Screenshot of result showing grammatical tenses detected in a simple short story

The screenshot displays a web application interface for identifying grammatical tenses. At the top, a legend lists 12 tenses with corresponding color-coded boxes: Future Perfect Simple (light blue), Future Continuous (medium blue), Future Perfect Continuous (dark blue), Future Simple (light green), Past Continuous (medium green), Past Perfect Continuous (dark green), Past Perfect Simple (light orange), Past Simple (medium orange), Present Continuous (dark orange), Present Perfect Continuous (light red), Present Perfect Simple (medium red), and Present Simple (dark red). Below the legend, the word 'Result:' is followed by a short story where verb groups are highlighted in colored boxes matching the legend. The story text is: 'Two frogs, a father and his son, were playing together when they accidentally fell into a bucket of milk. They started swimming for their lives. They kept swimming for a long time, but there remained no hope of their getting out. The father soon gave up and drowned. The son carried on swimming. During this time, the milk had begun to form a ball of butter. Using this island of butter as a platform, he managed to hop out of the bucket.'

Additional functionalities are being added into this interface. When clicking on a colorized verb group, further details such as voice and lexical meaning are displayed in a pop-up box, as shown in [Figure 2](#). Multimedia explanations in English and Japanese have also been prepared but are not yet deployed. There is also space for grammatical meaning in context, but that functionality is not yet implemented.

Figure 2. Screenshot of additional information available in pop-up box

They kept swimming for a long time, but there <b>seemed</b> no hope of their getting out.		×
Grammatical Tense:	Past Simple	
Voice:	Active	
Verb Sense:	perception	
Grammatical Meaning in Context:	<ul style="list-style-type: none"> <li>- give a certain impression or have a certain outward aspect</li> </ul>	
Lexical Meaning:	<ul style="list-style-type: none"> <li>- seem to be true, probable, or apparent</li> <li>- appear to exist</li> <li>- appear to one's own mind or opinion</li> </ul>	

Feedback received during usability testing on the currently deployed version with both teachers and learners was positive. One usability study participant actually checked his own graduation thesis with this tool and found a number of errant uses of present tense in place of past tense in the method section.

## 5. Conclusion

The tense and aspect identifier can find finite verb groups, highlight relevant words, classify tense into one of 12 categories, and colorize the verb groups according to grammatical tense. The latest deployed system (<https://www.jb11.org/tense-identifier.html>) can identify tenses in simple, compound, and complex sentences.

Students and teachers of English may find this tool useful to identify not only the tense of the sentence, but also to understand the complex interaction between tense, aspect, and modality. The tense identifier, as mentioned elsewhere (Blake, 2019, p. 76), can be used to learn the English tense system either inductively by inputting numerous sentences and working out the rules, or deductively to confirm whether sentences input conform to the rule. The tool can be used to raise learners' awareness of how grammatical tenses are used in context. A discovery learning approach, in which learners work out the tenses in a text and then compare those with the colorized output, can also be used.

In the next release, the parse tree will be refined to take account of elided auxiliary verbs for transitive verbs as the current system can only deal with elisions for intransitive verbs or transitive verbs that share the same direct object. The accuracy of alternative part of speech taggers will be compared and the tagger with the highest

accuracy will be incorporated. Additional information will also be displayed in the pop-up box, including grammatical meaning in context, and video explanations of the tense.

## 6. Acknowledgments

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## References

- Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. Longman.
- Bird, S., Loper, E., & Klein, E. (2009). *Natural language processing with python*. O'Reilly Media Inc.
- Blake, J. (2019). *Tense and aspect identifier* [book of abstracts]. JALTCALL. [https://conference2019.jaltcall.org/files/2018/09/JALTCALL2019\\_Handbook.pdf](https://conference2019.jaltcall.org/files/2018/09/JALTCALL2019_Handbook.pdf)
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, *11*, 129-158.
- Yule, G. (1998). *Explaining English grammar: a guide to explaining grammar for teachers of English as a second or foreign language*. Oxford University Press.

## Widening access to language learning in the institutes of technology in the Republic of Ireland

Una Carthy<sup>1</sup>

**Abstract.** Higher Education Institutions (HEIs) in the Republic of Ireland have been called to widen participation in language learning by the government's *Languages Connect Strategy*. The challenge is to increase the level of participation from 4% to 20%. Moreover, a recent nationwide study has revealed a grassroots demand for language provision that is currently unmet, and that prevailing perceptions of a lack of curricular space for languages may be one of the overriding obstacles to change. Mobile Assisted Language Learning (MALL) provides a possible solution to this dilemma, as it enables various forms of content located on virtual learning platforms to be accessed from anywhere. There is certainly a case for widening participation in language learning by harnessing new technologies. Online platforms create virtual spaces for language learning that transcend the confines of the traditional language classroom. MALL provides unlimited access to learning content and offers the potential for synchronous interaction with native speakers. Existing market leaders of MALL certainly have a global reach; however, their underlying pedagogy has been called into question. Further research and innovation are needed to create pedagogically sound learning platforms that might motivate language acquisition. Third level language educators need to create online learning pathways for languages, thereby overcoming perceived obstacles to change and bringing the second language acquisition process into the 21st century.

**Keywords:** languages connect strategy, recent research, virtual MALL learning platforms.

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1. Letterkenny Institute of Technology, Letterkenny, Republic of Ireland; una.carthy@lyit.ie; <https://orcid.org/0000-0001-8215-334X>

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## 1. Introduction

Irish HEIs in the Institute Of Technology (IOT) sector are in a state of flux, as they seek to reinvent themselves as Technological Universities (TUs). While this period of transition presents major challenges to the sector in terms of curriculum and resources, it also provides significant opportunity for innovation. Indeed, the Irish government has provided leadership in this regard, by calling upon third level institutions to equip Irish graduates with 21st century skills, in order to prepare the Irish economy for a competitive global workplace. The *Languages Connect Strategy* has prioritised linguistic skills as having a pivotal role to play in Ireland's future economic and social wellbeing (DES, 2017). Nonetheless, it is estimated that only 4% of Irish third level students currently learn second languages. Why does Ireland perform so badly when it comes to second language acquisition? Recent research has investigated this complex problem and may help guide educators in finding solutions (Carthy, 2017). MALL, i.e. learning pathways on Moodle, Blackboard (or other similar learning management systems) would certainly be worth investigating, as traditional curricular pathways appear to have been exhausted in many IOTs/TUs. Their popularity in global terms demonstrates their potential to widen access to language learning, as demonstrated by some of the market leaders of MALL.

## 2. Context

The current disconnect between Ireland's national government strategy and local IOT practices in relation to language provision is alarming. After many years of lobbying for a commitment at national level, language enthusiasts welcomed the long-awaited *Language Connect Strategy* in 2017 (DES, 2017). The strategy explicitly articulates how important linguistic skills are for Ireland's future economic and social development, and sets specific targets for both second and third level education. Admittedly, the goals set in the strategy are challenging, with a target of 20% participation in language learning among third level students. Unfortunately, these national priorities are not filtering down to local level; three years into this nine-year roadmap, the impact at third level is still minimal. Indeed, anecdotal evidence would suggest that the situation has deteriorated since the launch of the strategy. It would appear that the lack of alignment between local practices and the national strategy has led to some languages disappearing completely off the curriculum and the redeployment of language staff. There is clearly a need to address this anomaly by creating innovative learning pathways which may not have been considered hitherto. Research may enable educators to find a way forward.

### 3. Recent research

A nationwide investigation of the IOT sector may enable some light to be shed on this dilemma. This study collected quantitative and qualitative data from lecturers and students from 2012-2016, exploring the impact of institutional policy on attitudes towards learning languages (Carthy, 2017). Among the most significant findings is a grassroots demand for language learning, evident in both student and lecturer data, contrary to widespread perceptions. A lack of appropriate learning pathways in the traditional curriculum IOTs/TUs means that this appetite is not currently being met. Furthermore, there are significant qualitative and quantitative lecturer data suggesting that languages have slowly been squeezed out of the curriculum and there is currently a lack of traditional curricular space for them. On a more positive note, however, the findings from both students and lecturers have revealed that adults can both enjoy and succeed at learning languages, in spite of prior negative learning experiences or indeed having had none at all. This unexpected finding further strengthens the case for providing learning pathways for languages at third level. Educators need to explore virtual spaces in order to widen access to language learning and satisfy the demand evidenced here.

### 4. The potential of MALL

MALL might enable the IOTs to align themselves with the national strategic priorities. Various studies have been carried out into the potential of MALL to stimulate language learning in both formal and informal contexts (Stockwell & Hubbard, 2013; Viberg & Grönlund, 2012). MALL allows language learning to transcend the confines of the traditional language classroom. These virtual pathways provide an instant solution to the actual, and indeed perceived, lack of space for languages in the IOTs. Both synchronous and asynchronous tools could be used to create a rich interactive learning environment to stimulate language acquisition. Synchronous tools such as Zoom, Microsoft Teams, or Skype would facilitate authentic verbal interaction with native speakers, while asynchronous tools such as Panopto, Kahoot, or Padlet would enable learners to reflect and consolidate their learning as and when they choose. This innovative virtual space would enable learning pathways to extend across disciplines, and more importantly, create bridges between individual IOTs as they merge into TUs. Furthermore, MALL has the potential to provide transnational communication channels with partner colleges across Europe, and indeed beyond. There is a strong case for harnessing new technologies in order to overcome the obstacles to change, thereby enabling the implementation of the Irish *Languages Connect Strategy* (Carthy, 2019).

## 5. Current market leaders of MALL

In this context, the market leaders of MALL are worth considering. Their global reach demonstrates how popular these learning pathways can be. While there is little doubt about their popularity, some scholars are sceptical about their underlying pedagogy. Lotherington has conducted a survey into the prevailing pedagogies of these MALL apps and raised concerns about the approach used (Lotherington, 2018). Duolingo, Babbel, and Memrise are some of the learning apps under investigation. She claims that behaviourist pedagogical theories inform the learning pathways, with an overreliance on repetition and memorisation. Elsewhere she refers to the use of “impoverished pedagogies from half a century ago” (Lotherington, 2018, p. 212). While acknowledging the popularity of these game-based platforms, she calls instead for creativity and imagination among developers. There is clearly a need for the emerging TUs to carve out new learning pathways, using pedagogically sound approaches that would satisfy the appetite for language learning identified above and stimulate others to take on this challenge.

## 6. Conclusion

In conclusion, MALL could certainly be explored as a way of overcoming the obstacles identified to the implementation of Ireland’s *Languages Connect Strategy*. The popularity of existing MALL platforms demonstrates the potential of these technologies, with their user friendly and global accessibility. The lack of traditional curricular space which is preventing the creation of learning pathways could be overcome by carving out new virtual learning spaces. These pathways would go beyond both geographical and time constraints, operating in a cross curricular space and providing bridges between individual IOTs and indeed transnationally overcoming borders. These new learning spaces would not only enable the IOTs/TUs to equip their students with important linguistic and intercultural skills, but also connect with partner colleges across Europe and beyond, establish themselves globally as TUs, with an emphasis on developing 21st century skills in their graduates.

## References

- Carthy, U. (2017). *The impact of institutional language policy on attitudes towards the teaching and learning of languages*. Unpublished PhD thesis. Ulster University. <http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.734609>



- Carthy, U. (2019). Virtual space for language learning in the institute of technology sector. *AISHE*, 11(1). <https://ojs.aishe.org/index.php/aishe-j/article/view/387>
- DES. (2017). *Languages Connect: Ireland's strategy for foreign languages in education (2017-2026)* Dublin, DES. <http://research.ie/what-we-do/loveirishresearch/blog/languages-connect-irelands-strategy-for-foreign-languages-in-education-2017-2026/>
- Lotherington, H. (2018). Mobile language learning: the medium is ^not the message. *L2 Journal*, 10, 198-214. <https://escholarship.org/uc/item/7v93n9xq>
- Stockwell, G., & Hubbard, P. (2013). Some emerging principles for mobile-assisted language learning. *The International Research Foundation for English Language Education*. <http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning>
- Viberg, O., & Grönlund, Å. (2012). Mobile assisted language learning : a literature review. In *11th World Conference on Mobile and Contextual Learning, mLearn 2012, Helsinki*. <http://urn.kb.se/resolve?urn=urn:nbn:se:du-10659>

# Laying the groundwork for a historical overview of high-impact CALL papers

Yazdan Choubsaz<sup>1</sup>, Alex Boulton<sup>2</sup>, and Alireza Jalilifar<sup>3</sup>

**Abstract.** This study traces the evolution of Computer Assisted Language Learning (CALL) through published Research Articles (RAs) in four major journals: *ReCALL*, *CALL*, *Language Learning & Technology (LL&T)*, and *CALICO Journal*. The paper outlines the rationale and the methodology of this, which begins with downloading all 2,397 full RAs published in English, from the very first issues up to the end of 2019. This preliminary report already gives an overview of the history of the field; in particular, the increasing number of papers attests to the healthy state of research in CALL. Subsequent analysis focuses on a subcorpus of 426 papers chosen by the frequency of citation in each year as a gauge of impact within the community. The final analysis will use computer tools to help identify methodologies, themes, and theories as they rise and fall over the years.

**Keywords:** CALL evolution, CALL history, CALL synthesis.

## 1. Introduction

CALL was sufficiently active in the 20th century to warrant its own journals, beginning with *System* (<https://www.journals.elsevier.com/system>) in 1973, *CALICO Journal* (<https://journals.equinoxpub.com/index.php/CALICO>) in 1983, *ReCALL* (<https://www.cambridge.org/core/journals/recall>) in 1989, *CALL* (<https://www.tandfonline.com/toc/ncal20/current>) in 1990, and *LL&T* (<https://www.lltjournal.org/>) in 1997. These have since been joined by numerous others, e.g. *JALTCALL*, in print or online, often specific to particular sub-fields or targeting region-specific authors and readers, not to mention the vast quantities

1. Shahid Chamran University of Ahvaz, Ahvaz, Iran, Visiting Researcher in ATILF, CNRS & University of Lorraine, Nancy, France; yazdanchoobsaz@gmail.com; <https://orcid.org/0000-0002-4916-5573>

2. ATILF, CNRS & University of Lorraine, Nancy, France; alex.boulton@atilf.fr; <https://orcid.org/0000-0001-6306-8158>

3. Shahid Chamran University of Ahvaz, Ahvaz, Iran; ar.jalilifar@gmail.com; <https://orcid.org/0000-0002-8123-6757>

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published in other more general journals in applied linguistics or education, as well as in books and chapters, conference proceedings, and doctoral dissertations. Given this long and diverse history, the question we would like to ask is how researchers gain an overview in the major trends in CALL over time. This study outlines the initial stages of selecting high-impact publications, the methodology for analysing them, and their initial findings. The ultimate goal of this narrative review is to code the papers, and then use various computer tools to assist with identifying the stages, subdivisions, and progression of CALL-related research over time. The result should provide a roadmap, revealing what we know today and how we arrived there, and, in light of this, suggest avenues for future research (Zhao, 2003).

## 2. Method

Given the vast literature on CALL, the first stage was to limit the scope of this review, and focus on the most impactful research publications. As a rule of thumb, journals are often considered to be among the most prestigious sources (cf. Lei & Liu, 2019); furthermore, each has at least one issue per year which provides useful continuity in this field, which Stockwell (2007) sees as ‘highly technical’ due to its rapid evolution. Journals also tend to provide first-hand empirical data, which may draw on years of work. Scimago Journal and Country Rank (SJR) and Journal Citation Reports (JCR) were then analysed to identify the journals with the highest impact, namely *ReCALL*, *CALL*, *LL&T* and *CALICO Journal*, all of which rank in the top 100. The choice corresponds to other recent syntheses, such as Gillespie (2020), who based his synthesis on *ReCALL*, *CALL*, and *CALICO Journal*, with mention of *LL&T*.

All the RAs from those four journals were downloaded and sorted chronologically; other published sections, like book and software reviews, reports, editorials, and commentaries were excluded, as were a dozen papers in languages other than English. The initial pool of data thus consists of a corpus of 2,397 RAs published in English, from the very first issues up until the end of 2019, the last full year prior to collection.

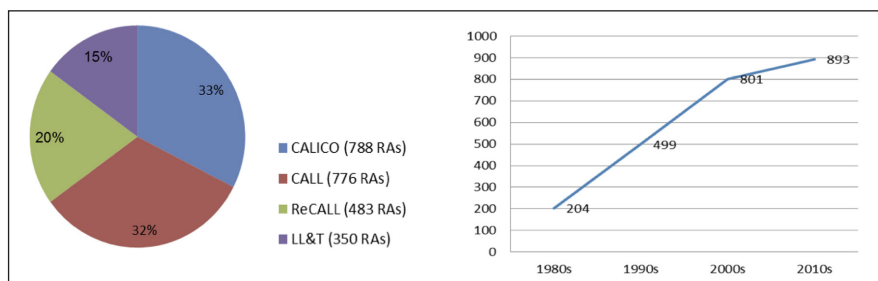
Manual analysis of the entire corpus of 2,397 RAs being impractical for present purposes, further choices were made to reduce the sample. Various options were considered: a random selection of papers from each journal in each year, or every *n*th year or issue, each of which risked missing out on highly influential papers. Instead, we opted for citation as a measure of impact in the field. By running a

thorough search of Google Scholar, citations of all 2,397 RAs within our corpus of four CALL journals were recorded. We then chose the 15% most widely-cited papers each year as a useful cut-off point, with papers receiving the same numbers of citations all being included to avoid forced choices with their inevitable degrees of subjectivity. This means that the papers published in a given year are only in competition with each other, thus reducing bias between years. In the end, this gave us a subcorpus of 426 papers which can be shown empirically to have produced major influence in the field. This is substantially larger than most reviews, some of which cover only a handful of studies (see [Plonsky & Ziegler, 2016](#)).

### 3. Results and discussion

The analysis is ongoing and far from complete, but some features are already becoming apparent ([Figure 1](#), left). In terms of the entire pool of 2,397 RAs, *CALICO Journal* has published the most, with 788 RAs (33% of the corpus), followed by *CALL* (776), *ReCALL* (483), and *LLT* (350). The increasing number of papers – from 204 in the 1980s to 893 in the 2010s – attests to the healthy state of research in CALL ([Figure 1](#), right), as does the fact that, with the exception of *CALICO Journal*, they have all expanded from one issue to three per year, or even eight in the case of *CALL*.

Figure 1. Left: breakdown of RAs by journal; right: breakdown of RAs by decade



From the overall corpus, 555 RAs are never cited in other papers in these journals (23%), and a further 407 are cited once only (17%); overall, less than 16% (386) have been cited 10 times or more here. Conversely, the three most cited papers (see [supplementary materials](#)) are [Warschauer \(1995\)](#) in *CALICO Journal*, with 133 citations, followed by [Chapelle \(1998\)](#) and [Blake \(2000\)](#). The dates are revealing in that early papers, with longer post-publication periods in which to be cited, inevitably top the list. However, it should be remembered that retaining the

top 15% from each year of publication avoids such bias overall. This gives weight to initiatives, such as DORA<sup>4</sup>, which underline how a journal's ranking is not a reliable indicator for individual authors or papers.

The table (in [supplementary materials](#)) also highlights the time taken for papers to be cited. Warschauer, for example, was not cited in the year following publication, once in each of the next three years, and four times in the fifth year. In other words, 126 out of 133 citations (95%) occurred more than five years after publication. This corresponds to [Park \(2012\)](#), whose analysis of citations in CALL journals found that 77% were five years old or more, and 22% were at least 15 years old. Typically, the citation half-life in applied linguistics (i.e., the year dividing the references in a given article into two equal halves, older and more recent) is over ten years. The whole list of ten highly-cited RAs shown in supplementary materials could be particularly ironic in a technological field such as CALL, though (to put a generous spin on things) it may suggest that researchers are less interested in the fast-moving technologies than in the procedures and activities involved.

## 4. Conclusions

This paper has summarised the methodology and initial results from a historical overview of high-impact RAs in CALL to show that CALL research is generally in a healthy and expanding state, though the ages of citations are potentially worrying. The current phase involves reading and manually coding all papers by two researchers; a first batch has already been conducted and divergences solved, while a second batch is under way, and will be subjected to inter-rater analysis using [Cohen's \(1988\)](#) kappa. The categories are operationally defined, in what [Riazi, Shi, and Haggerty \(2018\)](#) call a “data-driven thematic approach” (p. 44). Nonetheless, such coding sheets have their limitations, so they will be complemented by computer assisted discourse analysis featuring tools such as NVivo and AntConc to identify salient features and patterns. Together, the analyses should allow us to extract information about the research context (country, setting, programmes, and learning environment), the research participants (status, age group, proficiency, L1, and L2), as well as methodological and especially theoretical considerations (research methodology, research focus, and research theory). From there, the goal is to narrate the history of CALL and portray its development after four decades of presence.

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4. <https://sfdora.org/>

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## 6. Supplementary materials

<https://research-publishing.box.com/s/nv6b51c0aodidqyozej660huc6h698tet>

## References

- Blake, R. (2000). Computer mediated communication: a window on L2 Spanish interlanguage. *Language Learning & Technology*, 4(1), 120-136.
- Chapelle, C. A. (1998). Multimedia CALL: lessons to be learned from research on instructed SLA. *Language Learning & Technology*, 2(1), 22-34.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.
- Gillespie, J. (2020). CALL research: where are we now? *ReCALL*, 32(2), 127-144. <https://doi.org/10.1017/S0958344020000051>
- Lei, L., & Liu, D. (2019). The research trends and contributions of system's publications over the past four decades (1973–2017): a bibliometric analysis. *System*, 80, 1-13. <https://doi.org/10.1016/j.system.2018.10.003>
- Park, H. (2012). Analyzing article citation patterns in CALL journals. *Multimedia-Assisted Language Learning*, 15(2), 143-166. <https://doi.org/10.15702/mall.2012.15.2.143>
- Plonsky, L., & Ziegler, N. (2016). The CALL–SLA interface: insights from a second-order synthesis. *Language Learning & Technology*, 20(2), 17-37. <https://doi.org/10.125/44459>
- Riazi, M., Shi, L., & Haggerty, J. (2018). Analysis of the empirical research in the Journal of Second Language Writing at its 25th year (1992–2016). *Journal of Second Language Writing*, 41, 41-54. <https://doi.org/10.1016/j.jslw.2018.07.002>
- Stockwell, G. (2007). A review of technology choice for teaching language skills and areas in the CALL literature. *ReCALL*, 19(2), 105-120. <https://doi.org/10.1017/S0958344007000225>
- Warschauer, M. (1995). Comparing face-to-face and electronic communication in the second language classroom. *CALICO Journal*, 13(2), 7-26.
- Zhao, Y. (2003). Recent developments in technology and language learning: a literature review and meta-analysis. *CALICO Journal*, 21(1), 7-27. <https://doi.org/10.1558/cj.v21i1.7-27>

# Improving Spanish-speaking students' pragmatic competence through SCMC: a proposal

Sofia Di Sarno García<sup>1</sup>

**Abstract.** Due to the scarcity of studies analysing Spanish-speaking students' acquisition of pragmatic competence in English, this paper focuses on the preliminary stage of a longitudinal study on the impact that Synchronous Computer-Mediated Communication (SCMC) has on the use of apologies and the acquisition of intercultural communicative competence. In other words, this paper presents the type of explicit instruction that students from Spain need in order to improve their ability to express apologies, and how interaction with English-speaking students through Skype will help them to acquire the strategies that L1 speakers use in everyday conversations. Spanish-speaking students will complete a pre- and post-test questionnaire to measure their level of pragmatic knowledge before and after the interaction with English-speaking students. Additionally, a control group will carry out the task via face-to-face interaction. It is envisaged that after the telecollaborative exchanges, Spanish students in the experimental group will experience greater improvement in the performance of apologies than those in the control group and, subsequently, in their pragmatic competence.

**Keywords:** synchronous computer-mediated communication, telecollaboration, pragmatic competence, speech act.

## 1. Introduction

This paper focuses on the first aim of a longitudinal study on the impact that SCMC has on the use of apologies and the acquisition of intercultural communicative competence in students from Spain. In other words, this paper presents the type of explicit instruction that Spanish students need in order to improve their ability to express apologies and how interaction with English-speaking students through

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1. Universitat Politècnica de València, Valencia, Spain; sodisar@doctor.upv.es; <https://orcid.org/0000-0001-9952-4178>

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Skype will help them to acquire the strategies that L1 speakers use in everyday conversations.

## 2. Theoretical background

In the past 20 years, researchers have analysed the use of SCMC for teaching and researching pragmatics. [Taguchi and Sykes \(2013\)](#) observe that one of the advantages of Computer-Mediated Communication (CMC) in second language acquisition is that authentic communicative environments that allow language learners to participate in computerised dialogues with L1 speakers can be created, which implies exposure to the target language and chances for feedback and support that are not usually accessible in foreign language teaching environments. Although small in number, some studies have analysed the use of CMC in the field of pragmatics.

[Sykes \(2005\)](#) examined the effects of SCMC on the acquisition of refusals through three different modalities: written chat, oral chat, and face-to-face discussion. The results showed that, although an improvement was observed in the three groups, those conducting the task through written chat “outperformed the other two groups in terms of complexity and variety” ([Sykes, 2005](#), p. 420).

Also, [González-Lloret \(2008\)](#) conducted a longitudinal study to investigate the use of SCMC in order to improve addressivity through interaction with L1 speakers. In particular, she referred to a case-study whose findings demonstrated that students collaborated to create meaning and accomplish project-based tasks in the SCMC environment, and that not only did they improve their sociopragmatic knowledge of addressivity, but they also progressed in their pragmalinguistic competence.

[Sykes \(2009\)](#) also created a game-based environment called *Croquelandia* where Spanish language students could improve their pragmatic ability to make requests and apologies. Despite showing little change from pre- to post-test, the results revealed an increase in pragmatic awareness in the case of requests, while in that of apologies findings showed evidence that there was a “moderate change from speaker-oriented strategies to the preferred hearer-oriented apologies, but little change in the choice of external modifiers” ([Taguchi & Sykes, 2013](#), p. 14).

Additionally, [Cohen and Ishihara \(2005\)](#) created a website where Japanese language students could practise speech acts. On that website, students had access to audiovisual material related to those speech acts. After that, [Sykes and Cohen](#)

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(2006) developed a more extensive Spanish website for practising ten different speech acts, which included audiovisual input as well.

Etae, Krish, and Hussin (2017) examined the use of Thai and Western politeness strategies and speech acts in CMC amongst a group of Thai students and their English-speaking teacher. The results showed that Thai students used more Western politeness strategies than Thai strategies, although some of them made use of a mixture of Western and Thai strategies (Etae et al., 2017).

As can be observed through this short literature review, few studies have been carried out with Spanish-speaking students of English and, in particular, on their development of pragmatic competence.

### **3. Purpose of the present study**

This longitudinal study aims to observe the effect that telecollaborative exchanges have on the acquisition of the speech act of apology, taking into consideration Leech's (2014) taxonomy. Leech (2014) classifies strategies used by English speakers to apologise as (1) expressions of regret; (2) asking somebody for pardon (or forgiveness); and (3) using a performative utterance. According to Leech (2014), the most common strategy amongst L1 speakers of English is the first of these.

### **4. Method**

The main purpose of this study is to demonstrate how telecollaborative exchanges can enhance the production of apologies. Actually, previous studies, such as Sykes (2005), corroborate that video chat allows students to progress in the production of speech acts. This section will give an account on how the research will be carried out.

#### **4.1. Setting and participants**

The study will be carried out between the Universitat Politècnica de València (UPV) in Spain, and an English-speaking university, so that Spanish learners of English will interact with those who have English as their L1. Furthermore, it will be conducted over two semesters, allowing the research team to have a control group separate from the one engaged in the telecollaborative project. Each

semester, there will be a different class of students at UPV studying English, and, subsequently, the class in the first semester will be the control group, while that in the second semester will be the experimental group.

The Spanish-speaking students that will be part of the control group will be third year students of Aerospace Engineering from the UPV enrolled in an English subject whose Common European Framework of Reference (CEFR) level is B2. Data from students that will participate in the telecollaboration cannot be provided yet.

#### **4.2. Instruments and materials**

First, students will accomplish a questionnaire as pre-test. It will be carried out through Google Forms and will consist of three questions aimed at gathering demographical information, and ten multiple choice questions about the use of apologies. The test will be identical at the beginning (as pre-test) and at the end of the semester (as post-test).

Second, we will provide Spanish students with explicit instruction on pragmatics before the realisation of the activities, and we will use audiovisual material for this. The intent is that students will have the opportunity to observe the use of apologies in real contexts. We will also provide them with a handout with the most common strategies employed. The end of the explicit instruction will consist of reading a prepared text based on the article *An Exploration of the Structure of Effective Apologies* (Lewicki, Polin, & Lount, 2016), and writing a summary in pairs.

Third, students will perform six different role plays in dyads composed of a Spanish-speaking student and an English-speaking student, in order to elicit the use of apologies. However, based on Taguchi (2007), students will also be asked to perform another speech act in addition to the target one, in order “to divert their attention away from the particular speech act under study” (Taguchi, 2007, p. 120). In particular, the tasks include promises, refusals, and congratulations. They will use Skype for their interactions, so that they will also be able to record their interaction, and the research team will be able to transcribe the dialogues for subsequent analysis. Students will complete the post-test after that.

Our hypothesis is that, after the telecollaborative project, the results of the post-test will reveal an improvement in the pragmatic competence of Spanish students in the experimental group.

## 5. Conclusion

As the theoretical background has revealed, there are no studies of the way SCMC could help Spanish-speaking students of English in their use of apologies. Besides, we believe that further research should be carried out in order to demonstrate how CMC can foster language students' pragmatic competence. Therefore, this study could shed some light on an under-researched area in CALL.

## References

- Cohen, A. D., & Ishihara, N. (2005). *A web-based approach to strategic learning of speech acts*. Center for Advanced Research on Language Acquisition (CARLA). <https://carla.umn.edu/speechacts/Japanese%20Speech%20Act%20Report%20Rev.%20June05.pdf>
- Etae, S., Krish, P., & Hussin, S. (2017). Analyzing politeness strategies in an online platform for Thai EFL learners. *Journal of Social Sciences and Humanities*, 12(2), 259-271.
- González-Lloret, M. (2008). Computer-mediated Learning of L2 Pragmatics. In E. Alcón Soler & A. Martínez Flor (Eds), *Investigating pragmatics in foreign language learning, teaching and testing* (pp. 114-132). Multilingual Matters. <https://doi.org/10.21832/9781847690869-008>
- Leech, G. (2014). *The pragmatics of politeness*. Oxford University Press.
- Lewicki, R., Polin, B., & Lount, R. (2016). An exploration of the structure of effective apologies. *Negotiation And Conflict Management Research*, 9(2), 177-196. <https://doi.org/10.1111/ncmr.12073>
- Sykes, J. M. (2005). Synchronous CMC and pragmatic development: effects of oral and written chat. *CALICO Journal*, 22(3), 399-431. <https://doi.org/10.1558/cj.v22i3.399-431>
- Sykes, J. (2009). Learner request in Spanish: examining the potential of multiuser virtual environments for L2 pragmatics acquisition. In L. Lomika & G. Lord (Eds), *The second generation: online collaboration and social networking in CALL* (pp. 199-234). CALICO.
- Sykes, J., & Cohen, A. (2006). Dancing with words: strategies for learning pragmatics in Spanish. *Regents of the University of Minnesota*. [http://www.carla.umn.edu/speechacts/sp\\_pragmatics/home.html](http://www.carla.umn.edu/speechacts/sp_pragmatics/home.html)
- Taguchi, N. (2007). Task difficulty in oral speech act production. *Applied Linguistics*, 28(1), 113-135. <https://doi.org/10.1093/applin/aml051>
- Taguchi, N., & Sykes, J. M. (2013). (Eds). *Technology in interlanguage pragmatics research and teaching*. John Benjamins Publishing Company. <https://doi.org/10.1075/llt.36.01tag>

# Understanding participation in CALL vocabulary tasks through complexity theory

Paul Dickinson<sup>1</sup>

**Abstract.** This study explored participation by Japanese university English as a Foreign Language (EFL) learners in Computer Assisted Language Learning/Mobile Assisted Language Learning (CALL/MALL) vocabulary tasks through the lens of Complexity Theory (CT). CT, which studies how complex systems are influenced by changes in interconnected variables (Larsen-Freeman & Cameron, 2008), has been advocated as an approach that aligns well with Second Language Acquisition (SLA) and CALL research (Godwin-Jones, 2019). In this study, CT was applied to action research involving learners using smartphones to create game-based vocabulary quizzes. It aimed to understand how the context, personal attributes, and in-class interactions affected participation and learning outcomes. The results show the variability and nonlinearity of learners' language development, the importance of initial conditions, and the vital role of teacher input. It also demonstrated that there are various ways to successfully complete a task, so viewing tasks as dynamic systems may be a fruitful approach.

**Keywords:** CALL, MALL complexity theory, EFL.

## 1. Introduction

This paper considers participation in technology-enhanced vocabulary tasks through the lens of CT. The array of technology-enabled opportunities for informal language development demands new approaches to understanding participation in today's learning environments. As Larsen-Freeman (2018) notes, just as

“learners will be more able to pursue differentiated language goals [...] language teachers and researchers will also need to [...] seek to understand

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1. Meijo University, Nagoya, Japan; paul.dickinson01@gmail.com; <https://orcid.org/0000-0002-8528-4705>

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the way in which our increasingly technology-supported, participatory, multilingual, and global culture is redefining how, when, and why languages are learned and used” (pp. 65-66).

How should this understanding best be sought? Several researchers have highlighted the shortcomings of quantitative research designs for this task (e.g. Barab, 2005; Becker & Sturm, 2018; Levy & Moore, 2018). Alternatively, CT has been proposed as an approach that aligns well with SLA and CALL research (Godwin-Jones, 2019). CT recognises the open dynamism of systems and nonlinearity of development. Applied to CALL, it can reveal much about learners, from divergent *initial conditions*, the details of the starting state of a system, to the moment-by-moment behaviours that affect their variable progress. CT can also uncover the dynamic interactions between learners, teachers, technologies, and environments that influence participation and learning trajectories.

This study examined participation by Japanese university EFL learners in CALL/MALL vocabulary tasks. It explored the creation by learners of two game-based vocabulary quizzes on the Kahoot! app. It was hoped that the processes involved in writing the quiz questions and creating the quizzes would help participants learn the selected vocabulary items.

A CT approach was adopted to help understand how the context, learners’ personal attributes, autonomous technology use, and in-class interactions influenced individual participation and task outcomes.

## 2. Method

Participants were Japanese L1 users, aged 18-19 years – Test of English for International Communication (TOEIC) average 357; Common European Framework of Reference (CEFR) A2 –, taking a first-year English writing course at a Japanese university. Mixed methods, including repeated vocabulary tests to measure longitudinal change, observation, and a questionnaire were used to gain a better understanding of participation in the tasks and learning outcomes. As discussed, the tasks involved learners working in small groups to create two Kahoot! quizzes for selected vocabulary items.

Learners completed a 35-item pre-test, post-test, and delayed post-test in class over 16 weeks. The identical items were used, being reordered each time. The test was in multiple-choice format with each question providing the item, an exemplar

sentence, and four answer choices for the closest meaning of the item, as in the following example:

- DAMP: The ground was **damp** after the rain: (1) hard; (2) dry; (3) wet, or (4) sand.

The least well-known items from the pre-test were chosen for the learner-created quiz tasks. Each task had three steps:

- write a set of multiple-choice gap fill questions for the items;
- use the questions to create a Kahoot! Quiz; and
- share the completed Kahoot! quiz with the teacher.

Close observation of learners while they were creating the quizzes revealed how they performed the task and how they interacted with each other, the teacher, and the technology. In groups, the learners collaboratively created and shared two short quizzes on the Kahoot! app using their smartphones. After this, the vocabulary post-test and delayed post-test were done. A questionnaire was then conducted to collect data about the learners' initial conditions and their experiences creating the quizzes.

### 3. Results and discussion

#### 3.1. Quantitative results

The vocabulary test group mean scores showed a gradual though statistically insignificant increase: 27.33 out of 35 (pre-test), 27.75 (post-test), 30 (delayed post-test). Individual scores also mostly increased, although three learners demonstrated an uneven trajectory, scoring a lower score in the post-test before attaining their highest scores in the delayed post-test – an indicator of the nonlinear nature of development.

There was an improvement from the pre-test to the final test for all items in the learner-created quizzes. Despite this, there was another indication of how language development will stall or regress at different points in time. For example, whereas nine learners chose the incorrect meaning for *aisle* in the pre-test, this improved to one incorrect answer in the post-test, before regressing to five incorrect answers in the delayed post-test four weeks later.

### **3.2. Observations**

Learners spent most time learning the meanings of words and creating sentences for their quizzes. Translation was the first strategy adopted in this process. At the initial question-writing stage, without prompting many learners used their smartphones to access Weblilo, Siri, and other web resources to learn translated word meanings. In CT, this default use of translation can be understood as an *attractor*, a mode of behaviour that a system (i.e. the learner) ‘prefers’. Not all attractors are beneficial to development however, and while translation is an understandable attractor for a learner with limited second language vocabulary, there is a risk that language development could stall if its attraction remains strong. Larsen-Freeman and Cameron (2008, p. 51) use the analogy of a steep-sided well to describe how a system with a very strong attractor may get stuck at the bottom of the well and be unable to ‘escape’ its current state.

Input into the system from the teacher was also influential. The teacher had to assist all groups with various issues including misunderstanding instructions, misuse of words (e.g. learners often used the incorrect word form or misunderstood a word’s meaning), and understanding how to use the Kahoot! site.

Another interesting observation was the varying ways that groups divided the work. Some groups worked collaboratively on one word and question at a time. Other groups divided the words from the outset and wrote the questions individually, before coming together to create the quiz on one person’s smartphone. Some learners also interacted across group boundaries, especially to help each other use Kahoot!. This variability and fluidity illustrates that tasks can be viewed as dynamic systems. Viewing tasks in this way rather than the static view of the task as a frame allows learners more freedom to choose how they will engage with the task and the affordances available to them. This should prove more motivating to learners as well as providing them the opportunity to develop according to their individual initial conditions such as aptitudes, proficiencies, and learning preferences.

### **3.3. Questionnaire**

One part of the questionnaire collected data related to the initial conditions of learners. For example, the average TOEIC score of 357 indicated their proficiency level. Learners stated they studied outside of class no more than 2 hours a day, with eight learners reporting that they studied one hour or less. In addition, only two learners took English lessons outside of university.

The most common language learning activities learners did on their smartphones were reading, listening, vocabulary study, dictionary use, and playing games. While most learners reported using language learning apps, four learners responded that they did not use apps at all. This variability helps explain why some learners appeared more adept than others using their smartphones as a language resource and for creating the Kahoot! quizzes.

Learner responses about the difficulties creating the quizzes also revealed the importance of initial conditions. The two most cited difficulties were related to language proficiency (“I didn’t know the meaning of the words”, and “Writing an example sentence”).

## 4. Conclusions

Applying CT to understanding learner participation in CALL tasks and learning outcomes revealed useful insights. The interconnected variables of initial conditions; attractors such as translation, and the input of the teacher and web resources, affected learner participation in the tasks. The uneven trajectory in the test results demonstrated the nonlinearity of language development and the need to research it over time. Given the options that technology is making available for language development within and beyond the classroom, it appears crucial to use approaches to researching and teaching that account for and engage with this reality. CT should prove extremely useful for this task.

## References

- Barab, S. (2005). Design-based research. In R. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 153-170). Cambridge University Press. <https://doi.org/10.1017/CBO9780511816833.011>
- Becker, S., & Sturm, J. (2018). Using metacognitive strategies to induce phase shifts. A complex systems approach to L2 listening instruction. In A. Tyler, L. Ortega, M. Uno & H. Park (Eds), *Usage-inspired L2 instruction: researched pedagogy* (pp. 165-185). Benjamins. <https://doi.org/10.1075/llt.49.08bec>
- Godwin-Jones, R. (2019). Re-orienting CALL through the lens of complexity theory. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thouësny (Eds), *CALL and complexity – short papers from EUROCALL 2019* (pp. 151-156). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.1001>



- Larsen-Freeman, D. (2018). Looking ahead: future directions in, and future research into, second language acquisition. *Foreign Language Annals*, 51(1), 55-72. <https://doi.org/10.1111/flan.12314>
- Larsen-Freeman, D., & Cameron, L. (2008). *Complex systems and applied linguistics*. Oxford University Press.
- Levy, M., & Moore, P. J. (2018). Qualitative research in CALL. *Language Learning & Technology*, 22(2), 1-7. <https://doi.org/10.125/44638>

# Designing a gamified reading app with pupils in elementary school

Bassant El Naggar<sup>1</sup> and Kay Berkling<sup>2</sup>

**Abstract.** Playing games on mobile devices has become an integral part of younger generations' lives. Mobile games foster, among other things, deep concentration. This paper reports on design guidelines derived from observations of six elementary school pupils' engagement over a six-week period during an after-school reading club program. Each meeting consisted of three activities as well as reading text on the Microsoft immersive reader on an iPad, and playing a competitive reading game app, 'Henry rennt', which are both designed to support reading. Pupils were engaged in informal conversation with the researchers about both applications, and the authors informally observed the pupils' engagement with the apps and each other. Patterns of engagement and comments from pupils informed the design of a new reading app. This work reports these general patterns and concludes with new research areas to pursue as a result, including the impact of: social setting on playing, in-game teaching with avatars on engagement, and speed as a measurement of skill mastery. Finally, the applicability of children's engagement patterns is validated with adult students of German as a second language who used the app.

**Keywords:** serious games, literacy games, elementary educational games, child-centered design.

## 1. Introduction

The motivational power of games was discovered by educational systems in the 1960s by a teaching movement known as *Back to the Basics*, when pupils were getting poor scores in exams. The movement highlighted that reading and writing skills are the basics of communication, and should be taught through

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1. German University in Cairo, Cairo, Egypt; belnaggar16@gmail.com

2. Cooperative State University, Karlsruhe, Germany; berkling@dhbw-karlsruhe.de; <https://orcid.org/0000-0003-1186-5678>

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interaction rather than memorization (Hankin & Sachs, 2002). Integration of mobile devices into educational systems is reported to have a positive impact on pupils' learning curves (Major, Hassler, & Hennessy, 2017). Since digital games are based on interactivity and decision making to achieve various goals, they have an additional edge over educational books (Yannakakis & Togelius, 2018). According to the LEO (Level-One) study 2018 held by the Ministry of Education in the Federal Republic of Germany, 6.2 million German speakers could not read or write, representing more than 12% of the German population (Davis, 2019). This group of people is left behind by traditional schooling and could be supported by serious games encouraging motivation and practice. Creating effective learning games for elementary schools may be one solution. In games, fun in its varied facets is a strong motivator (Ismail & Ibrahim, 2018), and best explored by involving pupils during the design phase (Langridge, Smith, Smithers, & Southgate, 2017; Nettet & Large, 2004; Sykes & Federoff, 2006). By integrating observations of elementary school pupils' engagement with good apps, insights into motivating factors can result in design guidelines for more effective games across different age groups.

## 2. Observing elementary school pupils' engagement with reading apps

A reading club was established in an elementary day-school one afternoon per week for 2 hours. Six pupils of different genders between ages 8-9 in second grade with elementary German language reading skills participated for 6 weeks<sup>3</sup>. Each session included reading with the immersive reader<sup>4</sup> and playing the literacy game 'Henry rennt' (Berkling, Fawaz, Zundel, & Abdennadher, 2019). The immersive reader provides customization options for fonts, sizes, and colors, as well as live focus, pictionary, and part-of-speech highlighting. The game provides the task of finding words to be capitalized in a running game with an emotional avatar. Together, the apps cover a wide spectrum of approaches to the presentation of text material to students for reading practice. Both applications were well received by the pupils. Based on the observations, the authors compiled the following design guidelines for engaging game design specifically for reading games:

- formatting reading texts should be customizable to provide freedom while reading;

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3. Parental permission required for biometrical data collection resulted in few volunteers.

4. <https://azure.microsoft.com/en-us/services/cognitive-services/immersive-reader/>

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- supporting reading comprehension with pictures is an important facilitator;
- sentences should be kept short to support beginning readers;
- games need a simple, short tutorial;
- an accompanying emotional avatar is an important factor for engagement;
- rewards are expected and are not replaceable by the emotional avatar; and
- customization of the character is important to connect the user with the game.

### 3. Application toward game design

‘Phingu and the magic book’, was designed as an example of how to implement these guidelines in a game (see [Figure 1](#)). The game presents a maze to be navigated by Phingu with the help of three tutorial skill-dependent avatars. The student has to read, understand, and complete sentences in order to progress through the maze and levels with increasing difficulty. [Table 1](#) summarizes the game features developed.

Table 1. Guideline and design decisions

Guideline	Adaptation
Customizable text format	This is left to future work to display the magic books that will be unlocked with each level.
Picture-supported reading comprehension	The answers of the passwords are presented as pictures above each sentence.
Short sentences	Riddle sentences contain a maximum of six words.
Simple, short tutorial	Three distinct skill-based avatars/monsters were added to the game, are associated with by the user, and explain the concept of each of the three types of orthographic principles.
Emotional avatar as company	After each victory, celebratory music is played and Avatars always show reactions after each user’s entry.
Rewards	Correct passwords result in prizes in each of the three categories and are displayed with diamonds of the same color-coding as the skill-based avatars.
Avatar customization	The users can change the customs of the main Avatar before starting the game.

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Figure 1. Scenes from ‘Phingu and the magic book’, including the login page, the maze, the interactive reading and comprehension quiz that can open the gate if correct but also provides a teaching opportunity in case of problems related to the use of the avatar, and the personalization of the avatar



#### 4. Applicability of design guidelines for adult students

To evaluate the engagement for adults, ten exchange pupils from the German University in Cairo evaluated the game from the perspective of German as a second language for level A2 on the Common European Framework of Reference for languages (CEFR) scale, which level is somewhat comparable to elementary pupils’ reading and writing skills. The average time of guessing the correct words was approximately equal to 34.07 seconds. The average score was 65, which meant the average number of words solved was 13 out of 24. 70 % of the students used the one hint offered in-game to help with spelling rules. Table 2 below explores the speed of answering for repeated words. Students tended to get faster during the game, indicating a memorization process.

Table 2. Time taken to submit correct words by trial for example repeating words

User	Repeated words	Times	1st visit (seconds)	2nd visit (seconds)	3rd visit (seconds)	Average time (seconds)
1	Suppe	2	11	5	-	8
	Wasser	2	7	5	-	7
	Lieder	3	8	15	9	11
2	Wiese	3	8	5	3	6
	Waffel	2	6	7	-	6
	Messer	2	6	3	-	5

In addition to the game analytics, results from informal interviews with the students can be summarized as follows:

- the avatar tutorials provided a learning event;
- the skill-based avatars supported pattern acquisition of orthographic principles;
- playing the game in a social environment resulted in longer time engagement<sup>5</sup>; and
- the game seems to support understanding and memorizing of new words.

## 5. Conclusions and future work

The presented work showed that a number of guidelines developed based on elementary school pupils' engagement observations can be applied to literacy game design and is generalizable across age groups. Observing pupils' engagement with digital reading material and literacy games informed design decisions for a new application in a structured manner and resulted in new leads for further research.

For adult language learners, a qualitative evaluation indicates that playing multiple times improves skill, which supports previous findings for children in similar applications (Berkling et al., 2019). Observations motivate further need to study how social environments during play can boost engagement time, and the effect of emotional bonds with avatars in learning environments. Avatars as teachers seemed to be effective in teaching adult learners' new concepts.

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5. Social environment for playing games as a major engagement factor has been observed in classroom setting, for children and with adults.

## References

- Berkling, K., Fawaz, E., Zundel, A., & Abdennadher, S. (2019). Designing an emotive avatar for a grammar game – a case study of engagement and performance development. In J. Arnedo-Moreno, C. S. González, A. Mora (Eds), Proceedings of the 3rd International Symposium on Gamification and Games for Learning (GamiLearn'19), Barcelona, Spain, 22-10-2019.
- Davis, A. (2019). Millions in Germany can't read or write properly. Deutsche Welle <https://www.dw.com/en/millions-of-germans-have-trouble-reading-and-writing/a-48633267>
- Hankin, C. G., & Sachs, R. T.. (2002). Education Update. *Back to Basics*.
- Ismail, R., & Ibrahim, R. (2018). Fun elements in educational game design to boost students. In *New Academia Learning Innovation (NALI) 2018 Symposium*. [https://www.researchgate.net/publication/326492187\\_NALI\\_Symposium\\_Fun\\_Elements\\_in\\_Educational\\_Game\\_Design\\_To\\_Boost\\_Students\\_Learning\\_Experience](https://www.researchgate.net/publication/326492187_NALI_Symposium_Fun_Elements_in_Educational_Game_Design_To_Boost_Students_Learning_Experience)
- Langridge, R., Smith, S., Smithers, K., & Southgate, E. (2017). Participatory design with children and young people: an annotated bibliography. *DICE Report Series, 5*. The University of Newcastle. [https://dice.newcastle.edu.au/DRS\\_5\\_2017.pdf](https://dice.newcastle.edu.au/DRS_5_2017.pdf)
- Major, L., Hassler, B., & Hennessy, S. (2017). Tablet use in schools: impact, affordances and recommendations. In A. Marcus-Quinn & T. Hourigan (Eds), *Handbook on digital learning for K-12 schools* (pp. 115-128). Springer. [https://doi.org/10.1007/978-3-319-33808-8\\_8](https://doi.org/10.1007/978-3-319-33808-8_8)
- Nesset, V., & Large, A. (2004). Children in the information technology design process. A review of theories and their applications. *Library & Information Science Research, 26*(2), 140-161. <https://doi.org/10.1016/j.lisr.2003.12.002>
- Sykes, J., & Federoff, M. (2006). Player-centred game design. *Extended Abstracts Proceedings of the 2006 Conference on Human Factors in Computing Systems* (pp. 1731-1734). <https://doi.org/10.1145/1125451.1125774>
- Yannakakis, G., & Togelius, J. (2018). *Artificial intelligence and games*. Springer. <https://doi.org/10.1007/978-3-319-63519-4>

# Understanding the use of eye-tracking recordings to measure and classify reading ability in elementary children school

Karim Fayed<sup>1</sup>, Birgit Franken<sup>2</sup>, and Kay Berkling<sup>3</sup>

**Abstract.** The iRead EU Project has released literacy games for Spanish, German, Greek, and English for L1 and L2 acquisition. In order to understand the impact of these games on reading skills for L1 German pupils, the authors employed an eye-tracking recording of pupils' readings on a weekly basis as part of an after-school reading club. This work seeks to first understand how to interpret the eye-tracker data for such a study. Five pupils participated in the project and read short texts over the course of five weeks. The resulting data set was extensive enough to perform preliminary analysis on how to use the eye-tracking data to provide information on skill acquisition looking at pupils' reading accuracy and speed. Given our set-up, we can show that the eye-tracker is accurate enough to measure relative reading speed between long and short vowels for selected 2-syllable words. As a result, eye-tracking data can visualize three different types of beginning readers: memorizers, pattern learners, and those with reading problems.

**Keywords:** serious games, literacy games, elementary educational games, self-evaluation, pupils' perspectives, technology appropriation.

## 1. Introduction

Adaptive literacy games provided by iRead EU Horizon Project ([www.iread-project.eu](http://www.iread-project.eu)) are deployed into elementary school classrooms. We employed an eye-tracker to understand how to study reading skills in order to use the eye-tracker

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1. German University, Cairo, Egypt; [kareemofekry@gmail.com](mailto:kareemofekry@gmail.com); <https://orcid.org/0000-0003-1857-0688>

2. Cooperative State University, Karlsruhe, Germany; [birgit.franken@dhbw-karlsruhe.de](mailto:birgit.franken@dhbw-karlsruhe.de)

3. Cooperative State University, Karlsruhe, Germany; [kay.berkling@dhbw-karlsruhe.de](mailto:kay.berkling@dhbw-karlsruhe.de); <https://orcid.org/0000-0003-1186-5678>

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as an evaluation method in future work. The underlying thesis is that the level of understanding orthography should have an effect on eye movement that can be measured with an eye-tracker (Behrmann & Bub, 1992; Rau, Moll, Snowling, & Landerl, 2015). Age and reading skills are correlated (Blythe & Joseph, 2011). The work presented here forms a further step in understanding how eye-trackers can be used to visualize reading skills for the key orthographic principles of the German language, namely the pervasive long and short vowel grapheme patterns. This case is for beginning readers because they are still decoding the letters. As reading skills increase, changes in the movements of the eye will reflect the decrease in cognitive processing difficulty. We may expect to observe differences between equally old children who vary significantly in reading skills. Processing difficulty is reflected in the reader's eye movement behavior (Blythe & Joseph, 2011). Häikiö, Bertram, Hyönä, and Niemi (2009) found that less able readers aged between eight and ten have slower reading speeds and a smaller perceptual span than more able readers have. Based on the literature, we expect to be able to measure minor differences in reading speed due to vowel length in 2-syllable words, such as 'Hase' vs. 'hasse' in order to determine reading accuracy.

## 2. Method

Over a period of five weeks, five pupils at the age of 8-9 attended a weekly reading club with short reading sessions that were recorded with an eye-tracker at a frequency of 120 Hz on a high-performance laptop with a large monitor with a mobile Tobii Pro X3-120 (<https://www.tobii.com/>). The eye-tracker was re-calibrated for each pupil during each visit. The laptop was positioned for optimal lighting and the seat was boosted with pillows for correct positioning of the reader.

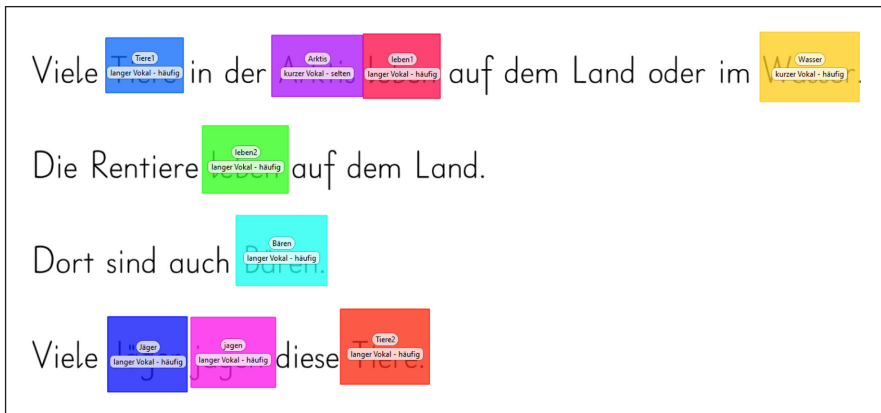
Figure 1 shows the stimulus example presented to the pupils with invisible Points Of Interest (POI). A given short story was presented across multiple pages to the reader. The following adjustments were important: POIs should not appear at the beginning of a line, and POIs were stretched higher above the text to capture most of the eye movements above the words. Font size, word and line spacing were adjusted to the eye-tracker accuracy, and the font was chosen for beginning readers. Pupils read the text out loud to avoid skipping difficult parts of the text and to control the pupil's reading speed.

The focus of the experiment was the measurement of reading speed for four distinct categories of 2-syllable words: long vowel ('Hase') and short vowel words ('hasse')

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and, within each of those categories, distinguishing between high frequency and low frequency words. This allows us to study whether the beginning readers are able to pronounce the words correctly by distinguishing vowel length based on orthographic patterns. The frequency dimension allows us to distinguish readers that can generalize to unknown words by applying orthographic patterns vs. those only memorizing high frequency words.

Figure 1. The image shows POI marked for retrieving data from the eye-tracker



Word frequency was determined through the use of a dictionary provided by Heidelberg University (Schroeder et al., 2014) with word frequency counts for different age groups. Age group for 8-10 years old children was used.

Table 1. Number of 2-syllable words used for the data analysis by week and pupil

	Number of Words Read				
Week	Pupil 1	Pupil 2	Pupil 3	Pupil 4	Pupil 5
1	34	37	37	39	19
2	54	70	74	21	58
3	86	85	84	70	106
4	86	81	84	29	47

The Total Fixation Duration (TFD) measurement from the eye-tracker was used for all calculations. The final data set contained four school visits for five pupils, reading nine texts (1,432 words) over a time span of five weeks as listed in Table 1. The data was cleaned as follows before normalizing for further analysis:

- repetitive words were eliminated because they lead to quick memorization for all readers;
- first words in lines were not used;
- apparent outliers were excluded;
- zero readings were excluded; and
- misspelled words in the stimuli.

Normalizing the data eliminated overall reading speed in order to focus on relative speed for vowel duration, enabling furthermore direct comparison between readers.

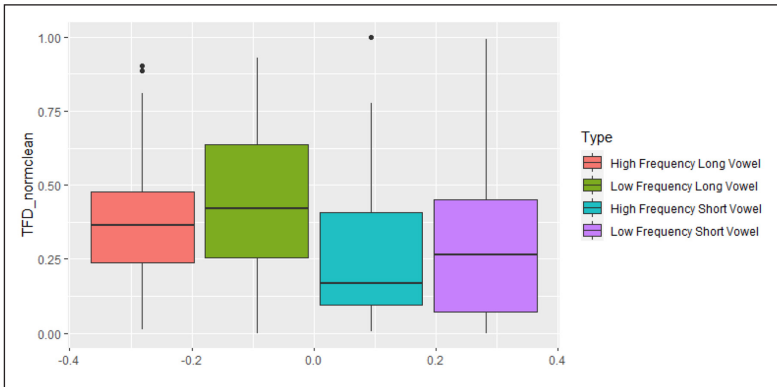
### 3. Results

After analyzing the data, we identified three reading profiles:

- **Pattern recognizer:** a good reader having acquired the patterns and able to distinguish between long and short vowels regardless of the frequency of the word. We can assume this reader can generalize to new words and is therefore a strong reader.
- **Memorizer:** a reader that has memorized frequent words, without understanding the orthographic pattern and will make reading mistakes in rare or new words. Memorizers sound like fluent readers on familiar texts like school books but may not move on easily to unknown texts.
- **Problematic reader:** these readers may need more time to read the short vowel because they did not understand the orthographic concept of the double consonant. By mistakenly choosing to read the short vowel as a long one, they run into a semantic conflict and this hesitation is visible in a longer time spent on reading this word. ‘Sie hassen Eis’ (They hate ice-cream) is read as \*Sie hasen Eis (They bunny ice-cream).

Figure 2 depicts the profile of a Pattern recognizer. The boxplots show the distributions of values of the collected data for that pupil, showing high frequency words are read faster than low frequency words and that short vowel words are read faster than long vowel words.

Figure 2. Example profile of a Pattern recognizer (y-axis denotes normalized TFD)



## 4. Conclusions and future work

The path to the current understanding of how to record and analyze the data was not straightforward. This paper has shed some light on how to set up the eye-tracker correctly and select the optimal measurement, clean the resulting data appropriately, and then use it for analyzing relative reading speed for 2-syllable words. What remains to be done are additional data collections, detailed statistical analyses, and generalization to a larger number of beginning readers (Berkling & Franken, 2019). Our findings will form the basis for measuring reading improvements over time. In addition, we plan to use reading comprehension questions to validate reading profiles.

## 5. Acknowledgments

iRead is part of a project that has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 731724. The results presented reflect only the authors' view and the Agency is not responsible for any use that may be made of the information it contains.

## References

- Behrmann, M., & Bub, D. (1992). Surface dyslexia and dysgraphia: dual routes, single lexicon. *Cognitive Neuropsychology*, 9(3), 209-251. <https://doi.org/10.1080/02643299208252059>

- Berkling, K., & Franken, B. (2019, October 22). Transfer of educational skills from games to classroom tasks - a case study using iRead to improve reading and writing. In *Proceedings of the 3rd International Symposium on Gamification and Games for Learning, GamiLearn 2019, Barcelona, Spain*. <http://ceur-ws.org/Vol-2497/paper2.pdf>
- Blythe, H., & Joseph, H. S. (2011). *Children's eye movements during reading*. In S. Liversedge, I. Gilchrist & S. Everling (Eds), *Oxford library of psychology. The Oxford handbook of eye movements* (pp. 643-662). Oxford University Press. <https://psycnet.apa.org/record/2011-23569-036>
- Häikiö, T., Bertram, R., Hyönä, J., & Niemi, P. (2009). Development of the letter identity span in reading: evidence from the eye movement moving window paradigm. *Journal of Experimental Child Psychology*, 102(2), 167-181. <https://doi.org/10.1016/j.jecp.2008.04.002>
- Rau, A., Moll, K., Snowling, M., & Landerl, K. (2015). Effects of orthographic consistency on eye movement behavior: German and English children and adults process the same words differently. *Journal of Experimental Child Psychology*, 130(1), 92-105. <https://doi.org/10.1016/j.jecp.2014.09.012>
- Schroeder, S., Würzner, K., Heister, J., Geyken, A., & Kliegl, R. (2014). ChildLex: a lexical database of German read by children. *Behavior Research Methods*, 47(4), 1085-1094. <https://doi.org/10.3758/s13428-014-0528-1>

# Crowdsourcing in language learning as a continuation of CALL in varied technological, social, and ethical contexts

Elżbieta Gajek<sup>1</sup>

**Abstract.** Crowdsourcing not only opens new perspectives within the general concept of Computer Assisted Language Learning (CALL), but also raises questions about ethics, motivation, and fair contribution. Technology offers platforms such as Duolingo, Bussu, and Babbel for learning languages with active contribution of the learners. Such applications reach millions of users. Thus, there is a need for initiatives to explore the potential of crowdsourcing for language learning. One of them is enetCollect CA16105 Combining Language Learning with Crowdsourcing Techniques, which is a European project within COST action. The aim of this paper is to disseminate the project's ideas as well as present some results of the research done by the author as her contribution to the project activities. The findings show that language learners are not heavy gamers and the feedback they receive is the strongest motivational factor towards crowdsourcing.

**Keywords:** crowdsourcing, language learning, gamification, motivation.

## 1. Introduction

Crowdsourcing in education extends opportunities for formal and informal learning through free or commercial digital tools. Their social impact is huge as they reach millions of learners. Such applications gather learner data with or without the user's awareness or permission. Thus, ethical considerations of learning with apps as well as the building of awareness among teachers and learners of the role of artificial intelligence devices in language learning need to be reviewed. To enhance a better understanding of motivational, technological,

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1. University of Warsaw, Warsaw, Poland; e.gajek@uw.edu.pl; <https://orcid.org/0000-0003-2971-8334>

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and ethical issues, a large group of over 150 researchers and practitioners from 35 countries have joined forces in enetCollect: Combining Language Learning with Crowdsourcing Techniques, a European project within COST action. The project aims at researching and promoting crowdsourcing techniques for educational purposes in open, collaborative environments. enetCollect works towards finding optimal opportunities for the use of crowdsourcing and gamification techniques in language learning, teaching, and for the production of materials. As mentioned on the Web2Learn platform<sup>2</sup>, “the project focuses on enhancing the production of learning material in order to cope with the increasing demand for language learning and the striking diversification of learner profiles [resulting from] intensified migration flows motivated by educational, professional/economic, or geopolitical circumstances” (n.p., see also Agerri, Maritxalar, Lyding, & Nicolas, 2018; Lyding, Nicolas, Bédi, & Fort, 2018).

Crowdsourcing is a technology mediated form of collecting, creating, and distributing data (Howe, 2006). It is associated with digital technology advancements and mobile applications (Godwin-Jones, 2011). In this sense it can be perceived as a learning path rooted in CALL. Yet, both teachers and the academic administration display a lack of ethical competence when novel educational trends are introduced (Catacutan & De Guzman, 2015). Thus, the investigation of student teachers’ and learners’ attitudes towards crowdsourcing as a teaching and learning technique fills a contextual gap in terms of its application in education.

This paper presents the objectives of enetCollect, as well as selected results obtained in the first period of the project. It focuses on selected results of the Polish pilot of a survey carried out among Polish second language learners; who were asked about how they use technology for learning languages and what their opinion was on the collection of their data by providers of content for learning. The results collected among students of linguistics and secondary school learners are compared. The two pilots are steps towards the preparation of a European survey addressed to learners of languages via digital crowdsourcing techniques.

## 2. Method

In enetCollect, two conceptual approaches to crowdsourcing are implemented. Explicit crowdsourcing during which the participants know what they do (e.g.

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2. <http://web2learn.eu/project/enetcollect-combining-language-learning-with-crowdsourcing-techniques/>

adding translation, giving feedback) and implicit crowdsourcing, during which they do not know that they are participating in a crowdsourcing activity (e.g. reCAPTCHA).

EnetCollect consists of five working groups which are focused on *explicit* and implicit crowdsourcing material production; user-oriented design strategies, technology specifications, and ethical, legal aspects of crowdsourcing. The first survey on teachers was disseminated in 2018/2019 and was completed by a total of 1,127 respondents from 37 countries. The findings demonstrated that teachers perceive crowdsourcing as a form of CALL. They prefer explicit crowdsourcing. They are interested in using crowdsourcing in their practice and are willing to try it but they need more information about crowdsourcing, more practical guidelines, tutorials, and examples (Arhar Holdt et al., 2020). The current study examined student teachers' and teenagers' interest in crowdsourcing approaches to language education. Three surveys were disseminated. The first included 98 student participants (all future language teachers who were students aged 21-23, (F: 81.60%, M: 18.4%). The second and third surveys contained the same questions, but were disseminated to two separate groups respectively: 58 University Students (US) (aged 18-25, (F: 79.3%, M: 20.4%)), and 75 Secondary School Learners (SSL) (aged, 16-18, (F: 73.3%, M: 14.7%)), with 12% choosing not to respond.

### 3. Results and discussion

The results of the first survey show that 26% of respondents were familiar with the term crowdsourcing before taking the survey, and 22% knew how to make links with crowdsourcing and language learning. A total of 74% of respondents had used Wikipedia for language learning, while 90% surprisingly thought that a crowd can prepare high quality content and only 3% thought that crowdsourcing is a form of cheating, as people are not paid for their work. Furthermore, 81% wanted to learn about crowdsourcing in language learning and 76% wanted to implement innovative pedagogical concepts in their teaching. The second and third surveys revealed the following results (see Table 1).

The respondents were also asked about the motivational role of feedback and their reactions to being watched or recorded, as well as their tolerance to errors noticed in the learning materials. SSL indicated a variety of linguistic feedback as the strongest motivational factor, as well as their level of knowledge (Figure 1), with the latter also being identified by US (Figure 2).



Table 1. Respondents' habits (author's own work)

Websites used	SSL	US
Kahoot	78.7%	58.6%
Wikipedia	66.7%	89.7%
Duolingo	52%	81%
KhanAcademy	36%	15%
<b>Place</b>		
outside the class	80%	94.8%
in class	49.3%	48.3%
<b>Frequency of playing games</b>		
nil	42.7%	33.8%
once a month	9.3%	27.6%
3-5 times per week	34.7%	31%
<b>Reasons for playing games</b>		
for having fun	66.7%	84.5%
as part of the class activity	10.7%	51.7%
for doing what others do	12%	25.9%
<b>Devices used</b>		
smartphone	97.3%	98.3%
laptop	70.7%	94.8%
<b>Not adding any content to websites/apps</b>	74.7%	60.3%

Figure 1. The motivational role of feedback – SSL's answers (author's own work)

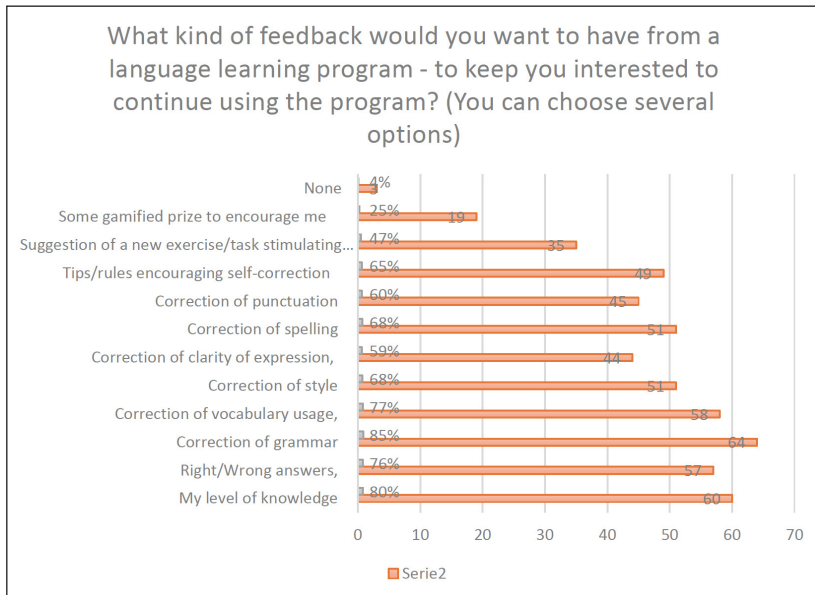
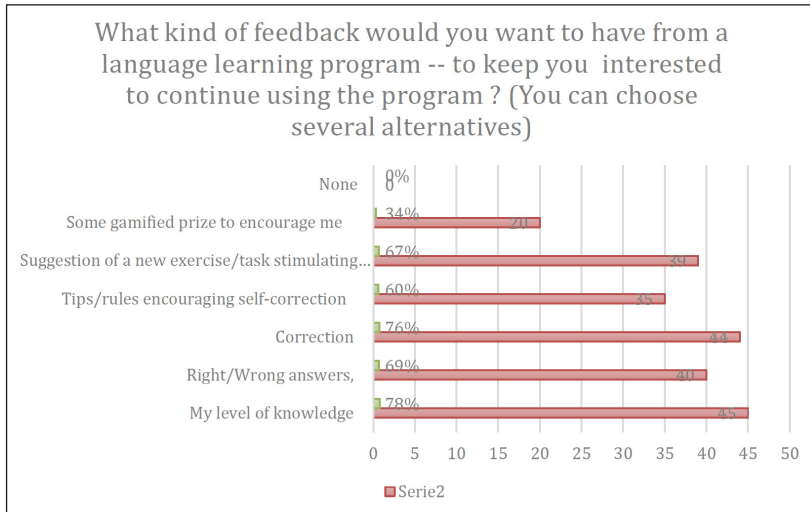


Figure 2. Motivational role of feedback US's answers (author's own work)



- **Reaction to being watched.** The US and SSL differed in their tolerance for being watched by the app/website without permission: 62.7% (US) vs. 32.8% (SSL) did not want to continue using such an app/website, while 17.3% (US) vs. 31% (SSL) would accept being watched, and 20% (US) vs. 36.2% (SSL) were uncertain about such a situation.
- **Reaction to recording interactions with an app/website.** Similarly, SSL were less tolerant of their interaction being recorded and analysed with the app (72% (US); 53.4% (SSL)). They never thought about this (14.7% (US); 17.2% (SSL)). It did not matter to them (9.3% (US); 24.1% (SSL)).
- **Reaction to errors.** Half of both groups could forgive errors: (50.7% (US) vs. 50% (SSL)). But 44% of the US vs. 8% of the SSL did not forgive such errors, depending on their teachers 16% vs. only 1.7% of the US.

#### 4. Conclusions

US and SSL present similar attitudes and opinions, but teenagers are less tolerant of being watched and recorded by the app/website without permission. SSL are more teacher dependent in the case of errors noticed in the app/website. Both groups will accept a variety of linguistic feedback given by the app/website. This feedback,

and an indication of their language level, proved to be the strongest motivational factors for the learners to continue using the language learning app/website. They are not heavy gamers: One third did not play and one third played very often.

The main difference between early CALL and recent results is that we no longer talk about the computer literacy of users or access to devices since all use smartphones and laptops. The focal points are the embracing of interactions with apps/websites, and contextual factors such as ethical issues including the protection of user data, quality of the crowdsourced materials, and users' motivations to continue learning with the app/website.

## 5. Acknowledgements

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## References

- Agerri, R., Maritxalar, M., Lyding, V., & Nicolas, L. (2018). enetCollect: a new European network for combining language learning with crowdsourcing techniques. *Sociedad Española para el Procesamiento del Lenguaje Natural*, 61, 171-174.
- Arhar Holdt, Š., Zviel-Girshin, R., Gajek, E., Durán-Muñoz, I., Bago, P., Fort, K., Hatipoğlu, Ç., Kasperavičienė, R., Koeva, S., Lazić Konjik, I., Miloshevska, L., Ordulj, A., Rodosthenous, C., Volodina, E., Weber, T., & Zanasi, L. (2020). Language teachers and crowdsourcing: insights from a cross-European survey. *Rasprave* 46(1), 1-28. <https://doi.org/10.31724/rihjj.46.1.1>
- Catacutan, M. G., & De Guzman, A. (2015). Ethical decision-making in academic administration: a qualitative study of college deans' ethical frameworks. *Australian Educational Researcher*, 42(4), 483-514. <https://doi.org/10.1007/s13384-015-0179-y>
- Godwin-Jones, R. (2011). Emerging technologies: mobile apps for language learning. *Language Learning & Technology*, 15(2), 2-11.
- Howe, J. (2006). The rise of crowdsourcing. *Wired Magazine*, 14(6), 1-4.
- Lyding, V., Nicolas, L., Bédi, B., & Fort, K. (2018). Introducing the European network for combining language learning and crowdsourcing techniques (enetCollect). In P. Taalas, J. Jalkanen, L. Bradley & S. Thouëсны (Eds), *Future-proof CALL: language learning as exploration and encounters – short papers from EUROCALL 2018* (pp. 176-181). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.833>

## Crowdsourcing for widening participation and learning opportunities: a view from language learners' window

Çiler Hatipoğlu<sup>1</sup>, Elżbieta Gajek<sup>2</sup>, Lina Miloshevska<sup>3</sup>,  
and Nihada Delibegović Džanić<sup>4</sup>

**Abstract.** Online crowdsourcing sites/platforms have become popular in recent years. This study aims to uncover when, where, and how language learners in Turkey (TUR), Poland (POL), Macedonia (MAC), and Bosnia and Herzegovina (B&H) make use of the available crowdsourcing websites/games to learn foreign languages. To ensure parallelism among the data collected in the four countries, a cross-culturally appropriate online questionnaire in English comprised of two parts was designed for this study. Part one gathered information about the use of crowdsourcing sites, tools, and games, while part two elicited background information related to the participants (N=211). The data were analysed considering country- and context-specific variables. The results show that there are more similarities than differences in the ways informants in the studied countries perceive, and employ crowdsourcing resources to learn languages. Therefore, the findings might provide insights for experts, material developers and teacher trainers striving to create cross-culturally valid crowdsourcing platforms/games.

**Keywords:** crowdsourcing sites/tools/games, L2 learning, Turkey, Poland, Macedonia, Bosnia and Herzegovina.

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1. Middle East Technical University, Ankara, Turkey; ciler@metu.edu.tr; <https://orcid.org/0000-0002-7171-1673>

2. University of Warsaw, Warsaw, Poland; e.gajek@uw.edu.pl; <https://orcid.org/0000-0003-2971-8334>

3. University of Information Science and Technology "St. Paul the Apostle", Ohrid, Republic of North Macedonia; lina.miloshevska@uist.edu.mk; <https://orcid.org/0000-0003-3856-5448>

4. University of Tuzla, Tuzla, Bosnia and Herzegovina; nihada.delibegovic@untz.ba; <https://orcid.org/0000-0002-8241-6338>

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## 1. Introduction

Online crowdsourcing sites/platforms that depend on the contributions of ordinary users for their development and growth have become popular in recent years (e.g. Wikipedia, Busuu). This popularity led to an increase in the number of foreign Language Learners (LL) using them, as they provide easy and free access to engaging culture- and context-specific materials. Little is known, however, about how LL with different linguistic and cultural backgrounds view the available online crowdsourcing sites/games, or how they employ them. Therefore, in this study, we focus on four linguistically and culturally diverse countries – TUR, POL, MAC, B&H – and aim to uncover when, where, why, and how LL make use of crowdsourcing websites, tools, and games to learn Foreign Languages (FL). We believe that the findings of the study could provide valuable insights to experts, material developers, and teacher trainers striving to create crowdsourcing platforms that are valid across cultures.

## 2. Method

### 2.1. Data collection

To ensure parallelism among the data collected in all countries, a cross-culturally appropriate questionnaire (i.e. a tool that was free of culture bias, comprehensible, and relevant to all participants) was designed for this study. The data-gathering tool was in English, and comprised of two parts. “**Part A: crowdsourcing**” included 11 checkbox, Likert scale, and open-ended questions eliciting data related to the crowdsourcing practices of the participants (i.e. how, when, where, and why LL use various crowdsourcing platforms). In “**Part B: background information**”, there were four checkbox and two open-ended questions eliciting information related to the participants.

### 2.2. Data analysis

The data collected from online surveys were thematically classified and analysed with descriptive statistics considering country- and context-specific variables.

### 2.3. Participants

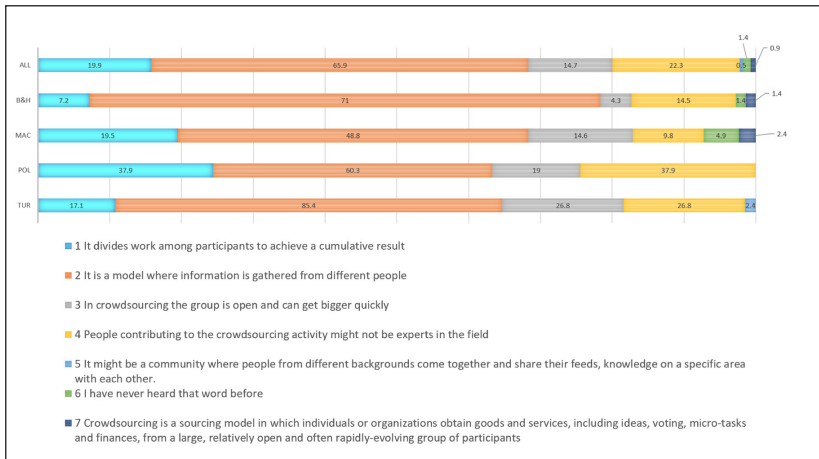
There were 211 participants in total (TUR=43, 20.4%; POL=58, 27.5%; MAC=41, 19.4%; B&H=69, 32.7%); 69 (33%) were male and 142 (67%) were female.

The higher number of female informants reflected the gender distribution at the Faculties of Education in these countries (Can Daşkın & Hatipoğlu, 2019). The age range of the informants was 18-39, but most of them belonged to the 18-21 (N=109, 51.7%) and 22-25 (N=98, 46.4%) age categories. When asked, 65.4% of the participants classified themselves as *proficient users* (C1=79, 37.4% or C2=59, 28%) within the CEFR<sup>5</sup> categories.

### 3. Results and discussions

This study focused on crowdsourcing for widening participation and LL opportunities. Therefore, our first objective was to uncover how participants conceptualised crowdsourcing. As such, Item 1 in the questionnaire was *What comes to your mind when you see/hear the word crowdsourcing?*. Despite being a relatively recent concept, only three out of the 211 participants said that they “have never heard that word” (see Figure 1).

Figure 1. Answers to “What comes to your mind when you see/hear the word crowdsourcing?” (Note: the numbers in this and other figures represent percentages)



The remaining 98.6% knew what crowdsourcing was, and despite the differences in the frequency with which it was selected, Definition 2 was the most popular in all countries; 65.9% of the participants thought that crowdsourcing was “a

5. Common European Framework of Reference

model where information is gathered from different people”. Definition 4, which highlights that the contributors to “the crowdsourcing activity might not be experts in the field”, was a distant second (22.3%) choice. Finally, Definition 1, where the division of labour “among the participants to achieve a cumulative result” is emphasised, was participants’ third choice.

One explanation for the lack of consensus among the participants in choosing the definition of crowdsourcing (TUR=85.4%>B&H=71%>POL=60.3%>MAC=48.8%), comes from [Estellés-Arolas and González-Ladrón-De-Guevara \(2012\)](#), who argue that the term crowdsourcing

“encompasses many practices. This diversity leads to the blurring of the limits of crowdsourcing that may be identified virtually with any type of internet-based collaborative activity” (p. 189).

Regardless of the differences, our participants mostly selected Definition 2. Why? One reason for this could be the word itself. Crowdsourcing is

“formed from two words: *crowd*, making reference to the people who participate in the initiatives; and *sourcing*, which refers to a number of procurement practices aimed at finding, evaluating, and engaging suppliers of goods and services” ([Estellés-Arolas & González-Ladrón-De-Guevara, 2012](#), p. 89).

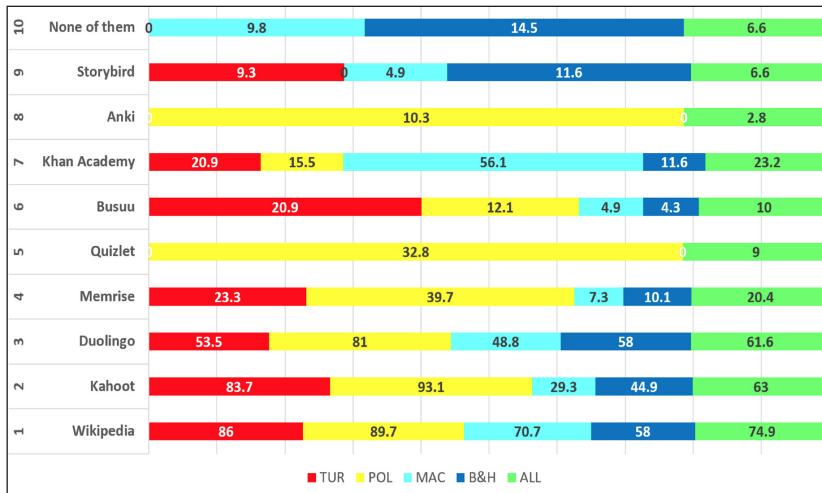
So, opposite to [Howe’s \(2006\)](#) claims, it looks as if the crowd from whom the data in this study were collected (LL) used their knowledge of etymology to select the definition of crowdsourcing.

The next question in the survey was related to the crowdsourcing sites/tools participants were using to learn FL. Wikipedia was the most popular site in TUR, MAC, and B&H, and a close second in POL ([Figure 2](#)). Other frequently used sites/tools were Kahoot and Duolingo. [Bergvall-Kåreborn and Howcroft \(2014\)](#) argue that crowdsourcing platforms tapping into concepts such as “collaborative consumption, community building, the sharing economy, and social enterprise” (p. 215) become popular with users and contributors. For the participants in our study, Wikipedia was the crowdsourcing site that ticked all of these boxes.

When the participants were asked to identify the games and devices they utilise to learn FL, we found results supporting [Blume \(2020\)](#), who reported that LL do not make much use of games while learning FL. Overall, 80.6% of our informants

stated that they had not used any games to learn FL, with slight differences between the countries (POL=86.2%>TUR=83.7%>B&H=79.7%>MAC=70.7%). In regard to the utilised devices, 93.8% of the informants selected smartphones, and 85.8% laptops. About one-third (28%) stated that they use personal computers, and a relatively small number identified tablets (19%) and iPods/iPads (12.8%) as devices they employ while learning FL.

Figure 2. Answers to “Tick the crowdsourcing sites/tools you have used for any language learning”

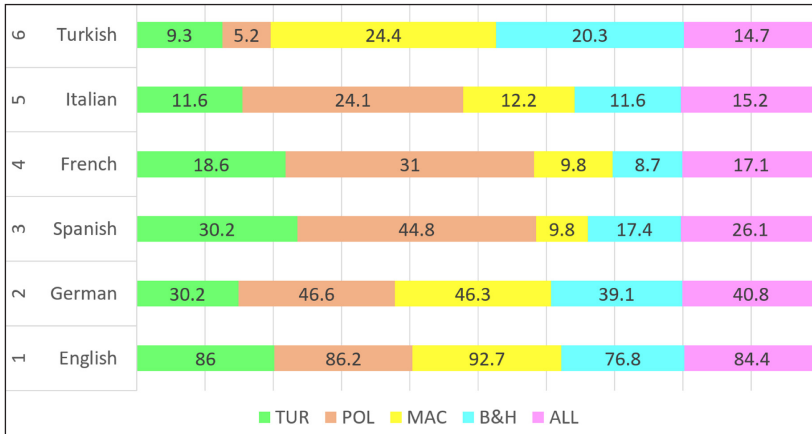


In answer to *Where do you use crowdsourcing sites, tools, and games to learn languages?* participants from all countries mostly chose “Outside class” (POL=94.8%>B&H=84.1%>TUR=81.4%>MAC=73.2%). A much smaller number stated that they also use them in class (30.3%) or other places (6.1%). To the question *Why have you used crowdsourcing websites, tools, and games?* participants mostly responded with “for having fun while learning the language” (MAC=92.7%>POL=84.5%>TUR=79.1%>B&H=68.1%), “as a class activity” (38.4%), and/or “as a class assignment” (19.4%).

Finally, we asked our participants to indicate the FL they had learned while using crowdsourcing sites, tools, and games. They listed *English, German, Spanish, French, Italian, and Turkish* (Figure 3). These results are almost parallel to the findings of recent studies (Luca, 2018), which reported that the most studied six FL in Europe are (1) *English*, (2) *French*, (3) *German*, (4) *Spanish*, (5) *Russian*, and (6) *Italian*. The only exception in our study was Turkish, which replaced Russian on the list.



Figure 3. Answers to “Which languages have you learned while using the crowdsourcing websites/tools/games?”



One reason for the observed difference might be the countries where the data were collected. Because of the Ottoman Empire, there are historical ties between B&H, MAC, and TUR. In B&H, Turkish is one of the FL taught in schools and universities (Ulutaş, 2018), while in Macedonia, there is a Turkish minority for whom Turkish is their heritage/mother language (Jašar-Nasteva, 2001). So, in both of these countries, in line with modern trends, LL use crowdsourcing tools to learn Turkish.

#### 4. Conclusions

The results from our four culture/language diverse countries show that there are more similarities than differences in the ways in which LL in TUR, POL, MAC, and B&H perceive and employ online crowdsourcing resources:

- the majority of respondents conceptualise crowdsourcing in the same way (Definition 2);
- Wikipedia, despite being the oldest, is the most used crowdsourcing site (N=158; 74.9%);
- contrary to the common perception of the pervasiveness of gaming among learners, 80.6% of our respondents did not use games to learn FL;

- language learning is mainly done using smartphones and laptops, with minimal usage of other devices;
- 63.5% of the participants use crowdsourcing websites/tools as an outside-of-class activity, and 79.6% use them to have fun while learning FL;
- crowdsourcing sites/tools are mainly used to learn English (84.4%) as an FL.

Hopefully, the findings of this study can serve as guides for material developers/experts/teacher trainers who strive to achieve crowdsourcing platforms/tools that are valid and appealing across cultures.

## 5. Acknowledgements

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## References

- Bergvall-Kåreborn, B., & Howcroft, D. (2014). Amazon mechanical Turk and the commodification of labour. *New technology, work and employment*, 29(3), 213-223.
- Blume, C. (2020). Games people (don't) play: an analysis of pre-service EFL teachers' behaviors and beliefs regarding digital game-based language learning. *Computer Assisted Language Learning*, 33(1-2), 109-132. <https://doi.org/10.1080/09588221.2018.1552599>
- Can Daşkın, N., & Hatipoğlu, Ç. (2019). A proverb learned is a proverb earned: proverb instruction in EFL classrooms. *EJAL*, 5(1), 57-88. <https://doi.org/10.32601/ejal.543781>
- Estellés-Arolas, E., & González-Ladrón-De-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38(2), 189-200. <https://doi.org/10.1177/0165551512437638>
- Howe J. (2006). The rise of crowdsourcing. *Wired Magazine*. [http://www.wired.com/wired/archive/14.06/crowds\\_pr.html](http://www.wired.com/wired/archive/14.06/crowds_pr.html)
- Jašar-Nasteva, O. (2001). *Turskrite leksički elementi vo makedonskiot jazik*. Skopje.
- Luca. (2018). What are the most studied languages in the world? Mosalingua. <http://www.mosalingua.com/en/most-studied-languages-in-the-world/>
- Ulutaş, N. (2018). Modern orientations in teaching Turkish as a foreign language: example of Mostar. *International Journal of Language Academy*, 6(1), 328-336. <https://doi.org/10.18033/ijla.3874>

# Intelligent speaker is watching you: alleviation of L2 learners' social anxiety

Kotaro Hayashi<sup>1</sup> and Takeshi Sato<sup>2</sup>

**Abstract.** This study investigates the effectiveness of an Artificial Intelligence (AI) speaker as a device used for interactions in a foreign language (L2), and a tracking eye installed on the speaker to reduce L2 anxiety. L2 anxiety is an urgent issue since the anxiety derived from a fear of being judged, being negatively evaluated, or being rejected by others is hindering active L2 use. Our study hypothesizes that the question–response functions of the AI speakers would encourage L2 learners to input and output a considerable amount of L2 without the feeling of anxiety toward the speakers. We then asked eight Japanese undergraduates to conduct daily L2 interactions with the speakers in their homes for one month. The findings from pre-and post-listening tests, questionnaire surveys, and interviews revealed that intelligence speakers – Google Home (GH) – could enhance the learners' L2 motivations, gave them positive impressions, and helped eradicate their anxiety toward L2 interactions.

**Keywords:** foreign language anxiety, L2 learners' anxiety, intelligence speaker, human-robot interaction.

## 1. Introduction

The difference between what learners can do and what they want to do as L2 users (Horwitz, Horwitz, & Cope, 1986) causes anxiety. Japanese learners of English as L2 are more likely to suffer from social anxiety (Krieg et al., 2019). Such anxiety is caused by the disparity between the ‘true self’ and ‘limited self’ (Král'ová, 2016), fear of negative evaluation (Bailey, 1983), and underestimation of the learners'

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1. Toyohashi University of Technology, Toyohashi, Aichi, Japan; hayashik@cs.tut.ac.jp; <https://orcid.org/0000-0001-7410-1945>  
2. Tokyo University of Agriculture and Technology, Koganei, Tokyo, Japan; tsato@cc.tuat.ac.jp; <https://orcid.org/0000-0003-4797-0234>

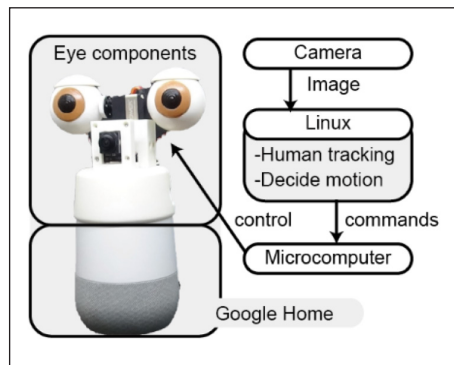
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actual language proficiency (Bailey, Daley, & Onwuegbuzie, 1999). For this reason, the learners avoid foreign oral communication, and fewer chances of L2 utterance hinder their progress, thus resulting in a vicious cycle. In this study, we focus on the presence of a low human-like appearance as an L2 communication partner. People who suffer from higher social anxiety tend to prefer communication with a robot rather than with a stranger (Nomura, Kanda, Suzuki, & Yamada, 2019). Intending to reduce social anxiety and enhance their L2 competence, we conducted an L2 learning trial with AI speaker, GH. Not much research is available on the capability of AI in education (Sundar, 2008). Their function has not reached the level to converse with interlocutors naturally; thus, the speakers can interact with them by responding to their commands.

## 2. Adding human-likeness to GH

Our study investigates the human-like appearance control of AI speakers. This idea is based on the gradual change of the human-likeness overcoming social anxiety. To test our concept, we developed the human-like eye robot *Akagachi* (Figure 1).

Figure 1. *Akagachi* on GH



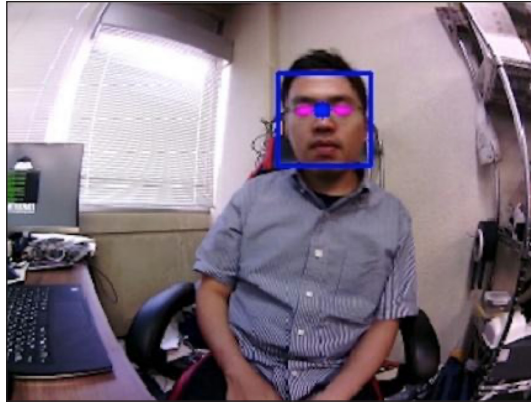
### 2.1. Hardware

*Akagachi* has a wide-angle camera for recognizing and for continuously gazing into people's eyes. Three servo motors activate the eyeballs. A 170-degree wide-angle USB camera was used to detect movement. Besides, a robot operating system, and a microcontroller control the electronic components. Each part is 3D-printed.

## 2.2. Software

Figure 2 presents the view of face tracking. First, the face area is clipped with the OpenCV<sup>3</sup> blue square). Second, Dlib<sup>4</sup> detects the eyes (pink area). Third, the point between the eyes is calculated (blue dot). Finally, the direction is converted to the degrees of the three servo motors.

Figure 2. Face tracking by *Akagachi*



*Akagachi* can simulate the human-like eye movement using a simple control system. The latest source code and 3D models are opened with GitHub<sup>5</sup>.

## 3. Practice procedures

Eight undergraduates (native speakers of Japanese) were instructed to use GH in their homes and to interact with it in English for one month. This activity was conducted to examine (1) whether self-learning with an intelligent speaker could improve the L2 oral skills of the participants, (2) whether this activity could encourage the participants experiencing social anxiety to conduct L2 verbal interactions, and (3) whether the eye robot *Akagachi* could differentiate the attitudes of the learners. After introducing how to use and the several commands to respond to them in English, we then performed the following activities to evaluate the impact of GH on L2 oral proficiency:

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3. Open Source Computer Vision

4. <http://dlib.net/>

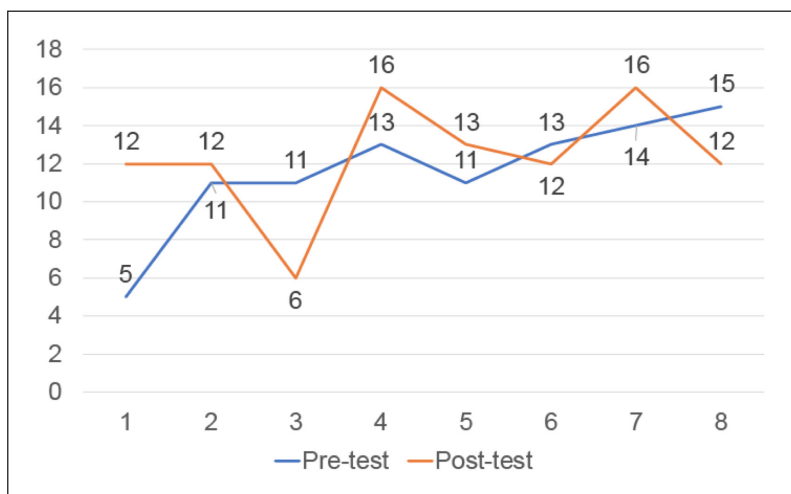
5. [https://github.com/hayashik/akagachi\\_eye\\_robot\\_hardware](https://github.com/hayashik/akagachi_eye_robot_hardware)

- conducted a pre-listening test which consists of 18 questions (short conversation) from the Test of English for International Communication (TOEIC) and English interview;
- asked the participants to interact with the GH in English for 10 minutes per day for one month;
- asked the participants to do a weekly report (they visited our office and reported the activities they did and their feelings during the interaction) and to demonstrate their actions at the office using the GH with *Akagachi*; and
- conducted a post-listening test (the same as the first test) and English interview (with questionnaire survey about social anxiety and motivation, and follow-up interview in Japanese).

## 4. Findings

Figure 3 presents the test score of the pre- and post-listening test. The test score was analyzed using Wilcoxon's signed-rank nonparametric test. Although five participants were able to obtain better scores in the post-test than in the pre-test, no significant difference was observed ( $p=.57, >.05$ ).

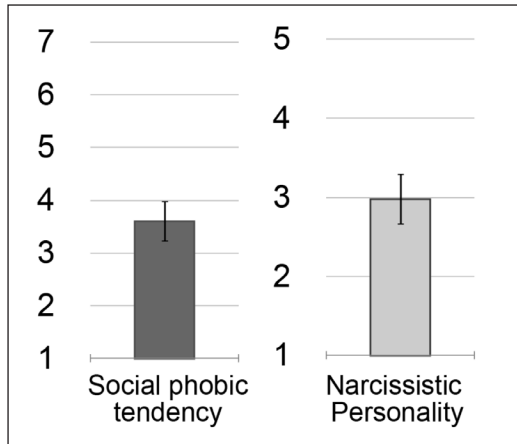
Figure 3. TOEIC test score



Yet, the participants seemed to gain a sense of achievement. In the interview, which was conducted after performing the activities, one student answered that his English skill was improved, even though his test score declined. Besides, some students reported that they achieved some degree of confidence, saying, “I could be exposed to English at ease, even when I was lying on my bed”, “I was glad to find that I could make myself understood in English. I have never got that feeling”, and “I got used to listening to English a fortnight later”.

Figure 4 presents the result of social anxiety using two-dimensional model scales (Hori & Ogawa, 1997). The scores of the participants are low, indicating that their social anxiety is high, which hinders their interaction with other people.

Figure 4. Social anxiety results



However, after completing the GH activity, which lasted one month, the five-point Likert scale questionnaire indicates that the participants can positively interact with GH. Figure 5 also shows that their overall attitude toward the interaction with GH is positive. The results suggest that they favorably interact with GH during the period, despite their high social anxiety. The following statement from a student presents their positive attitudes: “I could interact with GH rather comfortably, although I got nervous when talking with others”.

Figure 6 presents the correlations of the words stated by the participants during the follow-up interview. As can be seen from it, there is a strong correlation between [関心 (interest)] and [持つ (have)], indicating their keen interest in GH or the L2 interactions with GH, which is also reflected in the questionnaire results.

Figure 5. Questioners results

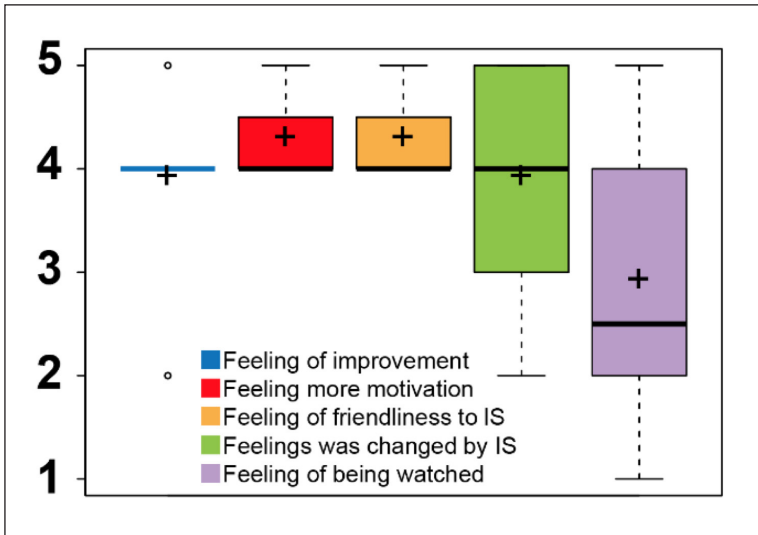
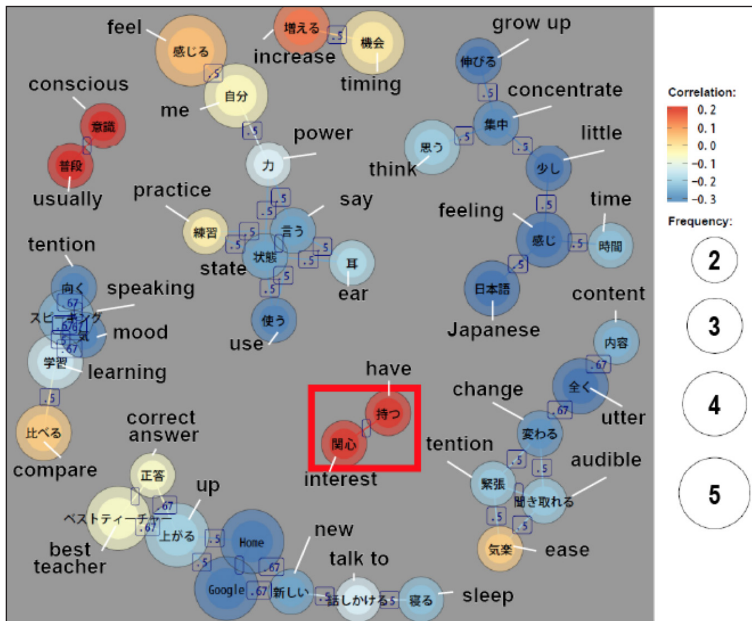


Figure 6. Co-occurrence network





## 5. Discussion and conclusion

This study showed that GH reduces L2 anxiety and improves foreign language education to undergraduates who have high social anxiety. Although the results of the TOEIC test could not show significant improvement, the students felt improvement in their L2 oral skills and motivation. From the follow-up interview, GH might succeed in motivating their keen interests. The findings of our preliminary study indicate the possibility of L2 learning with AI speakers, which would become popular due to the COVID-19 pandemic.

In this study, we could not evaluate the efficiency of *Akagachi*, although we provided the participants with the opportunity to use GH with *Akagachi* once a week. Thus, the participants did not obtain some special feelings toward *Akagachi*. For example, one student said that the Japanese were unlikely to look someone in the eye when talking. Conversely, some of them had a sense of intimacy and regarded GH as a living thing. Another student reported, “I felt sorry and sad when I pushed the reset button to return the GH”. This statement indicates the possibility of *Akagachi* making an intelligent speaker more human-like, leading to a more effective L2 learning assistant. We think that it will be necessary for *Akagachi* to be used to practice regular eye-to-eye L2 communication.

We will compare the existing intelligent speakers and collect more data by using intelligent speakers or apps. *Akagachi* will be evaluated as an L2 communication partner and updated, such as eye movement quality. In this challenging time, intelligent speakers will contribute to L2 learning.

## 6. Acknowledgments

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## References

- Bailey, K. M. (1983). Competitiveness and anxiety in adult second language learning: looking at and through the diary studies. *Classroom oriented research in second language acquisition*, 3(5), 67-102.
- Bailey, P., Daley, C. E., & Onwuegbuzie, A. J. (1999). Foreign language anxiety and learning style. *Foreign Language Annals*, 32(1), 63-76.

- Horii, T., & Ogawa, K. (1997). The construction of the scale for the measurement of anthropobic tendency (second report). *Psychological Report of Sophia University*, 21, 43-51.
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125-132.
- Kráľová, Z. (2016). *Foreign language anxiety*. Constantine the Philosopher University in Nitra.
- Krieg, A., Xu, Y., Cicero, D. C., Miyamoto, S., Krieg, H., & Robinson, P. (2019). Comparing social anxiety in Japanese and European Americans: integrating Measurement Invariance and Prototype Analyses. PsyArXiv. <https://doi.org/10.31234/osf.io/fvubx>
- Nomura, T., Kanda, T., Suzuki, T., & Yamada, S. (2019). Do people with social anxiety feel anxious about interacting with a robot? *AI & SOCIETY*, 35, 381-390. <https://doi.org/10.1007/s00146-019-00889-9>
- Sundar, S. S. (2008). The MAIN model: a heuristic approach to understanding technology effects on credibility. In M. J. Metzger & A. J. Flanagin (Eds), *Digital media, youth, and credibility* (pp. 73-100). MIT Press.

# Analysis of a Japan-Philippines telecollaboration from a social realist perspective

Sandra Healy<sup>1</sup>, Yasushi Tsubota<sup>2</sup>, and Olivia Kennedy<sup>3</sup>

**Abstract.** This study applies social realist theory to the analysis of an ongoing online telecollaboration between Japanese undergraduate students in a classroom setting in Japan and Filipino teachers in an English conversation school in Cebu, the Philippines. The accepted goals of telecollaboration in an international context are the development of intercultural communication and linguistic skills. Analysis showed that, without guidance, the influence of Japanese educational policies on students, including a version of internationalisation known as *kokusaika*, can result in intracultural – rather than intercultural – communication. It is suggested that a focus on “small” – rather than “large” – culture may help address this issue in Japan, and improve intercultural and linguistic awareness.

**Keywords:** telecollaboration, social realism, *kokusaika*, small culture.

## 1. Introduction

This paper examines the complex interplay of sociocultural aspects in ongoing online telecollaboration using the theoretical framework of social realism to analyse telecollaboration. Through this, we can perceive the influences of educational policy and the benefits of direct contact with people in other nations. Archer (1995) defined social realism as a method for examining structure, culture, and agency separately, and then together, to see the relationships among them. In this study, we used social realism to examine four elements of telecollaboration: context, setting, situated activity, and self. Qualitative and quantitative data were collected over several iterations of the exchanges.

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1. Kyoto Institute of Technology, Kyoto, Japan; healy@kit.ac.jp; <https://orcid.org/0000-0003-4387-259X>

2. Kyoto Institute of Technology, Kyoto, Japan; tsubota-yasushi@kit.ac.jp; <https://orcid.org/0000-0002-3380-6348>

3. Nagahama Institute of Bio-Science and Technology, Nagahama, Japan; olivia\_1\_kennedy@yahoo.com; <https://orcid.org/0000-0003-0144-2516>

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Research has shown that intercultural exchange between people of different cultural backgrounds aids the development of L2 acquisition and intercultural communicative competence (Lewis & O’Dowd, 2016). However, Liddicoat (2013) argues that L2 education in Japan focuses on the development of a Japanese identity and on the unidirectional, outward transmission of Japanese culture, rather than bidirectional intercultural exchange.

To combat the cultural essentialism and *othering* which is an element of “difference-focused ‘large culture’”, Holliday (1999) coined the term “small culture” and defined this paradigm as “the dynamics at work in any cohesive group” (p. 237). While *large culture* research looks for details and differences, research into *small culture* looks at the perpetually changing interpretive process and cohesive group dynamics.

## 2. Method

Since 2015, 119 chemistry undergraduates, L2 learners at a Japanese national university, have taken part in four monthly, synchronous online Skype sessions, on university-provided mini iPads. Divided into small groups by their classroom teacher, they research four general topics, for example, ‘The Philippine’. Assigning broad topics allows them to narrow the topic to one that interests them. They spend three lessons each month preparing and practicing for the online sessions. They then present for five minutes to their Filipino teacher on one topic a month, followed by interactive feedback and discussion with their Japanese classmates and Cebu teacher.

Table 1. Research map (adapted from Belz, 2002)

Additional factors	Research elements	Types of data	
		Qualitative	Quantitative
History E.g. relations between countries, patterns of socialisation in classroom FLL	Context and setting	Scholarly publications, policy documents, learner reflections	Questionnaire data
Power E.g. student-teacher or NS/NNS differentials			

This seemingly straightforward activity revealed complex and multifaceted examples of social interaction shaped by both macro- and micro-level sociological features (Carter & Sealey, 2015). We guided the project and dissected the layers and connections of the features using Layder's (1993) "analytical cuts" (p. 108) and research map (Table 1). The research map demonstrates how social realism helped us categorise our information prior to examining it together.

### 3. Results and discussion

We will discuss our results from the perspective of the "context, setting, situated activity, and self" elements shown above. Firstly, at the **contextual level** is the Japan-Philippines relationship. Students knew almost nothing of the Philippines, despite proximity and a 300-year historical connection. Students noted that school and the media provided little information on this country, confirming Yamada's (2015) report on 1.1% coverage of outer circle countries in Japanese school textbooks. The students also stated they had never thought about and had little interest in the Philippines. Some commented: "I don't know anything about Phillipins [sic] except bananas", and "I never studied anything about Philipines [sic] and it is not in media". However, as the course progressed, the students engaged in research and interacted with the Cebu instructors, developing an interest and positive outlook towards the Philippines, stating, for example, "I didn't know about the Philippine [sic], but I think very interesting" and "I want to go to the Filippins [sic] now". We also confirmed Liddicoat's (2013) claim that Japan focuses on the development of a Japanese identity and unidirectional, outward transmission of Japanese culture. Some student comments that reflect this include: "I was happy I can explain Japanese culture to Philipin [sic] teachers" and "I want to be able to explain Japanese culture to foreigners". The course deliberately attempted to balance this by assigning students to research an aspect of the Philippines.

An important aspect of foreign language education policy in Japan is the concept of *kokusaiika*, literally, 'internationalisation'. Hahn (2018) describes this ironically named policy as "a commitment to neoliberal economic globalization while simultaneously excluding – and taking deliberate steps to prevent – cultural internationalization" (p. 124). At the **setting level**, these policies have underpinned Japanese educational reform for the past 30 years, and are reflected institutionally in the emphasis on presentation practice, Test of English for International Communication (TOEIC) score improvement, and other business-related skills. This leads to the undervaluation of diversity, creativity, and bidirectional intercultural exchange (Hadley, 2014).

At the **situated activity** level, classroom seating arrangement impacts relationships and the communication that occurs. Japanese school and university classrooms are traditionally arranged with students in separate desks in teacher-facing rows. During this semester-long project, however, students sat in groups, giving them freedom to discuss and organise their research and presentations freely, resulting in a less teacher-centred environment. Despite Filipino teachers' initial concerns about having a native speaker present during the online classes, centralising their role is an explicit goal of the course.

Finally, at the **self** level, we found that, at the end of the course, students became concerned about their L2 development. Questionnaires measuring student anxiety levels showed that, although students exhibited high anxiety over the three-month period, its focus changed. We found that, throughout the course, as they reflected on their activities and growth, their focus shifted from external (peer/instructor judgement/criticism) issues to increased concern over their individual abilities and performance (Healy, Tsubota, & Kudo, 2018).

Holliday (1999) described a “small culture” paradigm (p. 237). Applying this observational tool to any small social grouping allows for a more fluid view of the perpetually evolving ways we interact (culture), and leads the learner away from cultural essentialism (assumptions of an underlying, not objectively observable, group essence). Applied to the classroom and language learning, this is a particularly suitable approach to examining telecollaboration. During this project, a small-culture view emerged and was encapsulated by one of the Filipino instructors who said:

“Everyone participated and asked questions about the Philippines. I was happy to hear from students about ‘the Philippines’ in their presentations. Though they haven’t been to my country yet, they were able to share something about Philippine culture. It’s like we’re creating a ‘knowledge sharing culture’ from students’ presentations”.

## 4. Conclusions

Using social realist theory, we were able to clarify the complex interplay among cultural, institutional, and individual elements occurring during the telecollaboration, and point to how, in future exchanges, the problematic influences of *kokusaika* and other Japanese education policies may be mitigated by adopting Holliday’s

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(1999) ‘small culture’ approach. Japanese educational policies have historically emphasised single directional, business related, and test focused aspects of language learning, and students have been encouraged to observe the world, rather than immerse themselves in it. This works to the detriment of L2 value as a tool of social connection. We were able to document how minor adjustments in emphasis, however, shifted participant perceptions. Our results suggest that telecollaboration positively impacts L2 and intercultural development. We will continue to analyse the above interplay, and will focus on “small culture” community building within telecollaborative exchanges to enable students to develop stronger intercultural connections and awareness.

## 5. Acknowledgements

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## References

- Archer, M. S. (1995). *Realist social theory: the morphogenetic approach*. Cambridge University Press.
- Belz, J. A. (2002). Social dimensions of telecollaborative foreign language study. *Language learning & technology*, 6(1), 60-81.
- Carter, B., & Sealey, A. (2015). Realist social theory and multilingualism in Europe. *European Journal of Applied Linguistics*, 3(1), 1-19. <https://doi.org/10.1515/eujal-2015-0006>
- Hadley, G. (2014). *English for academic purposes in neoliberal universities: a critical grounded theory* (vol. 22). Springer.
- Hahn, A. D. (2018). Uncovering the ideologies of internationalization in lesson plans through critical discourse analysis. *The New English Teacher*, 12(1), 121-137.
- Healy, S., Tsubota, Y., & Kudo, Y. (2018). Online English practice with Filipino Teachers in University Classrooms. In P. Taalas, J. Jalkanen, L. Bradley & S. Thouësny (Eds), *Future-proof CALL: language learning as exploration and encounters – short papers from EUROCALL 2018* (pp. 89-93). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.818>
- Holliday, A. (1999). Small cultures. *Applied linguistics*, 20(2), 237-264.
- Layder, D. (1993). *New strategies in social research: an introduction and guide*. Polity Press.
- Lewis, T., & O’Dowd, R. (2016). Online intercultural exchange and foreign language learning. In R. O’Dowd & T. Lewis (Eds), *Online intercultural exchange: policy, pedagogy, practice* (pp. 21-66). Routledge. <https://doi.org/10.4324/9781315678931>
- Liddicoat A. (2013). *Language-in-education policies: the discursive construction of intercultural relations*. Multilingual Matters. <https://doi.org/10.21832/9781847699152>

Yamada, M. (2015). *The role of English teaching in modern Japan: diversity and multiculturalism through English language education in a globalized era*. Routledge. <https://doi.org/10.4324/9781315814261>



# Exploring the L2 learning benefits of digital game-based spoken interaction among Japanese learners of English

Michael Hofmeyr<sup>1</sup>

**Abstract.** This paper describes the initial findings of an exploratory research project investigating the use of the cooperative digital puzzle game Keep Talking and Nobody Explodes as a means to facilitate Second Language Acquisition (SLA). A qualitative case study approach was taken to closely examine the linguistic interaction between three L2 learners of English at a Japanese university who played the game over four one-hour sessions. The findings include clear examples of learners negotiating for meaning and making use of a range of discourse strategies theorised to contribute to effective language learning within an interactionist SLA framework. By demonstrating that the learner-to-learner interaction evoked by this game can set in motion multiple processes linked to L2 development, the results suggest that the game, as well as others that make use of a similar information-gap mechanic, could be effectively put to use for language learning and teaching purposes in a variety of formal and informal educational contexts.

**Keywords:** digital game-based language learning, discourse strategies, interactionist SLA, negotiation for meaning.

## 1. Introduction

In order to better understand the practical potential of digital games to facilitate language learning, the current research project aims to provide a detailed analysis of spoken learner-to-learner interaction elicited through a cooperative information-gap puzzle game, a genre that has so far received little attention in the CALL literature but that has been successfully incorporated into EFL curricula in Japan over

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1. Osaka University, Osaka, Japan; mfhofmeyr@gmail.com; <https://orcid.org/0000-0003-0295-1128>

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recent years (Dormer, Cacali, & Senna, 2017; Wilson, 2020). Following Peterson's (2006) approach to the analysis of learner interaction in his earlier work on virtual worlds, this study is framed within an interactionist conception of SLA (Gass & Mackey, 2020). This model stresses the importance of ample comprehensible input (Krashen, 1982) and output (Swain, 2005) for L2 development and considers the noticing of gaps in a learner's linguistic knowledge (Schmidt, 2001) and negotiation for meaning to be the key interactional mechanisms by which an L2 is acquired. Negotiation here refers to the process by which interlocutors attempt to repair a breakdown in communication by modifying their linguistic output (Long, 1996; Sheen, 2008). By means of a close analysis of learner output during gameplay, instances of these mechanisms of SLA were identified and categorised in order to provide evidence that games of this genre may be gainfully employed to facilitate peer-based language learning in a classroom, self-access, or informal learning environment.

## 2. Methodology

A case study group of three undergraduate students at a Japanese public university participated in four play sessions of approximately one hour each. The group consisted of one male and two female learners, all specialising in English Studies and possessing an upper intermediate or advanced level of English proficiency. Two of the learners were L1 speakers of Japanese and the third was an international student who spoke Mandarin Chinese as her L1. The learners played the computer game *Keep Talking and Nobody Explodes*<sup>2</sup>, in which the goal is for players to work together to defuse a bomb before the timer runs out. Each bomb consists of multiple puzzle modules that change from one defusal attempt to the next. One player, the *defuser*, sees the bomb on the computer screen and describes it to the other two players, the *experts*, who have access to the *Bomb Defusal Manual*. The experts cannot see the bomb and must consult the manual for instructions on how to solve each module, which they must then communicate to the *defuser*. This particular game was selected because its design was expected to encourage high levels of learner engagement, a factor conducive to effective language learning (Mercer & Dörnyei, 2020); and also due to the information-gap game mechanic which was anticipated to elicit ample learner output and negotiation for meaning as is the case with similar paper-based activities widely used in contemporary task-based language pedagogy (Pica, Kanagy, & Falodun, 2009).

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2. Steel Crate Games: <https://keeptalkinggame.com/>

Video and audio recordings were made of all learner interactions over the four gameplay sessions, during which learners were instructed to speak only in English. The researcher also observed all gameplay activities and took notes throughout. Apart from a short initial orientation on the game's controls, no assistance was provided to learners except on the few occasions when they specifically requested advice. Roughly four hours of recordings were transcribed and an interaction analysis was performed in order to quantify instances and identify pertinent examples of learner-to-learner interactions theorised to facilitate SLA within the interactionist framework. To this end, an original limited coding scheme (McKay, 2006) was developed and utilised to label in the transcripts all instances of negotiation for meaning as well as associated discourse strategies, including confirmation checks, clarification requests, and comprehension checks.

### 3. Results and discussion

By the end of the first gameplay session, it was clear that the game-based activity had effectively engaged the learners and in doing so elicited a large amount of spoken output. Over the four sessions, learners had cumulatively uttered more than 17,000 words at an average rate of approximately 74 words per minute over almost 5,000 turns. The large amount of linguistic input received and output produced during interaction indicates that the game-based activity holds significant potential for peer-based SLA.

A close analysis of the learner-to-learner discourse revealed 47 instances of successful negotiation for meaning over the four hours of game-based interaction. Almost all such episodes involved a breakdown in communication which was repaired soon afterwards, as the example below illustrates:

<b>Expert 1</b>	Release [the button] when the countdown timer is, has a one in any position.
<b>Expert 2</b>	One.
<b>Defuser</b>	One?
<b>Expert 1</b>	To see the timer, if there any one in it.
<b>Defuser</b>	Ah. Okay.

In this example, the learner who played the part of *defuser* did not understand expert 1's initial instructions for disarming the button module. Expert 1 then modified her output, which successfully repaired the breakdown. It is interesting to note that while clear instances of negotiation such as the above did not occur very frequently during gameplay, learners did make regular use of several discourse

strategies associated with negotiation. By far the most common of these was the confirmation check, of which over a thousand instances were identified and which typically involved a learner repeating an interlocutor's utterance fully or in part, such as in the following example:

<b>Expert 1</b>	Cut the fourth [wire].
<b>Defuser</b>	Fourth?
<b>Expert 2</b>	Yes.

A number of clarification requests and comprehension checks were also identified. While these strategies were used only rarely during the sessions in comparison to confirmation checks, there were approximately 200 other cases where learners modified their own output or that of their interlocutors in order to repair or preempt communication breakdowns, for example by elaborating on or simplifying previous utterances. Such forms of modified output tend to closely resemble the interactions associated with negotiation for meaning and may, therefore, also be conducive to learners noticing gaps in their L2 knowledge.

## 4. Conclusions

The provisional findings of this study serve as evidence that the digital puzzle game *Keep Talking and Nobody Explodes* can elicit interactions between L2 learners that may facilitate processes of SLA, including negotiation for meaning and associated discourse strategies. These results demonstrate how cooperative digital games based on an information-gap game mechanic can assist processes of language learning and thereby strengthen the case for their use in L2 pedagogy.

## 5. Acknowledgements

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## References

Dormer, R., Cacali, E., & Senna, M. (2017). Having a blast with a computer-mediated information gap task: *Keep Talking & Nobody Explodes* in the EFL classroom. *The Language Teacher*, 41(1), 30-32.

- Gass, S. M., & Mackey, A. (2020). Input, interaction, and output in L2 acquisition. In B. VanPatten, G. D. Keating & S. Wulff (Eds), *Theories in second language acquisition: an introduction* (3rd ed., pp. 192-222). Routledge.
- Krashen, S. D. (1982). *Principles and practice in second language acquisition*. Pergamon.
- Long, M. (1996). The role of linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds), *Handbook of research on language acquisition* (vol. 2, pp. 413-468). Academic.
- McKay, S. L. (2006). *Researching second language classrooms*. Lawrence Erlbaum.
- Mercer, S., & Dörnyei, Z. (2020). *Engaging language learners in contemporary classrooms*. Cambridge University Press.
- Peterson, M. (2006). Learner interaction management in an avatar and chat-based virtual world. *Computer Assisted Language Learning*, 19(1), 79-103. <https://doi.org/10.1080/09588220600804087>
- Pica, T., Kanagy, R., & Falodun, J. (2009). Choosing and using communication tasks for second language instruction. In K. Van den Branden, M. Bygate & J. M. Norris (Eds), *Task-based language teaching: a reader* (pp. 171-192). John Benjamins. <https://doi.org/10.1075/tblt.1.11cho>
- Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). Cambridge University Press.
- Sheen, Y. (2008). Recasts, language anxiety, modified output, and L2 learning. *Language Learning*, 58(4), 835-874.
- Swain, M. (2005). The output hypothesis: theory and research. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning*, (vol. 1, pp. 471-483). Lawrence Erlbaum.
- Wilson, J. (2020, July). *Game-based language learning: fluency through bomb-defusal, spying, and werewolf hunting* [Online workshop]. Oita JALT.

# Effects and users' reactions to the use of CAPT and HVPT on Japanese EFL learners' segmental perception and production

Atsushi Iino<sup>1</sup>, Yukiko Yabuta<sup>2</sup>, and Brian Wistner<sup>3</sup>

**Abstract.** High Variability Phonetic Training (HVPT) is a perception-based pronunciation training which has brought about progress in both perception and production in English as a Foreign Language (EFL) classrooms. This could be due to the increased exposure to second language sound varieties presented at random, which is unique to HVPT. Progress in production, however, was usually slower than in perception. One explanation for this is that, in EFL contexts, the learners have fewer chances to find clues on how to articulate the target sounds, such as /r/, since HVPT only provides acoustic images. This study examines the effect of explicit instruction before and during HVPT training. The participants were shown a video on how to articulate the target sounds, and were asked to repeat the sounds after the stimuli during HVPT. The results showed significant increases, particularly in production. On a follow-up questionnaire, a majority of the participants expressed that they benefited from the inclusion of explicit instruction.

**Keywords:** HVPT, perception, production, explicit instruction.

## 1. Introduction

Iino and Thomson (2018) revealed that applying Thomson's (2017) cloud-based HVPT program English Accent Coach (EAC) as a Computer-Assisted Pronunciation Training (CAPT) improved perception of /l/, /r/, and /w/ sounds by Japanese EFL learners. However, meaningful increases in production were

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1. Hosei University, Tokyo, Japan; iino@hosei.ac.jp; <https://orcid.org/0000-0002-6439-5529>

2. Seisen Jogakuin College, Nagano, Japan; yabuta@seisen-jc.ac.jp; <https://orcid.org/0000-0002-5002-8971>

3. Hosei University, Tokyo, Japan; wistner@hosei.ac.jp; <https://orcid.org/0000-0003-2774-773X>

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not observed. As the study only required the participants to listen to the stimuli and to react by identifying the appropriate phonetic symbol, the extent to which instructional interventions during HVPT affect learners' production is not clear. Thus, the present study examined the effects of explicit instruction before and during HVPT. The instruction included showing the learners a video that explained how to articulate the target sounds of /l/ and /r/, and repeating the stimuli aloud during the HVPT task.

RQ 1: what are the effects of HVPT with explicit instruction on perception and production of English /l/, /r/, and /w/ over time?

RQ 2: what are the learners' reactions to the use of HVPT with explicit instruction?

## **2. Method**

### **2.1. Participants**

The participants were 19 first-year Japanese university students who majored in economics at a university in the Tokyo area. They were enrolled in mandatory English courses, and met every week. They agreed to participate in the HVPT sessions inside and outside the class as assignments. Their English proficiency level was in CEFR B1 based on TOEIC ITP scores ( $M=579$ ,  $SD=79$ ).

### **2.2. Treatment**

A pre-test and post-test design was adopted for a ten-week treatment period during the spring semester in 2019.

In the first week, three target sounds were presented to the participants through online videos explaining how to articulate /r/ and /l/ sounds. The students then began HVPT using EAC. Every week, the participants practiced the first round of the training in class, and were assigned to do it two more times during the week. They were urged to repeat aloud right after they heard the stimuli in a syllable or a word, but before answering the forced-choice identification task through EAC. Each training session consisted of 200 stimuli. They were presented in two kinds of phonemic environments alternating week by week: Consonant + Vowel (CV) and Consonant + Vowel + Consonant (CVC).

### 2.3. Measurement

In the first and the tenth weeks, the participants' perception and production skills were assessed. Only perception was assessed after the fifth week to see the immediate effects on each phonemic environment. Perception was measured with 100 CV and 100 CVC items randomly consisting of the three target consonants. The sounds were also randomized with 30 talkers' stimuli. Production was measured with 27 syllables and words that were recorded using the carrier phrase method (Thomson, 2012). Three experienced English teachers judged the production samples together, discussing any discrepancies when necessary. A questionnaire was given after the training. It had seven Likert-type items and one open-ended question that asked what the participants thought about the training.

## 3. Results and discussion

Overall, perception improved from 77% (Time 1; T1) to 90% (Time 2; T2) and to 93% (Time 3; T3), which was statistically significant, and exhibited a moderate effect size ( $F(2,18)=41.1, p<.01, \eta^2=.38$ ), shown in Figure 1 and Table 1). The effect originated from the progress between Times 1 and 2, as the post-hoc Bonferroni test indicated a significant difference ( $t=7.0, p<.01, d=1.14$ ). The increase of about 16% was a little larger than the 13% observed by Iino and Thomson (2018).

Significant progress between T1 and T3 was found for each of the consonants in the overall average scores for the CV and CVC conditions: /l/ ( $F(2,18)=45.7, p<.01, \eta^2=.45$ ), /r/ ( $F(2,18)=414.7, p<.01, \eta^2=.24$ ), and /w/ ( $F(2,18)=11.2, p<.01, \eta^2=.28$ ). Except for /r/ in CV, which improved from 67% (T1) to 73% (T2) and to 78% (T3), participants' perception of the target sounds showed statistically significant progress, particularly between T1 and T2.

Significant gains for production were also observed from 40% (11 points out of 27) at Time 1 to 65% (17.5 points out of 27) at Time 3 ( $t(18)=5.7, p<.01, d=1.68$ ) (Figure 2). Gains were found for all three consonants in the two linguistic environments, except for /w/ in CV, which was produced rather accurately from the beginning (88% at Time 1). A large gain was found for /l/ in both the CV and CVC conditions (32% in CV, 48% in CVC). Although the amount of increase for /r/ was lower than for the other two consonants, a significant increase was also observed. One explanation for the differing gains could be that it was more challenging to learn the articulation of /r/ due to its difficulty (Table 2).



Figure 1. Perception progress (%)

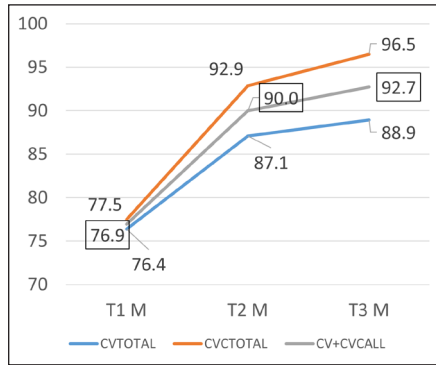


Figure 2. Production progress (%)

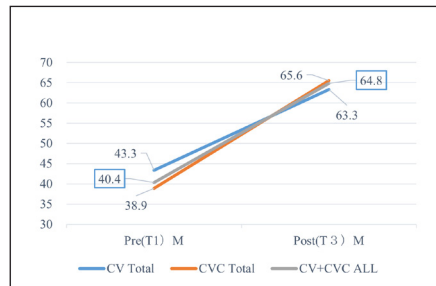


Table 1. Descriptive statistics for perception scores ( $N=19$ )

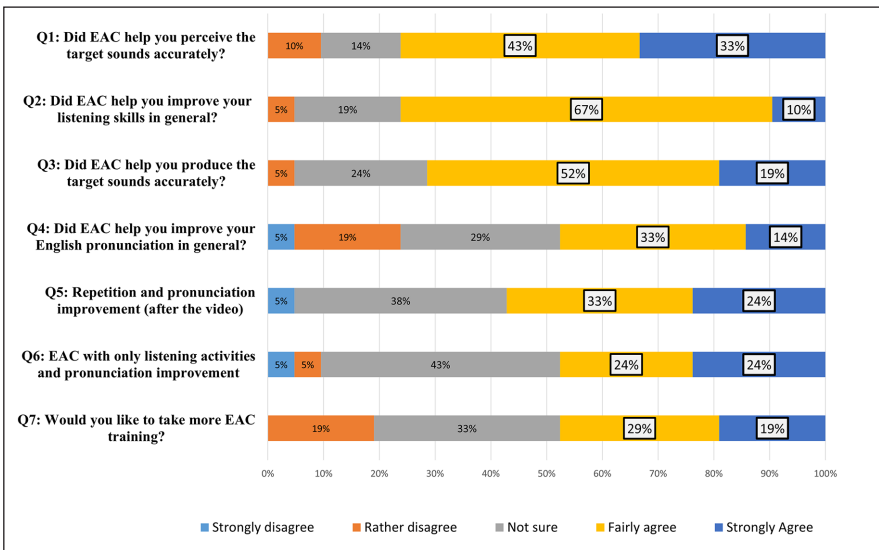
		Time 1		Time 2		Time 3	
Perception		M	SD	M	SD	M	SD
CV	L	69.4	18.3	89.3	12.5	89.6	13.2
	R	67.4	19.0	73.3	21.9	78.5	19.2
	W	92.4	10.3	98.7	2.3	98.7	2.0
	LRW	76.4	19.9	87.1	18.0	88.9	15.8
CVC	L	76.9	15.6	95.6	5.2	97.4	3.8
	R	62.2	21.1	84.1	14.4	92.7	10.5
	W	94.3	6.0	99.0	1.3	99.5	1.1
	LRW	77.5	20.4	92.9	10.9	96.5	7.1
CV+CVC	L	73.2	17.4	92.4	10.1	93.5	10.4
	R	64.8	17.4	78.7	19.3	85.6	17.0
	W	93.3	8.6	98.8	1.9	99.1	1.7
	LRW	76.9	20.2	90.0	15.2	92.7	12.8

Table 2. Descriptive statistics and statistical analyses for production scores (N=19)

		No. of items	Time 1			Time 3			T3-T1			p value	Cohen's d
			M	SD	%	M	SD	%	M	SD	%		
CV	L	3	0.63	0.83	21%	1.58	1.2	53%	0.95	1.22	32%	**	1.14
	R	3	0.68	0.82	23%	1.42	1.1	47%	0.74	1.05	25%	**	0.90
	W	3	2.63	0.60	88%	2.68	0.6	89%	0.05	0.52	2%		0.09
	SUM	9	3.95	1.51	44%	5.68	2.1	63%	1.74	2.00	19%	**	1.15
CVC	L	6	1.20	1.42	20%	4.05	1.8	68%	2.89	2.00	48%	**	2.04
	R	6	0.70	1.10	12%	1.74	1.6	29%	1.00	1.33	17%	**	0.91
	W	6	4.90	1.13	82%	5.68	0.5	95%	0.74	1.33	12%	*	0.65
	SUM	18	7.00	2.87	39%	11.79	3.3	66%	4.79	3.52	27%	**	1.67
CV+ CVC	L	9	1.80	2.10	20%	5.63	2.7	63%	3.84	2.85	43%	**	1.83
	R	9	1.40	1.77	16%	3.16	2.5	35%	1.74	2.13	19%	**	0.98
	W	9	7.60	1.35	84%	8.37	0.8	93%	0.79	1.51	9%	*	0.58
	SUM	27	10.9	3.88	40%	17.47	5.1	65%	6.53	4.98	24%	**	1.68

\*p<0.05. \*\*p<0.01

Figure 3. Results of the questionnaire on the use of EAC (N=19)



Regarding the participants' reaction to the use of HVPT using EAC, they felt improvement both in perception and overall listening ability, as 76% of them agreed with Q1, and 77% with Q2 (Figure 3). In terms of production, while 71% reported

that the training helped them to improve their production of the target sounds (Q3), only 47% agreed that their overall pronunciation improved (Q4). The comparative difference felt by adding the explicit instruction was 10%; the agreement ratio to Q5 was 57%, but it was 48% for Q6. Overall, the participants indicated a sense of effectiveness for perception, and around half of them thought the training was effective for production.

Concerning the open-ended question, 17 out of the 19 participants wrote positive comments, such as “I found it interesting to learn there were varieties, even for the same consonants. I want to do this kind of task for other consonants and vowels”, and “I began to pay attention to my pronunciation more than before”. The participants seemed to have experienced the benefits of HVPT, listening to the variation in speakers’ production of phonemes, and acquiring production skills based on perception skills.

## 4. Conclusions

This study found positive effects of HVPT with explicit instruction on perception and production. In particular, the effects on production were significantly larger than those found in the perception-only condition (Iino & Thomson, 2018). Participants’ reactions to the use of HVPT also indicated a sense of effectiveness for perception, as well as production. Overall, HVPT in CAPT, or EAC use in class, showed its educational potential for EFL learners, particularly with the addition of explicit instruction. Further classroom research is needed to clarify the degree of explicitness in computer-mediated instruction that promotes L2 learning.

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## References

- Iino, A., & Thomson, R. I. (2018). Effects of web-based HVPT on EFL learners’ recognition and production of L2 sounds. In P. Taalas, J. Jalkanen, L. Bradley & S. Thouéšny (Eds), *Future-proof CALL: language learning as exploration and encounters – short papers from EUROCALL 2018* (pp. 106-111). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.821>

- Thomson, R. I. (2012). Improving L2 listeners' perception of English vowels: a computer-mediated approach. *Language Learning*, 62(4), 1231-1258.
- Thomson, R. I. (2017). *English accent coach* [Computer software]. Version 2.3. www.englishaccentcoach.com
- Thomson, R. I. (2018). High variability [pronunciation] training (HVPT): a proven technique about which every language teacher and learner ought to know. *Journal of Second Language Pronunciation*, 4(2), 207-230. <https://doi.org/10.1075/jslp.17038.tho>

# Sentiment analysis of students' attitudes toward mobile learning activities

Peter Ilic<sup>1</sup>

**Abstract.** In this research, students' sentiments and emotions embedded in their learning journals are analyzed to understand their attitudes to mobile-based lessons as they progress during an English as a Foreign Language (EFL) course. Sentiment Analysis (SA) was utilized to extract emotions and sentiment throughout students' learning experience, as expressed in their weekly online learner journals. The sentiment scores were generated from four sentiment dictionaries with different scales. The findings suggest that overall, the students had a positive sentiment and emotions toward mobile learning, consisting of anticipation, trust, joy, and surprise. The strongest negative emotion was fear, which may be explained by anxiety surrounding communication in a foreign language.

**Keywords:** mobile learning, sentiment analysis, EFL, natural language processing.

## 1. Introduction

Emotional obstacles impede learning (Pekrun, Goetz, Titz, & Perry, 2002; Zeidner, 2014), as students typically learn and perform better when they experience positive sentiments about a subject and learning context. In this research, students' sentiments and emotions embedded in their learning journals are analyzed to understand their attitudes to mobile-based EFL. SA was utilized to extract emotions and sentiment during the course, as expressed in students' weekly online learner journals. Sentiment scores were generated from four sentiment dictionaries with different scales, including *syuzhet*, *bing*, *afinn*, and *nrc*. The findings suggest that overall, the students had positive sentiment and emotions toward mobile learning as defined by these terms: anticipation, trust, joy, and surprise. The strongest negative emotion was fear, which may be explained by anxiety surrounding communication

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1. University of Aizu, Aizu, Japan; pilic@u-aizu.ac.jp; <https://orcid.org/0000-0002-1125-3156>

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in a foreign language. SA has been effective for evaluating mobile pedagogical affordances (Bano, Zowghi, & Kearney, 2017). However, the focus has been on consumer sentiment toward mobile social networks, with little coverage of mobile learning environments (Abdulsalami et al., 2017; Hew, Hu, Qiao, & Tang, 2020; Martin, Ortigosa, & Carro, 2012; Rani & Kumar, 2017).

## 2. Method

The study design was a case study adopted for one academic year to gain a deeper understanding of the outcomes of completing collaborative learning activities through mobile devices by four Japanese university undergraduate EFL classes on translation. Each class formed one case study group with between five and eight members. All factors remained constant across the groups, and participation in the study was voluntary. The groups were comprised of:

- Group 1: five female and two male students;
- Group 2: eight female students;
- Group 3: six female students; and
- Group 4: six female students.

The data collection for each group was identical and consisted of each student submitting an open-ended e-journal at the end of each week in the students' L1, Japanese, with comments on any use of mobile devices for homework activities. These e-journals were then translated into English by the researcher before the analysis. While translation is always a limitation in research, there were no significantly complex word meanings that could strongly influence the result. However, this is a topic that may be discussed further in an extended version of this paper. The SA was performed using the R package *syuzhet* (Manning et al., 2014) for sentiment scores and emotion classification. All other text mining was done through the *tm* R package (Feinerer & Hornik, 2019). Sentiments are classified as positive, neutral, or negative; and numerical. The *syuzhet* package was used for generating sentiment scores and has four sentiment dictionaries with different scales, including *syuzhet*, *bing*, *afinn*, and *nrc*. As explained in Mhatre (2020, n.p.), sentiment scores using the *syuzhet* take the form of a decimal range from -1 (most negative) to +1 (most positive), *bing* is a binary scale with -1 indicating negative and +1 indicating positive sentiment, and similarly, *afinn*

is an integer scale ranging from -5 to +5. However, the *nrc* emotion lexicon (Mohammad & Turney, 2013) is a list of English words and their associations with eight basic emotions (anger, fear, anticipation, trust, surprise, sadness, joy, and disgust) and two sentiments (negative and positive) manually annotated through crowdsourcing.

### 3. Results and discussion

The e-journals' data set of 3,800 English words was a word frequency table. To identify themes, the top five most frequent words in the text were identified: 'homework' (61), 'phone' (51), 'use' (44), 'mobile' (41), and 'can' (25). The two most frequent words are 'homework' and 'phone', which is not unexpected considering the activities. Also, the two words 'use' and 'can' imply positive agency. To give more insight into the context, correlation ( $\text{corlimit}=0.25$ ) is used to identify which words appear most often with these five most frequently occurring words. For 'homework', 'look', 'read', and 'rememb' (the root of remember) all appear together 76% of the time. The negative word roots that commonly appeared with 'homework' were 'embarrass' (57%), 'grumb' (57%), and 'negat' (49%), while the positive word roots were 'good' (47%), 'desir' (38%), 'happi' (38%), and 'nice' (28%). This stronger negative association with homework may not be a surprise, but 'anytime' (37%) and 'anywhere' (26%) suggest that the students noticed these well-known mobile device affordances.

The next two frequent words of interest are 'phone' and 'mobile', and they may refer to the same object – mobile phone. The word root most associated with both words is 'busi', at 74% for 'phone' and 63% for 'mobil', suggesting that they associate this device to some extent as a tool. The word 'phone' correlates with no negative words, but the positive word roots are 'happi' (67%), 'advantage' (57%), 'comfort' (57%), 'thank' (49%), 'great' (34%), 'nice' (33%), and 'good' (28%). Also, the correlation of 'street' (57%), 'technolog' (57%), and 'walk' (56%) may be explained by the requirement that students collect examples during their everyday lives outside of school to complete the homework activities. Likewise, 'mobil' is correlated with 'happi' (54%), 'amaz' (36%), 'conv' (convenient) (36%), 'bett' (36%), 'benefit' (36%), 'comfort' (36%), 'nice' (29%), and the negative 'negat' (36%). These results strongly indicate that the students have a generally positive view of their mobile phone in these homework activities.

Table 1 includes the *syuzhet* package-generated sentiment scores using the four sentiment dictionaries, and the normalized scores used for comparison.

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Table 1. Syuzhet generated sentiment scores

	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	Normalized
syuzhet	-0.50	0.80	1.30	1.45	1.81	6.00	1, 1, 1, 1, -1, 1
bing	-1.00	0.00	1.00	1.16	2.00	7.00	1, 1, 0, 1, 0, 1
afinn	-2.00	0.00	2.00	2.23	3.25	12.00	1, 1, 1, 1, -1, 1

The *nrc* function, in line with Mhatre (2020), “returns a data frame with each row representing a sentence [and] ten columns, one for each of the eight emotions and one column for positive sentiment valence and one for negative sentiment valence” (n.p.). Figure 1 shows the number of instances of words in the text associated with these eight emotions. Positive words associated with ‘anticipation’ occur 65 times and may be explained by the students’ comments that they had never done this type of learning activity using mobile phones. The next positive words relate to ‘trust’ (40), then ‘joy’ (18), and ‘surprise’ (11). The strongest negative emotion words relate to ‘fear’ (38), which may be explained by their general fear of communicating online in their second language, as expressed in their journals. This is followed by the negative emotion of ‘sadness’ (9), ‘anger’ (6), and ‘disgust’ (4). Figure 2 compares the number of emotion words as a percentage of the total of meaningful words. The positive emotion ‘anticipation’ accounts for over 30% of all meaningful words in the e-journals. Moreover, ‘trust’ is second, at over 20% of meaningful words. They are followed by the negative emotion ‘fear’, also at 20%. Overall, the words associated with positive emotions that the software considers meaningful account for over 65% of total words.

Figure 1. Number of words associated with eight main emotions

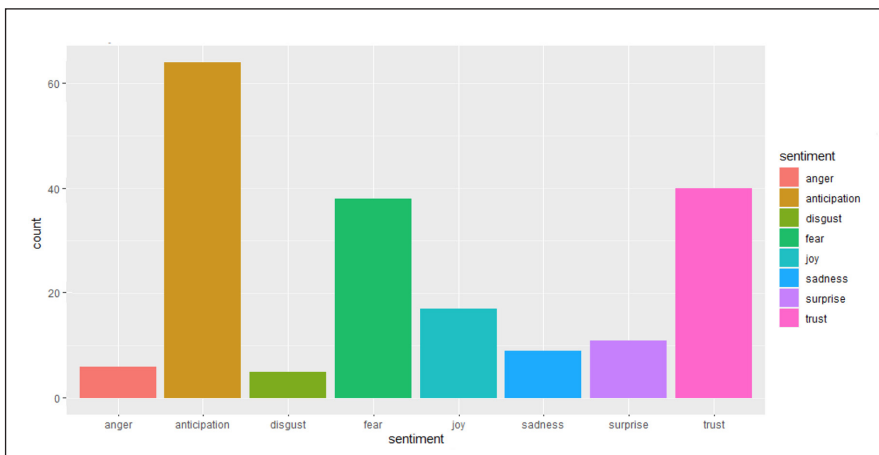
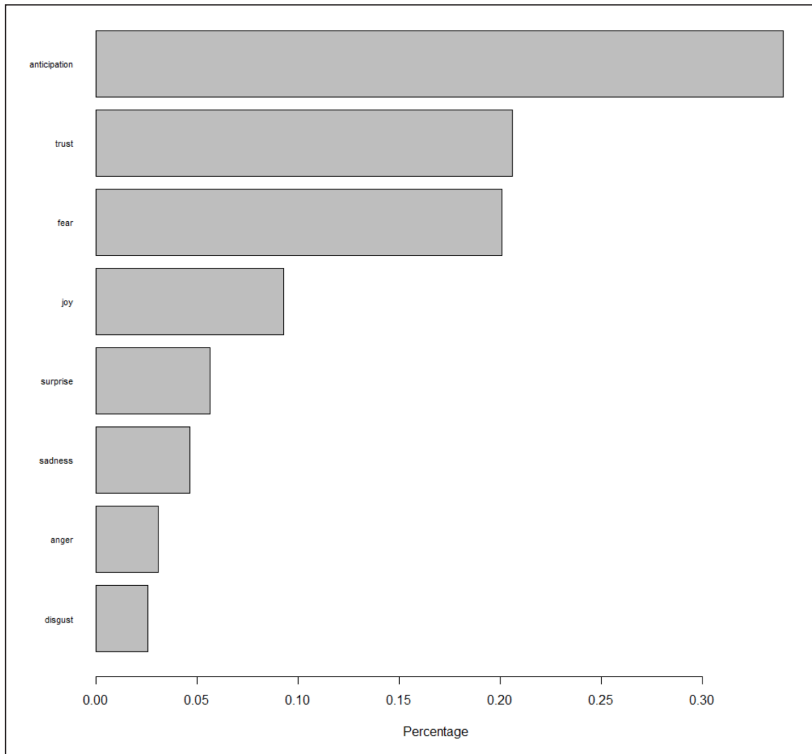




Figure 2. Words associated with each sentiment as a percentage



#### 4. Conclusions

The findings suggest that students in this study held positive sentiment on the use of mobile devices for collaborative activities, as shown by the *syuzhet*, *bing*, and *afinn* results. The *nrc* result indicates that these sentiments can be best described as ‘anticipation’, ‘trust’, ‘joy’, and ‘surprise’. At the same time, they had the emotion of ‘fear’ for the activities, which could be related to the anxiety of communicating in a foreign language. However, this requires more research to clarify the possible connection.

#### 5. Acknowledgments

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## References

- Abdulsalami, A., Ahmad, B., Umar, M., Abubakar, A., Jauro, F., Kufena, A., & Ekoja, E. (2017). Sentiment analysis of students' perception on the use of smartphones: a cross sectional study. In *2017 Second International Conference on Informatics and Computing (ICIC)*. <https://doi.org/10.1109/iac.2017.8280625>
- Bano, M., Zowghi, D., & Kearney, M. (2017). Feature based sentiment analysis for evaluating the mobile pedagogical affordances of apps. In *IFIP World Conference on Computers in Education*. [https://doi.org/10.1007/978-3-319-74310-3\\_30](https://doi.org/10.1007/978-3-319-74310-3_30)
- Feinerer, I., & Hornik, K. (2019). *tm: text mining package* [Version R package version 0.7-7]. <https://CRAN.R-project.org/package=tm>
- Hew, K. F., Hu, X., Qiao, C., & Tang, Y. (2020). What predicts student satisfaction with MOOCs: a gradient boosting trees supervised machine learning and sentiment analysis approach. *Computers & Education*, *145*, 103724. <https://doi.org/10.1016/j.compedu.2019.103724>
- Manning, C. D., Surdeanu, M., Bauer, J., Finkel, J. R., Bethard, S., & McClosky, D. (2014). The Stanford CoreNLP natural language processing toolkit. In *Proceedings of 52nd annual meeting of the association for computational linguistics: system demonstrations*. <https://doi.org/10.3115/v1/p14-5010>
- Martin, J. M., Ortigosa, A., & Carro, R. M. (2012). SentBuk: sentiment analysis for e-learning environments. In *2012 International Symposium on Computers in Education (SIE)*.
- Mhatre, S. (2020 May 13). *Text mining and sentiment analysis: analysis with R*. redgate. <https://www.red-gate.com/simple-talk/sql/bi/text-mining-and-sentiment-analysis-with-r/>
- Mohammad, S. M., & Turney, P. D. (2013). Crowdsourcing a word-emotion association lexicon. *Computational Intelligence*, *29*(3), 436-465.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic Emotions in Students' Self-Regulated Learning and Achievement: A Program of Qualitative and Quantitative Research. *Educational psychologist*, *37*(2), 91-105. [https://doi.org/10.1207/s15326985ep3702\\_4](https://doi.org/10.1207/s15326985ep3702_4)
- Rani, S., & Kumar, P. (2017). A sentiment analysis system to improve teaching and learning. *Computer*, *50*(5), 36-43.
- Zeidner, M. (2014). Anxiety in education. In R. Pekrun & L. Linnenbrink-Garcia (Eds), *International handbook of emotions in education* (pp. 265-288). Taylor & Francis.

# Constructing digital ‘Choose Your Own Adventure’ gamebooks to enhance creative writing and collaboration skills

Bradley Irwin<sup>1</sup>

**Abstract.** This paper explains details of a creative writing project aimed at increasing students’ motivation to write in English and develop collaboration skills. Forty-eight first-year – A2-B1 Common European Framework of Reference for Languages (CEFR) level – English as a Foreign Language (EFL) learners enrolled in a reading and writing course at a Japanese university and participated in a collaborative, project-based language learning task. In small groups, students created gamebooks (approx. 1,500 words) in the Choose Your Own Adventure (CYOA) style using Google Slides. Both experiences from class and survey results suggest that students found the activity highly enjoyable and that their motivation to write in English increased. In the survey, many students also commented about the positive impact that this project had on their ability to express themselves in English while collaborating with their classmates, suggesting that the project fulfilled its two aims.

**Keywords:** Google Slides, creative writing, choose your own adventure, online collaboration.

## 1. Introduction

English writing skills are often overlooked in Japanese high schools, and students arrive at university without the basic skills necessary to create even basic paragraphs in English (Mulvey, 2016). This is often frustrating for students, and their motivation to learn this fundamental skill is often adversely affected.

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1. Nihon University, Tokyo, Japan; irwin.bradley@nihon-u.ac.jp; <https://orcid.org/0000-0002-3304-9674>

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The main aim of this project is to encourage EFL learners to view writing in English not as a burdensome academic activity, but rather as an outlet for creative expression. The hope is that once students' attitudes toward writing improves, they will challenge themselves to improve their writing skills. The notion of improving academic writing skills through creative writing tasks has been supported by research by [Tok and Kandemir \(2015\)](#) and [Randolph \(2011\)](#).

As collaboration has been identified as an essential 21st century skill by the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT), a secondary aim of this project is to improve collaboration strategies between students by utilizing the synchronous (and asynchronous) collaborative capabilities of Google Slides to complete creative writing tasks.

The student perceptions and learning achievements described in this paper are derived from a survey conducted during the fall term (September to January) of 2019.

## **2. Instructional learning context**

Forty-eight first-year undergraduate EFL learners (A2-B1 CEFR level) enrolled in a reading and writing course at a Japanese university and participated in the creative writing project. These students were tasked with working collaboratively in random groups of four to create a short gamebook (approximately 1,500 words) in the CYOA style. For those unfamiliar, the gamebook genre is based on the notion that the reader plays an active role in a story by making choices for the characters. Typically, a gamebook will allow the reader to choose between narrative branches which result in different outcomes for a story's protagonist. This means that gamebook stories develop in a non-linear fashion as readers navigate between narrative paths based on their choices. CYOA was the title of a series of books published by Bantam Books during the 1980's and 90's that were highly influential and have since become synonymous with the gamebook genre.

Lessons were conducted in English in a computer lab and held twice a week for 90 minutes during a 15-week course. The project itself was allotted five lesson periods near the end of the course after students had completed shorter writing activities both online and using a textbook to ensure that they understood the fundamentals of sentence and paragraph structure and basic narrative techniques. Of the five lessons, one is used for explaining and demonstrating a CYOA story, three are used for creating the story and uploading it to a shared class website, and the final lesson is used for reading classmates' projects and completing peer evaluations.

### **3. Tools and procedures**

Rather than assigning a more traditional creative writing task, a CYOA gamebook was chosen because this style of writing requires higher levels of preplanning and organizational skills more suited to promoting collaboration between students.

Once the students understood the concept of a CYOA-style story, the teacher explained the process of creating one. The teacher focused on two main considerations: the creative process for developing a story, and the technical process of creating a Google Slides presentation. Regarding story creation, students were asked to choose a compelling character, create a story concept, develop the plot (narrative paths), and imagine at least three possible outcomes. They were also shown a narrative path development flowchart that the teacher used when writing an example story. For the technical process of using Google Slides to present their CYOA stories, the teacher made three video tutorials that explained basic Google Slides creation (theme selection, slide layouts, and sharing), steps for adding content (text, images, and photos), and advanced techniques (adding audio, music, video, and non-linear linking within the presentation).

Because they were limited to only three in-class lessons, students had to spend a considerable amount of time outside of the class working on their stories. Fortunately, Google productivity apps allow for easy, cross-platform synchronous and asynchronous collaboration, and students could continue working on their projects together outside of the classroom. To that end, students utilized a shared Google Doc to collaboratively develop the organizational flow chart and text for each narrative branch. The students then set about the task of creating their original CYOA stories.

Before the fifth and final day of the project, students had already embedded their completed CYOA Google Slides stories to a shared class website. During this phase of the project, students read each other's stories and provided peer feedback. The students provided anonymous feedback to each other using a Google Form with a scoring rubric and section for constructive comments. The scores and comments were linked to a Google Sheet that was shared with each member of the class. Therefore, peer feedback could be provided immediately during the lesson.

### **4. Discussion and conclusion**

With regard to the main aim of this project – improving students' attitudes toward writing in English and viewing it as a creative outlet – the project was a success.

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In class, students were very enthusiastic about creating their stories and spent the vast majority of their time on-task. The stories they produced were thoughtful and well developed, and their level of narrative description was much richer than in previous forms of writing. These observations aligned closely with Kirchmeyer and Faherty (2017), who studied the use of creating gamebooks to improve L2 output with non-English major students at a Japanese university. They found that creating gamebooks led to improved classroom participation and increased engagement in classroom activities. They also found that students “succeeded in producing original gamebooks, using clear and accurate language, that were generally interesting to other students” (Kirchmeyer & Faherty, 2017, p. 188). One point of divergence with the Kirchmeyer and Faherty’s (2017) study relates to the use of the target language during the classroom tasks. Although they did not observe an increase in the amount of English being used in class, during the present study students largely communicated with each other in English when planning and writing their gamebooks. This difference may have had to do with amount of preparation students were given before the writing task, because Kirchmeyer and Faherty (2017) describe their participants’ preparation as lacking. A difference in English proficiency level may have also contributed to this divergence.

An anonymous survey using Likert scale items and open-ended questions was conducted to better understand students’ views of the CYOA project. When reporting the extent to which they agreed with a list of statements about the project using a 5-point Likert scale, students agreed that their motivation to improve their English writing skills had increased ( $M=4.27$ ,  $SD=0.78$ ). Furthermore, they indicated that the project was educational ( $M=4.42$ ,  $SD=0.70$ ), useful for studying English ( $M=4.32$ ,  $SD=0.65$ ), and that their English writing skills had improved ( $M=4.42$ ,  $SD=0.64$ ).

Several open-ended questions also explored the students’ thoughts regarding the collaborative process. While most students indicated that this was one of the most challenging aspects of completing the project, they recognized the importance of improving this skill. In particular, many students commented that they could improve their English communication abilities with regard to expressing their opinion, a skill that many students find difficult. Some students even reflected on the fact that this type of group project was a good experience to help them prepare for their futures as part of a team in a company.

A project of this type is not without its challenges. Teachers wishing to implement a similar type of creative writing project should carefully consider both their students’ language skills and their ability to use presentation software like Google

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Slides. In order for students to successfully create a CYOA story, the complexities of the planning and organization process cannot be underestimated. Therefore, it is highly recommended that the teacher creates their own original CYOA story to share with their students before beginning.

## References

- Kirchmeyer, B., & Faherty, S. (2017). Reflections on designing and implementing a task-based unit using gamebooks. *Bulletin of Sojo University, 42*, 183-191.
- Mulvey, B. (2016). Writing instruction: what is being taught in Japanese high schools, why, and why it matters. *The Language Teacher, 40*(3), 3-8. <https://doi.org/10.37546/JALTTLT40.3-1>
- Randolph, P. T. (2011). Using creative writing as a bridge to enhance academic writing. In J. M. Perren, K. Losey, J. Popko, D. O. Perren, A. Piippo & L. Gallo (Eds), *Proceedings of the 2011 Michigan Teachers of English to Speakers of Other Languages Conference* (pp. 69-83).
- Tok, Ş., & Kandemir, A. (2015). Effects of creative writing activities on students' achievement in writing, writing dispositions and attitude to English. *Procedia-Social and Behavioral Sciences, 174*, 1635-1642. <https://doi.org/10.1016/j.sbspro.2015.01.815>

# Providing quantitative data with AI Mobile COLT to support the reflection process in language teaching and pre-service teacher training: a discussion

Hiroki Ishizuka<sup>1</sup> and Martine Pellerin<sup>2</sup>

**Abstract.** Mobile COLT is a portable platform for analysis of activities in the second language classroom, and is based on the well-known Communicative Orientation of Language Teaching (COLT) scheme (Spada & Fröhlich, 1995). It has been developed to facilitate real-time class analysis using a Windows tablet. This paper first describes the COLT analysis scheme, and expounds on the functions of Mobile COLT, its application in classroom practices, and the development of the Artificial Intelligence (AI) version (AI Mobile COLT). It also briefly reports on two studies carried out in Japan to examine how the use of Mobile COLT can further promote language teaching development. Then, the paper briefly describes a collaborative project initiated by the authors to explore how the AI Mobile COLT system can be combined with an ePortfolio platform in Moodle to provide quantitative data built on an evidence-based framework.

**Keywords:** COLT, AI Mobile COLT, pre-service teachers, language classroom analysis tool.

## 1. Introduction

### 1.1. The COLT analysis scheme

Various observation schemes, such as the Flanders System, the Jarvis System, and the Stirling Project System, have been developed and tested to qualitatively or quantitatively assess activities in language classrooms. One of the widely

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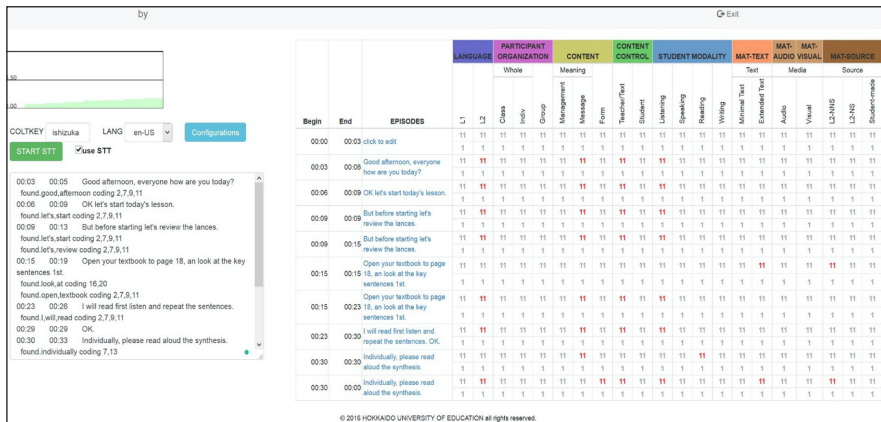
1. Hokkaido University of Education, Asahikawa Campus, Japan; ishizuka0040@gmail.com  
2. University of Alberta, Edmonton, Alberta, Canada; pellerin@ualberta.ca

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used schemes is COLT, introduced by Spada and Fröhlich (1995), which uses a standardized scale to assess features of the teaching process (Ishizuka & Yorozyua, 2014). Since it can quantitatively display the communicative features of the class as to the organization (class/group/individual work), the content (meaning/form), the content control (teacher/text/student), the student modality (reading/writing/listening/speaking), and materials (extended/minimal, native/non-native) of the class, COLT has demonstrated great potential as a facilitating tool for language teacher development. However, a key barrier to widespread use is that the manual coding procedures are time-consuming and complex. Thus, Ishizuka and Kibler (2018) have developed Mobile COLT, a portable, half-automated version of COLT that facilitates real-time class analysis using a Windows tablet. The two studies introduced in this paper below were conducted using this version of COLT. More recently, the team has incorporated AI into the platform, as well (AI Mobile COLT), which is planned to be used for the collaborative project reported in this paper (see Figure 1).

Figure 1. An example of the coded English class in Japan by AI Mobile COLT



## 1.2. Using digital video recording and ePortfolio platform

Pellerin (2011) and Pellerin, Branch-Mueller, Nicholas, and Wei (2018) studied ways to better document the evolution of the teaching practices of students enrolled in French language teaching programs in Canada by exploring the use of digital video recording as a tool to document the teaching practices of pre-service teachers. A Moodle ePortfolio platform was used to support the storage and sharing of digital video recordings. Access to the video on the ePortfolio platform allows students to engage in self-reflection, and instructors and supervisors can provide

feedback to the students regarding their teaching practices. However, the reflection and feedback available are based mainly on qualitative analysis of the videos. There are no quantitative data generated through the ePortfolio platform. Access to quantitative data would contribute to building an evidence-based framework to better support the development of the teaching practices during the initial training of language teachers.

### **1.3. Using AI Mobile COLT in pre-service training in the context of Canadian French immersion**

The principal objective of this collaborative project is to investigate the potential for integration of AI Mobile COLT with a Moodle ePortfolio platform in order to create a standardized framework for the quantitative analysis of video collected during classroom teaching. The specific aim is to explore how the AI Mobile COLT system can enhance the analysis of the video recordings of lessons taught by Canadian pre-service language teachers and posted in a Moodle ePortfolio platform to produce standardized feedback to improve the reflective process and enhance supervision during training.

## **2. Teacher development using Mobile COLT**

Using Mobile COLT, two studies were carried out in Japan to examine how this system can help promote language teaching development. Study 1 involved observation of three teachers at different school levels: elementary, junior high, and high school. Each teacher was visited four or five times, and their teaching was analyzed using Mobile COLT. The coding results were shown to the teacher with a graphical image, along with oral feedback. Study 2 involved observation of a single elementary school English teacher on two separate occasions within a two month interval. The same quantitative feedback process used in Study 1 was taken. After the last visits, all of the observed classes were compared, respectively, by their features and communicativeness in each study.

In the COLT scheme, activities involving group work, meaning-focused content (management and topics), student-controlled content, discourse (extended text), and materials for native speakers are considered more communicative.

In both experiments, the participant teachers tried to change their teaching styles every time their language classes were observed. They attempted to improve the less communicative aspects of their classes. The result of their efforts were sometimes

successful, and sometimes not. Figure 2 shows an example of the improvement of communicative indexes of one participant teacher during the five observations (one year) in Study 1.

Figure 2. Development of one teacher in the communicative indexes

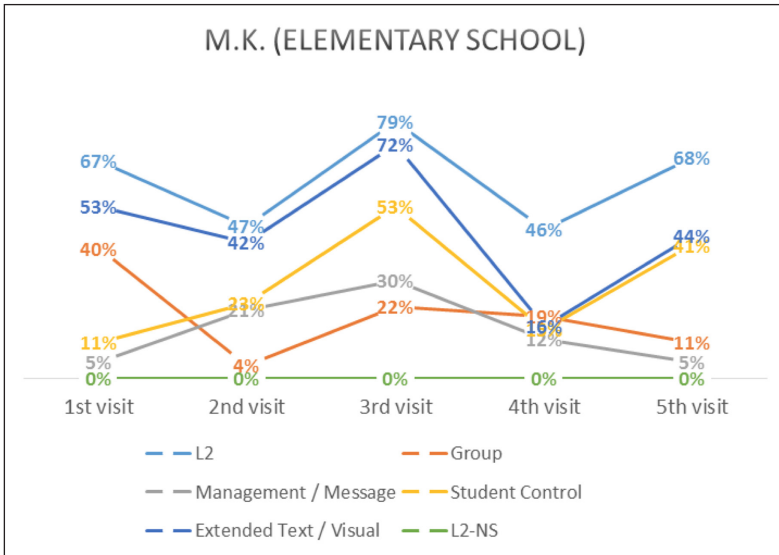


Table 1, for instance, shows the analysis data of the activities conducted in English. Between the first and second observations, group work increased by 6%, and student control of the content increased by 19%. On the other hand, focus-on-meaning activities decreased by 12%, and the use of visual materials decreased by 18%.

Table 1. Development of an elementary teacher (Study 2)

COLT categories	First visit		Second visit	
	Time	Rate	Time	Rate
Group	5:23	11%	8:18	17%
Student	5:53	12%	14:56	31%
Management/Message	2:55	57%	21:17	45%
Extended Text/Visual	1:51	55%	17:25	37%
L2-NS	0:00	0%	0:00	0%

The main outcomes that emerged from the two studies conducted in Japan using Mobile COLT are as follows:

- the data that Mobile COLT provides to teachers can affect their teaching styles in a short span;
- Mobile COLT can suggest the points that teachers need to improve and facilitate self-reflection;
- Mobile COLT can provide teachers with quantitative data about the features of their teaching styles.

### **3. Discussion and future work**

The aim of the project is to integrate the AI Mobile COLT system with the ePortfolio platform in Moodle in the training of French language teachers in the western Canadian context.

We will first explore the feasibility of the project by testing the compatibility of the AI Mobile system with the Moodle ePortfolio system. In particular, we will examine how the segmenting and coding system used by AI Mobile COLT can be adapted for the context of Canadian second language teaching, and, more specifically, in the context of the French Immersion approach for second language teaching and learning.

In order to adapt the segmentation and coding system built in the AI Mobile COLT system,

- the AI quantitative analysis system will need to be adapted for the French language;
- direct classroom observation in the Canadian classroom will need to be carried out in order to better get acquainted with the enfolding language learning activities in an immersion approach to a second language; and
- video recordings of the lessons taught by pre-service teachers during their practicum will need to be collected for the purpose of testing the quantitative analysis of the AI Mobile analysis system embedded in the Moodle ePortfolio.

Unfortunately, the project has been put on hold since the end of February because of the COVID-19 virus. As teachers and pre-service teachers needed to transfer to

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remote learning at the beginning of March, direct classroom observation was no longer possible. Moreover, since the transfer to remote teaching was challenging at times for teachers, as well as pre-service teachers, it was not possible to collect any video recording for the purpose of the project. It is the hope that the re-opening of schools after the Fall of 2020 will allow the project to resume its activities. However, with the adoption of hybrid and online teaching in Canadian schools, it may also be possible to gather video recordings of lessons taught completely online by pre-service students.

## 4. Conclusions

The integration of the AI Mobile COLT analysis in pre-service language teacher training has a strong potential to provide improved follow-up on the progress of the pre-service teachers throughout their practicum. More specifically, the combination of the AI Mobile COLT system with an ePortfolio platform in Moodle could contribute to providing quantitative data built on an evidence-based framework to better support the development of their teaching practices during initial training.

Moreover, in the new era of COVID-19 and online and hybrid teaching, the integration of the AI Mobile COLT analysis with the ePortfolio platform for pre-service teaching programs could promote innovative ways of online supervision and training for a new era.

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## References

- Ishizuka, H., & Kibler, R. (2018). Development of automatic language classroom analysis system. *Proceedings of EdMedia: World Conference on Educational Media and Technology* (pp. 626-630). Association for the Advancement of Computing in Education (AACE).
- Ishizuka, H., & Yorozyua, R. (2014). Collaborative VOD platform for classroom observation. *World Conference on Educational Multimedia, Hypermedia and Telecommunications, 2014(1)*, 2427-2432.

- Pellerin, M. (2011). The use of the open source e-portfolio system Mahara to support the notion of digital documentation and the development of electronic-portfolio with pre-service language teachers. In T. Bastiaens & M. Ebner (Eds), *Proceedings of ED-MEDIA 2011--World Conference on Educational Multimedia, Hypermedia & Telecommunications* (pp. 523-528). Association for the Advancement of Computing in Education (AACE).
- Pellerin, M., Branch-Mueller, J., Nicholas, P., & Wei, W. (2018). The integration of eportfolios in higher education, and students' perceptions. *Journal of Interactive Learning Research*, 29(4), 529-544. Association for the Advancement of Computing in Education (AACE).
- Spada, N., & Fröhlich. (1995). *Colt observation scheme: communicative orientation of language teaching coding conventions & applications*. NCELTR Publications.

# Data-driven learning for languages other than English: the cases of French, German, Italian, and Spanish

Reka Jablonkai<sup>1</sup>, Luciana Forti<sup>2</sup>, Magdalena Abad Castelló<sup>3</sup>,  
Isabelle Salengros Iguenane<sup>4</sup>, Eva Schaeffer-Lacroix<sup>5</sup>,  
and Nina Vyatkina<sup>6</sup>

**Abstract.** This paper summarises the contributions to EuroCALL's CorpusCALL SIG Symposium for the year 2020. In line with this year's EuroCALL conference theme, 'CALL for widening participation', the Symposium centred around the theme of *Data-driven learning for languages other than English*. This paper gives a brief overview of developments and challenges when using Data-Driven Learning (DDL) to teach French, German, Italian, and Spanish. As research suggests, a DDL approach has been effectively utilised to teach these languages. However, there are differences in available DDL resources and corpora for the respective languages that are appropriate for language teaching. The main challenges for future developments are also discussed.

**Keywords:** DDL, corpora, LOTEs.

## 1. Introduction

This paper shares developments in using DDL in teaching Languages Other Than English (LOTEs) within the wider DDL community. As literature on DDL has primarily focused on studies in the context of teaching English (Chambers, 2019), we provide brief overviews of the current state of DDL in relation to the teaching

1. University of Bath, Bath, United Kingdom; reka.jablonkai@gmail.com; <https://orcid.org/0000-0001-9616-5683>
2. University For Foreigners of Perugia, Perugia, Italy; luciana.forti@unistrapg.it; <https://orcid.org/0000-0001-5520-7795>
3. Instituto Cervantes Manchester, Manchester, United Kingdom / Universidad Internacional Iberoamericana, Puerto Rico; malena@abad.com; <https://orcid.org/0000-0002-1942-7421>
4. École des Ponts ParisTech, Marne-la-Vallée, France; isasalengros@hotmail.com
5. Sorbonne Université / Inspé de l'académie de Paris, Paris, France; eva.lacroix@sorbonne-universite.fr; <https://orcid.org/0000-0002-6260-9095>
6. University of Kansas, Lawrence, Kansas, United States; vyatkina@ku.edu; <https://orcid.org/0000-0002-2778-8016>

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of French, German, Italian, and Spanish. Each overview discusses challenges and proposes solutions to realising the full potential of the DDL approach. First, an empirical study of DDL for French is reported. Next, we provide a brief overview of the range and effectiveness of corpus resources used for teaching and learning German and indicate directions for future resource development and empirical research. We then trace a brief historical overview of DDL for Italian, with an indication of the main challenges that the field faces today. Finally, challenges of DDL for teachers and learners of Spanish are discussed.

## 2. DDL for French: linking professional communication skills and linguistic features

Research papers from the French DDL community mainly report on indirect applications (Vyatkina, 2020a), with learner corpora analysed as error repositories (Dubois, Kamber, & Dekens, 2013) or as resources for designing learning materials (Di Vito, 2013). Direct applications are mentioned within the context of academic writing (Jacques & Rinck, 2017) and French for specific purposes (Rodgers & Chambers, 2011). Here we present the results of a study focusing on the direct use of a small, specialised corpus by a group of 12 international engineering students enrolled on a professional writing course for advanced learners of French as a foreign language (target level: B2-C1). The study aimed to determine whether guided observation of corpus data could help these students better understand recurrent language errors in their first drafts of technical specification documents, in French called ‘Cahier des Clauses Techniques Particulières’ (CCTP). We chose 14 CCTP samples to create a corpus accessible via Sketch Engine (Kilgarriff et al., 2014). In this corpus, we identified linguistic features corresponding to the professional communication skills targeted (see Table 1). The observed errors mainly correspond to these features.

Table 1. Professional communication skills and linguistic features

Professional communication skills	Linguistic features
Be neutral and objective	Passive voice and noun adjective verb agreement
Avoid mentioning agents	Impersonal structures or pronouns
Mention norms and standards	Verbs (‘inform’, ‘prescribe’, ‘schedule’, ‘contain’)
Describe or specify	Demonstrative pronouns (celui, celle, ceux/celui-ci, celle-ci, ceux-ci, celles-ci) [the one, those/this one, these]



During the course, the participants completed worksheets containing activities partly inspired by their own errors, and they answered two online questionnaires. The data obtained inform about the learners' progress and remaining needs. We conclude from this study that the specialised CCTP corpus offers enough data to support students who have to write a pedagogical version of a CCTP. However, more training time is needed to better explain to them the technical features of Sketch Engine. They also need to learn how to notice linguistic features and report their findings.

To boost the DDL L2 French sector, we recommend choosing a user-friendly corpus tool and concentrating on learning issues. The content of the corpus must correspond to the writing task and the query activities should focus on the observed learning needs.

### **3. DDL for German: available resources, learning outcomes, and future directions**

The subfield of DDL for German, like the broader DDL field, can be divided into pedagogical materials, classroom reports, and empirical research. The subfield's origins go back to the turn of the 21st century (e.g. [Dodd, 2000](#); [St. John, 2001](#)). In the most recent synthesis of DDL research, Boulton and Vyatkina (forthcoming) identify 14 empirical studies that explored the effectiveness of DDL for teaching German. Like most DDL research (ca. 90% of which has been dedicated to teaching English), studies on DDL for German primarily focus on university contexts and DDL interventions developed and administered by the researchers themselves. They report improved learner knowledge of German lexico-grammar and pragmatics as well as writing, translation, and interpreting skills and favourable learner attitudes. The geographic coverage of these studies is encouragingly broad, including seven countries and three continents, which attests to the generalizability of the findings. While more studies are needed in university contexts, promising future directions could also include an expansion of DDL for German to primary and secondary schools.

A unique feature of the German subfield is the availability of several large, well-designed, sustainable, and open-access corpora. The missing link between these rich resources and a broader German-learning and German-teaching population is teacher and learner DDL guides, written in accessible language and tethered to specific corpora. One such guide to using the DWDS corpus (<http://dwds.de>) and associated DDL exercises currently are being developed and gradually released

with open access at the University of Kansas (Vyatkina, 2020b). It is hoped that other DDL researchers can use this resource as a model for “bringing corpora to the masses” (Boulton, 2011, p. 69) in DDL for German and beyond.

#### **4. DDL for Italian: studies, practices, and future prospects**

The studies on DDL for Italian cover a time span of at least 27 years. A solid starting point can be traced back to 1993, when Polezzi published her pioneering work in ReCALL. Polezzi (1993) showed how a corpus of Italian for specific purposes could be built and used with beginner learners of Italian enrolled in a postgraduate course in Renaissance Studies. She supported the idea of a *didactic language corpus*, identifying the characteristics that would make such a corpus suitable for specific language learning needs.

Since then, the studies on DDL for Italian have risen steadily but not steeply. To the best of our knowledge, they are no more than 20 in total, consisting mostly of descriptive studies (e.g. Corino & Marelllo, 2009), and with still very few empirical studies (e.g. Forti, 2019).

The pedagogical practices adopted in the context of DDL for Italian have been closely linked to the characteristics of available corpora. While freely accessible reference corpora of Italian are available, they were primarily built by researchers for researchers. As a result, their pedagogical potential is generally restricted to the development of paper-based materials and to advanced-level learners. The first learner-friendly corpus exploration tool for Italian was developed very recently, within the SkELL platform (Baisa & Suchomel, 2014).

Bridging the teacher-researcher gap (Chambers, 2019) is one of the main challenges that DDL for Italian faces today. Integrating corpora in teacher training programmes, publishing teacher guides and developing more learner-friendly corpus exploration tools are ways to help bridge this gap.

#### **5. DDL for Spanish: attitudes and tasks in the use of corpora**

DDL did not have a name in Spanish until fairly recently. Two terms were coined (*aprendizaje basado en datos* and *aprendizaje guiado por datos*). The field adopted

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the former, likely thanks to the seminal article by [Asención-Delaney et al. \(2015\)](#), which reported the profusion of pedagogical articles and the shortage of empirical studies. Since then, the field has experienced a steady growth of empirical research in DDL with both native and learner corpora as sources ([Benavides, 2015](#); [Yao, 2019](#)).

In terms of resources, there are vast open-access native corpora, such as Corpus del Español (BYU) or CORPES XXI, and also important learner corpora (such as CAES, Aprescrilov, CEDEL 2). Among the numerous pedagogical articles, the scope of learning targets has widened from lexico-grammar to pragmatics, discourse features and pronunciation (using oral corpora), and varieties of Spanish. Corpus-based tasks can also be found in recently published textbooks (e.g. *Aula Internacional 4*, *Prisma C2*), which is helping to spread DDL among practitioners and learners.

Despite this growth spurt, DDL is very far from being normalised in Spanish as a foreign language teaching practice. One main challenge lies in changing teachers' attitudes towards corpus use by training programmes and by integrating corpus use in the syllabus. As in other LOTEs, most Spanish teachers do not seem to be aware of the benefits of using corpora in language teaching. In addition, there is a need for ready-made materials and “online corpus user guides for teachers and exercises integrated with specific corpora” ([Vyatkina, 2020a](#), p. 364) that can inspire teachers to develop their own corpora.

## 6. Conclusions

This brief overview on DDL research for LOTEs revealed that DDL has effectively been used for teaching the languages considered. Challenges to DDL often centre around availability of appropriate corpora and tools for practitioners. The paper concentrated on a handful of European languages. Further reviews should explore developments of DDL within a wider geographical scope, including, for example, Arabic, Mandarin, and Russian.

## References

- Asención-Delaney, Y., Collentine, J. G., Collentine, K., Colmenares, J., & Plonsky, L. (2015). El potencial de la enseñanza del vocabulario basada en corpus: optimismo con precaución. *Journal of Spanish Language Teaching*, 2(2), 140-151. <https://doi.org/10.1080/23247797.2015.1105516>
-

- Baisa, V., & Suchomel, V. (2014). SkELL: web interface for English language learning. In A. Horák & P. Rychlý (Eds), *Proceedings of Recent Advances in Slavonic Natural Language Processing* (pp. 63-70). <https://nlp.fi.muni.cz/raslan/raslan14.pdf>
- Benavides, C. (2015). Using a corpus in a 300-level Spanish grammar course. *Foreign Language Annals*, 48(2), 218-235.
- Boulton, A. (2011). Bringing corpora to the masses: free and easy tools for interdisciplinary language studies. In N. Kübler (Ed.), *Corpora, language, teaching, and resources* (pp. 69-96). Peter Lang.
- Boulton, A., & Vyatkina, N. (forthcoming). Thirty years of data-driven learning: taking stock and charting new directions [Manuscript submitted for publication].
- Chambers, A. (2019). Towards the corpus revolution? Bridging the research–practice gap. *Language Teaching*, 52(4), 460-475. <https://doi.org/10.1017/S0261444819000089>
- Corino, E., & Marello, C. (2009). Didattica con i corpora di italiano per stranieri. *Italiano LinguaDue*, 1(1), 279-285.
- Di Vito, S. (2013). L'utilisation des corpus dans l'analyse linguistique et dans l'apprentissage du FLE. *Linx*, 68-69, 159-176. <https://doi.org/10.4000/linx.1519>
- Dodd, B. (2000). *Working with German corpora*. University of Birmingham Press.
- Dubois, M., Kamber, A., & Dekens, C. S. (2013). Être et avoir été: l'accord du participe passé par des apprenants de FLE. *Linx*, 68-69, 115-133. <https://doi.org/10.4000/linx.1504>
- Forti, L. (2019). *Developing phraseological competence in Italian L2: a study on the effects of data-driven learning*. Unpublished PhD thesis. Università per Stranieri di Perugia.
- Jacques, M.-P., & Rinck, F. (2017). Un « corpus de littéracie avancée : résultat et point de départ. *Corpus*, 16. <https://doi.org/10.4000/corpus.2806>
- Kilgarrieff, A., Baisa, V., Bušta, J., Jakubiček, M., Kovář, V., Michelfeit, J., Rychlý, P., & Suchomel, V. (2014). The Sketch Engine: ten years on. *Lexicography*, 1(1), 7-36. <https://doi.org/10.1007/s40607-014-0009-9>
- Polezzi, L. (1993). Concordancing and the teaching of ab initio Italian language for specific purposes. *ReCALL*, 5(9), 14-18. <https://doi.org/10.1017/s0958344000004067>
- Rodgers, O., & Chambers, A. (2011). Corpora in the LSP classroom: a learner-centred corpus of French for biotechnologists. *International Journal of Corpus Linguistics*, 16(3), 391-411. <https://doi.org/10.1075/ijcl.16.3.06rod>
- St. John, E. (2001). A case for using a parallel corpus and concordancer for beginners of a foreign language. *Language Learning & Technology*, 5(3), 185-203.
- Vyatkina, N. (2020a). Corpora as open educational resources for language teaching. *Foreign Language Annals*, 53(2), 359-370. <https://doi.org/10.1111/flan.12464>
- Vyatkina, N. (2020b). (Ed.). Incorporating corpora: using corpora to teach German to English-speaking learners [Online instructional materials]. KU Open Language Resource Center. <https://corpora.ku.edu>
- Yao, G. (2019). Vocabulary learning through data-driven learning in the context of Spanish as a foreign language. *Research in Corpus Linguistics*, 7, 18-46. <https://doi.org/10.32714/ricl.07.02>

# When international avatars meet – intercultural language learning in virtual reality exchange

Kristi Jauregi Ondarra<sup>1</sup>, Alice Gruber<sup>2</sup>, and Silvia Canto<sup>3</sup>

**Abstract.** Virtual exchange projects have become an effective pedagogical method to support students' development of intercultural language competence. High-immersion experiences in Virtual Reality (VR) may offer an environment which is conducive to developing such competence. This paper reports on a pilot study carried out with two groups of university students (N=30) in the Netherlands and Germany. The students, involved in a virtual exchange using VR headsets, completed three tasks collaboratively. The aim of the study was to investigate participants' perception regarding (1) their collaboration with foreign peers within the VR setting and (2) the perceived usefulness of the tool. The researchers employed questionnaires and conducted interviews and focus groups. The audio recording transcripts from the VR encounters and students' reflective journals provide further data to triangulate the results. This pilot study provides first results with regard to virtual exchanges carried out in high-immersion VR.

**Keywords:** virtual exchange, virtual reality, English as a lingua franca.

## 1. Introduction

In this study we report on the preliminary results from a VR experience that took place in February and March 2020 between Dutch and German students. Two types of VR headsets were employed (Oculus Go and Oculus Quest). Both are head-mounted devices and enable high-immersion VR, which can be defined as “a computer-generated 360° virtual space that can be perceived as being spatially realistic, due to the high immersion afforded by a head-mounted device”

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1. Utrecht University, Utrecht, the Netherlands; k.jauregi@uu.nl; <https://orcid.org/0000-0002-9096-9450>

2. Heilbronn University of Applied Sciences, Heilbronn, Germany; [alice.gruber@hs-heilbronn.de](mailto:alice.gruber@hs-heilbronn.de); <https://orcid.org/0000-0003-1558-673X>

3. Utrecht University, Utrecht, the Netherlands; s.canto@uu.nl; <https://orcid.org/0000-0003-4044-2439>

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(Kaplan-Rakowski & Gruber, 2019, p. 552). Users feeling highly immersed in the experience may have a temporary suspension of disbelief that they are inside in the VR environment (Dede, 2009), which is the base for intense physical and psychological responses (Li, Legault, Klippel, & Zhao, 2020). It was hypothesized that communicating in a 360° real-life like environment with students from another country would have a positive impact on the students' (foreign language speaking) experience. Apart from gauging students' perceptions on the experience as a whole, we also tried to establish the perceived usefulness of VR for virtual exchange projects.

## 2. Method

The students from Utrecht University were on the course *ICT<sup>a</sup> and language education*, where this VR experience was integrated. Half of the students participated in the virtual exchanges, while the other half was asked to explore the pedagogical opportunities of VR for language teaching. The students from Heilbronn were volunteers. Participants were grouped mostly in dyads. The students arranged the meetings at their convenience. To prepare the students for the virtual exchange, manuals and video tutorials on how to use the Oculus headset were provided.

The sessions were conveyed using English as a lingua franca. Students received detailed task descriptions and the tasks themselves were performed outside classroom hours. The three interaction tasks reported here were carried out in Bigscreen.

Bigscreen is a popular non-gaming VR application that enables people to collaborate and communicate in a virtual environment (see [Figure 1](#) below). In order to use it, a stable Internet connection and a VR headset are needed. Users, represented as avatars which they can customize, can socialize with other users in a variety of virtual locations they can choose from.

In order to be prepared for all interactions, participants were advised to follow the corresponding pre-task guidelines. In Task 1, students were asked to introduce themselves and exchange information about what they knew about the other culture and the views they had. Task 2 required watching a 360° film and discussing the value of cultures in a globalized world, by exchanging impressions about the film with their partner and information about personal experiences with other cultures.

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4. Information and Communication Technology

Task 3 was created by the Dutch participants and every group designed a different task: a virtual city tour, cultural exchange, or Pictionary game.

Figure 1. Bigscreen app ([www.bigscreenvr.com](http://www.bigscreenvr.com))



Sessions were recorded by participants. A survey was administered before the exchange about participants' background information. After the completion of each task, students were also asked to fill in a questionnaire as well as a reflection diary with their impressions for the task. Information was also gathered from focus groups organized at Utrecht University and personal interviews at Heilbronn University after the virtual exchange had finished.

The results presented in this paper are based on the analysis of focus group responses and interviews conducted with the Dutch and the German students respectively, as well as their reflective journal entries. Participants were asked what they had learned from the experience, what they liked or disliked, how the VR environment might have influenced how they felt or the way they communicated, how they felt about speaking to an avatar in the VR environment, and whether they would recommend this kind of project to other university students.



### 3. Results and discussion

Preliminary analysis of the perceived usefulness of VR and collaboration with peers abroad suggests that the participants enjoyed communicating with peers in a VR setting, although the degree of enjoyment varied. In general, participants perceived the meetings on the VR communication platform as informal and enjoyable, and described the experience as sociable, easy-going, pleasant, and entertaining. One participant felt that “overall, the relaxed settings, like a fireplace or forest contribute to a good atmosphere”. Another participant suggested that “I think the room we were in also played a part that helped to feel comfortable” and another stated that the environment gives you some security because you feel more like you are talking to someone in the same room.

When asked what they had learned from this experience, the Dutch students, who mostly studied pedagogy, reported to have gained initial knowledge about how VR works and its pedagogical possibilities and how to apply it in education. One participant stated: “I loved the experience, I’ve never done anything like this, really cool being totally immersed”. Other participants were critical, though. Participants in both countries reported feeling dizzy, even out of balance when carrying out the tasks standing or because the headset was heavy. Most students liked the high-immersion being experienced, but found it inconvenient that they could not access the task specifications or own notes in the VR environment nor look up words on the Internet they did not know in English. They had to take off the VR headset to be able to access their laptop, whereby the immersion experience was lost. There were additional limitations on the app being used. Students liked the privacy within their rooms, which only invited people could access, or the diversity of room options in Bigscreen. However, once being in a room, there were no possibilities to undertake action (move around or interact with objects), which was felt as an important limitation. Some students managed to upload games or files from their laptops into the screen they shared in the given room in Bigscreen. Nonetheless, most of them experienced technical difficulties to do so. When asked whether they would recommend this pedagogical experience to other students, they agreed they would, since: “It’s very different from what you normally do. You don’t often have this opportunity”. Novelty might be experienced here as a motivating factor.

Students in the VR app Bigscreen were represented by a human avatar of their choice. In general, most students reported that they liked using avatars. The avatars moved their lips, which, according to one participant, made it feel more real. Another participant appreciated the fact that “you could look at each other while talking or listening, showing signs of attentive listening and interest in each

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other's points". The VR environment and the avatars seem to have contributed to students feeling comfortable within the setting. According to one student, "you feel that the situation is more real and you speak more naturally because no one is looking directly at your face and they don't notice if you turn green or red. You feel more confident to talk and debate a problem or counter an idea". Similarly, another student stated that "I do think the environment contributed for us to feel more confident speaking to each other". With regard to speaking English in the VR setting, one participant commented that they "really enjoyed speaking English and breaking down the communication barrier. When I speak English I get very nervous, especially when I speak in person, face to face". These statements on the settings and their communication indicate that due to the environment, students' affective filters (Dulay & Burt, 1977) may have been lowered because of the non-threatening settings and the avatars and had a positive effect on their foreign language anxiety (Horwitz, Horwitz, & Cope, 1986).

#### 4. Conclusions

The preliminary results of the present virtual exchange project using high-immersion VR seem to indicate that, in addition to providing a motivational boost, the VR environment can contribute to lowering foreign language anxiety when students interact in English as a lingua franca, and in so doing facilitate the communication flow and language learning.

#### References

- Dede, C. (2009). Immersive interfaces for engagement and learning. *Science*, 323(5910), 66-69. <https://doi.org/10.1126/science.1167311>
- Dulay, H., & Burt, M. (1977). Remarks on creativity in language acquisition. In M. Burt, H. Dulay & M. Finocchiaro (Eds), *Viewpoints on English as a second language* (pp. 95-126). Regents.
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *Modern Language Journal*, 70(2), 125-132. <https://doi.org/10.1111/j.1540-4781.1986.tb05256.x>
- Kaplan-Rakowski, R., & Gruber, A. (2019). Low-immersion versus high-immersion virtual reality: definitions, classification, and examples with a foreign language focus. In *Proceedings of the Innovation in Language Learning International Conference 2019. Florence, Italy: Pixel*.
- Li, P., Legault, J., Klippel, A., & Zhao, J. (2020). Virtual reality for student learning: understanding individual differences. *Human Behaviour and Brain*, 1(1), 28-36. <https://doi.org/10.37716/hbab.2020010105>

# Exploring marginalised communities with online student portfolios using Google Drive and TEDx Talks

Kym Jolley<sup>1</sup> and Mario Perez<sup>2</sup>

**Abstract.** Two university writing classes (N=49) in Japan completed three writing tasks that focused on marginalised communities utilising Google Drive and TEDxKyoto Talks as part of a writing portfolio assessment. Participants also completed a voluntary reflective survey. The reflective survey results indicated that students demonstrated an increased awareness of the communities discussed and a desire to undertake further similar exercises. Furthermore, the portfolio responses indicated that the students were capable of tackling complex topics effectively in the L2 writing classroom when combining TEDx Talks with Google Drive. This indicates that tasks which focus on issues of social importance utilising Computer Assisted Language Learning (CALL) inside the English as a Foreign Language (EFL) writing classroom can be both pedagogically and socially meaningful.

**Keywords:** Google Drive, Google Docs, marginalised communities, TEDx Talks, unstructured writing.

## 1. Introduction

Building upon a pilot study by Perez (2018), three writing tasks were completed utilising Google Drive and TEDx Talks as part of an unstructured writing portfolio assessment for Science, Technology, Engineering, and Mathematics (STEM) majors in Japan. The tasks aimed to increase content diversity in the L2 writing classroom by focusing on three marginalised communities: multiracial Japanese, Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ), and women.

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1. Kwansei Gakuin University, Kobe, Japan; kymjolley@kwansei.ac.jp; <https://orcid.org/0000-0002-9320-9297>

2. Kobe Shoin Women's University, Kobe, Japan; mperez@shoin.ac.jp; <https://orcid.org/0000-0002-0347-3650>

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Such activities may be viewed as advantageous when we consider Geuna and Shibayama's (2015) observation of marginal female representation within STEM disciplines in Japan, in which women comprised 31% of bachelor graduates and 25% of PhD graduates. Similarly, EFL resources continue to favour heteronormativity (Erlman, 2020) and Japan's multiracial populace only represents a small fraction of the overall population (Törngren & Sato, 2019).

## 2. Method

### 2.1. Participants

Two EFL writing classes consisting of lower-intermediate to intermediate-level second-year university students (N=49; Class A=24, Class B=25) majoring in STEM disciplines in Japan completed three portfolio writing tasks. Before undertaking these tasks, signed consent was obtained from the students that collected data may be used for research.

### 2.2. Instruments

The following instruments were utilised.

#### 2.2.1. TEDx Talks

Three TEDxKyoto Talks were selected to provide country-specific content: Megumi Nishikura: *Explorations into being hafu*<sup>3</sup>; Patrick Linehan: *Embracing Different*<sup>4</sup>; and Ikumi Yoshimatsu: *Fighting for new laws to protect women in Japan*<sup>5</sup>.

#### 2.2.2. Writing prompts

- Consider Nishikura Megumi's TED Talk. She says that multiracial people in Japan face a lot of discrimination. Do you think her depiction of the struggles multiracial people face in Japan is accurate or exaggerated? Why?

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3. <http://www.ted-ja.com/2014/08/explorations-into-being-hafu--megumi-nishikura-at-tedxkyoto.html>

4. <http://www.ted-ja.com/2014/03/embracing-different--patrick-linehan-at-tedxkyoto-2013.html>

5. <http://www.tedxkyoto.com/en/events/tedxkyoto-2015/fighting-for-new-laws-to-protect-women-in-japan-ikumi-yoshimatsu-tedxkyoto>

- Patrick Linehan briefly describes the discrimination he experienced throughout his life for being gay. Think about LGBTQ people in Japan. What kinds of discrimination do they experience? What do you think their situation will be like 20 years from now?
- In this TEDx Talk, Yoshimatsu Ikumi discusses various forms of harassment that women face in Japan. She explains that this is not uncommon for women all over Japan. Do you think harassment of women is likely to decrease in the near future? Why – OR – why not?

### 2.2.3. *Reflective survey*

Using Google Forms, volunteers answered four 6-point Likert scale (6 strongly agree ~ 1 strongly disagree) items (see [Table 1](#)). A descriptive statistical analysis of the results was conducted using the analytical software SPSS 25.

## 2.3. Procedure

A Google Doc for each student was created by the instructor in Google Drive. The document was then shared with the appropriate student.

Students viewed a TEDx Talk with subtitles (or translation) every other week using individual laptops in the classroom. Next, they had five minutes for planning on a worksheet containing the writing prompt, in Japanese or English. Fifteen minutes was then allotted in class to type responses in the Google Doc portfolios, where the instructor had also added the prompt. Students were instructed that any structure or opinion was acceptable, but they should adhere to class formatting rules. They were then able to refine the writing outside of class, up to 200-250 words.

Finally, those who were willing (N=47) answered the anonymous reflective survey in class once the activities had concluded.

## 2.4. Data analysis

To explore how well students completed the tasks, their responses were analysed for one of two main opinions based upon the writing prompt. An overall total for both classes (N) was calculated along with individual class totals (A and B). Responses that did not clearly answer the writing prompt were marked as ‘unclear’ and no further analysis was undertaken. Next, the rationalisations for each main opinion were coded into the major recurrent themes across both classes.

Descriptive statistics from the reflective survey were analysed to ascertain reception of the activities and whether students believed they had gained any insight during the tasks.

### 3. Results and discussion

Results indicated that a large majority of students were able to complete the writing tasks appropriately, drawing upon both the TEDx Talks and their own knowledge. However, the topic about multiracial Japanese produced the largest number of unclear responses (N=8), perhaps indicating that further activity development could be beneficial in this area. Interestingly, both sides of this topic were supported with anecdotal personal experience as support.

Students answered most uniformly and with the least amount of unclear responses (N=1) in regard to their belief that positive change would come to the LGBTQ community in Japan (N=42). The high-profile coverage that LGBTQ issues had recently received, as well as on-campus events that focused highly on LGBTQ issues may have influenced this result (Perez & Jolley, 2020).

Only three students responded unclearly for the Yoshimatsu (women) writing prompt, with 27 students indicating a belief that harassment of women would decrease in the future. However, Class A, with a larger male population (F=4, M=20), demonstrated more support for this notion than Class B, which had greater gender diversity (F=14, M=11). This is interesting when understood against the backdrop of the 2020 *Global Gender Gap Report* (Crotti, Geiger, Ratcheva, & Zahidi, 2020), which ranked Japan 121st out of 153 surveyed nations, perhaps indicating that the male populace might not fully grasp the struggles women face.

It is posited that using the country-specific content provided by TEDxKyoto Talks facilitated greater understanding of the communities addressed, which aided in the high degree of task completion for these complex topics. Further, as Slavkov (2015) states, Google Drive affordances allow for effective management of activities for students and instructors alike. In particular, as observed by Nurmukhamedov and Kerimova (2017), the maintenance of writing portfolios by students can be improved significantly by using Google Drive. Accordingly, it also helped avoid problems related to forgotten work or absences during these portfolio activities.

Results show that students felt the portfolio work enabled them to learn more about social minorities (see Table 1). This corresponds with the students' survey answers

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after each task (Perez & Jolley, 2020) and is also reflected in some of their written responses:

“I had never thought about whether they feel bad by being mistaken as foreigners”.

“And, I have never thought about it before watching the video”.

“Because of watching TEDx Talk, I was able to understand the damage of women’s power harassment, sexual harassment, and rape”.

Furthermore, students felt positive about using TEDx Talks in conjunction with writing tasks and expressed interest in their use elsewhere, corresponding with Perez’s (2018) findings.

Table 1. Reflective survey

	N	Mean	Standard Deviation
By working on the fluency writing portfolio using TED Talks, I was able to learn more about social minorities in Japan, such as Nishikura, Linehan, and Yoshimatsu, and the struggles they face.	47	4.91	.905
I like using TED Talks as the basis for my fluency writings.	47	4.49	1.249
I would like to do assignments like these in other English classes.	47	4.38	1.243
This fluency writing portfolio helped me to develop my ability to write in English.	47	4.43	.903

## 4. Conclusions

This study demonstrates that TEDx Talks and Google Drive offer teachers an effective method of introducing writing activities that aim to increase content diversity within the classroom. Private unstructured writing portfolios further allow students a low-risk opportunity to express themselves on complex topics of social importance.

Students within this study, supported by Google Drive affordances, displayed an ability to complete their portfolios by drawing upon their knowledge and experiences from outside the classroom in collaboration with the content from the

TEDx Talks. However, further activity development is recommended to not only encourage greater critical thinking but to also practise other skills. Importantly, a majority of students were receptive to the activities in this study and the potential for other similarly focused tasks.

In the future, it would be interesting to see insights gained from larger cohorts and faculties as well as international locations.

## References

- Crotti, R., Geiger, T., Ratcheva, V., & Zahidi, S. (2020). *The global gender gap report 2020*. World Economic Forum. [http://www3.weforum.org/docs/WEF\\_GGGR\\_2020.pdf](http://www3.weforum.org/docs/WEF_GGGR_2020.pdf)
- Erlman, A. R. (2020). Understanding heteronormativity in ELT textbooks: a practical taxonomy. *ELT Journal*, 74(2), 116-125. <https://doi.org/10.1093/elt/ccz058>
- Geuna, A., & Shibayama, S. (2015). *Gender gap in science in Japan*. Economic Association Website. [http://www.siecon.org/online/wp-content/uploads/2014/10/RSA-2015\\_Geuna1.pdf](http://www.siecon.org/online/wp-content/uploads/2014/10/RSA-2015_Geuna1.pdf)
- Nurmukhamedov, U., & Kerimova, I. (2017). Google Docs: writing practices and potential use in ESL/EFL environments. In P. Hubbard & S. Ioannou-Georgiou (Eds), *Teaching English reflectively with technology* (pp. 207-219). [https://members.iatefl.org/downloads/sigs/LTSIG\\_ebook.pdf#page=208](https://members.iatefl.org/downloads/sigs/LTSIG_ebook.pdf#page=208)
- Perez, M. (2018, November 24). *Instructing on the importance of inclusion* [Conference session]. In *JALT 44th Annual International Conference on Language Teaching: Diversity & Inclusion, Shizuoka, Japan*.
- Perez, M., & Jolley, K. (2020, January). Increasing awareness of marginalized communities with unstructured writing tasks and TEDx Talks. In S. Nomnian & K. Sakulprasertsri (Eds), *THAITESOL Conference Proceedings 2020: Harmony in Diversity: ELT in Transcultural Society* (pp. 211-222). <https://www.thailandtesol.org/upload/pdf/1592280069.pdf>
- Slavkov, N. (2015). Sociocultural theory, the L2 writing process, and Google Drive: strange bedfellows? *TESL Canada Journal*, 32(2), 80-94.
- Törngren, S. O., & Sato, Y. (2019). Beyond being either-or: identification of multiracial and multiethnic Japanese. *Journal of Ethnic and Migration Studies*. <https://doi.org/10.1080/1369183X.2019.1654155>

# Individual versus collective digital storytelling in EFL education in terms of student perceptions

Naoko Kasami<sup>1</sup>

**Abstract.** The purpose of this study was to explore students' perceptions of individual and collective Digital Storytelling (DS). All participants were non-English major students in Japan. The study goal of the course was to acquire skills and knowledge to present ideas and messages effectively in English with the use of information communications and technology. Students in this study completed a single DS assignment under one of two different conditions; students adhering to the first condition created a digital story individually, whereas students who adhered to the second condition created a digital story collectively, in pairs or groups of three. While the analysis of the post assignment questionnaire showed that more than 90% of students under both conditions perceived the assignment positively, there are also some implications to consider for improving each approach.

**Keywords:** digital storytelling, individual digital storytelling, collective digital storytelling, non-English major students.

## 1. Introduction

Numerous researchers have studied the effectiveness of individual and pair/group writing (Strobl, 2014; Wigglesworth & Storch, 2009). Additionally, the effectiveness of DS in foreign language education has also been studied. A study by Castañeda (2013) indicated that DS projects give students the opportunity to write and present their stories to their audience, and allow students to engage other students in meaningful real-world tasks in the foreign language classroom. Nevertheless, while some studies have already been undertaken regarding DS

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1. J. F. Oberlin University, Tokyo, Japan; naoko.kasami@gmail.com; <https://orcid.org/0000-0002-3775-6827>

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conducted individually and collectively, only a few studies have focused on the influence of learner grouping patterns on students' autonomous language learning through DS activities (Liu, Huang, & Xu, 2018, p. 1010). Liu et al. (2018) examined the effect of learner grouping patterns on learning outcomes, such as knowledge achievement, autonomy in language learning, and emotional experience at an elementary school in Taiwan.

This article reports an investigative study of non-English major students' perceptions of individual and collective DS in English as a Foreign Language (EFL) courses in Japan. All students in this study were supposed to create digital stories about their student life which let people in other countries amicably understand them. These digital stories were created under one of two different conditions; each student adhering to the first condition created a digital story individually, students who adhered to the second condition created a collective DS in pairs or groups of three. Every student in either condition was encouraged to support each other and to conduct peer reviews.

## **2. Method**

### **2.1. Participants**

All participants were non-English major, university students from three different departments in a Japanese university. They enrolled in two elective English courses: Course A and Course B. The syllabus of the two courses was the same. Each student was supposed to present a final assignment showcasing his or her student life and culture to people in other cultures as imaginary audiences using DS. The number of registered students was 30 per course. Among them only those who voluntarily answered both mid-term and post questionnaires and participated in this research were chosen as the target of the analysis. Under these conditions, the target audience for analysis became 23 students from Course A, and 26 students from Course B.

In the mid-term questionnaire, students were asked whether they preferred to work individually or collectively for the final assignment of the course. In Course A, 65% of the students preferred an individual assignment. On the other hand, in Course B, 65% of the students preferred a collective assignment. According to the majority vote, as a final assignment, in Course A, students were required to do an individual DS assignment, and in Course B, students did the collective DS assignment.

## 2.2. Data collection and analysis

The data collection was conducted in a similar manner to that outlined in this researcher's previous study (Kasami, 2017), with new data collected from the courses held in the Autumn term of 2019. The mid-term questionnaire was conducted in Weeks 6-7 and the post questionnaire in the last week (Week 15) of the course in January, 2020.

The data analysed in this paper consists of responses to the post questionnaire, containing the following questions:

- RQ1: do you think that the individual DS assignment was good? (Group A); do you think the collective DS assignment was good? (Group B)
- RQ2: why do you think so?
- RQ3: how could the problems and difficulties of each DS style be improved for future courses?

For RQ1, the students were asked to indicate their degree of agreement on a 5-point Likert scale (1-Strongly Negative, 2-Negative, 3-Neutral, 4-Positive, 5-Strongly Positive).

## 3. Results

For RQ1, more than 90% of the class answered positively in both the individual and collective DS group (see Figure 1). For RQ2, there were 17 positive comments and two negative comments in the individual DS group, while there were 26 positive comments in the collective DS group (see Figure 2). As concerns the individual DS group, ten students oriented positively to the task because they appreciated being able to create the DS at their own pace and being able to concentrate on the task without having to worry about other's schedules and opinions. Six students mentioned that the individual DS assignment allowed them to show their individuality and express their unique ideas. The two negative responses concerned difficulties with English writing or editing a movie file.

In the collective DS, half of the 26 positive responses related to peer collaboration. Many students enjoyed helping each other in creating a DS by sharing ideas. There were no negative responses.

Figure 1. Students' overall assessment of the DS assignment

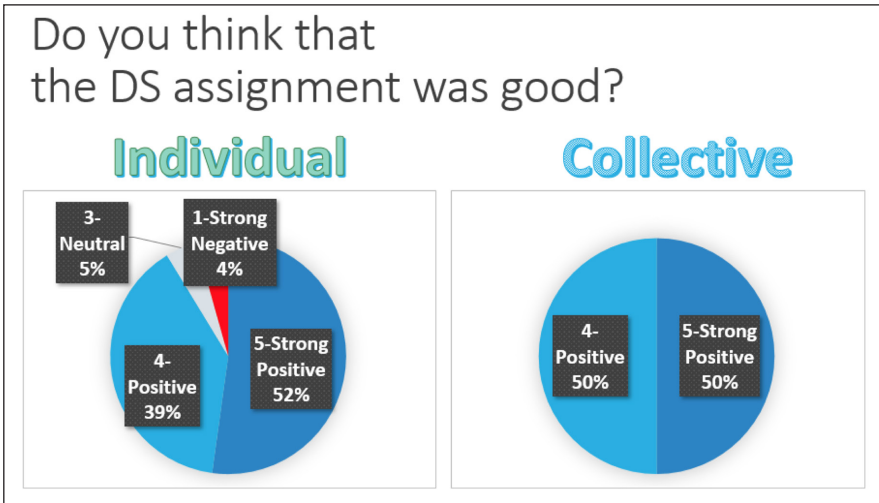
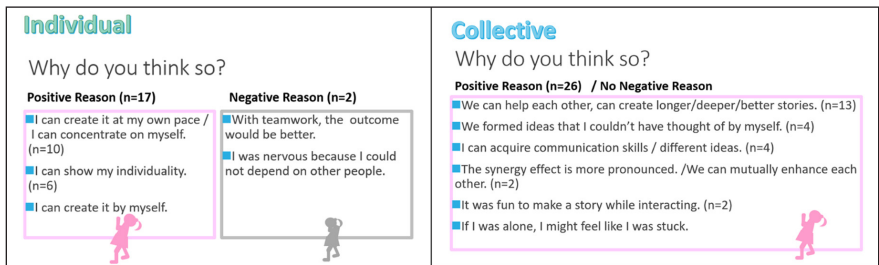


Figure 2. Students' reasons for why they regarded the DS positively or negatively

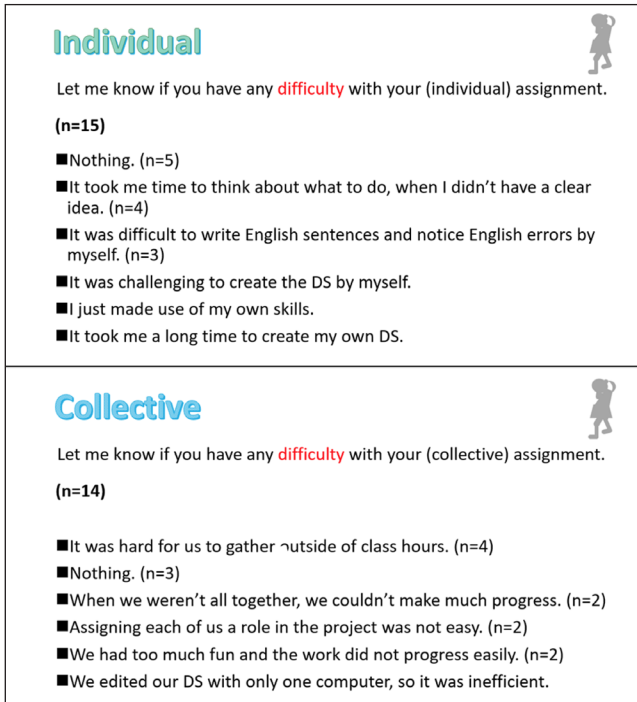


For RQ3, in the individual DS group, there were 15 responses which included five from students who answered 'Nothing'. Four students answered that it took time to solve problems by themselves without the help of others. Three students commented that writing English stories individually was difficult. For most students who felt confident in writing English and creating movie files, creating DS was a good challenge for their skills.

In the collective DS, there were 14 comments, including three where students answered 'Nothing'. Four students indicated that it was hard to get together for the assignment outside of the classroom because there were students from three different departments and their course schedules were different. There were also

students who pointed to difficulties collaborating when their partners were absent from the class and from external discussions, or due to limited computer resources for editing their work (Figure 3).

Figure 3. Difficulties of individual or collective DS



## 4. Discussion

The results of this analysis were found to be slightly different from previously reported studies. Liu et al. (2018) who studied elementary education classes in Taiwan reported that students working in groups outperformed those working individually in knowledge achievement, autonomy, and emotional experience in DS. Another study by Wigglesworth and Storch (2009) who studied traditional writing assignments found that pair writing was more effective than individual writing in terms of task fulfilment, grammatical accuracy, and complexity. In this current study involving non-English major students in Japan, some students preferred individual DS while others preferred collective DS and enjoyed the synergic effect

of collaborations. Some students who had clear ideas and sufficient writing and IT skills enjoyed creating their own individual DS by showing their individuality and views in their own style. Creating DS assignments requires writing, drafting, editing, revising, and presenting to an audience (Castañeda, 2013). As such, the process of conducting DS is more intensive and requires a more varied skillset than writing assignments. The results of this research do not suggest that group work is more productive than individual work. Rather, each approach seemed to have its respective advantages and disadvantages. Difficulties under each condition seem to depend on student preferences in terms of learning styles and the time they needed to invest in their work.

## 5. Conclusions

This study explored students' perceptions of individual or collective DS. The results showed that both individual and collective DS assignments displayed advantages and disadvantages. In this study, collective DS and individual DS were both perceived positively by students who wanted to develop things in their own time while showing their individuality.

There are limitations with this study that need to be addressed. The first limitation is that students in the two courses conducted only one specific type of DS respectively, and student experiences with the two types of DS are thus not directly comparable. Secondly, the dataset was small. Thirdly, some questions in the questionnaires were ambiguous.

Nevertheless, the study sheds new light on individual and collective DS assignments in terms of non-English major students' perceptions. Based on the findings, the following points highlight some pedagogical implications. For future courses, when individual DS is conducted, students may have difficulties with writing in English and using computers. Thus, sample English sentences and clear manual or video tutorials should be prepared for students who have difficulties with writing or who are less computer literate. When collective DS is used, each member should feel comfortable with his or her peer(s), and it is necessary to have effective project management and evaluation systems to clarify the contribution of each member.

## 6. Acknowledgements

I would like to thank Dr Julian Lewis for his advice on my paper.

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## References

- Castañeda, M. E. (2013). "I am proud that I did it and it's a piece of me": digital storytelling in the foreign language classroom. *CALICO Journal*, 30(1), 44-62. <https://doi.org/10.11139/cj.30.1.44-62>
- Kasami, N. (2017). The comparison of the impact of storytelling and digital storytelling assignments on students' motivations for learning. In K. Borthwick, L. Bradley & S. Thouésny (Eds), *CALL in a climate of change: adapting to turbulent global conditions – short papers from EUROCALL 2017* (pp. 177-183). Research-publishing.net. <https://doi.org/10.14705/rpnet.2017.eurocall2017.709>
- Liu, M., Huang, Y., & Xu, Y. (2018). Effects of individual versus group work on learner autonomy and emotion in digital storytelling. *Education Technology Research and Development*, 66, 1009-1028. <https://doi.org/10.1007/s11423-018-9601-2>
- Strobl, C. (2014). Affordances of web 2.0 technologies for collaborative advanced writing in a foreign language. *CALICO Journal*, 31(1), 1-18. <https://doi.org/10.11139/cj.31.1.1-18>
- Wigglesworth, G., & Storch, N. (2009). Pair versus individual writing: effects on fluency, complexity and accuracy. *Language Testing*, 26(3), 445-466. <https://doi.org/10.1177/0265532209104670>

# “There’s no other way when nothing comes to mind”: Internet use in L2 writing classes

Olivia Kennedy<sup>1</sup> and Sandra Healy<sup>2</sup>

**Abstract.** Technology is changing traditional views of language teaching and learning, with generational and cultural differences influencing the ways that we interact with it. This paper describes an action research project undertaken at a university in Japan to understand how students use the Internet to prepare written assignments in L2, and the students’ and their instructors’ reactions towards this usage. Classroom observation and technology usage logs revealed that students use websites and applications to gather ideas at the start of the writing process, rather than coming up with ideas themselves. Thematic analysis of student journal entries suggests that many students disregarded the brainstorming method that they had been taught due to a lack of confidence either in their ideas or in their linguistic competence. Students did not identify this behaviour as dishonest, unlike 70% of the instructors interviewed. This mismatch in student and instructor views may lead to missed learning opportunities for the L2 writer.

**Keywords:** technological tools, academic writing, L2 writing, plagiarism.

## 1. Introduction

Defined by Bugeja (2004) as “stealing or closely imitating another’s written, creative, electronic, photographed, taped, or promotional or research work, identifying it as your own without permission or authorization” (p. 37), plagiarism has been identified by many universities as unacceptable behaviour. Students in the second language (L2) writing skills programme discussed here are unsure about what constitutes academic dishonesty, however. Their instructors also have

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1. Nagahama Institute of Bioscience and Technology, Shiga, Japan; olivia\_1\_kennedy@yahoo.com; <https://orcid.org/0000-0003-0144-2516>

2. Kyoto Institute of Technology, Kyoto, Japan; healy@kit.ac.jp; <https://orcid.org/0000-0003-4387-259X>

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varying opinions about how much unreferenced source material is acceptable for students to use. Of particular concern is the gap between how instructors expect students to undertake assigned tasks and the ways in which students use the Internet to gather information to do so. A year-long action research project was undertaken to explore the student participants’ use of websites and applications to gather ideas at the start of the writing process, and the students’ and their instructors’ reactions to this use.

## **2. Method**

Two classes of 20 students taking a 30-week first year L2 writing course taught by the same instructor were selected for observation. The course covered the writing of single paragraphs, personal and business emails and letters, and finally academic essays, with familiar everyday topics and more complex abstract themes. Their Test of English for International Communication (TOEIC) scores averaged 570, approximately B1 on the Common European Framework of Reference (CEFR). While the study of English is compulsory in Japanese schools, the national curriculum does not address productive and receptive skills equally, meaning that the students have little previous experience writing in L2.

In this mixed methods study, several types of data were collected to shed light on student usage of technology for written assignments. In-class writing activities alternated week-by-week between two writing mediums: pencil-and-paper and the fold-away classroom laptop computers. Students were free to use their smartphones, irrespective of the writing medium assigned that session. Participants submitted a form logging the technology, websites, and applications that they used in each writing session. This data was combined with detailed participant observations undertaken by the instructor during in-class writing sessions, with analysis of directed reflective journal entries written by the students at home each week, and with instructor interviews conducted half-way through the course.

A total of ten instructors (including the instructor in charge of the student participants) teaching L2 writing courses in different departments across the university were interviewed individually. Each with at least a master’s level degree in Second Language Acquisition or Applied Linguistics, these lecturers were confident English users from a variety of countries, and have all published research papers in English. All participants, both students and instructors, gave informed consent, and internal ethics board requirements were met.



### 3. Results and discussion

In the first weeks of the course, students were explicitly taught how to organise their ideas using brainstorming and mind mapping. Students were shown how to do this in both writing mediums. However, only three of the 40 students observed over the 28 in-class writing sessions regularly started the process by brainstorming and mind mapping as they had been taught. 15 participants sometimes started with brainstorming, but the remaining 22 usually turned first to the written work of others from which to build an argument. Commonly, students first searched keywords about the assigned topic, and spent a few minutes reading about it, either on their smartphone or a classroom computer. As they read, the participants who were using computers copy-and-pasted sections of text into a newly created Microsoft Word file, and the participants using pencils and paper took notes of what they were reading. These notes were a combination of full English/Japanese sentences copied down from websites, notes in Japanese, and potentially useful English vocabulary. Both groups then set about incorporating the ideas that they had found into the structure that they had been instructed to practice, organising the information that they had gathered. Those using computers moved paragraphs around on their screens, and those using pencils drew circles, arrows, and numbers in their notebooks. In neither group did the students reference the materials or ideas they used.

Thematic analysis of the students' journal entries suggested that many of them disregarded the brainstorming method that they had been taught due to a lack of ideas ( $n=24$ ). Many students also mentioned a lack of confidence in their own ideas being of value ( $n=21$ ) or in their own ability to express those ideas ( $n=11$ ). Other students wrote about knowing little about the topic that they had been assigned ( $n=9$ ) or how to approach it. Some ( $n=6$ ) pointed to time as the reason: "I finish faster if I don't start from nothing". The most common theme that students wrote about, however, was the fact that they were allowed to use technology in the classroom writing sessions. Of the 29 participants who mentioned this, 12 explicitly stated that it meant that they did not need come up with ideas by themselves. One student pointed out that the few times that their high school teachers had asked them to write English compositions had been in class without dictionary or Internet support, and that the instructor of this course had implicitly encouraged the use of these tools by allowing them. A 2019 survey conducted by O'Neil that explored the use of search engines to support the writing of assessed tasks found that the proportion of American university learners of French and Spanish using this technology was even higher than in the study presented here, perhaps due to the limited use of technology in Japanese schools; in O'Neil's (2019) study, when asked if they used

websites to gather ideas for writing, 24.6% of participants reported sometimes, 29.5% usually, and 21% always.

Nine of the ten instructors interviewed for this project were surprised that students disregarded the brainstorming method, and many (n=7) identified the alternative method of coming up with ideas described in the first paragraph of this section as dishonest, with three raising the issue of plagiarism. Others suggested, however, that some of the techniques that the students went on to use as they organised their ideas and polished their sentences were beneficial for improving L2 writing. Pecorari (2016) defines patchwriting, summarising, copying phrases or parts of sentences, and copying whole sentences then changing words or phrases or the order of ideas as “non-deceptive textual plagiarism”. However, they are also methods through which learners can become more familiar with the language they are learning. The L2 writer does not mean to deceive, but rather simply to perform the task required of him/her. When specifically asked about these acts, eight of the instructors interviewed for the present study felt that these were helpful techniques for L2 writers.

When asked about plagiarism, half of the student participants wrote in their journals that it hurts the person whose work is copied. The possibility that plagiarism could remove chances to develop yourself or your skills was raised by 14 writers. Six students wrote about the loss of trust if plagiarism was discovered, and four warned against copying from potentially unreliable sources because of the potential to spread misinformation. This clear denunciation of plagiarism shows that participants were unaware that the method many of them used to come up with ideas could be considered as such.

## 4. Conclusions

A wealth of information on the Internet is merely a tap or click away, and the temptation to use it for academic writing proves hard to resist for first year university students lacking information and confidence. The normalisation of technology to the point at which it becomes invisible (Bax, 2011), combined with the ease of the copy-and-paste function can lead to students missing valuable learning opportunities if they are not given careful guidance. Additionally, it seems brainstorming is not viewed as a useful technique by learners. Further research is needed on this topic, as well as into ways to include technology in a way that enables originality of both thought and expression, while giving learners confidence in their abilities and improving their L2 writing skills.

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## References

- Bax, S. (2011). Normalisation revisited: the effectiveness of technology in language education. *International Journal of Computer-Assisted Language Learning and Teaching*, 1(2), 1-15. <https://doi.org/10.4018/ijcallt.2011040101>
- Bugeja, M. (2004). Don't let students "overlook" internet plagiarism. *The Education Digest*, 70(2), 37-43.
- O'Neill, E. M. (2019). Online translator, dictionary, and search engine use among L2 students. *CALL-EJ*, 20(1), 154-177.
- Pecorari, D. E. (2016). Writing from sources, plagiarism and textual borrowing. In R. M. Manchón & P. K. Matsuda (Eds), *Handbook of Second and Foreign Language Writing* (pp. 329-348). Walter De Gruyter. <https://doi.org/10.1515/9781614511335-018>

# Comparing pupils and teacher's reflections on iRead tablet-based literacy games in a German elementary school

Nancy Knorr<sup>1</sup> and Kay Berkling<sup>2</sup>

**Abstract.** iRead is an EU Project involving literacy games in Spanish, German, Greek, and English for L1 and L2 acquisition. Content is selected dynamically from a large database using linguistic rules based on the player profile. The teacher can view pupils' progress based on automated game sequences or assign games manually. This project strives to understand how teaching with new technology is incorporated into the classroom. The authors interviewed both teachers and children about their points of view and compared their answers at the end of the project. Results indicate that pupils had a much deeper understanding of their learning than was apparent from the teachers' point of view.

**Keywords:** serious games, literacy games, elementary educational games, self-evaluation, pupils' perspectives, technology appropriation.

## 1. Introduction

According to an EU study (European Commission, 2019) on Information and Communication Technology (ICT) use in schools, there is a large gap between the use of technology in German elementary schools compared to other school forms within Germany. 9% of German elementary schools are connected to the internet compared to 35% EU-wide. Germany has a lower share of strong policy and strong support<sup>3</sup> when compared to the EU average (European Commission, 2019). Previous work in educational games covers only partial aspects of our project,

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1. Karlsruhe University of Education, Karlsruhe, Germany; [nancy.knorr@gmx.de](mailto:nancy.knorr@gmx.de); <https://orcid.org/0000-0002-3279-5341>

2. Cooperative State University, Karlsruhe, Germany; [berkling@dhbw-karlsruhe.de](mailto:berkling@dhbw-karlsruhe.de); <https://orcid.org/0000-0003-1186-5678>

3. Defined by the EU as a school's external and internal support for digitalisation

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such as adaptivity (Jung et al., 2016), definitions (Breuer & Bente, 2010), second language acquisition (Järvinen, 2020), or teacher training (Gebele & Kaleta, 2019).

As part of the iRead EU Horizon Project<sup>4</sup>, adaptive learning games (Navigo) for first and second language literacy games are deployed in German elementary schools. Content, such as grapheme-phoneme correspondence or syntax questions are presented through various game mechanics. Providing games based on the skill level of each pupil is efficient for personalized use in classrooms (Viertel, Ehrenspeck-Kolasa, & Spies, 2017). Navigo leads the player with adaptive content and is not in sync with classroom lessons. Its integration into classroom activities may therefore not be straightforward. Therefore, we are interested in looking at the use of adaptive literacy games in the German elementary classroom.

In our past work, we have shown that the games provide an effective learning experience (Berkling & Franken, 2019; Berkling & Kermes, 2020). This study looks at pupils' and teachers' beliefs and attitudes about the games. Comparing results from both studies, we uncovered discrepancies between academic improvement on the one hand and pupils' and teachers' beliefs about learning on the other.

## 2. Method and data collection

Researchers joined groups of five pupils for ten-week sessions playing one to two games in each session. We were interested in teachers' and pupils' beliefs about their learning. Teachers were interviewed before, during, and after the intervention, using the same questions as the pupils, who were interviewed after two weeks. For data protection reasons, pupils' answers were noted down by the interviewer while teacher responses were recorded, transcribed, and quantified manually.

To study pupils' acceptance of the technology, we combined observations with interview results. The observations were based on about 140 children from two schools in Grades 1, 2, and 3. Interesting patterns of behavior during the observations were noted and quantified manually.

Forty-five children in first grade and 20 in second grade were interviewed.

- Do you believe you can learn something from this game? (yes, no, I don't know)

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4. <https://iread-project.eu>

- What would you like to learn? (open)
- Do you think you are improving in the game? (open)

A total of eight teachers across several schools were interviewed ranging from Grade 1-4.

- Do you believe the pupils can learn something from the game? (yes/no)
- What have the pupils learned so far? (open)
- Do you believe the pupils are improving? (If yes, in which skill?) (open)

### **3. Results**

#### **3.1. Results from pupil responses and observations**

Pupils supported each other in handling the devices, including explaining how to improve during gameplay. Touching input fields and typing login information were difficult for all pupils, especially for first graders. Regarding interaction, we observed the following:

- about 2%<sup>5</sup> of pupils did not wish to play the game;
- very few first graders (around 10%) read out loud while playing;
- around 5% of pupils asked the teacher's opinion before submitting an answer to avoid potential mistakes;
- generally, first graders demonstrated a lack of digital literacy;
- customizing the avatar contributed to the motivation of playing; and
- social interaction between pupils during play was important.

Based on the interviews, we obtained the following overall results:

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5. % is based on the count of children in a particular category under observation.

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- 92% of pupils wished to continue outside of classroom time;
- 70% of pupils thought that they are learning something;
- 90% of pupils believed that they were improving within the game; and
- when asked what they are learning, top items included reading, grapheme (ie), words, speed, spelling, and other topics relating to language skills.

### **3.2. Results from teachers' interviews**

Initial observations reflect the difficulty of integration efforts due to the technology, resulting engagement, social aspects, and the belief about learning academic content through games. From the teacher point of view, there was a diverse set of attitudes toward the games and how the games could be integrated into the classroom. Initial skepticism toward the games was pervasive. However, in the final interview all eight educators said they believe the pupils had learned something. Regarding teachers' beliefs about what a pupil can learn from the games, the most frequent mentions were: reading, grapheme (ie), lecture material practice, concentration, and orthography for specific phenomena. Additionally, teachers mentioned: digital literacy skills; sense of achievement; and enjoyment for language. Teachers believed that pupils with stronger vocabularies were better able to benefit from the games compared to pupils with weaker vocabularies. One teacher recognized the importance of the games in teaching language patterns.

Regarding, 'the impression that the pupils are getting better', teachers said pupils could learn from the games, but most educators were unsure whether the observed improvements were really due to games. All agreed it was impossible to solely attribute improvements in the post-tests to games rather than classroom teaching. A minority of teachers found that some individuals profited from the games in their spelling. One teacher discussed the games directly with the pupils and remarked how the pupil was able to express their comprehension of the trained skills. In general, fourth grade teachers were more positive about learning achievements than lower grade teachers.

## **4. Discussion and conclusions**

Pupils are aware and can articulate their learning improvements even in first grade, namely reading, spelling, vocabulary, word patterns, and speed at recognizing

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these. In contrast, educators diverge in their opinion based on grade. In early grades, they would attribute the learning more toward their own teaching, and provide the games as a motivator and fun way to deal with language, while in upper grades they are more likely to recognize learning progress through the game. Given other publications we can say that there are clear improvements that can be seen in the game analytics that match the academic improvement in pupils' writing skills. In the future, we plan to conduct interviews with the pupils at a later date to have a more accurate assessment and integrate educators into the interview process as a first step toward improving their understanding of the usefulness of the games, not only as a motivator but as a real skill booster.

## 5. Acknowledgments

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## References

- Berkling, K., & Franken, B. (2019, October 22). Transfer of educational skills from games to classroom tasks – a case study using iRead to improve reading and writing. In *Proceedings of the 3rd International Symposium on Gamification and Games for Learning, GamiLearn 2019, Barcelona, Spain*. <http://ceur-ws.org/Vol-2497/paper2.pdf>
- Berkling, K., & Kermes, H. (2020). Learning to take the next step: knowledge acquisition of orthographic patterns in serious games with immediate feedback. In *EDULEARN20 Proceedings*. IATED. <https://doi.org/10.21125/edulearn.2020.1281>
- Breuer, J., & Bente, G. (2010). Why so serious? On the relation of serious games and learning. *Journal for Computer Game Culture*, 4(1), 7-24. <https://hal.archives-ouvertes.fr/hal-00692052/document>
- European Commission (2019). *2nd survey of schools: ICT in education : objective 1 : benchmark progress in ICT in schools, final report*. Publications Office of the European Union.
- Gebele, D., & Kaleta, M. (2019). *Lehrer\_innenprofessionalisierung für sprachliche Förderung mit digitalen Medien in heterogenen Lerngruppen*. Advance online publication. <https://doi.org/10.4119/hlz-2477>
- Järvinen, E. (2020). *Digitale Lernspiele im finnischen DaF-Unterricht: Stellenwert der Bingel-Spielwelt aus der Sicht des Schülers*. Bachelor Thesis, University of Jyväskylä. <http://urn.fi/URN:NBN:fi:jyu-202006154163>



- Jung, S., Huber, S., Heller, J., Grust, T., Möller, K., & Nuerk, H.-C. (2016). Die Tüebinger LernPlattform zum Erwerb numerischer und orthografischer Kompetenzen (TULPE). *Lernen und Lernstörungen*, 5(1), 7-15. <https://doi.org/10.1024/2235-0977/a000112>
- Viertel, M., Ehrenspeck-Kolasa, Y., & Spies, A. (2017). Digitale Leseförderung an Grundschulen zwischen Anspruch und Wirklichkeit. In K. Mayrberger, J. Fromme et al. (Eds), *Jahrbuch Medienpädagogik 13* (pp. 151-164). Springer Fachmedien Wiesbaden. [https://doi.org/10.1007/978-3-658-16432-4\\_10](https://doi.org/10.1007/978-3-658-16432-4_10)

# Finnish students' perceptions of key elements in effective online language courses: insights from the KiVAKO project

Kirsi Korkealehto<sup>1</sup> and Maarit Ohinen-Salvén<sup>2</sup>

**Abstract.** This study explored Finnish students' perceptions of online language courses with the KiVAKO project (KiVAKO is an acronym in Finnish meaning strengthening the language capital at higher education institutions). The aim was to identify and make visible the aspects that need to be taken into account in designing an effective online language course. The research context included eight pilot courses created and implemented within the framework of the KiVAKO project, which seeks to develop a nationwide online language course offering. Language instruction is offered in Chinese, Estonian, Finnish Sign Language, French, German, Italian, Japanese, Korean, Portuguese, Russian, and Spanish on Common European Framework of Reference (CEFR) levels A1-C1. The research data consisted of responses to a post-course online questionnaire. The data were analysed according to a qualitative content analysis method. The findings indicate that clearly structured course design, relevant learning materials, appropriate teacher activities, and aligned assignments enhanced the students' positive learning experiences.

**Keywords:** higher education, online learning, foreign language learning, languages other than English.

## 1. Introduction

In the context of higher education in Finland, the offering of language courses is becoming more and more one-dimensional. The dominance of the English language is apparent, with less frequently studied languages, such as Spanish,

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1. Häme University of Applied Sciences, Hämeenlinna, Finland; [kirsi.korkealehto@hamk.fi](mailto:kirsi.korkealehto@hamk.fi); <https://orcid.org/0000-0001-8596-384X>  
2. Haaga-Helia University of Applied Sciences, Helsinki, Finland; [maarit.ohinen-salven@haaga-helia.fi](mailto:maarit.ohinen-salven@haaga-helia.fi)

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German, French and Russian, increasingly no longer offered in tertiary-level education. However, as contemporary working life requires versatile language skills, possession of fluent English skills is clearly insufficient. Therefore, higher education institutions need to invest in language education.

The KiVAKO project aims to help bridge this gap between higher education and working life in terms of language skills. Funded by the Finnish Ministry of Education and Culture, the KiVAKO project aims to develop nationwide online language courses which are available to all students in higher education in Finland. The project started in Autumn of 2018 with participation from 86 language teachers at eight universities and 18 universities of applied sciences. In Autumn of 2019, a total of eight courses were piloted.

Even if online language courses are offered in higher education institutions, the high drop-out rates require actions to improve the courses in order to engage the students in completing the courses. Therefore, the courses must be carefully designed. The language teachers in the KiVAKO project had the opportunity to develop the courses according to their own pedagogical preferences. As a rule, the courses were created in teams according to the target language of instruction, with one of the team members implementing (i.e. teaching) the pilot course. In this paper, we investigate which key elements the students perceived as contributing to the effectiveness of online language courses.

## 2. Method

The context of this research are the eight piloted language courses, which were created and implemented as part of the KiVAKO project. [Table 1](#) provides an overview of the languages targeted for instruction in these courses, along with the number of students who enrolled in, were accepted in, started, and completed each course. In this nationwide project with several higher education institutions involved, the students' demographic information was not available. A total of 204 students participated in the courses, of which 142 completed the courses.

To explore which elements the students considered most effective in advancing their learning, an online questionnaire in Finnish was administered to all students who fully completed a given online course. Each teacher posted the link to the online questionnaire for their students on the Moodle platform. Sixty-five students responded (a response rate of 46%). The questionnaire consisted of five open-ended questions (questions 6-10 in [supplementary materials](#)) and 15 opinion statements,

to which the participants responded on a five-point Likert scale ranging from 1 ('totally disagree') to 5 ('totally agree').

Table 1. The number of students in the piloted KiVAKO courses in the Autumn of 2019

Course	Enrolled	Accepted	Started	Completed
KiVAKO Chinese and Chinese characters 1	50	30	30	17
KiVAKO Spanish 1	220	30	30	27
KiVAKO Italian 1	112	30	28	18
KiVAKO Korean 1	89	30	25	22
KiVAKO Portuguese 1	30	30	28	14
KiVAKO German 1	103	30	26	19
KiVAKO Russian 3	16	16	8	7
KiVAKO Estonian 1	77	30	29	18

An analysis of the students' responses to the open-ended questions was conducted by adapting the content analysis method (Krippendorff, 2004), using the software Atlas.ti (version 8.4.18). In the first stage, the data was read and segmented, and all mentions related to advancing learning were marked and named descriptively. The number of these segments totalled 185. All segments were then explored thematically, with the following subcategories emerging to describe the students' perceptions of the elements advancing learning: course design, instructions, teacher activities, learning materials, and assignments. The quantitative data was used to compliment the qualitative data, and will be analysed separately in another study.

### 3. Results and discussion

The results of the content analysis of elements that were seen as advancing learning are shown in Table 2.

Table 2. The elements advancing learning

Category	Amount (%)
Course design	51 (27.57%)
Learning materials	43 (23.24%)
Teacher activities	41 (22.16%)
Assignments	36 (19.46%)
Instructions	14 (7.57%)
<b>Total</b>	<b>185 (100%)</b>

As can be seen from [Table 2](#), the element that students considered the most effective in advancing learning was course design. If the course structure was divided according to topics with a clear timetable and relevant grammar, it was considered beneficial to learning. Even though clear timetables were considered supportive of learning, the fact that the students were able to study according to their own timetable, regardless of time and space, was also valued. This is in line with the work of [Driscoll et al. \(2012\)](#), who state that the planning phase is paramount in designing online courses.

Learning materials also had a positive impact on learning, as the students appreciated having relevant, timely, multifaceted, and challenging material. The students benefited from being able to download the material to their own device. Particularly, the teacher's own materials in the target language, e.g. animations, videos, and recordings, were highly valued. Similarly, [Nielson and González-Lloret \(2010\)](#) concluded that, in online language learning, it is important for students to be provided with sufficient learning materials in the target language.

Further, teacher activities were also seen as promoting learning. This included teacher support and guidance, as well as the teacher's clear instructions and timely feedback. Additionally, the teacher was considered as immensely influential to the learning atmosphere through their positive and supportive interactions. Our results corroborate previous research, which found that teacher presence, timely guidance, and feedback all supported learner autonomy and learning through online language teaching (e.g. [Nielson & González-Lloret, 2010](#)).

Assignments aligned with the learning objectives were considered as contributing positively to language learning. The students regarded digital games as helpful in advancing their learning, and they liked the opportunity to conduct their assignments through voice recordings or videos. Interaction with peers, in particular, benefited oral language skills. Previous research has also shown that, with relevant digital tools and appropriate assignments, language learning can be enhanced (e.g. [Trinder, 2016](#)). Likewise, clear instructions benefited the students in the learning process. They considered clear and accessible instructions about the learning material or the ways to conduct the assignments as having enhanced learning.

## 4. Conclusions

The KiVAKO project enables a unique collaboration between Finnish higher education institutions in constructing online language courses which are offered

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nationwide. This allows students to select courses of several foreign languages, regardless of their home institution's course offering. Thus, students can widen their language competence, which promotes their employability.

In our research, we investigated the pilot courses to discover elements which enhance language learning according to the students. To summarise, it can be concluded that course design is of paramount importance in online language learning. Further, the learning materials and assignments need to be aligned with the learning objectives. Carefully developed courses, with a clear timetable and appropriate digital tools, along with interaction with peers and teachers, enhanced the students' learning experiences. Teacher activities, timely guidance, and support contributed positively to the students' experiences, and benefited learning. The data offers multiple interesting research topics to investigate in the future, such as drop-out rates in online language courses.

## 5. Supplementary materials

<https://research-publishing.box.com/s/iuill60y4x98dzecrilgshopf6u2yzby>

## References

- Driscoll, A., Jicha, K., Hunt, A. N., Tichovsky, L. P., & Thompson, G. (2012). Can online courses deliver in-class results? A comparison of student performance and satisfaction in online versus face-to-face introductory sociology course. *Teaching Sociology*, 40(4), 312-331. <https://doi.org/10.1177/0092055x12446624>
- Krippendorff, K. (2004). *Content analysis: an introduction to its methodology*. Sage.
- Nielson, K. B., & González-Lloret, M. (2010). Effective online foreign language courses: theoretical framework and practical applications. *EuroCALL Review*, 17. [http://gateway.proquest.com/openurl?ctx\\_ver=Z39.88-2003&xri:pqil:res\\_ver=0.2&res\\_id=xri:ilcs-us&rft\\_id=xri:ilcs:rec:abell:R05735462](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&xri:pqil:res_ver=0.2&res_id=xri:ilcs-us&rft_id=xri:ilcs:rec:abell:R05735462)
- Trinder, R. (2016). Blending technology and face-to-face: advanced students' choices. *ReCALL*, 28(1), 83-102. <https://doi.org/10.1017/S0958344015000166>

# Intelligent assistants in language learning: an analysis of features and limitations

Agnes Kukulska-Hulme<sup>1</sup> and Helen Lee<sup>2</sup>

**Abstract.** Learning a second language is a challenging endeavour which requires various degrees of support. The proliferation of smart technologies includes chatbots and conversational agents which have the potential to ‘assist’ language learners (Kukulska-Hulme, 2019). However, whilst a growing number of researchers and developers are working on such intelligent assistants across different disciplines, little is known about their application to language learning. The aim of this project was to review relevant research literature over a ten-year period (2010-2020) in order to uncover the capabilities and limitations of Intelligent Assistants (IAs) in relation to language learning. Results suggest that IAs can assist learners in a variety of ways, including provision for conversation and pronunciation practice. These tools can also fail to comprehend meaning or accented pronunciation. The analysis highlighted gaps in research around skills development, task design, pedagogy, and the use of chatbots in virtual worlds.

**Keywords:** mobile learning, chatbots, voice assistants, smart assistants, avatars.

## 1. Introduction

Today, the ubiquity of laptops, smartphones, wearables, and smart home devices has given rise to a proliferation of readily available smart technologies that can support language learners wherever they wish to learn. These include chatbots, avatars, and conversational agents such as Siri and Alexa. It has been suggested that these IAs – to use a generic term – serve as resources which learners can draw on in a flexible manner, as a means to obtain additional or alternative forms of ‘assistance’ (Kukulska-Hulme, 2019). As a result of these developments, the idea

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1. The Open University, Milton Keynes, United Kingdom; agnes.kukulska-hulme@open.ac.uk; <https://orcid.org/0000-0001-5874-8837>  
2. The Open University, Milton Keynes, United Kingdom; helen.lee@open.ac.uk; <https://orcid.org/0000-0002-7713-0431>

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of personal assistance, which echoes a bygone era of ‘personal digital assistants’, has re-emerged in recent years and requires reinterpretation for the age of IAs. On the basis of a multidisciplinary literature review of research studies reporting on developments and trialling of IAs in education and related fields over ten years, this paper highlights the features and limitations of IAs and relates them to current and potential support for language learning in today’s digital landscape.

## 2. Method

Our aim in this project was to review research literature on IAs across a range of disciplines published in the period 2010-2020, to discover what claims had been made about their capabilities and limitations that would be relevant to language learning. To scope the literature, we generated a list of words related to IAs and another related to language learning and teaching. We combined these in a matrix and then conducted a systematic series of searches using the Web of Science database with the ‘topic search’ option, which searches titles, abstracts, and author keywords. We captured the 193 references and tagged each one with our search terms. We then read each abstract and made a judgement as to its relevance to language learning/teaching, removing 76 items that turned out not to be relevant. This resulted in a working bibliography of 117 items: 56 journal articles, 60 conference proceedings, and one book chapter. We read the papers and coded them using a content analysis approach in order to extract information about IAs’ characteristics with respect to support for language learning/teaching, and research trends. Due to space constraints in this paper we report only on findings from the journal articles.

## 3. Results and discussion

Whilst communicative language teaching remains a dominant paradigm within many classrooms, learners still struggle to speak for reasons which might include limited classroom contact hours, the cost of tuition, and problems such as speaker-related anxiety. It has been suggested that the use of chatbots can serve as a way to enable conversation practice in the ‘mobile age’ (Fryer, Nakao, & Thompson, 2019). Conversely, participants in a longitudinal study lost interest in interacting with the chatbot over the human task partner (Fryer et al., 2017).

Research into interaction with conversational agents has covered a range of theoretical and affective issues: learning experiences, interest, and competence

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(Fryer et al., 2019); willingness to communicate (Ayedoun, Hayashi, & Seta, 2019); mitigation of anxiety (Bao, 2019); and evaluation of different chatbots in terms of suitability for second language support (Coniam, 2014). Developers have become more aware that they should address issues which relate directly to learners' needs. For example, Ayedoun et al. (2019) proposed a model for an 'embodied conversation agent', programmed to deploy communication strategies and affective backchannels when learners struggled to communicate. Affective aspects of learning such as how to address speech-related anxiety for staff in a company were addressed utilising chatbot technology, concluding that this shows promise (see Bao, 2019). An evaluation of *Gengobot*, a chatbot-based grammar dictionary application that was integrated with the popular instant messaging platform *LINE*, showed how users could get support with grammar without having to leave the platform (Haristiani, Danuwijaya, Rifa'i, & Sarila, 2019).

Few studies have chosen to address the role of the teacher. However, Coniam (2014) conducted a study to enable a teacher to converse with five chatbots to evaluate their suitability for learning English. Whilst the chatbots were able to produce grammatically acceptable responses, they struggled to take account of meaning. The use of the intelligent assistant Alexa was also found to offer opportunities which 'extend the reach of the classroom' (Moussalli & Cardoso, 2019, p.1). A case study of Alexa (Dizon, 2017) explored the assistant's ability to understand L2 utterances whilst asking learners to reflect. Findings demonstrated that Alexa could comprehend around half of the utterances; with participants noting that the limitations of the technology did not allow them to draw on their L1. However, learners commented on the assistant's ability to provide implicit feedback on pronunciation issues when Alexa had failed to understand them. Moussalli and Cardoso (2019) questioned whether 'accented' L2 learners could be understood by IAs but also wondered whether learners could comprehend the 'accented' speech of Alexa. In adopting this stance on research into IAs, derogatory and out-dated comparisons between native and non-native versions of English can hopefully be partially mitigated.

We found that relevant research on interaction within virtual worlds such as *Second Life* has tended to focus on the learner or teacher assuming an avatar identity, rather than the exploitation of machine-driven avatars as assistants. Our analysis also highlighted gaps in research, since studies did not address impacts on pedagogy, development of more targeted skills (e.g. encouragement for learners to notice grammatical patterns within the context of their chatbot conversations), or task design. Wider limitations and critiques in the literature include issues of privacy; IAs' typically feminine, native speaker identity; and

the risk of prejudicial or false content generated through automated responses from the IA.

## 4. Conclusions

From our analysis, it seems that IAs have much to offer language learners in terms of more extensive conversation and pronunciation practice, mitigation of anxiety, reflection on learning, and communication support. Conceptualising these resources as ‘assistants’, rather than tutors, may ensure that they are exploited in a flexible manner which can be strategically integrated with opportunities to interact with human interlocutors. The use of these technologies potentially offers advantages because learners can access a conversation partner 24 hours a day who will never tire of the necessity for learners to repeat and modify language. However, there is little known about strategic forms of task design or the types of guidance required from teachers. IAs could be usefully exploited to help learners build confidence when they suffer from anxiety when speaking in their L2, with developers now addressing learner needs. We consider that there may be potential advantages in teachers encouraging learners to use IAs. These assistants can support learners to practise skills whilst freeing up classroom time for more personalised and targeted forms of input which cannot be generated by a machine.

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## References

- Ayedoun, E., Hayashi, Y., & Seta, K. (2019). Adding communicative and affective strategies to an embodied conversational agent to enhance second language learners’ willingness to communicate. *International Journal of Artificial Intelligence in Education*, 29(1), 29-57. <https://doi.org/10.1007/s40593-018-0171-6>
- Bao, M. (2019). Can home use of speech-enabled artificial intelligence mitigate foreign language anxiety: investigation of a concept. *Arab World English Journal*, 28-40. <https://doi.org/10.24093/awej/call5.3>

- Coniam, D. (2014). The linguistic accuracy of chatbots: usability from an ESL perspective. *Text & Talk*, 34(5), 545-567. <https://doi.org/10.1515/text-2014-0018>
- Dizon, G. (2017). Using intelligent personal assistants for second language learning: a case study of Alexa. *Tesol Journal*, 8(4), 811-830. <https://doi.org/10.1002/tesj.353>
- Fryer, L. K., Ainley, M., Thompson, A., Gibson, A., & Sherlock, Z. (2017). Stimulating and sustaining interest in a language course: an experimental comparison of chatbot and human task partners. *Computers in Human Behavior*, 75, 461-468. <https://doi.org/10.1016/j.chb.2017.05.045>
- Fryer, L. K., Nakao, K., & Thompson, A. (2019). Chatbot learning partners: connecting learning experiences, interest and competence. *Computers in Human Behavior*, 93, 279-289. <https://doi.org/10.1016/j.chb.2018.12.023>
- Haristiani, N., Danuwijaya, A. A., Rifa'i, M. M., & Sarila, H. (2019). Gengobot: a chatbot-based grammar application on mobile instant messaging as language learning medium. *Journal of Engineering Science and Technology*, 14(6), 3158-3173.
- Kukulska-Hulme, A. (2019). Intelligent assistants in language learning: friends or foes? In *Proceedings of World Conference on Mobile and Contextual Learning 2019* (pp. 127-131). <https://www.learntechlib.org/p/210611/>
- Moussalli, S., & Cardoso, W. (2019). Intelligent personal assistants: can they understand and be understood by accented L2 learners? *Computer Assisted Language Learning*. <https://doi.org/10.1080/09588221.2019.1595664>

# Using technology-assisted peer feedback to improve academic writing

Dragana Lazic<sup>1</sup>

**Abstract.** The poster discusses the possibilities of technology-assisted peer feedback in English as a Foreign Language (EFL) writing classrooms among low proficiency students. It is a part of an ongoing research project developed after a study conducted in the first half of 2019 (Lazic & Tsuji, 2020a, 2020b). The first goal is to explore the effectiveness of in-class activities, which include technology-assisted peer feedback, in improving global aspects of writing, i.e. paragraph structure and content, and to examine the uptake of peer feedback delivered via an Automated Writing Evaluation tool (AWE), Educational Testing Service (ETS) Criterion®. Second, the study looks at students' perceptions. Participants were 15 first-year students taking an academic writing class.

**Keywords:** ETS Criterion®, AWE, peer feedback, global aspects of writing.

## 1. Introduction

Potentials and drawbacks of peer feedback are well documented (Allen & Katayama, 2016; Hyland & Hyland, 2006). In the Japanese context, studies explored the use of AWE in writing classes (Koizumi, Asano, & Agawa, 2016; Wakabayashi, 2013). In general, less attention was paid to combined AWE and peer feedback's potential in improving writing (Stevenson, 2016).

To address these issues, we first conducted a study in 2019 to explore students' perceptions about combined AWE and peer feedback (Lazic & Tsuji, 2020a) and look at the effects of the engagement with this type of feedback on revision uptake (Lazic & Tsuji, 2020b). Based on the recommendations of these two

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1. Fukuoka Women's University, Fukuoka, Japan; dlazic@mb2.fwu.ac.jp

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studies and the literature review, the current study asked the following Research Questions (RQ).

RQ1. What is the effectiveness of in-class peer feedback activities delivered via AWE in improving global aspects of writing?

RQ2. What are the students' perceptions of in-class peer feedback activities delivered via AWE?

## 2. Method

Fifteen Japanese EFL learners studying at a Japanese public university participated in the study after signing a consent form approved by the university's ethics committee. This writing course aims to teach writing academic paragraphs, coherence, and content development. Classes met once a week, and each lesson lasted for 90 minutes.

The study used ETS Criterion® (Burstein, Tetreault, & Madnani, 2013). After the initial training on the use of this AWE, students were introduced to one activity per class with the purpose of practicing giving feedback while focusing on the paragraph's organization and content (15 minutes). Then, students used ETS Criterion® to provide peer feedback on paragraphs written at home (30 minutes). Finally, students had to make revisions based on peer and ETS Criterion®'s comments (30 minutes). The class ended with writing a short reflection and answering students' questions (15 minutes). The procedure was repeated during Weeks 4, 5, and 6 introducing a different activity each week: a textbook peer feedback form, group review of one student writing sample (a form designed by the instructor), and the use of polite and other useful expressions when giving feedback. The instructor gave feedback at the end of the course.

Students' reflections were collected after each session and translated into English. To discover trends in students' reflections, we used KH Coder, text-mining software (Higuchi, 2016). To detect emerging topics, a co-occurrence network of words was used. Writing samples and students' comments (on three different occasions) were downloaded from ETS Criterion®. When analyzing the data, descriptive statistics were used (note: due to using Excel, some of the percentages are rounded to the nearest percent and might not add up).

### 3. Results and discussion

To answer RQ1, about the effectiveness of peer feedback delivered via AWE, we looked at the ETS Criterion® score differences between before/after writings (three different writing tasks, Table 1), the number and type of comments students made during Writing 2 (Table 2), and a writing sample (Figure 1).

Table 1. ETS Criterion® scores: before and after (first and second attempt)

Score	Writing 1*		Writing 2		Writing 3	
	Before**	After	Before	After	Before	After
1	8% (1)		80% (12)	60% (9)	67% (10)	47% (7)
2	23% (3)	23% (3)	13% (2)	33% (5)	20% (3)	40% (6)
3	46% (6)	38% (5)	7% (1)	7% (1)	13% (2)	13% (2)
4	8% (1)	23% (3)				
5	15% (2)	15% (2)				
6						

Note: n=15, \*n=13, \*\*percentages (frequencies). As the number of participants is small, the raw number of scores is also presented.

These scores show improvement or lack of it. Writing improved during Writing 2 and 3, although moderately. In the table, this is a difference between the score frequencies across different score categories (from Advisory to 6). For example, in Writing 2, for their ‘before’ writing, most students got a score of ‘1’. When students rewrote based on peer and ETS Criterion® feedback, the number of scores ‘1’ decreased, while the number of students who got score ‘2’ increased.

Table 2. Amount of peer feedback/comments per type of comments (Writing 2)

Type of comment	
Organization and development (meaning, content, structure)	61%
Grammar	16%
Word usage	8%
Mechanics	5%
Style	1%
Praise	1%
Other	7%

Note: n=85 (comments)

During Writing 2, students wrote a paragraph about whether single-sex education is obsolete or not, a topic chosen from the ETS Criterion® topic bank. When giving feedback on this writing, students commented more on the global aspects of writing

than on any other issue. In other studies (e.g. [Allen & Katayama, 2016](#)), comments on grammatical errors were the bulk of peer feedback.

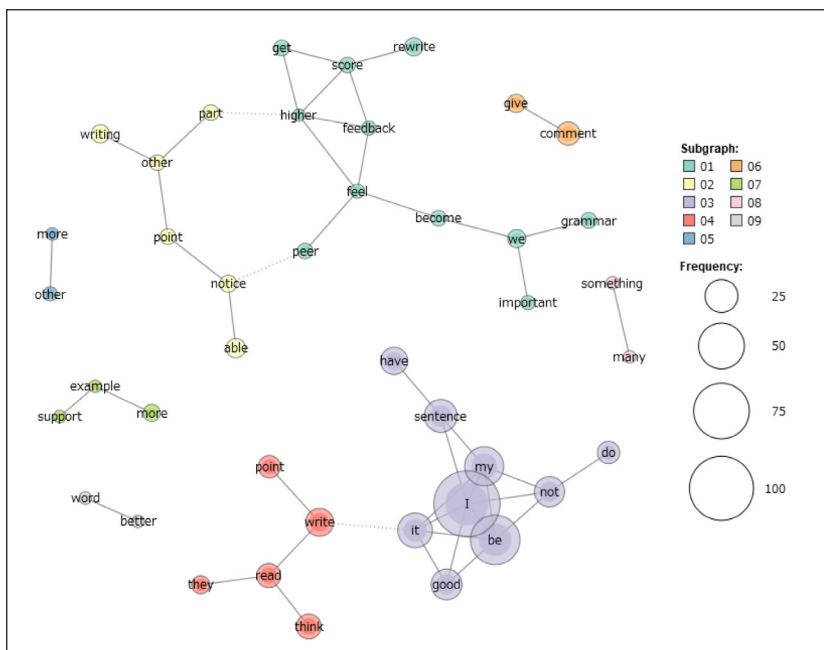
Writing samples were qualitatively analyzed to look at the actual changes and uptake of comments delivered by peers via an AWE tool. Like the results of score analysis ([Table 1](#)), this analysis shows that revisions were minimal, and at surface-level, e.g. spelling. In terms of adding new ideas and improving the structure and the coherence of the paragraphs, students made few changes overall. Due to a lack of space and as most students generally made minimal changes, only one writing sample is used as representative. [Figure 1](#) shows where the student addressed one surface-level mistake identified by her peer (the mistake and change are underlined). Out of 11 comments received, some referred to the content. For example, one classmate expressed her surprise about a piece of information ([Figure 2](#), a rectangle) but did not suggest any changes. This writing was graded as unsuccessful as the student did not support the main idea in the paragraph. The low revision uptake and minimal text changes are possibly due to limited revision time, insufficient and inadequate peer comments, and low proficiencies (TOEFL ITP<sup>2</sup> scores between 400 and 450). Others found that lower-level proficiency and less confident learners comment and revise less ([Allen & Katayama, 2016](#); [Wakabayashi, 2013](#)).

Figure 1. Writing samples/Writing 2 before and after: peer feedback and changes

<p>Attempt 1/Before/Score: 2</p> <p><b>Essay:</b></p> <p>The Importance of Women's Colleges in Japan</p> <p>Women's colleges are established to eliminate the distinction between women and men, and even now there are many differences between them, so it is important to exist women's colleges. In fact, in the Global Gender Gap Report 2020, Japan ranks 121st out of 153 countries, and it is the lowest rank so far. There are two main differences. One is their income its rank is 108th. According the Basic Survey on Wage Structure 2017, men's income is about 1.5 times more than women's income. The other is the number of cabinet ministers its rank is 139th. Actually, there are 20 people in cabinet member, but there are only three women in them now. As I mentioned above, Japanese gender gap is big and Women's college is important to eliminate the gap as soon as possible.</p> <p>Attempt 2/After/Score: 2</p> <p><b>Essay:</b></p> <p>Women's colleges are established to eliminate the distinction between women and men, and even now there are many differences between them, so it is important to exist women's colleges. In fact, in the Global Gender Gap Report 2020, it shows the gap between women and men all over the world, Japan ranks 121st out of 153 countries, and it is the lowest rank so far in Japan. There are two main differences between women and men. One is their income, its rank is 108th. According to the Basic Survey on Wage Structure 2017, men's income is about 1.5 times more than women's income. The other is the number of cabinet ministers its rank is 139th. Actually, there are 20 people in cabinet member, but there are only three women in them now. As I mentioned above, the Japanese gender gap is big and Women's college is important to eliminate the gap as soon as possible.</p>
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Co-occurrence network analysis of the 46 most frequent words was used to answer RQ2 (Figure 2). The size of a circle indicates the word frequency. Circles of different colors are grouped into communities based on their modularity degree – a measure used to detect themes in the data (Higuchi, 2016). Pronouns were included to understand what students focused on: frequent use of ‘I/my’ indicates that students were more interested in using the activity to improve their writing. Identified themes are: students reflecting on problems in their writing and how the activity made writing better (purple circles); reading helped students to think about writing (red); feedback was helpful with rewriting grammar and getting a higher score (green); and ability to notice (problems) as their peers pointed them out (yellow).

Figure 2. Students’ reflections (Writings 1, 2, 3); co-occurrence network of words, N42, E47, D 0.55



#### 4. Conclusions

Learners engaged in the AWE supported peer feedback activities by providing more comments on content and paragraph structure, which is different from the



previous studies. Besides, as seen from the reflection analysis, students found the activity useful, e.g. by reading their peers' writing, they understood their writing problems better. However, feedback uptake was minimal, as presented in the changes in ETS Criterion® scores and qualitative analysis. Although changes were minor, compared to the previous study (Lazic & Tsuji, 2020b), students did focus on global aspects of writing when commenting. Thus, it may be concluded that the combined activity can be used for the student benefit, but with modifications, e.g. a longer time for revisions. Consequently, the next research question to answer is: why did learners not make substantial changes to their texts?

## 5. Acknowledgments

I would like to thank Saori Tsuji for her help.

## References

- Allen, D., & Katayama, A. (2016). Relative second language proficiency and the giving and receiving of written peer feedback. *System*, 56, 96-106. <https://doi.org/10.1016/j.system.2015.12.002>
- Burstein, J., Tetreault, J., & Madnani, N. (2013). The e-rater® automated essay scoring system. In M.D. Shermis & J. Burstein (Eds), *Handbook of automated essay evaluation: current applications and new directions* (pp. 77-89). Routledge.
- Higuchi, K. (2016). *KH coder 3 reference Manual*. [https://kxcoder.net/en/manual\\_en\\_v3.pdf](https://kxcoder.net/en/manual_en_v3.pdf)
- Hyland, K., & Hyland, F. (2006). Feedback on second language students' writing. *Language Teaching*, 39(2), 83-101. <https://doi.org/10.1017/S0261444806003399>
- Koizumi, R., Asano, K., & Agawa, T. (2016). Validity evidence of Criterion® for assessing L2 writing proficiency in a Japanese university context. *Language Testing in Asia*, 6(1), 1-26. <https://doi.org/10.1186/s40468-016-0027-7>
- Lazic D., & Tsuji, S. (2020a). Perceptions and use of AWE facilitated peer feedback for improving writing. *Studies in the Humanities*, 84, 73-100. <http://id.nii.ac.jp/1500/00003139/>
- Lazic D., & Tsuji, S. (2020b). Use of AWE and peer feedback for improving academic writing. *KOTESOL Proceedings 2019 Korea TESOL Conference* (pp. 89-99).
- Stevenson, M. (2016). A critical interpretative synthesis: the integration of automated writing evaluation into classroom writing instruction. *Computers and Composition*, 42, 1-16. <https://doi.org/10.1016/j.compcom.2016.05.001>
- Wakabayashi, R. (2013). Learners' roles in a peer feedback task: do they view themselves as writers or reviewers? *Journal of Asia TEFL*, 10(3), 31-57. [http://www.asiatefl.org/main/download\\_pdf.php?i=55&c=1404265236&fn=10\\_3\\_02.pdf](http://www.asiatefl.org/main/download_pdf.php?i=55&c=1404265236&fn=10_3_02.pdf)

# Student preferences: using Grammarly to help EFL writers with paraphrasing, summarizing, and synthesizing

Dragana Lazic<sup>1</sup>, Andrew Thompson<sup>2</sup>,  
Tim Pritchard<sup>3</sup>, and Saori Tsuji<sup>4</sup>

**Abstract.** This study explores students' perceptions about using Automated Writing Evaluation (AWE), Grammarly (a paid version), as a complementary instructional tool to teach and support writing from sources. Participants were second-year students (n=37) at a public university in Japan. After in-class tasks aimed at teaching paraphrasing, summarizing, and synthesizing, students completed a survey that measured their perceptions. Students had positive attitudes about Grammarly in general but had somewhat polarized opinions on how useful the tool is in teaching writing from sources and helping with plagiarism.

**Keywords:** writing from sources, AWE, Grammarly, perceptions.

## 1. Introduction

The integration of secondary sources challenges many inexperienced English as a Foreign Language (EFL) academic writers (Hirvela & Du, 2013; Liu, Lo, & Wang, 2013). Undergraduate L2 students often struggle with paraphrasing, summarizing, synthesizing, as well as with appropriate attribution and referencing, which may reduce motivation in the L2 writing classroom. Research suggests it may also lead to unintentional plagiarism (Howard, 1995; Pecorari & Shaw, 2018). In the Asian context, students 'receive limited exposure' to textual borrowing strategies (in

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1. Fukuoka Women's University, Fukuoka, Japan; dlazic@mb2.fwu.ac.jp

2. Fukuoka Women's University, Fukuoka, Japan; thompson@fwu.ac.jp

3. Fukuoka Women's University, Fukuoka, Japan; timothy@fwu.ac.jp

4. Fukuoka Women's University, Fukuoka, Japan; s.tsuji@fwu.ac.jp

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Keck, 2014). Yet, these are essential when it comes to writing academic texts. To address these issues, in this exploratory study, the authors focused on the below.

What are students' perceptions about AWE tools and their use as a complementary instructional tool to teach and support writing from sources in an academic writing class?

Grammarly was effective in reducing surface-level errors (Ghufron & Rosyida, 2018), and students had positive perceptions about the tool (O'Neill & Russell, 2019). However, Grammarly's in-built potential as a plagiarism checker<sup>5</sup> or text-matching software was used less in studies about writing from sources.

## 2. Method

The study was conducted during a 16-week EFL academic writing course at a Japanese university in 2019. Second-year students (n=37) were placed in three groups (majors, TOEFL ITP<sup>6</sup> scores) for weekly 90-minute classes. The overall goal of the course is to teach writing a 2000-word academic essay. A pre-survey measured students' interests in English and asked about previous AWE experiences (Table 1).

Table 1. Participants' demographics

Measure	Item	Frequency	Percentage
English language experience	5-10 years	28	76%
	>10 years	9	24%
Have you used any other AWE tool?	Yes*	13	35%
	No	24	65%
What is plagiarism?	No answer	13	35%
	I don't know	9	24%
	Answered	15	41%

Note: \*previously used AWE tools: Educational Testing Service (ETS) Criterion®, MS Spell Checker, and Grammarly; 11 students used Grammarly.

Three in-class tasks introduced and practiced paraphrasing (Week 4), summarizing (Week 5), and synthesizing (Week 6). Each writing task was presented to students in the first 30 minutes of the class. Students were then assigned homework, based on in-class tasks, to be submitted online within one week.

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5. <https://www.grammarly.com/faq#toc0>

6. Test of English as a Foreign Language Institutional Testing Program

After the final homework, students completed a 48-item mixed-method survey (six point Likert type and five open-ended questions) to investigate their perceptions of using Grammarly to develop their ability to integrate sources in their writing. Due to the relatively small number of participants, Likert items were not combined into scales; thus, the response data were treated as ordinal data, and descriptive statistics were used (Lavrakas, 2008). For detecting trends in open-ended questions, KH Coder (Higuchi, 2016) was used.

### 3. Results and discussion

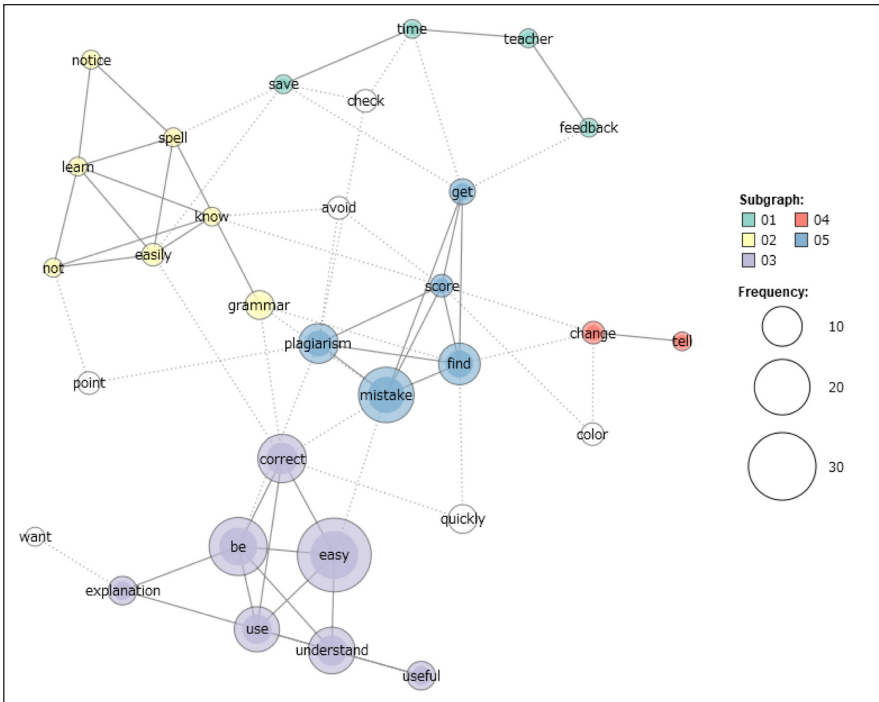
A snapshot of students' overall perceptions is summarized in Table 2 (n=37). The reported percentages, median, and InterQuartile Range (IQR) show students agree on all questions, except about confidence. Most students (49%) do not feel more confident in their writing after doing in-class and homework tasks. It is possible that they became more aware of the gaps in their knowledge both in terms of linguistic and rhetorical aspects of writing after using Grammarly.

Table 2. Students' perceptions about Grammarly

Likert Item Type	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Median (IQR)
I know how to revise my essay based on Grammarly's feedback.	0%	0%	3%	30%	54%	14%	5(1)
Grammarly is user-friendly.	0%	0%	0%	16%	62%	22%	5(0)
I think 'correctness' alerts are useful.	0%	0%	0%	16%	43%	41%	5(1)
Grammarly developed my language long-term as I could understand grammar more.	0%	3%	16%	51%	24%	5%	4(1)
Rewriting, after receiving Grammarly feedback, increased my motivation to write.	0%	5%	24%	51%	16%	3%	4(1)
I became more confident in writing because of how Grammarly was used in class.	0%	11%	49%	30%	11%	0%	3(1)
Grammarly made me feel more confident about handing the 2000-word essay in.	0%	5%	19%	43%	24%	8%	4(1)

These answers were corroborated by analyzing open-ended questions. **Figure 1** presents the results of the co-occurrence of words: patterns are detected based on the degree of modularity (Higuchi, 2016). Patterns are detected via modules, grouped circles of the same color: Grammarly is easy to use and understand and can help find mistakes and notice instances of plagiarism.

Figure 1. Grammarly advantages, the co-occurrence of words, Q34. n=37, N31 D65 D.14



**Table 3** (n=37, \*n=36) shows perceptions about Grammarly as an instructional tool to help with writing from sources and avoiding plagiarism. Overall, students agree that Grammarly is useful for avoiding plagiarism, and it helped them with enhancing all three textual borrowing skills, although some of their answers are more scattered across the range of six possible answers.

On average, most students, 24 (65%), used Grammarly once a week. When asked about when/where and how they used this tool, students showed the highest levels of disagreement (**Table 4**).

Table 3. Students’ perceptions: Grammarly as an instructional tool to help with writing from sources

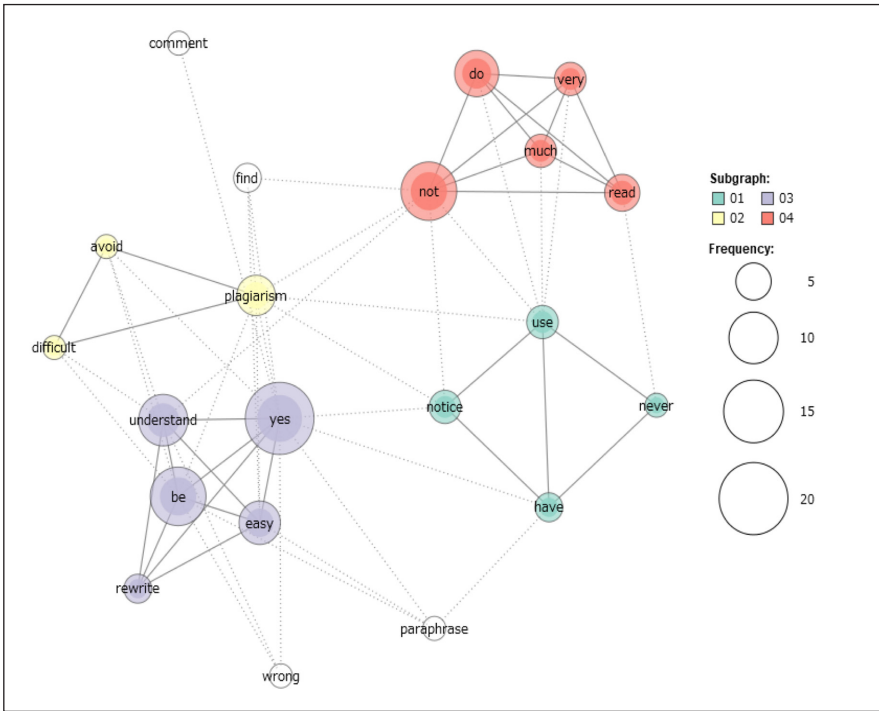
Likert Item Type	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Median (IQR)
I can understand alerts related to ‘plagiarism’ alerts.	3%	11%	16%	24%	38%	8%	4(2)
When Grammarly flags plagiarism, I know how to revise the part written from sources based on feedback.	3%	22%	16%	35%	22%	3%	4(1)
Grammarly can enhance paraphrasing skills.	0%	0%	19%	51%	24%	5%	4(1)
Grammarly can enhance summarizing skills.	0%	3%	35%	41%	19%	3%	4(1)
Grammarly can enhance synthesizing skills.*	0%	8%	36%	47%	8%	0%	4(1)

Table 4. Frequency and way of use

Likert Item Type	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Median (IQR)
I used Grammarly outside AW class.	30%	16%	11%	11%	19%	14%	3(4)
I used Grammarly only when my instructor asked me to do so.	16%	16%	22%	22%	14%	11%	3(2)
When using Grammarly, I read extended explanations of errors.	5%	24%	19%	32%	19%	0%	4(2)

Analysis of an open-ended question about the use of Grammarly as a tool for writing from sources and plagiarism (Figure 2) shows several patterns: easy to use; plagiarism is difficult to avoid, but Grammarly can help; students can notice things that they did not notice before. Students did not read Grammarly’s explanations, and only paraphrasing was mentioned. Some of the types of the student responses (Figure 2): “I had used the same sentences without noticing”; “It’s difficult to avoid plagiarism perfectly but feedback helped me to understand”; and “It made me think I have to paraphrase”.

Figure 2. Grammarly and writing from sources, the co-occurrence of words, Q44. n=37, N21 D60 D.286



#### 4. Conclusions

This exploratory study investigated students’ perceptions regarding Grammarly as a complementary instructional tool to teach and support writing from sources. It was the first step in the potential implementation of the use of AWE within an EFL academic writing course. As in previous research, participants had positive perceptions of Grammarly and found it useful in addressing shortcomings in their grammar knowledge, word usage, style, and mechanics of writing. Students found Grammarly to be a beneficial instructional tool that can help avoid plagiarism and writing from sources. Next is to look at how this kind of Grammarly use affected student’s revisions by looking at the writing samples collected in the study. There are several implications for the practitioners: when deciding to use the tool, instructors should think about student’s skill levels – if they have enough meta-linguistic knowledge to understand the software output; focus on paraphrasing

only; spend more in-class time demonstrating Grammarly's use; and use it in combination with the instructor's feedback.

## 5. Acknowledgments

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## References

- Ghufron, M. A., & Rosyida, F. (2018). The role of Grammarly in assessing English as a foreign language (EFL) writing. *Lingua Cultura*, 12(4), 395-403. <https://doi.org/10.21512/lc.v12i4.4582>
- Higuchi, K. (2016). *KH coder 3 reference Manual*. [https://kxcoder.net/en/manual\\_en\\_v3.pdf](https://kxcoder.net/en/manual_en_v3.pdf)
- Hirvela, A., & Du, Q. (2013). "Why am I paraphrasing?": undergraduate ESL writers' engagement with source-based academic writing and reading. *Journal of English for Academic Purposes*, 12(2), 87-98. <https://doi.org/10.1016/j.jeap.2012.11.005>
- Howard, R. M. (1995). Plagiarisms, authorships, and the academic death penalty. *College English*, 57(7), 788-806. <https://doi.org/10.2307/378403>
- Keck, C. (2014). Copying, paraphrasing, and academic writing development: a re-examination of L1 and L2 summarization practices. *Journal of Second Language Writing*, 25, 4-22. <https://doi.org/10.1016/j.jslw.2014.05.005>
- Lavrakas, P. J. (2008). (Ed.). *Encyclopedia of survey research methods*. Sage Publications. <https://doi.org/10.4135/9781412963947>
- Liu, G. Z., Lo, H. Y., & Wang, H. C. (2013). Design and usability testing of a learning and plagiarism avoidance tutorial system for paraphrasing and citing in English: a case study. *Computers & Education*, 69, 1-14. <https://doi.org/10.1016/j.compedu.2013.06.011>
- O'Neill, R., & Russell, A. (2019). Stop! Grammar time: university students' perceptions of the automated feedback program Grammarly. *Australasian Journal of Educational Technology*, 35(1). <https://doi.org/10.14742/ajet.3795>
- Pecorari, D., & Shaw, P. (2018). (Eds). *Student plagiarism in higher education: reflections on teaching practice*. Routledge. <https://doi.org/10.4324/9781315166148>



# Syntactic complexity development in college students' essay writing based on AWE

Wenjin Li<sup>1</sup>, Zhihong Lu<sup>2</sup>, and Qianwen Liu<sup>3</sup>

**Abstract.** Syntactic complexity is considered to be an important device for assessing the quality of writing in a second language (L2), as it indicates the diversity and complexity of production units or grammatical structures. This paper studies the development of Chinese college students' syntactic complexity in essay writing by using an Automatic Writing Evaluation (AWE) tool, the Pigai system ([www.pigai.org](http://www.pigai.org), which has been most widely used in China in the last ten years). The data analysis showed that the students' syntactic competences in their final drafts outperformed that in their first drafts in three aspects: length of production unit, amount of subordination, and amount of coordination.

**Keywords:** syntactic complexity, automated writing evaluation, argumentative writing.

## 1. Introduction

Although effective second language (L2) writing instruction requires the provision of regular feedback on students' drafts (Bitchener & Ferris, 2012), for English as a Foreign Language (EFL) teachers, writing has long been seen as a tedious and unrewarding task (Hyland, 1990). With development of technology, AWE tools make it possible to solve this dilemma by providing instant holistic and diagnostic feedback.

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1. Beijing University of Posts and Telecommunications, Beijing, China; [liwenjins@bupt.edu.cn](mailto:liwenjins@bupt.edu.cn); <https://orcid.org/0000-0002-4751-651X>

2. Beijing University of Posts and Telecommunications, Beijing, China; [luzhihong@bupt.edu.cn](mailto:luzhihong@bupt.edu.cn); <https://orcid.org/0000-0003-4928-7885>

3. Beijing University of Posts and Telecommunications, Beijing, China; [13121917219@126.com](mailto:13121917219@126.com); <https://orcid.org/0000-0002-0682-8162>

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Complexity, as one of the three important constructs of language development, along with accuracy and fluency (Larsen-Freeman, 1978), has been operationalized at lexical and syntactic levels (Wolfe-Quintero, Inagaki, & Kim, 1998). As mentioned in Lu and Ai (2015), “syntactic complexity has been commonly [considered] as the range of syntactic structures that are produced and the degree of sophistication of those structures (Ortega, 2003)” (p. 2). According to Lu (2010), four measures are commonly adopted for accessing syntactic complexity, namely, mean length of production units, amount of coordination, amount of subordination, and degree of phrasal sophistication. Based on Hunt (1965), the measure T-unit refers to “one main clause plus any subordinate clause or non-clausal structure that is attached to or embedded in it” (p. 141).

A set of studies were conducted to examine the relationship between syntactic complexity and writing quality. Significant relationships have been identified between subordination and writing quality (Flahive & Snow, 1980), between finite clausal subordination and holistic grades (Homburg, 1984), and between length measures and composition quality (Homburg, 1984). Several longitudinal studies focus on learners' development in syntactic complexity. For example, Casanave (1994) found after three semesters of instruction that Japanese English learners' writing had become more grammatically complex as measured by per clauses per T-units. The current study employed a full set of 14 measures provided in the L2 Syntactic Complexity Analyzer (L2SCA; Lu, 2010), an online computational tool used to analyze the syntactic complexity of the writing samples. The detailed information about the 14 different measures can be retrieved from Lu and Ai (2015, p. 3).

## 2. Method

The research question of the current study is whether AWE-based formative feedback has any positive effects on EFL learners' syntactic complexity.

This study was conducted at a college located in northern China, where English was taught as a one-week interval compulsory course. The study was carried out from October 2019 to November 2019 which lasted for five weeks with participation of 66 non-English major freshmen.

In the first week, students were assigned to write an argumentative essay entitled *My View on the Role of Technology in Education* on an AWE platform, the *Pigai* system. Students were required to complete at least 150 words of the writing task

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within 50 minutes before revising their drafts based on the system's corrective feedback and the instructor's guidance. In the following four weeks, students were asked to revise their drafts for at least three times after being instructed on how to write an argumentative essay and how to develop topic-relevant arguments. The students did all the writing and revision through the system, and by which all the drafts were recorded and collected. Then the exported drafts were examined through the online computational tool, L2SCA, and statistical descriptions of syntactic complexity were collected and processed by using SPSS 24.0 software.

### 3. Results and discussion

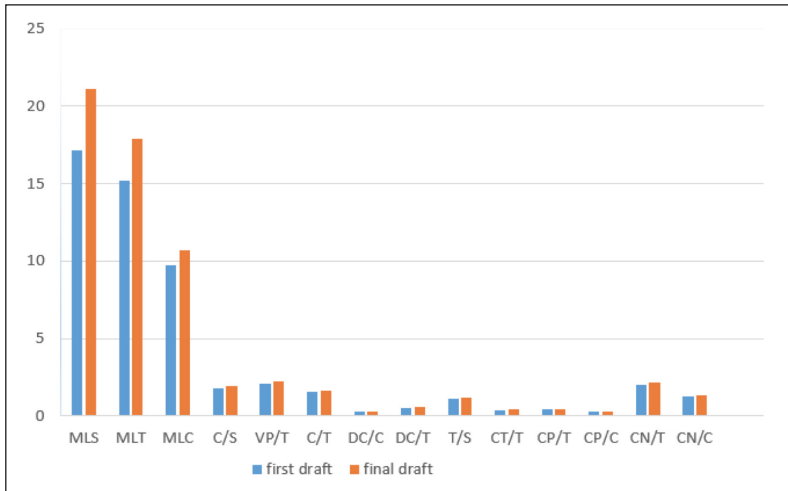
Table 1 was produced to summarize the comparison of mean and standard deviation (SD) of the first and the final drafts in nine syntactic structures. It can be found that students' performances in all nine syntactic structures in the final drafts outperformed than that in their first drafts.

For other syntactic complexity indices, it is shown in Figure 1 that students produced more grammatically complex sentences based on the AWE system's corrective feedback and the instructor's guidance.

Table 1. Descriptive statistics of first and final drafts

Measures	drafts	Mean	SD
W	First draft	190.61	58.28
	Final draft	317.86	57.15
S	First draft	11.44	4.26
	Final draft	17.05	5.00
VP	First draft	25.98	10.10
	Final draft	41.80	9.96
C	First draft	19.97	7.65
	Final draft	31.41	7.94
T	First draft	12.91	5.03
	Final draft	19.7	5.44
DC	First draft	5.88	3.71
	Final draft	10.11	4.80
CT	First draft	4.79	2.74
	Final draft	7.92	3.41
CP	First draft	5.27	3.58
	Final draft	8.06	4.00
CN	First draft	24.71	8.66
	Final draft	39.59	8.47

Figure 1. Comparison of students' mean scores in first and final drafts



The results can be further explained in four ways. Firstly, students wrote much longer sentences, T-units, and clauses compared with first drafts, which shows development in writing quality according to findings of [Wolfe-Quintero et al. \(1998\)](#). Secondly, students' progress in CP/T and CP/C indicates that they applied more coordinate phrases in T-units and clauses. Thirdly, their improvement in CN/C and CN/T demonstrates they can utilize more complex nominals in T-units and clauses. Lastly, that students did not make much progress in DC/C and DC/T reflects the fact that they did not employ dependent clauses in T-units or clauses. These findings confirm the results provided by [Lu \(2010\)](#). From the [Table 1](#) and [Figure 1](#) above, it is obvious that AWE-based argumentative writing has a positive effect on EFL learners' syntactic complexity.

#### 4. Conclusions

This study focuses on the students' development in syntactic complexity based on the AWE system's corrective feedback and the instructor's guidance. The results show that AWE-based argumentative writing plays a positive role in improving EFL learners' syntactic complexity. Online statistical analysis shows that the students' syntactic competence in their final drafts outperformed that in their first drafts in the three following aspects: length of the production unit, amount of subordination, and amount of coordination. In the process of learner-computer interaction, students tend to modify their drafts with longer and more complex

sentences. We hope the study may provide other EFL instructors and learners with pedagogical implications for personalized learning in some similar computer assisted language learning teaching contexts.

## 5. Acknowledgments

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## References

- Bitchener, J., & Ferris, D. R. (2012). *Written corrective feedback in second language acquisition and writing*. Routledge. <https://doi.org/10.4324/9780203832400>
- Casanave, C. P. (1994). Language development in students' journals. *Journal of Second Language Writing*, 3(3), 179-201. [https://doi.org/10.1016/1060-3743\(94\)90016-7](https://doi.org/10.1016/1060-3743(94)90016-7)
- Flahive, D., & Snow, B. (1980). Measures of syntactic complexity in evaluating ESL compositions. In J. W. Oller & K. Perkins (Eds), *Research in language testing* (pp. 171-176). Newbury House.
- Homburg, T. J. (1984). Holistic evaluation of ESL compositions: can it be validated objectively? *TESOL Quarterly*, 18(1), 87-107. <https://doi.org/10.2307/3586337>
- Hunt, K. W. (1965). *Grammatical structures written at three grade levels*. NCTE Research Report No. 3.
- Hyland, K. (1990). Providing productive feedback. *ELT Journal*, 44(4), 279-285. <https://doi.org/10.1093/elt/44.4.279>
- Larsen-Freeman, D. (1978). An ESL index of development. *TESOL quarterly*, 12(4), 439-448. <https://doi.org/10.2307/3586142>
- Lu, X. (2010). Automatic analysis of syntactic complexity in second language writing. *International Journal of Corpus Linguistics*, 15(4), 474-496. <https://doi.org/10.1075/ijcl.15.4.02lu>
- Lu, X., & Ai, H. (2015). Syntactic complexity in college-level English writing: differences among writers with diverse L1 backgrounds. *Journal of Second Language Writing*, 29, 16-27. <https://doi.org/10.1016/j.jslw.2015.06.003>
- Ortega, L. (2003). Syntactic complexity measures and their relationship to L2 proficiency: a research synthesis of college-level L2 writing. *Applied Linguistics*, 24(4), 492-518. <https://doi.org/10.1093/applin/24.4.492>
- Wolfe-Quintero, K., Inagaki, S., & Kim, H.-Y. (1998). *Second language development in writing: measures of fluency, accuracy and complexity*. University of Hawaii, Second Language Teaching and Curriculum Center.

# From cloning to self-authoring video content in the language classroom: a reflection on practice

Maria Loftus<sup>1</sup> and Rob Lowney<sup>2</sup>

**Abstract.** This paper will detail the introduction of the open-source content creation tool H5P in a first year university French language module with 115 students in autumn 2019 and its evaluation in early spring 2020. The aim of this project is to analyse what happens when students are given access to an authoring tool traditionally intended for and used by educators and how it impacts their language learning and their digital skills. The background to this initiative will be documented and findings from the post-project student survey and focus group will be shared. The researchers will also detail plans for a second iteration of this initiative, which will be refined based on the findings.

**Keywords:** H5P, self-authored videos, creative video content, reflective skills, digital skills development.

## 1. Introduction

Video enjoys near ubiquitous use in language learning (Hockly & Dudeney, 2018), particularly in the multimodal environments afforded by video platforms such as YouTube (Kramsch, 2014). However, challenges lie in how educators, specifically language teachers, can harness students' familiarity with video content and facilitate their transition from passive video consumers to active video creators (Hockly & Dudeney, 2014), all the while encouraging the development of their critical, creative, linguistic, and digital skills (Loftus, Tiernan, & Cherian, 2014).

The aim of this paper is to analyse what happens when students are given access to an authoring tool traditionally intended for and used by educators and how it impacts their language learning and digital skills.

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1. Dublin City University, Dublin, Ireland; maria.loftus@dcu.ie; <https://orcid.org/0000-0003-3572-9347>

2. Dublin City University, Dublin, Ireland; rob.lowney@dcu.ie; <https://orcid.org/0000-0002-8866-4367>

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## 2. Method

H5P is an open-source content creation tool enabling, among other things, the enhancement of existing video content from the web with interactions. Interactions such as multiple choice questions, fill-in-the-blank questions, drag-and-drop questions, and interactive summaries can be added to cloned videos. Although intended as a lecturer tool for creating instructional content, in autumn 2019, a group of first year intermediate French language students at Dublin City University were asked to use this tool for a series of tasks. It was deemed an appropriate means by which to hone the linguistic focus of student created video content and increase learner autonomy through meaningful reflection and learning (Russ & Fiorelli, 2010). Furthermore, it is linked to the concept of ‘students as creators’, which purports to give students a greater sense of agency over their learning and help them create new knowledge, as they are creating a tangible digital artefact (Lee & McLoughlin, 2007).

### 2.1. Participants

Dublin City University has recently embedded H5P in its Moodle-based virtual learning environment, Loop. H5P was introduced in a first year core French language module in a staggered manner. This cohort of students comprised 115 specialist and non-specialist language learners from five different programmes split into six different small groups.

### 2.2. Procedure

Using the Mahara-based eportfolio ‘Loop Reflect’ as the fulcrum of this project, students curated the interactive videos they created on this platform as part of a task-based evaluation linked to the theme of ‘university life’. Students had three contact hours per week in this module, one of which took place in a language laboratory. Firstly, students completed a listening comprehension piece with H5P interactions which were added by the lecturer. Secondly, students sourced existing language videos from YouTube, cloned them, and added H5P interactions to them. A learning technologist from the university’s Teaching Enhancement Unit came to present the technology in English to one of the six groups taking part in the project during a weekly language lab session due to timetabling constraints. Written instructions in French were also provided alongside their weekly online preparation materials as French is the medium of instruction. Lastly, each student filmed a three-minute interview with a French native speaker, enhanced it with H5P interactions to add three reflective hotspots in the video, and embedded it in

their Mahara eportfolio. A hotspot is a popup that is placed at a particular point of the student's choosing in the video. It can contain a combination of a header, text, and video (Figure 1). In the context of this project, students were asked to reflect on something surprising that they learnt from the exchange; something that they would have done differently; and a positive outcome from the interview (Figure 2).

Figure 1. Example of H5P reflective hotspot



Figure 2. Interactive H5P video embedded in eportfolio

loop Reflect

Ma meilleure journée à DCU

Pour commencer, je me suis beaucoup amusée à université jusqu'ici. Cependant, ma meilleure journée à DCU c'était quand je me suis faite des amis. A vrai dire, c'était difficile au début. Je me suis sentie très seule pendant les premiers quelques jours. Voici la raison pour laquelle, sans hésiter, j'ai fait de mon mieux de rencontrer des gens dans mon programme. Tout d'abord j'avais pour moi en bavardant avec des filles, il est devenu clair qu'on serait copainnes. Eventuellement, on était comme les doigts des mains.

Pendant un long jour, on avait une pause entre les cours. Ce jour-là, le rugby était sur la télé. Le bar sur le campus était bondé de gens. On a acheté un pot en regardant le match. Tout le monde a crié quand inrnde a marqué un essai.

Malheureusement, j'ai dû aller en cours. En l'occurrence, nous avons eu le même cours ensemble. Bien sûr, j'étais heureuse parce que il me semblait que j'ai trouvé mes copainnes. Après la leçon, nous sommes allées à la cantine. Il pleuvait donc on a dû rester sous le même parapluie. Quelle drôle d'histoire!

Sans aucune doute, j'attends mon avenir à DCU avec impatience avec mes nouveaux amis.

Entretien filmé avec un(e) Francophone et H5P

FR130 interview

Une chose surprenante sur cette expérience

À vrais dire, j'ai été un peu étonnée parce que nous nous sommes bien entendus ensemble. On a rigolé beaucoup et je me suis sentie très détendue avec elle. C'était plus facile pour moi d'être moi-même, et donc j'ai gagné plus de confiance. En l'occurrence, on a fait des projets pour le

Quin-ouin!

Ma pire journée à DCU de semestre - roman photo en PDF

15h00

Malheureusement, j'ai dû aller en cours. En l'occurrence, nous avons eu le même cours ensemble. Bien sûr, j'étais heureuse parce que il me semblait que j'ai trouvé mes copainnes. Après la leçon, nous sommes allées à la cantine. Il pleuvait donc on a dû rester sous le même parapluie. Quelle drôle d'histoire!

Analise critique du LCS

J'ai assisté au 'Club de Série' au LanguaCultureSpace. Je suis allée avec mes amis pour regarder une série qui s'appelle 'Trou Norme'. C'est une série poissière avec un détective s'appelle Lauréne et son équipe.

J'ai aimé bien le LCS. C'était une bonne opportunité pour rencontrer des étudiants français en regardant une série intrigante. En plus, j'ai appris quelques nouvelles compétences. En effet, j'ai profité des sous-titres parce qu'ils étaient en français. J'ai pu écouter mais aussi regarder des mots, c'était plus facile de comprendre l'histoire ardue, j'ai amélioré mon vocabulaire.

Parfois, on a regardé la télé pendant une demi-heure et on a bavardé pour le reste. Certes, c'est un moyen très efficace pour se plonger dans la langue.

Sans aucune doute, le professeur était très serviable. Il nous a demandé nos pensées sur la série mais aussi sur des choses quotidiennes. Il y avait beaucoup de conversation tout le temps.



### **2.3. Data collection**

There were two stages to the data collection process. Firstly, a short post-project anonymous survey using Google Forms, composed of open and closed questions, was carried out during a class session upon completion of the assessment at the end of January 2020, 81 respondents (n=81) participated. Secondly, a small focus group exploring students' experiences of using H5P took place in February 2020. An email was sent to all the students in the module, inviting them to participate in the focus group, seven volunteered. The focus group was semi-structured, giving the facilitator the leeway to sound out areas of interest that arose during the process; it was subsequently transcribed.

## **3. Results and discussion**

Experiences among the survey respondents and focus group participants were mixed. About 58% of survey respondents enjoyed using H5P and 42% did not. When prompted to expand on this in an open-ended question, respondents said that it allowed for a different way to learn, made things interesting, and allowed them to develop digital skills. Other respondents however felt it was not straightforward to use and that it took time to become familiar with. Some said that they do not enjoy using technology in general.

Only 15% of respondents felt that the technology was easy to use. Thirty-one percent found it difficult to use. Forty-seven percent esteemed that it was set at the correct level of difficulty for themselves. Related to this, over 80% said that their digital skills improved because of this project, reporting that it required them to do things they had not done before. One respondent remarked: "The software was challenging but turned fun once you got the hang of it since it allowed space for individual style". Despite the relatively high percentage of participants finding the technology challenging to use, it would appear that they were cognisant of how it enriched their digital skills. As a first year cohort of students took part in this task, perhaps a discussion around the constituents of digital skills and their usefulness should be factored into its future evolution.

Similarly, when asked about whether using H5P to reflect on their French native speaker interview helped their analytical skills, nearly 77% agreed. Respondents were split on whether or not its usage aided their language learning – 44% apiece. In open-ended responses, some reported that working with video required them to listen back to spoken French, and that adding their own interactions to the video

required them to think more carefully about the language. Others reported no effect or echoed previous sentiment about difficulty in becoming familiar with the technology. A possible way of addressing this in the future would be integrating some language specific hotspots as opposed to the existing purely reflective ones.

These issues and more were explored in the focus group. A number of themes emerged but the most salient was the one centred around instructions and guidance for the tasks. Some participants were unaware of the written technical instructions that were presented alongside their other preparation material. Others found the instructions difficult to follow as they were written in French but the H5P interface was in English. The group who received guidance from the learning technologist appeared to engage better with the technology than the others. Some participants felt that spending time orienting themselves around the technology at the start of the module with guided support would have been beneficial whereas others found the technology intuitive to use or were content to work it out for themselves. An effective way of dealing with this discrepancy in students' abilities to navigate technology would be to pair peer learners in order to facilitate informal troubleshooting amongst students.

#### **4. Conclusions**

The mixed experience of the students provides the project team with ideas for the refinement of the project in subsequent iterations. Such refinements include the provision of greater clarity of purpose for the students, as well as technical instructions, guidance, and support as they engage with the technology. The embedded hotspots honed students' focus on the required task but more variety needs to be introduced in the nature of the tasks such as some language focused activities. The team also intends to place a greater emphasis on creativity through securing the input of a creativity consultant who can spark creativity with the students and motivate them to try innovative things with their self-created videos. But the very fact of being able to share exemplars of students' work in the project's next iteration will enhance student partnership in this task as this pilot was the first time H5P was integrated and assessed in a module in Dublin City University.

#### **5. Acknowledgements**

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## References

- Hockly, N., & Dudeney, G. (2014). *Going mobile: teaching with hand-held devices*. Delta Publishing.
- Hockly, N., & Dudeney, G. (2018). Current and future digital trends in ELT. *RELC Journal*, 49(2), 164-178. <https://doi.org/10.1177/0033688218777318>
- Kramsch, C. (2014). Teaching foreign languages in an era of globalization: an introduction. *Modern Language Journal*, 98(1), 296-311.
- Lee, M. J., & McLoughlin, C. (2007). Teaching and learning in the Web 2.0 era: empowering students through learner-generated content. *International journal of instructional technology and distance learning*, 4(10), 21-34.
- Loftus, M., Tiernan, P., & Cherian, S. (2014). Students' readiness to move from consumers to producers of digital video content: a cross-cultural analysis of Irish and Indian students. *Education and Information Technologies*, 19(3), 569-582. <https://doi.org/10.1007/s10639-013-9286-4>
- Russ, S. W., & Fiorelli, J. A. (2010). Developmental approaches to creativity. In J. C. Kaufman & R. J. Sternberg (Eds), *The Cambridge handbook of creativity* (pp. 233-249). Cambridge University Press. <https://doi.org/10.1017/cbo9780511763205.015>

# Connecting cultures and participation through WhatsApp: assessing students' perception in the ClerKing telecollaborative project

Oneil Madden<sup>1</sup> and Anne-Laure Foucher<sup>2</sup>

**Abstract.** Mobile Instant Messaging (MIM) has become very trendy in the field of language learning; however, while there are many studies that include WhatsApp, used here to connect cultures and/or widen participation, very few articulate how students view it or its impact in acquiring and developing linguistic, cultural, and intercultural competencies. This paper reports on ClerKing, a Franco-Jamaican telecollaborative project, which occurred in two phases between Applied Foreign Languages (AFL) students from University Clermont Auvergne (UCA), France, and Modern Languages students of French from Shortwood Teachers' College (STC), Jamaica. WhatsApp was used in both phases. Using the exploratory approach, this study seeks to provide insight into students' perception of the use of WhatsApp in the project, as well as possible moments of knowledge acquisition. Preliminary findings show that WhatsApp is considered to be practical, popular, and preferable. Students acquired knowledge about religion and homosexuality, improved on expressions, and strengthened their grammar.

**Keywords:** WhatsApp, culture, ClerKing, telecollaboration, perception.

## 1. Introduction

Telecollaborative projects help foreign language learners to connect and participate with other cultures. Helm (2015) defines telecollaboration as the act of bringing together learners of different geographical locations to engage in online, collaborative interactions, by using diverse Internet-based communication tools/platforms to develop their linguistic, cultural, and intercultural competences.

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1. University Clermont Auvergne, Clermont-Ferrand, France; oneil.madden@uca.fr; <https://orcid.org/0000-0002-9816-7444>  
2. University Clermont Auvergne, Clermont-Ferrand, France; a-laure.foucher@uca.fr; <https://orcid.org/0000-0002-2739-4017>

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Nowadays, thanks to smartphones, Mobile-Assisted Language Learning (MALL) is becoming more integrated in the education sphere, and the use of MIM, primarily WhatsApp, has become a powerful tool in second language development (Adújar-Vaca & Cruz-Martínez, 2017). WhatsApp is a cross-platform instant messaging subscription service for smartphones which uses the Internet for communication. It allows users to send messages, images, video, and audio media, as well as their location (Alsanie, 2015). Its features, such as accessibility, interactivity, immediacy, and permanency, help learners to improve their language skills (Mistar, 2016).

Chinnery (2006) posits that MALL facilitates social interaction, data exchanging, and collaboration with other learners. Learners, thus, can telecollaborate with native speakers to improve linguistic and cultural skills, despite being separated geographically. Adújar-Vaca and Cruz-Martínez (2017) contend that MALL offers “an environment where learners can ubiquitously negotiate meaning, and reflect [on] and evaluate their own performance through authentic interaction and feedback” (p. 43). Madden and Foucher (2019) conclude that WhatsApp is a suitable platform for telecollaborative projects, notably because students are familiar with it, and it does not require much cognitive manipulation.

Concerning students’ perception of WhatsApp in foreign language education, very little is known, and the current literature only provides generalised information. Malecela (2016) reports that WhatsApp helps students by facilitating communication with other students and with the instructor, by enhancing collaborative learning, and by sharing educational information. According to So (2016), some other advantages of WhatsApp are that it provides immediate messaging support, brings new learning opportunities, facilitates communication between students and teachers, provides flexible learning, and supports multimedia learning. However, for some participants, the use of WhatsApp in their learning might interfere with their private lives (So, 2016).

Using the exploratory approach, we specifically explore students’ perceptions regarding the use of WhatsApp in the ClerKing project, as well as possible potential learning sequences in the areas of language, culture, and interculturality.

## 2. Method

As explained in Madden and Foucher (2019), the telecollaborative project, ClerKing, occurred in two ten week phases between AFL students of English from UCA and Modern Languages students of French from STC. The 50 participants

were of mixed genders, between the ages of 18 and 33. There were slight differences in the pedagogical scenarios (see [Table 1](#)). Students were paired/grouped according to their profiles submitted prior to the start of the project. The primary objectives of this project were for students to practise the target language(s) studied and to develop and/or improve their linguistic, cultural, and intercultural competences in said language(s) – spoken and written, based on their respective levels (Jamaican students were between A2-B2 in French on the Common European Framework for Languages, while French students were B2-C1 in English). Students discussed different intercultural topics weekly (for example, festivals and celebrations, places of interest and nightlife, education systems, religion, and homosexual unions), and specific instructions were given regarding communication tools, language choice, and the desired outcome of each session.

Table 1. Differences in pedagogical choices between the two phases

Elements of pedagogical design	Phase 1	Phase 2
Languages of interaction	English and French (Imposed by coordinator)  Some tasks in French and others in English	English or French (Free choice)
Formats of communication	Pairs (One Clermontois and one Shortwoodite)	Groups of four (Two Clermontois and two Shortwoodites)
Communication platforms	Facebook, Facebook Messenger, Skype, WhatsApp	WhatsApp
Tasks and topics given	<ul style="list-style-type: none"> <li>• All topics imposed</li> <li>• Complete guided and systematic tasks</li> <li>• One imposed final task</li> </ul>	<ul style="list-style-type: none"> <li>• Choice of two out of ten topics</li> <li>• Complete tasks in a personal manner</li> <li>• Choice of one of two final tasks</li> </ul>

The data collection for this study comprised all the interactions that happened within ClerKing, including the individual tasks done, such as Learning Journals, as well as the two questionnaires – one completed at the start of the project, and the other at the end. The former gathered data on the participants’ biographies, linguistic competences, usage of communication tools, and elements related to intercultural communication, while the latter examined the same elements, but within the context of the project at the end. Excerpt 1 ([supplementary materials](#)) shows the students’ usage of WhatsApp in Phase 1.

### **3. Discussion of preliminary results**

In assessing students' perceptions on the use of WhatsApp in the ClerKing project, findings show that WhatsApp is practical, popular, and preferable (see Excerpt 2, [supplementary materials](#)), and is an appropriate communication tool for telecollaborative projects. However, some students thought a common WhatsApp group may not be as effective as smaller groups, because interactions can become chaotic. This can lead to an awkward and reserved atmosphere due to a lack of understanding on certain points and reluctance to see things from different perspectives.

#### **3.1. Potential learning sequences**

A potential learning sequence refers to the process through which the learner captures linguistic data in his/her interaction with a native speaker and makes them the object of internal cognitive activities (De Pietro, Matthey, & Py, 1989). This can be in the form of negotiation of meaning, reformulation, etc. However, this concept could also be applied to include the learner's intercultural positioning.

#### **3.2. Cultural and intercultural competence**

One area in which several students demonstrated potential new knowledge was religion. There were marked differences between the cultures concerning views on certain controversial topics, such as homosexual unions and religious beliefs. This sparked a heated group discussion, especially in Phase 1, on the takeaways from both cultures (Excerpt 3, [supplementary materials](#)). Talking about controversial topics can prove to be a good source of potential learning sequences; however, it can also cause intercultural friction (Excerpt 3, [supplementary materials](#)).

#### **3.3. Linguistic competence**

There were also potential learning sequences in regard to new expressions and grammar. In Phase 1, students noted different new knowledge obtained in their Learning Journal, as seen in [Figure 1](#). They seemingly demonstrated understanding of the context in which the new expression was used, and are likely to reuse it at a later time.

It was also observed that learning opportunities arose for Jamaican students to strengthen French syntax in Phase 2. As seen in [Figure 2](#) (translation in [supplementary materials](#)), throughout conversations, French students were able to

guide their Jamaican counterparts in better formulating some of their sentences, wherever inaccuracies were identified. A Jamaican student demonstrated active learning, while being helped by her French colleague. Here, we can see negotiation of meaning taking place.

One useful feature of WhatsApp is that it helps users to select and respond to specific messages instead of searching through a pile of messages.

Figure 1. Examples of expressions learned in Phase 1

Student 1
<b>New expression:</b> To manage the heat in the kitchen
<b>Situation context:</b> We were exchanging in the group talk, and things got a bit tensed.
<b>Language co-text:</b> “Where did everyone go? – They can’t <i>manage the heat in the kitchen</i> ”
<b>Meaning:</b> It means cancel the meeting.
Student 2
<b>New expression:</b> Call off
<b>Situation context:</b> My partner and I were arranging a meeting time.
<b>Language co-text:</b> We should probably <i>call off</i> the meeting and put off to tomorrow.
<b>Meaning:</b> To deal with pressure

Figure 2. Screenshot of excerpt of grammar acquisition in Phase 2





## 4. Conclusions

Our study suggests that WhatsApp is a suitable platform for telecollaborative projects, as it is the communication tool prioritised when multiple platforms are proposed. When used as a sole platform, we observed potential learning sequences on different levels: linguistic, cultural, and intercultural. In addition, students perceive WhatsApp as a practical, popular, and preferable MIM application, which can help in L2 development; this is supported by Adújar-Vaca and Cruz-Martínez (2017). WhatsApp's practicality is also due to the fact that it does not require much cognitive manipulation (Madden & Foucher, 2019).

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## 6. Supplementary materials

<https://research-publishing.box.com/s/3phh0r1cz7eskmz7alzvvv5w85c0fbu5>

## References

- Adújar-Vaca, A., & Cruz-Martínez, M. S. (2017). Mobile instant messaging: WhatsApp and its potential to develop oral skills. *Comunicar*, 25(50), 43-52. <https://doi.org/10.3916/C50-2017-04>
- Alsanie, S. I. (2015). Social media (Facebook, Twitter, WhatsApp) used, and its relationship with the university students contact with their families in Saudi Arabia. *Universal Journal of Psychology*, 3(3), 69-72. <https://doi.org/10.13189/ujp.2015.030302>
- Chinnery, G. (2006). Emerging technologies - going to the MALL: mobile assisted language learning. *Language Learning & Technology*, 10(1), 9-16.
- De Pietro, J.-F., Matthey, M., & Py, B. (1989). Acquisition et contrat didactique : les séquences potentiellement acquisitionnelles de la conversation exolingue. In D. Weil & H. Fugier (Eds), *Actes du troisième colloque régional de linguistique, Strasbourg, Université des sciences humaines et Université Louis Pasteur* (pp. 99-124).
- Helm, F. (2015). The practices and challenges of telecollaboration in higher education in Europe. *Language Learning & Technology*, 19(2), 197-217.

- Madden, O. N., & Foucher, A.-L. (2019). Understanding the complexities associated with conceptualising pedagogical scenarios for online multimodal interaction between two languages and cultures. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thouésny (Eds), *CALL and complexity – short papers from EUROCALL 2019* (pp. 263-269). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.1020>
- Malecela, I. O. (2016). Usage of WhatsApp among postgraduate students of Kulliyah of Education, International Islamic University Malaysia. *International Journal of Advanced Engineering Research and Science*, 3(10), 126-137. <https://doi.org/10.22161/ijaers/310.21>
- Mistar, I. B. (2016). Students' perception on the use of WhatsApp as a learning tool in ESL classroom. *Journal of Education and Social Science*, 4, 96-104.
- So, S. (2016). Mobile instant messaging support for teaching and learning in higher education. *The Internet and Higher Education*, 31, 32-42. <https://doi.org/10.1016/j.iheduc.2016.06.001>

# Hooked to WhatsApp. Can we take advantage of it?

Dunia Martínez<sup>1</sup> and Christine Appel<sup>2</sup>

**Abstract.** The implementation of technology in the classroom has allowed language teachers to promote and adopt student-centred approaches. Mobile Instant Messaging (MIM) applications are on the frontline as one of the most widely used social networking platforms holding great potential for language learning and teaching. This preliminary study tries to understand if Spanish teenagers and young adults who study English as a Foreign Language (EFL) consider MIM as a significant learning platform that can help improve and support their language learning skills. The survey target participants were 22 students, aged 13 to 18, who study EFL as an extracurricular activity in a private language school. This study suggests that MIMs can be useful support tools and motivating for students. It also shows willingness of participants towards the use of MIM in their classroom.

**Keywords:** MIM, WhatsApp, instant messaging, normalisation.

## 1. Introduction

Mobile technologies have increased substantially in recent years, and are changing quickly year by year, giving teachers the opportunity of implementing mobile technology in the classroom, allowing them to promote and adopt student-centred approaches (Tayan, 2017).

Industry reports that there has been a significant growth of people owning smartphones, and using MIM applications such as WhatsApp, and Facebook Messenger, among others (Statista, 2019). The generation we are educating these days have become addicted to these apps for social interaction and pleasure.

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1. Universitat Oberta de Catalunya, Barcelona, Spain; [dmartinezfo@uoc.edu](mailto:dmartinezfo@uoc.edu); <https://orcid.org/0000-0001-8094-3161>

2. Universitat Oberta de Catalunya, Barcelona, Spain; [mappel@uoc.edu](mailto:mappel@uoc.edu); <https://orcid.org/0000-0002-9528-7002>

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Therefore, MIM applications have emerged as potential tools to enhance learning English as a second language (Andújar, 2019; Tang & Hew, 2017).

Realising the importance of MIM applications and education co-evolving in mutually supportive roles to bridge the gap between formal and informal learning (Tan & So, 2014), the objective of this study is to explore and identify the motivations and reluctance of Spanish teenagers and young adults who study EFL through the use of mobile instant messaging applications used as support tools for various classroom activities.

## **2. Method**

### **2.1. Population**

Twenty-two students (N=22), 16 female and six male, aged 13 to 18, participated in this study. They all study EFL in a language school near Barcelona. They are all bilingual Catalan/Spanish. Ten students were taking a B1 course<sup>3</sup>, and 11 students were taking a C1 level course at the time of the study.

### **2.2. Instruments and context**

The instruments used to collect the data of this study were a pre-questionnaire and a post-questionnaire, and observations of the students' performances and interactions when using WhatsApp. Both questionnaires were in English and Spanish to ensure students' comprehension.

Questions in the pre-questionnaire were designed to gain a better understanding of their willingness to use a MIM app as a support tool in the EFL classroom, and their preferred application.

Taking the information we gathered from the pre-questionnaire into consideration, a WhatsApp group was created for each group, B1 and C1, as it was the most popular instant messaging application among them. In these WhatsApp groups, a series of activities were carried out (see Figure 3). By the end of the course, students were given a post-questionnaire to ascertain their opinions about the experience.

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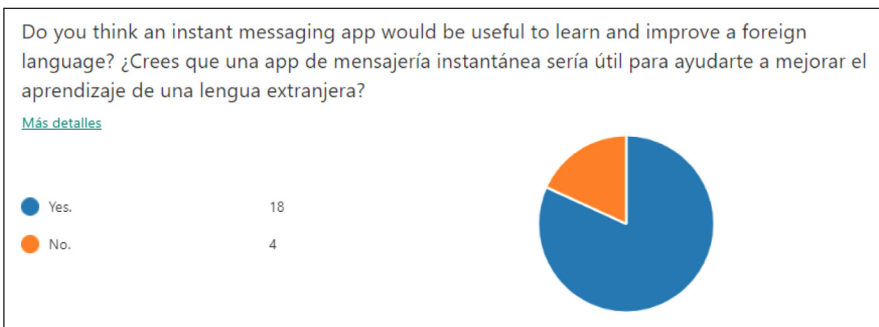
3. Common European Framework of Reference for Languages (CEFR)

### 3. Results and discussion

#### 3.1. Students' pre-questionnaire results

Figure 1 shows that students believe that an instant messaging application would be useful to learn and improve one's ability in a foreign language. The four students who did not believe an application would be useful in this regard, referred to the fact that people did not write correctly when using an instant messaging application. The majority of the students thought it would be useful because they could improve their communication.

Figure 1. Students' opinions on the use of MIM in the classroom



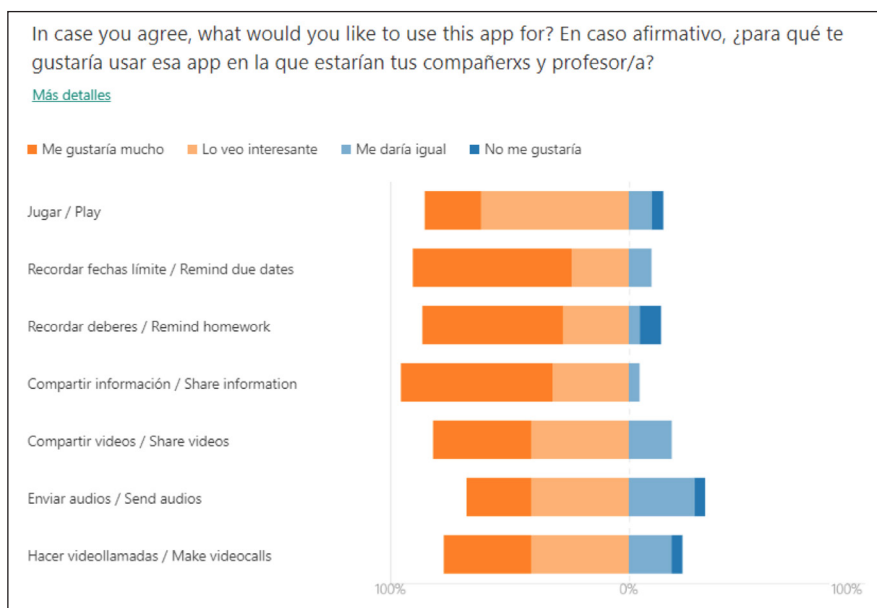
When students were asked whether they would agree to use an instant messaging application in the classroom as a support tool, ten of them were willing to, 11 were indifferent, and one student was not willing. However, when they were asked whether they would agree to their teacher creating a group so that they could communicate with their classmates and instructor, the majority (19) responded positively.

Figure 2 shows that 66.7% of students would like to use this application to remind them of their due dates; 63.6% to share information; 59.1% of students would like to use this application to remind them of their homework; 40.9% of students would like to share videos, 36.4% would like to make video calls; 27.3% would like to send audio files, and 23.8% would like to play (Kahoots, having fun sharing memes, and so on).

Students showed a positive attitude towards using MIM applications in the classroom as a support tool. WhatsApp is the application the majority of students

know and use, and that is why we decided to use it in the classroom. Accordingly, some tasks and activities were prepared, taking into account the students' responses (see Figure 3).

Figure 2. Students' motives to use instant messaging application



### 3.2. Students' post-questionnaire results

Fourteen out of the 22 students answered the post-questionnaire.

Students answered the activity they liked the most was having fun, followed by solving doubts, speaking tasks, sharing videos, and deadlines reminders, and the one they liked the least was the extra practice (Figure 3). Students gave several reasons for these answers:

- they enjoyed these kinds of activities;
- they had a lot of fun, and it was an excellent way to stay in touch after the lessons;
- they could solve doubts after class;

- such activities make the atmosphere in the group very pleasant;
- it was a good way to exchange information and connect better with the teacher; and
- it helped them catch up if they missed a lesson.

Figure 3. Students' preferences of activities



When they were asked which activity they had found the most useful, the majority mentioned that it was the speaking tasks and sharing videos, followed by the fact that doubts (grammar, deadlines, homework, and so on) were solved very quickly.

When asked which activity they had considered the least useful, the majority said they had all been useful for different reasons. One student stated that the speaking task was challenging because it was difficult for them to record audios, and another one said that sharing videos was not very useful because you only see and listen to the video, with no real purpose.

### 3.3. Observations of students' performances and interactions

Four students who were active in the classroom were not very active in the WhatsApp group. Conversely, six students who were not very active in the classroom were engaged in the WhatsApp group and participated. Three students did not participate in the interaction in the WhatsApp group, but sent private messages to the teacher when in doubt (grammar, deadlines, homework, and so on). One student who was

not active during the lessons was not very active in the WhatsApp group either. The rest of the students (eight) were both active in the classroom and the WhatsApp group. The students taking B1 used Spanish most of the time to communicate with each other, although they tried to use English when addressing the teacher.

An unplanned activity that emerged in the WhatsApp groups was the unexpected exchange of memes and stickers related to the topics of learning activities; all these in the target language.

## 4. Conclusions

While students reported in the pre-questionnaire that they would find WhatsApp useful for reminders and observations, post-questionnaire findings revealed that interaction with others and knowledge exchange were the aspects that they enjoyed the most. The discrepancies between the expectations of students before and after taking part in WhatsApp activities indicate that the implementation of new activities should not be restricted to what the students may suggest in pre-questionnaires.

WhatsApp's most popular uses found in this study were linked to fun activities and the immediate access to responses to their doubts (grammar, deadlines, homework, and so on). It is not surprising as participants are used to using WhatsApp in general, sharing humorous expressions through memes and stickers, and immediate interaction with others.

This study indicates that using MIM can be a valuable support and motivational resource for students, and demonstrates their willingness to use MIM in their EFL classroom. In this study, WhatsApp provided all students, including those who are not very involved in the classroom, with communicative opportunities to learn indirectly both outside and inside the classroom. However, further research with a larger number of students and in different contexts is needed to address the question of how the use of MIM in the classroom can be normalised (Bax, 2011).

## References

- Andújar, A. (2019). Evaluating mobile instant messaging for L2 development: a longitudinal investigation. In M. Kruk (Ed.), *Assessing the effectiveness of virtual technologies in foreign and second language instruction* (pp. 191-215). IGI Global. <https://doi.org/10.4018/978-1-5225-7286-2.ch008>



- Bax, S. (2011). Normalisation revisited: the effective use of technology in language education. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 1(2), 1-15.
- Statista. (2019). *Number of smartphone users by country as of September 2019*. <https://www.statista.com/statistics/748053/worldwide-top-countries-smartphone-users/>
- Tan, E., & So, H. J. (2014). Rethinking the impact of activity design on a mobile learning trail: the missing dimension of the physical affordances. *IEEE Transactions on Learning Technologies*, 8(1), 98-110. <https://doi.org/10.1109/TLT.2014.2376951>
- Tang, Y., & Hew, K. F. (2017). Is mobile instant messaging (MIM) useful in education? Examining its technological, pedagogical, and social affordances. *Educational Research Review*, 21, 85-104. <https://doi.org/10.1016/j.edurev.2017.05.001>
- Tayan, B. M. (2017). Students and teachers' perceptions into the viability of mobile technology implementation to support language learning for first year business students in a Middle Eastern university. *International Journal of Education and Literacy Studies*, 5(2), 74-83. <https://doi.org/10.7575/aiac.ijels.v.5n.2p.74>

# Beyond frequency: evaluating the lexical demands of reading materials with open-access corpus tools

Juliane Martini<sup>1</sup>

**Abstract.** The aim of the present study was to evaluate the appropriateness of open-access reading materials for an intensive English for Academic Purposes (EAP) course, and to provide teachers with a set of criteria to select online texts systematically and efficiently. The Corpus for Veterinarians (VetCorpus) was compiled and analyzed using Lextutor corpus tools. Taking into account students' vocabulary size, background knowledge, word frequency, proper nouns, compound words, and cognates, the VetCorpus was considered useful and appropriate for intermediate level students, but too difficult for elementary level students. Further lexical analysis showed that the VetCorpus also provides learners with opportunities to encounter technical and academic vocabulary.

**Keywords:** corpus tools, open-access reading materials, vocabulary, EAP.

## 1. Introduction

Open educational resources are valuable tools for second language education. They provide teachers and learners with a sheer volume of freely accessible materials and resources; however, quantity does not necessarily mean quality, usefulness, and appropriateness. In order to select reading resources, teachers need to know how to evaluate these materials using corpus tools so that they are able to identify lexical demands and opportunities to encounter target vocabulary.

Lexical coverage based on frequency plays an important role on L2 comprehension. Research suggests that 98% known-word coverage, or “the percentage of words a reader understands” (Laufer & Ravenhorst-Kalovski, 2010, p. 16), is necessary for reading comprehension without assistance (Hu & Nation, 2000). Beyond frequency,

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1. Western University, London, Ontario, Canada; juliane.martini@uwo.ca; <https://orcid.org/0000-0001-8818-8244>

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other factors also play a role on coverage and reading comprehension. For instance, learners' background knowledge contributes to reading comprehension (Leeser, 2007). The facilitating effects of L2-L1 cognates (Proctor & Mo, 2009) and transparent compound words (Schmidtke, Van Dyke, & Kuperman, 2018) are also well documented in research. Furthermore, empirical evidence suggests that proper nouns, despite their learning burden, should not be considered lexical items when evaluating text readability (Cobb, 2010).

The present study aimed to evaluate the appropriateness of open-access reading materials, and to provide teachers with a set of criteria to select online texts systematically and efficiently. This paper addresses the following research questions.

- How can teachers use open-access resources to collect a corpus of reading materials for EAP students enrolled in Veterinary and Animal Science programs – VetCorpus?
- Is the VetCorpus appropriate for elementary and intermediate level learners?
- Does the VetCorpus provide learners with opportunities to encounter technical and academic vocabulary?

## **2. Method**

### **2.1. Participants**

The reading materials were selected for an intensive EAP course in a university in Canada. The students were 29 Portuguese-L1 learners of English enrolled in a study-abroad undergraduate program in veterinary and animal science. Based on their TOEFL<sup>2</sup> scores, students were divided into two proficiency levels: elementary ( $M=391$ ,  $SD=22$ ) and intermediate ( $M=480$ ,  $SD=29$ ).

### **2.2. Corpus collection and analysis**

The initial selection of reading materials to supplement their EAP textbooks was based on topic, teachers' intuition, and trial and error testing. Two experienced English as a second language teachers evaluated the texts based on the successful completion of recall tasks and students' perceptions of readability. This approach

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2. Test of English as a Foreign Language

proved to be inefficient, frustrating, and time consuming. The teachers expressed the need for a systematic approach to materials selection that could be applied to their real-world context.

Drawing on students’ interests and background knowledge, the VetCorpus was composed of 20 animal related texts of various lengths (approximately 300 to 900 tokens) found in the Science in the News section of the Voice of America website. Reading field specific texts gives students the advantage of approaching the materials with a reasonable level of background knowledge.

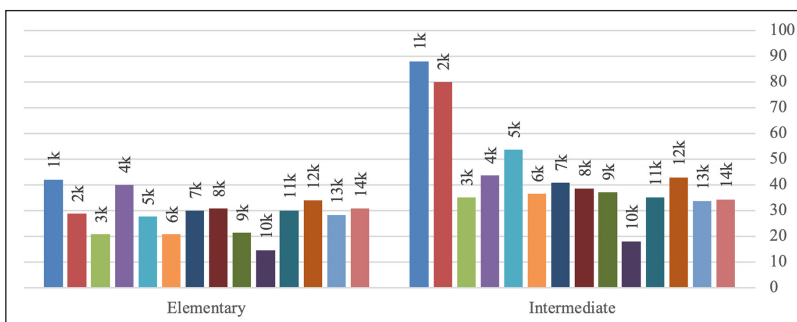
Learners’ receptive vocabulary was tested with the Vocabulary Size Test (VST) (Beglar & Nation, 2007). The VST scores were used to establish a threshold for 98% cumulative known-word coverage in these materials. Next, frequency profiling of the corpus was performed. Lextutor was selected for this study because it offers open-access, web-based tools. VPCompleat calculated the cumulative percentage coverage by frequency level for the corpus based on the BNC-COCA. Subsequently, the helpful role of proper nouns, compound words, and cognates were identified. An additional lexical profiling based on Coxhead’s (2000) Academic Word List (AWL) was performed.

### 3. Results

#### 3.1. VST

The VST scores showed a variation in vocabulary size from 2,700- to 7,400-word families at various frequency levels.

Figure 1. VST mean scores by frequency band for elementary and intermediate level learners



While intermediate level learners were likely to understand the 2,000 most frequent words in a text, elementary level learners lacked knowledge of words at all frequency levels. [Figure 1](#) above shows the mean scores by frequency band for each level. Even though the VST is not a precise measure of vocabulary by frequency level, it gives us an approximation of students' vocabulary knowledge.

### 3.2. Vocabulary profiling

Vocabulary profiling indicated that, if the learners know the 2,000 most frequent words in English, they are likely able to understand approximately 85.2% of the words in the corpus. This coverage suggested that the texts were too difficult for elementary and intermediate level learners. However, lexical frequency profiling as a sole indicator of comprehension is not enough to evaluate the readability of a text.

Proper nouns were then included in the 1,000-frequency band count. If proper nouns were to be included as lexical items in the off-list, the lexical demands of these texts would have seemed much higher than they really are. Lextutor also allows us to break compound words apart. The advantage of this option is that, if the meaning of compound words is transparent, learners may be able to find the meaning of the whole. The addition of proper nouns (e.g. *Paris* and *American*) and compound words (e.g. *houseboat* and *sandbag*) to the high-frequency levels increased the known-word coverage in the VetCorpus to 92.5%, representing a substantial increment of approximately 7% of words that L2 learners may understand.

English-Portuguese cognates were first identified by the English-French cognate tool in Vocabprofile, followed by a manual selection of obvious English-Portuguese cognates (e.g. *international/international*) by two L1-Portuguese raters. The addition of obvious cognates to the frequency profiling increased the known-word coverage in the corpus to approximately 97%.

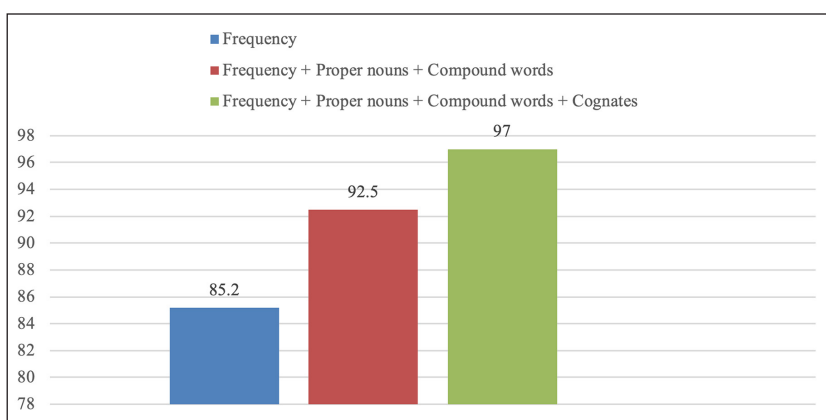
### 3.3. Technical and academic vocabulary

The final lexical analysis showed that the VetCorpus provides learners with opportunities to encounter technical vocabulary (e.g. *microorganisms* and *circadian*) and academic vocabulary (e.g. *analyze* and *resource*). [Coxhead's \(2000\)](#) AWL provided a coverage of approximately 4% of the VetCorpus. Although the AWL usually represents 10% of words in academic texts, this coverage in news articles can be very useful for EAP students.

## 4. Discussion

The VetCorpus proved to be appropriate for unassisted reading comprehension for intermediate level learners, or those who know the 2,000 most frequent words in English. Figure 2 shows that the addition of proper nouns, compound-word parts, and obvious cognates to the initial coverage increases the known-word coverage in the corpus to approximately 97%. The coverage is still below 98%, but now it represents a more manageable size for those learners.

Figure 2. Cumulative known-word coverage



As for elementary level learners, the texts in VetCorpus proved to be too difficult for unassisted reading comprehension. Yet, they can be used for instructed reading comprehension as students advance to the next level.

In order to help teachers find a systematic and efficient way to evaluate their online materials, this analysis suggests the following steps:

- select field specific text topics;
- use frequency profiling to assess text difficulty in relation to learners' vocabulary knowledge;
- identify the helpful role of proper nouns, compound words, and cognates; and
- identify the opportunities to encounter target vocabulary.

## 5. Conclusion

In conclusion, 98% known-word coverage should be a goal for adequate unassisted reading comprehension. Frequency profiling is a good indicator of reading comprehension, but other lexical analyses beyond frequency should be used. The VetCorpus proved to be appropriate for students who know the 2,000 most frequent words in English for many reasons. First, learners will approach the texts with some background knowledge on the topics and will encounter specialized vocabulary that is important in their academic studies. Second, even though known-word coverage seems to be only 85%, further analysis indicated that students may be able to understand approximately 97% of tokens in the corpus. Finally, it is important for teachers to carry out systematic evaluations of their materials so that they can help learners read and understand texts more efficiently.

## 6. Acknowledgments

I would like to thank Marlise Horst and Tom Cobb for their valuable feedback.

## References

- Beglar, D., & Nation, P. (2007). A vocabulary size test. *The Language Teacher*, 31(7), 9-13.
- Cobb, T. (2010). Learning about language and learners from computer programs. *Reading in a Foreign Language*, 22, 181-200.
- Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 34(2), 213-238.
- Hu, M., & Nation, P. (2000). Unknown vocabulary density and reading comprehension. *Reading in a Foreign Language*, 13(1), 403-430.
- Laufer, B., & Ravenhorst-Kalovski, G. C. (2010). Lexical threshold revisited: lexical text coverage, learners' vocabulary size and reading comprehension. *Reading in a Foreign Language*, 22(1), 15-30.
- Leeser, M. J. (2007). Learner-based factors in L2 reading comprehension and processing grammatical form: topic familiarity and working memory. *Language Learning*, 57(2), 229-270.
- Proctor, C. P., & Mo, E. (2009). The relationship between cognate awareness and English comprehension among Spanish-English bilingual fourth grade students. *TESOL Quarterly*, 43(1), 126-136. <https://doi.org/10.1002/j.1545-7249.2009.tb00232.x>
- Schmidtke, D., Van Dyke, J. A., & Kuperman, V. (2018). Individual variability in the semantic processing of English compound words. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 44(3), 421. <https://doi.org/10.1037/xlm0000442>

# Learning to adapt, adapting to learn: redefining online EFL teachers' roles

Theologia Michalopoulou<sup>1</sup>

**Abstract.** The paper investigates Greek online students' and instructors' beliefs on the role that online English as a Foreign Language (EFL) teachers play in synchronous online courses delivered through Skype. Fifty-six online teachers and 93 online adult learners participated in a quantitative research project answering two different online questionnaires. The results showed that most online teachers and learners are satisfied with their technological expertise. Students' levels of satisfaction with online courses is greater than teachers', while there is significant association between teachers' technology familiarization and their satisfaction with online instruction. Teachers' technological expertise is strongly associated with their opinion on the effectiveness of online language courses. Finally, both groups agree that it is primarily the teachers' responsibility to be familiarized with technology to support online education.

**Keywords:** online learning, EFL, teachers' role, synchronous lessons.

## 1. Introduction

Implementing technology in traditional educational contexts has caused a re-imagining of education and educators' roles. The latter are required to adopt different responsibilities to adjust to the demands of the new online reality (Söderström, From, Löfqvist, & Törnquist, 2012).

The purpose of this paper is to examine the role of EFL teachers as it has been (re) defined due to the introduction and spread of online learning. The research was conducted in Greece and is based on two research questions:

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1. Aristotle University of Thessaloniki, Thessaloniki, Greece; [thelmamich@gmail.com](mailto:thelmamich@gmail.com); <https://orcid.org/0000-0002-0248-7612>

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- to what extent can participants' familiarization with technology affect their views toward online education; and
- what expectations do students have from their online instructors?

## 2. Method

Fifty-six online Greek EFL instructors and 93 online Greek adult EFL learners participated in a quantitative research and answered two separate anonymous questionnaires developed by the researcher and distributed through Google forms.

The final form and content of the questionnaires was decided after the researcher conducted a small pilot survey with 20 participants. Once the data collection was completed, the responses were imported on the IBM SPSS statistics software. Mann-Whitney and Chi-square tests were conducted for the purposes of the research. The participants were attending or delivering synchronous online lessons on Skype. Both freelance and teachers who work in schools regardless of the number of students who attend their courses were eligible participants.

## 3. Results

Seventy-seven percent of teachers and 65% of students were female. Fifty-two percent of the teachers were 31-40 years old, while students' ages varied from 18-25 to more than 50. Sixty-eight percent of teachers have been teaching online for less than two years and 7% for five to ten years. Four percent had their first teaching experience through online courses. Online teachers characterize their familiarization with technology as 'very good' (59%) or 'good' (32%). Learners regard themselves as 'very good' (41%) or 'good' (40%) users of technology.

A Mann-Whitney test (Table 1) indicated that the level of satisfaction with online courses is greater for students than for teachers ( $U=1921.5, p=0.003$ ).

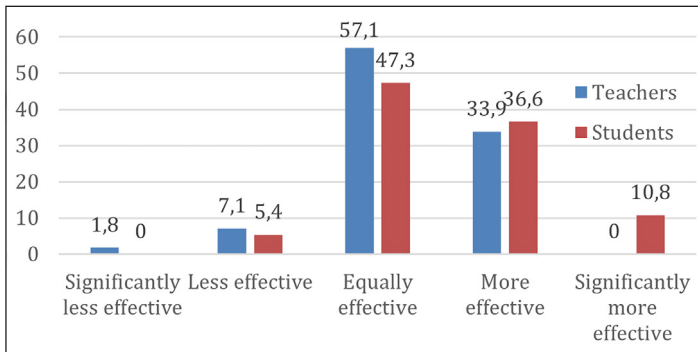
Table 1. Mann-Whitney test

	Groups	N	Mean Rank	Sum of Ranks
Satisfaction	Teachers	56	62.81	3517.50
	Students	93	82.34	7657.50
	Total	149		

A Chi-square test showed a statistically significant association between teachers' technology familiarization and their satisfaction ( $\chi^2(4, N=56)=13.792, p=0.008$ ); however, no association was found between students' familiarization and satisfaction ( $\chi^2(9, N=93)=13.792, p=0.963$ ).

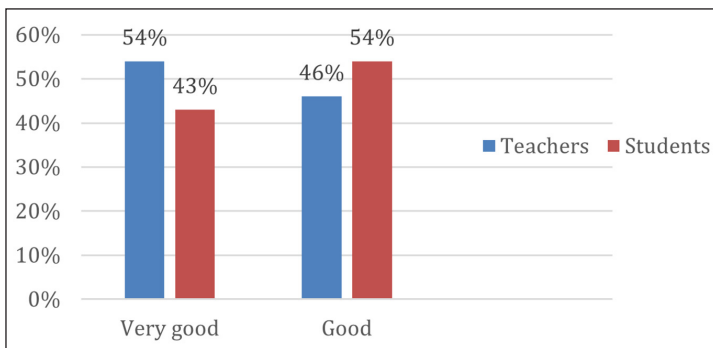
Teachers and students support the effectiveness of the online EFL courses compared to the 'traditional' format as the following chart shows (Figure 1).

Figure 1. Online lessons' effectiveness



A Chi-square test indicated a statistically significant association between teachers' technological expertise and their opinion on the effectiveness of online language courses ( $\chi^2(6, N=56)=20.821, p=0.002$ ). Therefore, the more comfortable teachers feel with technology, the more effective they regard online courses. Both groups have high expectations from teachers regarding their tech skills as the chart indicates (Figure 2).

Figure 2. How good with technology should teachers be?



Since students' technical problems (71%) are online lessons' biggest disadvantage, they probably expect from their teachers to be able to provide them with solutions.

Forty-three percent of teachers recognize their increased responsibilities and highlight their need for specialized training to improve the quality of online courses in Greece. The second most popular opinion (36%) was their need for those courses to be more advertised in order to increase their popularity. Students agree on the importance of advertising (46%), while 25% highlight the necessity of teacher training. A chi-square test was performed to determine any association between teachers' years of teaching online and their views on what needs to change in order for online language lessons to improve. No statistically significant association was found ( $\chi^2(8, N=56)=2.961, p=0.937$ ).

Nevertheless, online teachers still hold more 'traditional' responsibilities, as their students' learning goals indicate. They are still expected to help their learners with their professional development (33%), provide assistance to students living in a foreign country or planning to do so (28%), prepare them for language proficiency tests (19%), or support their desire to learn English for pleasure (18%).

## 4. Discussion

The present research showed that a teacher's responsibility is to monitor, guide, and help students achieve their goals while making sure that the lesson aims are achieved. Nevertheless, in an online context, those roles take up additional meanings.

As facilitators, teachers need to be ready to provide solutions to technical problems and assist students who have a hard time handling tech devices. In such cases, "redundancy is often better than elegant succinctness" (Ko & Rossen, 2010, p. 125). Any barriers imposed by traditional learning can be overcome thanks to the personalization that online instruction offers, as long as the educator is able to offer such assistance (Hetzner & Leen, 2012). Besides, the results indicated that the more familiarized with technology teachers are the more satisfied they are with online education and the more they believe in its effectiveness.

Despite students' high expectations from their teachers, this should not entail that a good online teacher equals a tech specialist. Teachers and students sometimes

forget that, resulting in the former feeling pressure to live up to the latter's expectations (Chun, Kern, & Smith, 2016). Educators should not believe that they are expected to provide a lesson that resembles a social networking site (Ko & Rossen, 2010). Instead, students' high expectations should connote the teacher's duty to be adequately familiar with technology in order to inspire trust and guide students out of technical inconveniences.

As it has been argued, online teachers should "keep up with the latest communication and content-creation trends and [...] judiciously choose those that [...] harbor a promise of enhancing their instructional strategies" (Ko & Rossen, 2010, p. 395). The word 'judiciously' encompasses the true meaning of this new educational reality which provides new tools to teachers and encourages them to assess and adopt the ones suitable to their own and their learners' needs.

To save educators from pressure and inspire more teachers to embrace online teaching, it is important to emphasize that teaching online is not for the elite of educators. It is from and for everyone. The diversity of the participants' ages and proficiency levels attests that. This inclusion is what charges educators with the roles of leaders and explorers, making them responsible for encouraging learners to embrace the potential that modern technologies in language classes offer.

This can be achieved if students are aware of the importance of using technology properly and safely. As teachers are entrusted with the role of safeguarding and warning learners against improper use, online courses promote multi-literacy and render language learning only one of the educational aims, along with I.T. and other skills.

Finally, the teacher develops a different kind of relationship with their students due to the distinct characteristics of online and distance education in general. Since the teacher does not share the same physical space as the students, it is the former's job to inspire autonomy and responsibility in a more crucial way than in an offline classroom.

The afore-mentioned roles have taken a toll on teachers who are asking for more substantial support in the form of specialized training. Therefore, universities need to consider including relevant courses in their curricula to increase teachers' confidence. Similarly, seminars and training programs on advertising specifically addressed to online educators could potentially increase the popularity of online lessons.

## 5. Conclusion

Considering that technology is “so pervasive [...] that to teach language without [it] would create a very limited and artificial learning environment – if it were even possible at all”, teachers are called to take up the tedious task of adjusting and catering for the demands of today’s EFL learners (Chun et al., 2016, p. 65). Their roles as facilitators, moderators, and explorers have not ceased being applicable, yet they have taken up additional meanings.

Since – to the researcher’s knowledge – no previous research has been conducted on online EFL teaching in Europe, it is hoped that the present research will be valuable for teachers, students, and researchers who are interested in online foreign language education and pedagogy.

Despite the changes and developments that the teachers’ roles are going through due to the spread of online instruction, it is important to remember that a good teacher will always be a good teacher – whether online or offline.

## References

- Chun, D., Kern, R., & Smith, B. (2016). Technology in language use, language teaching, and language learning. *The Modern Language Journal*, 100(S1), 64-80.
- Hetzner, S., & Leen, E. A. (2012). Personalisation and tutoring in e-Learning—the key for success in learning in later life. *European Journal of Open, Distance and E-learning*, 16(2), 14-25.
- Ko, S. S., & Rossen, S. (2010). *Teaching online: a practical guide* (3rd ed.). Routledge.
- Söderström, T., From, J., Löfvqvist, J., & Törnquist, A. (2012). From distance to online education: educational management in the 21st century. *European Journal of Open, Distance and E-learning*, 15(2).

# Sentence complexity as an indicator of L2 learner's listening difficulty

Maryam Sadat Mirzaei<sup>1</sup> and Kouros Meshgi<sup>2</sup>

**Abstract.** This paper investigates the effect of sentence complexity, specifically lexical and syntactic surprisal, on L2 listening difficulty. Psycholinguistic studies revealed that surprisal cases correlate with textual comprehension difficulty. Based on surprisal theory, these cases are less probable or expected, considering the precedent context, thus require more complex processing to comprehend. Little is known about the influence of the surprisal factor on L2 listening comprehension. We aim to examine this effect and propose to include these cases in captioning to assist L2 listeners. Since conventional captions include the whole transcript, we use Partial and Synchronized Caption (PSC) with limited textual clues, which allows for highlighting surprisal cases to reduce ambiguity. In our experiment, intermediate learners of English (undergraduates) were asked to transcribe and paraphrase videos containing surprisal cases. Results revealed that learners faced difficulty when encountering surprisal, which was partially addressed with the help of PSC, yet more assistance was required.

**Keywords:** partial and synchronized caption, surprisal model, parsing complexity.

## 1. Introduction

Investigating appropriate methods to teach L2 listening is a continuing concern given that listening has been long considered as a passive skill (Osada, 2004). Several factors are known to make L2 listening difficult, including acoustic, lexical, syntactic, and content-related features (Bloomfield et al., 2010). Previous research has investigated the influence of syntactic features on reading difficulty, but this aspect is not adequately considered in L2 listening. One of the elements involved

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1. RIKEN AIP, Tokyo, Japan; maryam.mirzaei@riken.jp; <https://orcid.org/0000-0002-0715-1624>

2. RIKEN AIP, Tokyo, Japan; kouros.meshgi@riken.jp; <https://orcid.org/0000-0001-7734-6104>

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in sentence complexity is surprisal, which relates to the predictability of a word in the context, with a highly probable word being easier to process. According to the expectation-based model for syntactic comprehension, one measures the probability of the next input based on the preceding context (Levy, 2008). Studies using fMRI, EEG, and eye-tracking provide evidence for the effect of surprisal on working memory load, reading time, and comprehension (Smith & Levy, 2013). However, little is known about how this factor affects L2 listening.

In this study, we investigate whether syntactic and lexical surprisal affects L2 listening difficulty and propose the inclusion of this factor in PSC to facilitate listening. PSC is a captioning tool that automatically detects difficult words/phrases, includes them in the caption, and removes trivial cases (partial). It also synchronizes each word with the relevant speech segment (word-level synchronization). PSC aims to decrease dependence on the caption and promote listening over reading (Mirzaei, Meshgi, & Kawahara, 2018). Only acoustic (speech rate, breached boundaries, acoustically similar words) and lexical factors (word frequency, specificity) are used in PSC, yet sentence complexities are not addressed. In this study, we focus on syntactic surprisal using the structural confusion of a sentence, discovered by a probabilistic grammar/parser. We also measure lexical surprisal, utilizing the probability of the next word based on a corpus-based N-gram. The words with high surprisal scores are selected to be included in PSC.

Figure 1. Screenshot of a surprisal case appearing in PSC



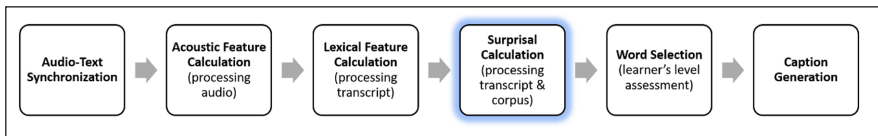
Figure 1 above shows a TED talk with PSC that includes a surprisal case ([tsunami of] doubt). The selective nature of PSC allows for highlighting challenging aspects of listening. By adding surprisal, we aim to facilitate recognition and comprehension, decrease cognitive load, and foster ambiguity resolution.

## 2. Lexical and syntactic surprisal for L2 listening

There is a strong correlation between lexical or syntactic surprisal with the required effort for parsing and processing the sentences (e.g. “the horse raced past the barn fell”). This notion is based on surprisal theory (Levy, 2008), which assumes that a word’s predictability can determine difficulty. In this view, the cognitive effort it takes for the learner to process a word is proportional to its surprisal (Hale, 2001).

Speech is transient, and we can assume that when a learner encounters a word that is different from what she/he expects to hear, the attention is confined, leading to confusion, cognitive overload, and misrecognition. A similar situation can happen when a learner tries to match a preferred sentence structure to an input speech and finds a mismatch. To investigate this hypothesis, we included the words having a high surprisal score to the PSC generated for TED talks to be used as material for L2 listeners (Figure 2).

Figure 2. The procedure for generating PSC including surprisal cases



We used N-gram surprisal and PCFG<sup>3</sup> surprisal to detect lexical and structural surprisal cases. N-grams are calculated on TED corpus using *KenLM*, and the lexical surprisal is calculated as the negative log probability of the word given the previous  $N-1$  words. A *PCFG-based incremental parser* (van Schijndel, Exley, & Schuler, 2013) is employed to determine the dependency relations of previous words. Similar to how humans comprehend the input, an incremental parser integrates incoming words in a syntax that fits the preceding context. Surprise arises when the input word changes the probability distribution over the possible parses, namely the expectation of the parser about the underlying syntax. Each word of an

3. Probabilistic Context-Free Grammar



N-gram ending with a lexical surprisal is included in PSC to facilitate recognition and avoid surprises. For syntactic surprisal, a part of the sentence whose parse tree is changed drastically when processing the latest input is considered surprising and is shown in the caption all at once.

### 3. Preliminary evaluation and discussion

Our participants were 17 Japanese and nine Chinese engineering undergraduates who were intermediate learners of English (aged 19-21 with 520~725 TOEIC<sup>4</sup> scores  $\approx$  CEFR<sup>5</sup> B1). We selected 20 clips from TED videos, on average 37 seconds, each including one surprisal case (ten lexical and ten syntactic cases) and one easy case (control). The easy cases were selected using PSC's difficulty measures (i.e. words that are automatically omitted for being trivial). When selecting the surprisal cases, we made sure that acoustic-related difficulties are not present.

The participants were asked to watch each video segment and fill the blanks for the 2~3 words in the last sentence, when the video was paused. Subsequently, they were asked to paraphrase that sentence. The purpose was to check how accurately the learners can transcribe/paraphrase easy versus surprisal cases.

Figure 3 shows participants' correct and incorrect answers on easy versus surprisal cases as well as their scores of the paraphrasing task. As the figure suggests, participants could transcribe the easy cases significantly better than the surprisal ones. Data shows that learners faced slightly more difficulties in transcribing lexical surprisals as compared with syntactic surprisals. However, this difference was not statistically significant ( $p=0.35$ ). In the paraphrasing task, learners' scores indicate that more difficulty is associated with syntactic surprisal case. It can be argued that lexical surprisal leads to more misrecognition (e.g. [tsunami of] 'doubt', transcribed as 'that'), while syntactic surprisal makes comprehension more difficult.

Finally, to check if the inclusion of surprisal cases in PSC can assist learners with listening, we asked the participants to re-paraphrase the target segment after watching it with enhanced PSC (showing surprisal cases). The results are demonstrated in Figure 4, which indicates that PSC could significantly facilitate comprehension for lexical surprisal cases ( $p<0.05$ ). Although including syntactic cases in PSC resulted in better scores, the improvement was not significant ( $p=0.06$ ). Moreover, participants' overall scores reflect that a better sort of scaffold

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4. Test of English for International Communication

5. Common European Framework of Reference for languages

is necessary to help them improve their performance. This finding suggests that merely showing these cases in PSC was not adequate for alleviating comprehension difficulty. Thus a better method should be considered to help learners comprehend structural surprisals. Generating shorter or simplified sentences and presenting them along with the original one in PSC could be one way to address this issue. Furthermore, repeating the experiment with control and treatment groups and learners of different proficiency levels can provide insights to design better tools.

Figure 3. Participants' scores on transcription and paraphrasing of easy versus surprisal cases

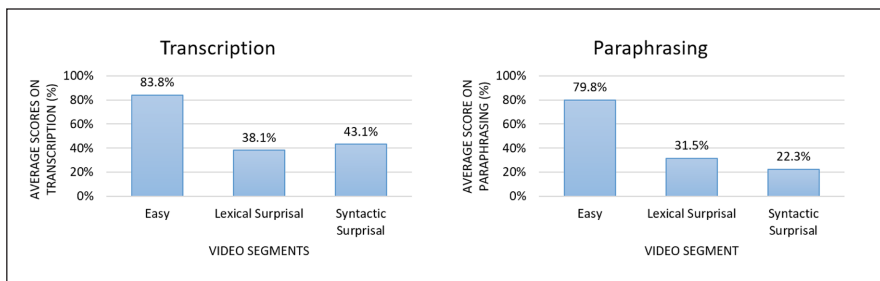
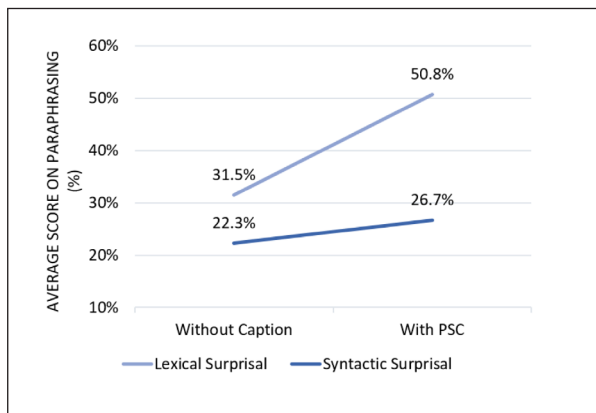


Figure 4. The score of participants on paraphrasing task with/without using PSC



#### 4. Conclusions

We investigated the influence of syntactic and lexical surprisal on L2 learners' listening and found that the existence of surprisal cases leads to difficulty in

recognition (cloze-test transcription) and comprehension (paraphrasing test) of the speech input. Findings revealed that the inclusion of these cases into PSC is more helpful with lexical surprisal cases than structural ones. However, further evaluation is necessary to find in what ways, including these cases into PSC, can foster listening. Additionally, more conclusive results could be gained using eye-trackers to investigate the learner's fixation and cognitive load when surprisal cases are presented in the caption. Future work should consider a more effective method to address these cases. Simplification of the syntactic surprisal cases and adding them to caption could be one approach to consider.

## References

- Bloomfield, A., Wayland, S. C., Rhoades, E., Blodgett, A., Linck, J., & Ross, S. (2010). *What makes listening difficult? Factors affecting second language listening comprehension*. Maryland University College Park. <https://doi.org/10.21236/ada550176>
- Hale, J. (2001). A probabilistic early parser as a psycholinguistic model. In *Proceedings of the second meeting of the North American Chapter of the Association for Computational Linguistics on Language technologies* (pp. 1-8). <https://doi.org/10.3115/1073336.1073357>
- Levy, R. (2008). Expectation-based syntactic comprehension. *Cognition*, 106(3), 1126-1177. <https://doi.org/10.1016/j.cognition.2007.05.006>
- Mirzaei, M. S., Meshgi, K., & Kawahara, T. (2018). Exploiting automatic speech recognition errors to enhance partial and synchronized caption for facilitating second language listening. *Computer Speech & Language*, 49, 17-36. <https://doi.org/10.1016/j.csl.2017.11.001>
- Osada, N. (2004). Listening comprehension research: a brief review of the past thirty years. *Dialogue*, 3(1), 53-66.
- Smith, N. J., & Levy, R. (2013). The effect of word predictability on reading time is logarithmic. *Cognition*, 128(3), 302-319. <https://doi.org/10.1016/j.cognition.2013.02.013>
- Van Schijndel, M., Exley, A., & Schuler, W. (2013). A model of language processing as hierarchic sequential prediction. *Topics in Cognitive Science*, 5(3), 522-540.

## A situation creation system to enable experiential learning in virtual worlds for developing cross-cultural competencies

Maryam Sadat Mirzaei<sup>1</sup>, Kourosh Meshgi<sup>2</sup>, and Toyoaki Nishida<sup>3</sup>

**Abstract.** The emergence of virtual worlds and simulation games provide ample opportunities for developing cultural competence by offering a visual, contextual, immersive, and interactive experience. Learners can benefit from contextual interactions and develop cultural competencies by fulfilling quests or exploring the environment. However, most of the existing systems contain few pre-designed scenarios, inadequate for covering unique aspects of different cultures. This study introduces a situation creation toolkit for teachers and learners to design their culture-specific scenarios in a 3D environment and share it with others to experience such situations. In a preliminary experiment, 37 English learners with different cultural backgrounds created a scenario, specific to their culture, and provided proper/improper communicative choices as well as cultural-related notes. Scenarios were then exchanged to those of different cultures for role-playing and decision-making. Results highlighted the influence of L1 culture and stereotyping when facing an unfamiliar cultural context, thus leading to culturally unacceptable behavior. Findings suggest that through real-life scenario design and experience, our platform can prepare learners to interact in culturally appropriate ways and encourages them to gain cross-cultural competence.

**Keywords:** intelligent situation creation tool, cross-cultural competence, experiential and situated learning, virtual worlds.

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1. RIKEN AIP, Tokyo, Japan; maryam.mirzaei@riken.jp; <https://orcid.org/0000-0002-0715-1624>
  2. RIKEN AIP, Tokyo, Japan; kourosh.meshgi@riken.jp; <https://orcid.org/0000-0001-7734-6104>
  3. Kyoto University, Kyoto, Japan; nishida.toyoaki.4e@kyoto-u.ac.jp

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## 1. Introduction

When it comes to learning and using a foreign language, it is necessary to consider intercultural awareness for realizing smooth interactions. In today's global society not only the knowledge of the target culture, but also a certain level of cross-cultural awareness is necessary when interacting with people of other cultures, using a foreign language (Byram & Wagner, 2018). The language barrier itself may result in odd situations, including miscommunication or misunderstandings, and the cultural differences can exacerbate the situation (Liddicoat, 2014).

A number of tools are developed in language learning domains to teach cultural norms and culture-specific behaviors. *Tactical Iraqi* (Surface, Dierdorff, & Watson, 2007) is one such project, which is a game designed to teach Arabic to soldiers deployed in Iraq. *Crystallize* (Culbertson et al., 2016) is another 3D simulation game to teach greetings in Japanese, which combines gaming strategies and immersive experiences to realize an engaging learning environment.

While these systems have a lot of potential, they are mostly scenario-oriented, where scenarios are pre-designed and programmed into the system. Such systems are not easily extendible, and their scenarios are not plentiful. Creative systems such as *Minecraft* and *Google Blocks*, on the other hand, enable creating 3D objects and environments, but lack contextual interaction and situation creation capabilities to realize embodied cultural practice.

We propose a situation creation toolkit that allows learners and teachers to create cultural scenarios in a 3D virtual world, designing culturally relevant interactions performed by embodied agents and providing elaborated cultural notes. Users can introduce numerous scenarios representing culture-specific communications, build branches by adding alternative interactions, and share the designed environment with learners of other cultures. These learners can explore the situation, play the role of one character, pick a choice to interact with the other characters, and learn from culture. Figure 1 shows the creation procedure of a cultural scenario using our tool, the output of the system, and the usage of the created scenario by another learner.

This system allows for situated and experiential learning (Peixoto et al., 2019), where learners can actively participate in the learning process, feel immersed in the situation, get hands-on learning experience, and learn from reflection on their actions.

Figure 1. Scenario creation (left), system output (middle), and role-play (right) using situation creation toolkit



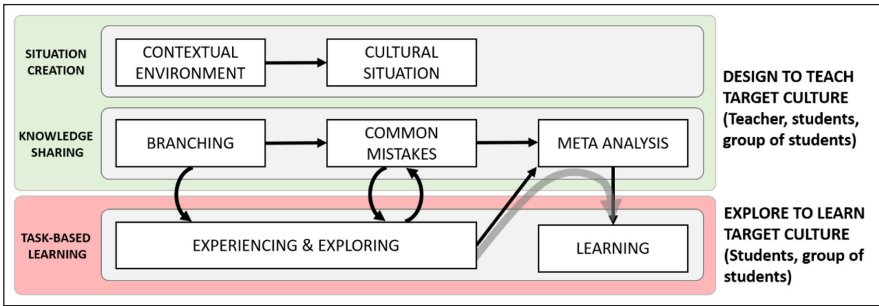
## 2. System design and methodology

Our goal was to design a system for non-professionals which facilitates content creation and enables exposure to cultural contexts. Features of this system include the addition of characters to the scene, controlling the movement of the characters and assigning appropriate actions to them, adding dialogues and narrations, providing first-person or third-person views, handling camera movement, storing cultural hints, and presenting them when necessary, enabling the insertion of dialogue/action choices to create branches of the scenario, and managing object interactions. The system is designed in Unity3D, with a rich reservoir of scenes, characters, animations, and objects. The output can be projected onto a 2D monitor or virtual reality head-mount display for a fully immersive practice. This tool allows the learner to use natural language for inputting scenarios and provides them with deft tools to organize the settings of the scene. Furthermore, the system can automatically handle the characters, camera movement, character actions, and animations.

To use this system, we propose a two-phase methodology of *content creation* and *exploratory role-play* (Figure 2). The first phase involves (1) brainstorming to find particular cultural situations in one's background culture, (2) designing this situation in a 3D environment using our proposed toolkit, (3) listing possible culturally-acceptable behaviors in the given situation, (4) listing common mistakes due to lack of cultural knowledge and their outcomes, named as branches, and (5) providing brief and simple explanations regarding the cultural points involved. The teacher assists the students, monitors the generated content, and selects the scenarios to be shared with other learners from a different culture. In the second phase, learners (1) participate in role-playing in the situation designed by their

peers, (2) navigate the interaction by choosing the appropriate choices, (3) reflect on their reasoning, expectation, and the actual outcome, (4) explore the cultural perspectives, and (5) revisit their choices, if necessary.

Figure 2. The methodology to use the system as a medium for cultural practice



### 3. Preliminary evaluation and discussion

A preliminary experiment was conducted with 37 English learners (graduates and undergraduates) with different cultural backgrounds (aged 19-27). They participated in scenario creation and role-play, using our system. This small-scale experiment investigates the acceptability, affordance, and effectiveness of the system in raising cross-cultural awareness. Following our methodology, learners were asked to create specific situations taking place in their background culture. A CALL researcher selects scenarios and distributes them to the learners for role-playing and choice selection. Learners' cultural backgrounds are considered to ensure that they receive a scenario of an unfamiliar culture. The participants were asked to elaborate on their reasoning when selecting communicative choices. A Likert scale questionnaire was used to elicit learner feedback.

Figure 3 shows the analysis of participants' choices in the role-play. We categorized their reasons based on the explanations provided. Data suggests that only 18.9% of the participants were able to choose the culturally-acceptable behavior in the given situation, with only 2.7% of them having prior knowledge about the cultural situation. A large number of the participants (32.5%) were applying their L1 cultural norms to that situation, which led to incorrect choices.

Figure 4 demonstrates learner feedback from a questionnaire. Results suggest that learners find the system effective in designing real-life cultural scenarios (Q9-

Q11), and experiencing cultural situations by feeling involved in the scenario (Q12-Q15). Participants enjoyed embodied cultural practice (Q16-Q17) and found this medium useful for understanding cultural differences (Q1-Q3) and learning discrete cultural points (Q4-Q8). Moreover, learners expressed their motivation to explore other cultures as well as sharing particular aspects of their own culture in a meaningful interaction (Q18-19).

Figure 3. Correct choices during role-play (red) versus incorrect choices (blue) and the selection reasons

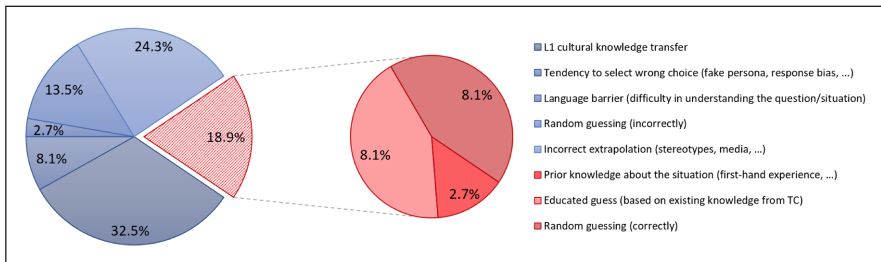
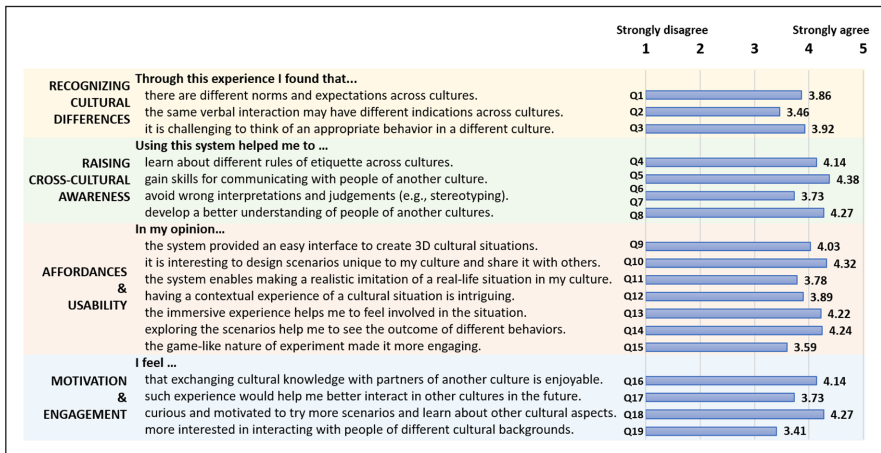


Figure 4. Learner feedback on the effectiveness and affordances of the system using a questionnaire



The findings provide initial support on the use of our system in fostering cross-cultural awareness. Learner feedback shows that the learners benefited from experiential learning, realized in our platform, and claimed that the scenarios inspired them to raise questions about unfamiliar cultural norms and seek the



answers. This, coupled with involving students in the creation and role-play process, can promote learner autonomy and provide a learner-centered experience (Lan, 2020). While more comprehensive evaluation is necessary, current findings highlight the lack of cross-cultural knowledge, the influence of stereotyping, and the need for prioritizing intercultural language teaching.

## 4. Conclusions

We introduced a tool that enables the creation of a wide variety of contextual situations and authentic conversations in different cultures, via an easy-to-use interface. Learners can play the role in the designed scenarios, aiming to realize culturally-acceptable interactions. Our findings revealed that the immersive experience fosters the improvement of cross-cultural competence through exposure to authentic cultural situations. Learners' feedback showed that they particularly enjoyed the hands-on experience provided by the system and the participative nature of cultural scenario creation, exploration, and practice. Future direction involves the extension of this platform to support real-time communication in a multiplayer environment where learners of different cultures can join the creation and role-play process to promote multiculturalism.

## 5. Acknowledgments

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## References

- Byram, M., & Wagner, M. (2018). Making a difference: language teaching for intercultural and international dialogue. *Foreign Language Annals*, 51(1), 140-151. <https://doi.org/10.1111/flan.12319>
- Culbertson, G., Andersen, E., White, W., Zhang, D., & Jung, M. (2016). Crystallize: an immersive, collaborative game for second language learning. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing* (pp. 636-647). <https://doi.org/10.1145/2818048.2820020>
- Lan, Y. J. (2020). Immersion, interaction and experience-oriented learning: bringing virtual reality into FL learning. *Language Learning & Technology*, 24(1), 1-15. <http://hdl.handle.net/10125/44704>

- Liddicoat, A. J. (2014). Pragmatics and intercultural mediation in intercultural language learning. *Intercultural Pragmatics*, 11(2), 259-277. <https://doi.org/10.1515/ip-2014-0011>
- Peixoto, B., Pinto, D., Krassmann, A., Melo, M., Cabral, L., & Bessa, M. (2019). Using virtual reality tools for teaching foreign languages. In *World Conference on Information Systems and Technologies* (pp. 581-588). Springer. [https://doi.org/10.1007/978-3-030-16187-3\\_56](https://doi.org/10.1007/978-3-030-16187-3_56)
- Surface, E. A., Dierdorff, E. C., & Watson, A. (2007). *Special operations language training software measurement of effectiveness study: tactical Iraqi study final report*. Special Operations Forces Language Office.

# VLASTWA: a vocabulary learning and strategy teaching web-app

Siamak Mirzaei<sup>1</sup>, Trent W. Lewis<sup>2</sup>,  
Mirella Wyra<sup>3</sup>, and Brett Wilkinson<sup>4</sup>

**Abstract.** This research study tends to evaluate the efficaciousness and usability of a Vocabulary Learning And Strategy Teaching Web-App (VLASTWA) – a customised and targeted web-app for (1) teaching the KeyWord Method (KWM) which is a widely investigated vocabulary learning strategy, and (2) facilitating new vocabulary learning via KWM. In this experimental study, with a between/within design, native Persian participants (n=160, age:18-60) learnt to use KWM, applied it in acquiring 22 new words, and tested this newly learnt vocabulary immediate (T1)/delayed (T2) recall. The effectiveness of the use of KWM taught within the web-app and the traditional Pen and Paper (P&P) in the experimental groups were compared with the control app and P&P groups via immediate/delayed recall of learnt vocabulary. The results suggest VLASTWA was efficient for learning new vocabulary while highlighting how meaningful and interactive it can be in accompanying and enriching Foreign Language (FL) vocabulary learning.

**Keywords:** keyword method, explicit strategy instruction, vocabulary learning, CALL, computer assisted instruction.

## 1. Introduction

Learning vocabulary, essential in FL mastery, is prolonged with restricted class contact time in formal education. Thus, students are often expected to acquire vocabulary in their own time. Described as a two-step strategy, the mnemonic

1. Flinders University, Adelaide, Australia; [siamak.mirzaei@flinders.edu.au](mailto:siamak.mirzaei@flinders.edu.au); <https://orcid.org/0000-0002-0686-7225>
2. Flinders University, Adelaide, Australia; [trent.lewis@flinders.edu.au](mailto:trent.lewis@flinders.edu.au); <https://orcid.org/0000-0002-4025-4019>
3. Flinders University, Adelaide, Australia; [mirella.wyra@flinders.edu.au](mailto:mirella.wyra@flinders.edu.au); <https://orcid.org/0000-0002-7432-8338>
4. Flinders University, Adelaide, Australia; [brett.wilkinson@flinders.edu.au](mailto:brett.wilkinson@flinders.edu.au); <https://orcid.org/0000-0003-1314-564X>

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KWM is one of the most useful approaches for vocabulary learning (Atkinson, 1975; Beaton et al., 2005; Wyra, Lawson, & Hungi, 2007). Firstly, for acquiring a new to-be-learned FL word and its meaning, an association between the FL word and a known word in the learner's native language (L1) is identified and created by the learner; a (key)word with orthographic and/or acoustic likeness to the FL word. Secondly, a mental image is made by the learner in which the keyword interacts with the meaning of the FL word. Acquired by students simply while being enjoyable, KWM is found to be effective in learning a considerable number of words and for long-term recall (Wyra et al., 2007).

A gradual shift has been noted from the focus on new technologies as tools for content mastery (e.g. vocabulary glosses) and skill practice to interest in pedagogy of the use and with the use of new technologies. A literature search for reports of an app designed to teach KWM as a strategy and to use it in KWM vocabulary learning has not yielded any findings. For this study, a web-app was designed and developed to (1) teach KWM strategy to adapt KWM requirements of explicit strategy instruction, and (2) teach/test vocabulary, with four sub-sections of (1) authentication, (2) vocabulary teaching, (3) vocabulary testing, and (4) the distraction game. Various custom-made algorithms were applied to map from the P&P to the app method accordingly.

In VLASTWA's design, existing literature in User Experience (UX) and User Interface/Interaction (UI) was taken into consideration; Nielsen's (1994) usability attributes of *efficiency, satisfaction, learnability, memorability, and recovery from errors* were combined with Harrison, Flood, and Duce (2013)'s *cognitive load* to avoid any technology/pedagogical disadvantages. For UX design of VLASTWA, Nielsen Norman Group's features of "meeting the exact needs of the customer" and "enforcing simplicity and elegance" were considered (Mirzaei, Wilkinson, & Wyra, 2018, p. 686). In UI design, Garrett's (2010) strategy of embedding suitable interface elements to encourage user task(s) accomplishment was applied.

To avoid cognitive overload, a simple interface with standard buttons/texts was used. Various factors including consistency, utility, style of text, arrangement, font size (visual hierarchy), spacing and typography, colour and colour contrasts, and texture/shapes were reviewed to increase the app's learnability and usability. VLASTWA's UI encouraged obvious feedback to allow comprehensive and consistent user direction/navigation via the workflow sequences. As shown in Figure 1 below, the layout of each app section stayed the same throughout the app.

Figure 1. Vocabulary teaching, vocabulary testing, authentication, and distraction game sub-sections (left to right)



## 2. Method

The pedagogical principles to reinforce explicit strategy instruction in this study were acquired from Wyra et al. (2007). Conducted under Flinders University Social and Behavioural Research Ethics Committee approval (SBREC, Project ID: 8374), this study aimed to evaluate the efficaciousness and usability of using computer devices to learn a vocabulary learning strategy (KWM) to learn new vocabulary (Persian/English) and to test vocabulary recall. For P&P groups, two booklets were designed, one to teach the words and the other to test recall on taught words via a bidirectional retrieval questionnaire. The syllables and part of speech for all the selected vocabulary items were similar (2-3 syllables concrete meanings nouns). Only experimental groups (app and P&P) were provided with KWM strategy training. The strategy training (encoding instruction) had explicit instruction, modelling, practise, and applying/learning phases followed by a chit-chat distraction. Table 1 shows the experimental study design. Based on Mirzaei (2016), both KWM training (1.2) and vocabulary learning/teaching (2.1) were separated in the study design so that KWM explicit instruction vocabulary learning/testing requirements could be met.

For the distraction in 2.2, a simple chit-chat and a low-cognitive within-the-app game were utilised for P&P and app groups, respectively. In Phase 3, the same words and their meanings were used (22 word-pairs) to benefit the study purpose of learnability/usability testing of the web-app for KWM employed in FL and L1 contexts. The designed web-app stuck to identical routines of the P&P KWM approach, with some additional app features: (1) illuminating the keyword while showing the word-pairs in a timely manner (word-word meaning-keyword in

chronological order); and (2) showing a bar timer to indicate the remaining time to learn the word-pairs.

Table 1. Experimental study design (n=40 for each group)

Days	Phase	Descriptions	Control		Experimental KWM	
			P&P	App	App	P&P
1-4	1.1	Background questionnaire	√	√	√	√
1-4	1.2	Encoding instruction	X	X	√	√
1-4	1.3	Distraction	√ (Chat)	√ (Chat)	√ (Chat)	√ (Chat)
1-4	2.1	Learning 22 words (7.5 mins)	√	√	√	√
1-4	2.2	Distraction	√ (Chat)	√ (Game)	√ (Game)	√ (Chat)
1-4	3.1	Test 1 (T1) – 22 words (5 minutes)	√	√	√	√
5-8	3.2	Test 2 (T2) – 22 words (5 minutes)	√	√	√	√

### 3. Results and discussion

To investigate learnability/recall, a mixed design ANOVA with repeated measures was conducted to compare the immediate (T1)/delayed (T2) recall (Table 2).

Table 2. Immediate (T1)/delayed (T2) recall (\* indicates significance - P&P/app:  $p < .002$ )

Treatment	Method	Time	Mean	SD	n
Control	P&P	T1	9.200	2.729	40
		T2	8.125	2.848	40
	App	T1	10.075	2.795	40
		T2	9.575	2.791	40
Experimental KWM	P&P	T1	13.625*	1.628	40
		T2	12.650*	1.929	40
	App	T1	14.325*	1.886	40
		T2	14.150*	1.331	40

Results indicated that the experimental groups' participants had better performances when recalling the new words in T1 and T2 than the participants from the control group in T1 and T2 ( $p < .002$ ). The experimental KWM app group had the highest number of correct recalled words between all groups with 14.3 (65%) immediate

recall and 14.1 (64%) delayed recall. The number of correct words in delayed recall reduced in all groups while both experimental groups had the least decrease, with less than one word. Figure 2 and Figure 3 show the number of words recalled in immediate/delayed recall for control/experimental P&P and app groups, respectively.

Figure 2. Immediate (T1)/delayed (T2) recall by treatment for P&P ( $p<.002$ )

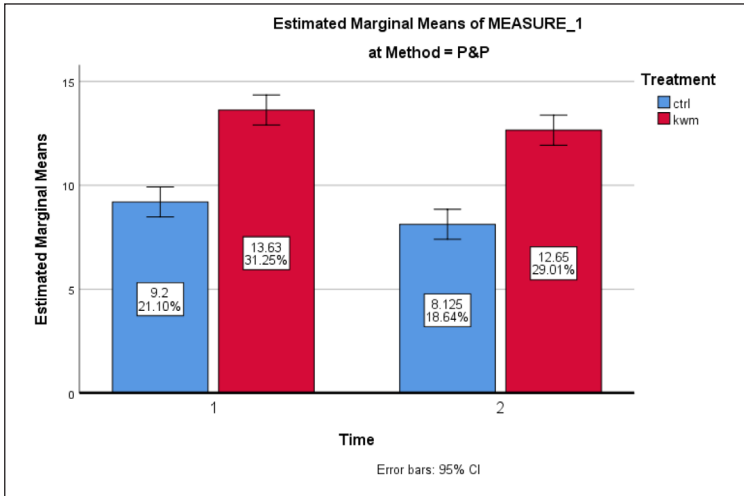
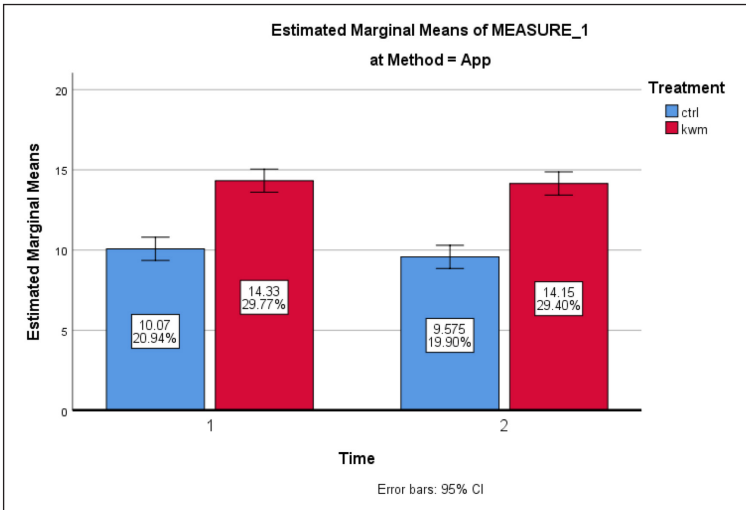


Figure 3. Immediate (T1)/delayed (T2) recall by treatment for app ( $p<.002$ )



## 4. Conclusions

A comparison of the experiment's collected data indicated that use of the web-app for vocabulary acquisition with KWM not only bestows the same vocabulary learning effectiveness but also gives a significant advantage in learning vocabulary. The conducted experimental research revealed that KWM can be easily embedded in the web-app from learnability and pedagogical perspectives and the web-app can be utilised as an effective apparatus in learning new words. However, as this is the first investigation of its kind, future design, development, and experimental studies are required to augment the prospective use of the web-app for further studies with different populations of young children to adults, disparate word sets/languages, and different technologies (augmented/virtual reality).

## 5. Acknowledgements

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## References

- Atkinson, R. C. (1975). Mnemotechnics in second-language learning. *American Psychologist*, 30(8), 821-828. <https://doi.org/10.1037/h0077029>
- Beaton, A., Gruneberg, M., Hyde, C., Shufflebottom, A., & Sykes, R. (2005). Facilitation of receptive and productive foreign vocabulary learning using the keyword method: the role of image quality. *Memory*, 13(5), 458-471. <https://doi.org/10.1080/09658210444000395>
- Garrett, J. J. (2010). *The elements of user experience: user-centered design for the web and beyond*. Pearson Education.
- Harrison, R., Flood, D., & Duce, D. (2013). Usability of mobile applications: literature review and rationale for a new usability model. *Journal of Interaction Science*, 1(1), 1-16. <https://doi.org/10.1186/2194-0827-1-1>
- Mirzaei, S. (2016). *Evaluating efficacy and usability of mobile devices for learning new vocabulary items*. Doctoral dissertation, Flinders University, School of Computer Science, Engineering and Mathematics.
- Mirzaei, S., Wilkinson, B., & Wyras, M. (2018). Usability testing of VLASTA: a vocabulary learning and strategy teaching app. In *2018 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE)* (pp. 685-689). IEEE. <https://doi.org/10.1109/tale.2018.8615141>



Nielsen, J. (1994). *Usability engineering*. Elsevier.

Wyra, M., Lawson, M. J., & Hungi, N. (2007). The mnemonic keyword method: the effects of bidirectional retrieval training and of ability to image on foreign language vocabulary recall. *Learning and Instruction, 17*(3), 360-371. <https://doi.org/10.1016/j.learninstruc.2007.02.008>

## CMC and MALL unite

Salvador Montaner-Villalba<sup>1</sup>, Bruce Lander<sup>2</sup>,  
Valentina Morgana<sup>3</sup>, Vera Leier<sup>4</sup>, Jaime Selwood<sup>5</sup>,  
Even Einum<sup>6</sup>, and Sergio Esteban Redondo<sup>7</sup>

**Abstract.** There is no doubt that Computer Mediated Communication (CMC) and mobile mediated communication are linked as technology continues to transform the way we communicate with each other. Campbell (2019) analyzed how mobile communication evolved into portable devices to form a complete system of mobile media, reshaping the fabric of our social lives via ‘sociality’ and ‘spatiality’. In this short paper, we would like to offer a brief overview of the diverse oral presentations which took place in the joint CMC and MALL (Mobile Assisted Language Learning) Special Interest Group (SIG) symposium at the online conference this year. This short paper will introduce various online apps which are available for free in both computer-based and mobile versions and can be adapted to foreign language learning in various ways.

**Keywords:** CMC, MALL, foreign language learning.

### 1. Introduction

MALL or language learning is mediated through the use of a handheld mobile device (Chinnery, 2006; Shield & Kukulska-Hulme, 2008). MALL is a subset of both mobile learning and computer assisted language learning. CMC is conceived as any human communication which takes place through the use of two or more electronic devices. While the term CMC has traditionally referred to

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1. Universitat Politècnica de València, València, Spain; smonvil@idm.upv.es; <https://orcid.org/0000-0002-2742-5338>

2. Matsuyama University, Matsuyama, Japan; blander@g.matsuyama-u.ac.jp; <https://orcid.org/0000-0001-5849-8284>

3. Università Cattolica del Sacro Cuore, Milan, Italy; morgana.valentina@gmail.com; <https://orcid.org/0000-0001-6086-3228>

4. Uppsala University, Uppsala, Sweden; veraleier@outlook.com; <https://orcid.org/0000-0002-8481-8162>

5. Hiroshima University, Hiroshima, Japan; jselwood@hiroshima-u.ac.jp

6. Norwegian University of Technology and Science, Trondheim, Norway; even.einum@ntnu.no; <https://orcid.org/0000-0002-8903-2716>

7. University of Canterbury, Christchurch, New Zealand; sergio.estebanredondo@canterbury.ac.nz; <https://orcid.org/0000-0002-2087-6021>

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communication such as instant messaging, the use of email, online forums, and social media, it has also been applied to other forms of text-based interaction, for example, text messaging (Thurlow, Lengel, & Tomic, 2004). Research on CMC focuses, above all, on the social effects of different computer-supported communication technologies.

Both fields of CMC and MALL have one major thing in common, the use of technology, both computer-based and mobile-based mediums to encourage autonomous learning. It was for this reason that the CMC SIG and MALL SIG joined forces this year to bring together six professionals in the field to introduce practices we feel can support language learners of today. There are thousands of web-tools and mobile apps available nowadays, although knowing which ones to choose and how to apply them to your settings is key. This joint CMC and MALL SIG symposium aims, on the one hand, to offer different types of research on the use of different online tools either in their web-based version or mobile version while also introducing a comparative approach on MALL usage by students in Italy and Japan.

## **2. CMC and MALL tools**

### **2.1. Mobile- and computer-based blogging**

The first research area of this symposium, *English as a Foreign Language (EFL) written production through blogging in its mobile version and in computer*, by Salvador Montaner, examines WordPress, which could be useful for learners to develop writing skills in the foreign language classroom. WordPress allows learners to create their own blogs in the foreign language, and to collaborate with others online at any time and any place, through either a computer or a mobile device. The recent trends of teaching and the huge advance of technology permits teachers to use mobile applications through various apps. This quantitative design research investigated the impact of using the mobile version of WordPress on written competence in EFL. One treatment group (12 students) and one control group (12 students) of A2 (according to the Common European Framework of Reference for Languages) EFL learners at a state secondary school in Valencia (Spain) (N=24) participated in this study. While, on the one hand, learners from the treatment group utilized WordPress in its mobile version, on the other, learners from the control group used WordPress in its computer-based version, in both cases, to assess their EFL written competence. After utilizing WordPress to develop written competence for the academic year 2018-2019, the outcomes of the diverse written

tasks proved that the learners from the treatment group significantly improved their level of EFL written competence in comparison with the learners from the control group. Accordingly, this research recommends utilizing WordPress in its mobile version at the Compulsory Secondary Education level because of its pedagogical possibilities when teaching English.

## **2.2. Student mobile use for language learning in Italy and Japan**

The second paper by Bruce Lander and Valentina Morgana, *Differences in the way mobile devices are being used for MALL in Japan and Italy*, from a comparative approach, introduces how EFL students from two different countries, Japan and Italy, perceive the use of MALL in their individual setting. Mobile technologies and the current trend of their constant usage by youngsters of today is having a huge impact on education (Crompton & Burke, 2018). This section examines how EFL students from diverse contexts are using their mobile devices to learn foreign languages. A 75-item survey was conducted to gather data on student opinions related to mobile devices and their suitability for learning foreign languages with 511 students at three locations in Japan and 232 students at two locations in Italy. In this research, Lander and Morgana aimed at discovering what tools learners are utilizing, demonstrating how and when they are using them, and what the outcomes of these goals are. Data analysis results discovered that opinions varied widely between the two groups. The outcomes highlighted that of the four-language skills, 61% of students chose to use mobile devices to improve their speaking ability. If given the choice, it was discovered that most students would prefer to use their mobile smartphones for learning over PCs and tablets. The study also continues by displaying what students think about the integration of MALL in face-to-face classes highlighting both positives and negatives from their perspectives. It was discovered that Italian students mostly used MALL devices for dictionary apps, whereas Japanese students used a wider range of tools, including Quizlet, Podcasts, and other vocabulary based apps introduced mainly through advice from instructors.

## **2.3. Instagram**

In the third paper of this symposium, *Like [heart] my Instagram: Instagram used instead of PowerPoint* for oral presentations, Vera Leier focuses on the use of Instagram which permits users to create their own Instagram with, at least, six to eight artifacts with the aim of enhancing oral production. Leier examines the use of Instagram instead of conventional PowerPoint for oral presentations in a German intermediate class (B1-CEFR). Instagram was chosen because of the

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ability to easily produce content on a mobile phone and then present the content more formally on a computer. The underlying framework of the design of this study is the multiliteracies framework (Pegrum, Dudeney, & Hockly, 2018). For the six week long task, the students had to choose topics relating to Germany and the German language and create an Instagram page with six to eight artifacts. Six of the 11 students in the class consented to being part of the study. They answered a pre-questionnaire followed by a focus interview and finally a post-questionnaire. The results show that the students enjoyed the task. They were astounded by the online information they could access using Instagram hashtags and they said that they were proud to be part of an online community with followers who were interested in their topics.

#### **2.4. Podcasting**

Next, the fourth proposal of this symposium, by Jaime Selwood, explores the didactic potential of podcasting in foreign language learning. In this paper, *How the podcasting revolution can assist language learning (for free!)*, the author offers in-depth detail into ongoing research into the use of podcasts as a learning tool, specifically at the university level. The first two decades of the 21st century have developed into a digital mobile age. Therefore, a crucial dilemma for educators and learners is how to best integrate mobile technology into a successful learning environment. One potential solution to this problem is podcasting, which can offer educators an inexpensive, beneficial, and portable learning tool easily accessible through the mobile Internet and via mobile devices. Podcasts have only been in existence since 2004, but in its short history the medium has morphed from niche beginnings to becoming a star-studded as well as self-contained media ecosystem. The goal of the research was to integrate podcasting within an English language learning course and to observe and analyze any benefits and drawbacks.

#### **2.5. Text response technology**

The fifth paper, by Even Einum, *How text response technology and agile teaching promote student agency*, deals with text response functionality to enhance communication in the foreign language. While response technology has been in use for half a century, it is only since 2015 that its functionality has moved beyond multiple choice questions. The introduction of text response functionality, where students' anonymous responses are tallied and displayed for teacher and class, has the potential to radically change classroom communication as well as teacher and student roles. A three-year research project in upper secondary language learning

has shown high participation rates with this type of response, with spillover effects into oral participation. Furthermore, interview, observation, and survey data suggest that the dialogical space of the classroom is expanded, allowing students to anonymously contribute and voice their preferences, concerns, and needs without fear of social repercussions. Agilely adapting the teaching to this input, the teacher can student-center lessons by supporting students' design and direction of their own learning.

## **2.6. Gamified and multimodal immersive scenarios in foreign language learning: Content and Language Integrated Learning (CLIL) video tasks**

The last work, by Sergio Esteban Redondo, *Design and implementation of CLIL video tasks*, explores through a mixed method research project, the design and implementation of multimodal video tasks prompted by CLIL (Mehisto, Marsh, & Frigols, 2008) and the multiple intelligence theory (Gardner, 2011) under the Octalysis gamified umbrella as an immersive scenario for language learning. Since opportunities for foreign language immersion are very limited in New Zealand, there is a need for practice outside the classroom; thus, this research delves into the implications of an immersive and gamified set of video tasks across B1 and B2 levels of the Spanish program at a tertiary institution in New Zealand. From the data obtained through the questionnaire which was passed to students, the outcomes showed that learners favored these gamified CLIL tasks over any other form of assessment in spite of their being time-consuming and demanding.

## **3. Conclusion**

We, in the CMC and MALL SIGs, consider the potential for learning with tools as well as didactic experiences such as those explained here, an enriching opportunity not to be missed. Both SIGs considered cooperating together at this symposium since the fields of CMC and MALL cross paths and are increasingly linked.

What previously was only possible on computers is now achievable with a much smaller, but most importantly, mobile device, the smartphone. This gives teachers of today further opportunities to encourage our students to learn out of the box, independently and autonomously. However, we see it as our job to guide our students introducing mobile learning tools that can help them in their foreign language learning journey.

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## References

- Campbell, S. W. (2019). From frontier to field: old and new theoretical directions in mobile communication studies. *Communication Theory*, 29(1), 46-65.
- Chinnery, G. M. (2006). Going to the MALL: mobile assisted language learning (emerging technology). *Language Learning & Technology*, 10(1), 9-16.
- Crompton, H., & Burke, D. (2018). The use of mobile learning in higher education: a systematic review. *Computers & Education*, 123, 53-64.
- Gardner, H. (2011). *Frames of mind: the theory of multiple intelligences*. Basic Books.
- Mehisto, P., Marsh, D., & Frigols, M. J. (2008). *Uncovering CLIL content and language integrated learning in bilingual and multilingual education*. Macmillan.
- Pegrum, M., Dudeney, G., & Hockly, N. (2018). Digital literacies revisited. *The European Journal of Applied Linguistics and TEFL*, 7(2), 3-24.
- Shield, L., & Kukulska-Hulme, A. (2008). *Special issue of ReCALL of mobile assisted language learning*. Cambridge University Press.
- Thurlow, C., Lengel, L., & Tomic, A. (2004). *Computer mediated communication. Social interaction and the internet*. Sage Publications.

# The impact of using AI and VR with blended learning on English as a foreign language teaching

Hiroyuki Obari<sup>1</sup>, Steve Lambacher<sup>2</sup>, and Hisayo Kikuchi<sup>3</sup>

**Abstract.** This study focuses on the use of emerging technologies such as Artificial Intelligence (AI) smart speakers and smartphone applications for improving the English language skills of L1 Japanese undergraduates. An empirical investigation was carried out with 82 Japanese students. Participants were required to study a variety of online English programmes using AI speakers over an eight-month period. The results showed that students using AI speakers outperformed on the Test of English for International Communication (TOEIC) a group of non-AI users, who instead exclusively used online materials. This research suggests integrating blended learning, including AI and Virtual Reality (VR), may be an effective way to improve the English proficiency of native Japanese.

**Keywords:** AI, VR, smart speaker, flipped learning.

## 1. Introduction

The present study focuses on the use of emerging technologies such as smart speakers and smartphone applications for the purpose of improving the English language skills of undergraduates whose L1 is Japanese. Two case studies were carried out with the goal of exploring the implementation of a blended learning English language programme incorporating the AI speakers Google Home Mini and Amazon Alexa to improve the English proficiency of undergraduate Japanese students. The programme also aimed at fostering the development of intercultural awareness and at ascertaining how students felt about using AI and VR to study English.

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1. Aoyama Gakuin University, Tokyo, Japan; obari119@gmail.com; <https://orcid.org/0000-0002-9203-6785>
  2. Aoyama Gakuin University, Tokyo, Japan; steve.lambacher@gmail.com; <https://orcid.org/0000-0001-8216-5543>
  3. Aoyama Gakuin University, Tokyo; hisayod@gmail.com; <https://orcid.org/0000-0002-1954-2999>

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## 2. Method

### 2.1. Participants

The two case studies were conducted over two semesters (April 2019 to January 2020). A total of 82 undergraduates (L1 Japanese) participated. Case Study 1 participants were divided into two groups: Group 1 (n=30) used an AI speaker during the blended learning training programme (April 2019 to January 2020), and Group 2 (n=29) did not use an AI speaker during the same training period. Case Study 2 included a total of 23 students. The participants were divided into six subgroups.

### 2.2. Training procedure

The following technologies were utilised: Amazon Alexa<sup>4</sup> and Google Home Mini<sup>5</sup> (see Figure 1), as well as ATR CALL Brix<sup>6</sup>, and the social networking service (Facebook, Twitter, and Line), and other programmes. In Case Study 1, TOEIC was used to determine if participants' English skills improved and ascertain the effectiveness of the AI/blended learning programme. TOEIC was administered to Groups 1 and 2 as a pretest in April 2019 and posttest in January 2020.

Figure 1. Amazon Alexa and Google Home Mini



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4. <https://www.amazon.com/Amazon-Echo-And-Alexa-Devices/b?ie=UTF8&node=9818047011>

5. <https://rithvikvibhu.github.io/GHLocalApi/#top>

6. ATR CALL Brix is a sort of e-learning materials in which students could study TOEIC, vocabulary, listening, and reading: <https://school.uchida.co.jp/index.cfm/23,5784,74,292.html>

During training, Alexa was utilised by Group 1 participants who filmed and wrote in journals about their experiences. The AI speaker was integrated into their daily lives (e.g. for assistance in cooking, weather reports, movie recommendations, and so on) over the ten-month period. They each set a timer while interacting with the AI speaker to practise English listening, speaking, and vocabulary skills (could you explain how?).

Group 2 participants used only ATR CALL Brix online materials at home, which focused on TOEIC and vocabulary learning. Thus, the main difference in training between groups was whether either the AI speaker or ATR CALL Brix was used, although the utilisation of other online activities (e.g. studying about World Heritage sites) were identical for both groups.

Case Study 2 participants were administered both TOEIC and the Oral Proficiency Interview by Computer (OPIC) test in April 2019 and again in January 2020. The AI speakers were integrated into their daily lives over the ten-month period. A timer was set at home while interacting with the AI speaker to practise English listening, speaking, and vocabulary skills along with other various software programs. Half of the participants used Google Home Mini to improve English listening and speaking skills using the applications *Best Teacher*, *Travel English*, *Let's play around with English*, and *BBC/CNN news*. The other half also used Home Mini to improve their listening and vocabulary skills, along with the programmes *Kikutan*, *English Quiz* by Arc, *Liberty English*, and *Kindle*.

All participants of Case Study 2 also used VR goggles to interact within a variety of authentic environments. While studying with the AI speakers, participants recorded short movie clips of their experiences which were uploaded to a Facebook group page so the videos could be easily viewed by all participants. The participants also kept written journals with observations about the contents and duration of their studies, periodically recording their thoughts using a smartphone. At the end of training, participants of all six subgroups delivered presentations of their impressions of the AI/blended learning lesson training with smart speakers, with a majority indicating it had a positive effect on their learning experience.

Case Study 2 included the following training tasks:

- practised English using AI speakers;
- watched online TED talks using mobile devices, wrote 300-word summaries, created PowerPoint presentations, and discussed summaries

with a group of English native speakers four times over an eight-month period;

- studied worldviews – a collection of attitudes, values, stories, and beliefs that influence our every thought and action about the world around us (Gray, 2011) – after viewing online lectures by several Oxford University scholars, and they also delivered PowerPoint presentations and created digital stories with iPads and presented their summaries to a group of English native speakers and discussed comparative worldviews; and
- interacted with English L1 speakers (8 American university undergraduates) who evaluated their presentations and discussed worldviews and cultural issues.

### 3. Results and discussion

#### 3.1. TOEIC and OPIC results

In Case Study 1, mean TOEIC scores of Group 1 improved from 407 (*SD*:113) to 604 (*SD*:92), an increase of 197 points. Mean TOEIC scores of Group 2 improved from 447 (*SD*:93) to 598 (*SD*:147), an increase of 147 points.

In Case Study 2, mean TOEIC scores improved pretest to posttest from 461 (*SD*:136) to 681 (*SD*:141), an increase of 229 points. Mean OPIC speaking test scores also improved pretest to posttest from 3.9 (*SD*:0.9) to 4.7 (*SD*:1.25), respectively. The pre/posttest TOEIC results in both case studies were analysed using a series of t-tests, indicating the differences were statistically significant ( $p < .01$ ).

#### 3.2. Post-training survey

Post-training surveys were administered to all participants at the end of their respective AI/blended learning training to ascertain overall impressions of the programme. Responses to a few questions are summarised below:

- AI speaker was useful in improving my English skills: 84% agreed ( $n=47$ ).
- AI speaker was useful in improving listening skills: 87% agreed ( $n=23$ ).
- AI speaker was useful in improving speaking skills: 57% agreed ( $n=23$ ).
- AI speaker was useful in improving reading skills: 13% agreed ( $n=23$ ).
- AI speaker was useful in improving writing skills: 4.3% agreed ( $n=23$ ).

- Presentation practice with PowerPoint helped improve English proficiency: 100% agreed (n=47).

In both case studies, participants' TOEIC scores considerably improved during the training period. However, the participants who used an AI speaker outperformed the non-AI speaker group in Case Study 1. Additionally, in Case Study 2, the integration of AI speakers and blended learning helped the participants improve their TOEIC scores by a mean of 229 points, while participants who did not use the AI speaker improved by roughly 150 points, although last year's group improved by a mean score of more than 200 points.

Survey results showed 84% of participants agreed the AI speaker was helpful in improving their English, particularly listening skills. Fifty-seven percent agreed the AI speaker was useful in improving speaking skills. The OPIC speaking test results with a mean increase from 3.9 (*SD*:0.9) to 4.7 (*SD*:1.25) would appear to verify these results. Conversely, only a small percentage of students agreed the AI speaker was helpful in improving reading and writing skills.

We acknowledge the limitation of our study in accurately assessing the efficacy of AI smart speakers exclusively in developing L2 skills since a variety of supplemental online programmes and activities were utilised as part of the AI/blended learning programme. What is most important in L2 learning is face-to-face interaction and how much comprehensible input is gained from various learning sources, whether it be analogue or digital environments (Polat, 2016). The distinction between classroom and outside-class activities was clearly drawn so each student could acquire as much comprehensible input as possible and be engaged in interactions and discussions using critical and creative thinking.

#### 4. Conclusions

In line with Obari and Lambacher (2019), both TOEIC and OPIC speaking test and survey results revealed a combination of AI/blended learning lessons had a positive effect on the native Japanese students overall English language learning. Both their listening and oral skills improved, which may have been due to the integration of the language learning activities which concentrated on a social constructivist approach while utilising AI smart speakers. These results would appear to suggest that the integration of blended learning along with 21st century skills, including AI and VR, may be an effective way to improve the English proficiency of native Japanese adult learners.

## 5. Acknowledgements

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## References

- Gray, A. J. (2011). Worldviews. *International Psychiatry*, 8(3), 58-60.
- Obari, H., & Lambacher, S. (2019). Improving the English skills of native Japanese using artificial intelligence in a blended learning program. In F. Meunier, J. Van de Vyver, L. Bradley & S. Thoušny (Eds), *CALL and complexity – short papers from EUROCALL 2019* (pp. 327-333). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.38.1031>
- Polat, N. (2016). *L2 learning, teaching and assessment: a comprehensible input perspective*. Multilingual Matters. <https://doi.org/10.21832/9781783096343>

# The trouble with telecollaboration in BMELTET

Marina Orsini-Jones<sup>1</sup>, Abraham Cerveró Carrascosa<sup>2</sup>, and Bin Zou<sup>3</sup>

**Abstract.** This study reports on the 2019-2020 October-February cycle of the project, Blending Massive Open Online Courses in English Teacher Education with Telecollaboration (BMELTET). The project blends the MOOC *Understanding Language* (Futurelearn) with telecollaboration – or Collaborative Online International Learning (COIL) or Virtual Exchange (VE). It involves students enrolled on teacher education courses at both undergraduate level (from Spain) and postgraduate level (from the UK and China). This work discusses some of the challenges encountered in this 2019-2020 pre-COVID cycle and proposes, in line with other previous related studies, that telecollaboration is troublesome for students as it takes them out of their comfort zone. It does not align with what they were expecting to study at university. At the same time, BMELTET illustrates the gains that students and staff can make when engaging in such a project and its transformational impact on their beliefs.

**Keywords:** telecollaboration, English language teacher education, COIL, MOOC, blended.

## 1. Introduction

Project BMELTET is a continuation of previous projects (Orsini-Jones et al., 2018). The main difference between the original cycles of this MOOC blend (Orsini-Jones, 2015) and the more recent ones (Orsini-Jones & Cerveró Carrascosa, 2019), is the addition of telecollaboration (or COIL or VE), to the students' learning experience. Participants in this cycle were from the UK, Coventry University (CU); Spain, La Florida Universit aria (FU); and China, Xi'an Jiaotong-Liverpool University (JLU).

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1. Coventry University, Coventry, United Kingdom; [lsx008@coventry.ac.uk](mailto:lsx008@coventry.ac.uk); <https://orcid.org/0000-0001-5250-5682>

2. Florida Universit aria, Val encia, Spain; [acervero@florida-uni.es](mailto:acervero@florida-uni.es); <https://orcid.org/0000-0002-3545-1085>

3. Xi'an Jiaotong-Liverpool University, Suzhou, China; [bin.zou@xjtlu.edu.cn](mailto:bin.zou@xjtlu.edu.cn)

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As discussed by [De Lima Guedes \(2020\)](#), this project is an example of a hybrid blending of ‘off the shelf’ MOOCs into existing curricula, in this case the curriculum of students engaged in, or interested in, English language teacher education<sup>4</sup>. The tutors involved felt that the blend would enable students to expand their opportunities for reflective practice, add value to their learning experience and enable them to engage with different communities of English language teaching practice (both local and global). It was also hoped that it would develop their ability to reflect on online learning and teaching ‘in action’, while doing the MOOC and the telecollaboration exchange; ‘on action’ after having carried out the tasks with the partners, and ‘for action’, applying the lessons learnt to their future teaching practice ([Orsini-Jones et al., 2018](#)).

The difficulties that students can encounter when engaging with telecollaboration is, however, documented in the relevant literature (e.g. [O’Dowd & Ritter, 2006](#)). It could be argued that the MOOC blend added to the complexity of the exchange. This paper will report on the challenges encountered, the lessons learnt, and some of the positive outcomes that resulted from the project.

## 2. Method

The overarching aim of the project was to enhance ‘teacher cognition’ as defined by [Borg \(2015\)](#), “what language teachers think, know and believe” (p. 1) about blended learning.

A mixed-method approach was adopted (QUAL-quant, [Dörnyei, 2007](#)). Participation was strongly encouraged in the three countries, but not compulsory. There were assessed tasks linked to the project in the UK and Spain, but not in China.

Seventy-one students participated in BMELTET 2019-2020 most of them were not English L1: 37 from CU (from 13 different nationalities), 19 from FU (18 Spanish, 1 with dual USA/Spanish nationality), 15 from JLU (14 Chinese and 1 American).

Students were asked to engage in five asynchronous weekly discussions in Moodle on the topics in the MOOC: (1) language learning and teaching in general; (2) task-based language learning and teaching; (3) Content and Language Integrated Learning (CLIL); (4) online learning and teaching; and (5) global Englishes.

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4. The MOOC used was by FutureLearn: Understanding Language: Learning and Teaching, University of Southampton with the British Council: <https://www.futurelearn.com/courses/understanding-language>.

Students from CU and FU also had three one-hour synchronous class-to-class seminars on Skype. All students were encouraged to take part in telecollaborative asynchronous discussions in Moodle and were divided into groups of 4-5 to carry out a joint group task. While there were exchanges on the first three topics in the general discussion in Moodle, the group task did not happen and most students became frustrated by the lack of communication in each group – or ‘failed communication’ (O’Dowd & Ritter, 2006). The use of Moodle was dictated by the need to comply with the General Data Protection Regulation (GDPR<sup>5</sup>) and collect data from a GDPR-compliant environment. Data were mined from

- a pre-BMELTET and a post-BMELTET survey designed with Online Surveys (<https://www.onlinesurveys.ac.uk/>) consisting of Likert-scale type statements and open-ended questions;
- discussion fora in the dedicated telecollaboration Moodle website;
- face-to-face focus group interviews with self-selected groups of students at the time of the visit to the UK by the partners’ from Spain (2-4 March 2020);
- individual and group interviews with self-selected groups of students from CU and FU after the completion of the project, in July-August.

The data collected as above were triangulated and analysed in the light of the research questions below.

- Can BMELTET support English language teachers to adopt a holistic approach to the integration of technology into their practice?
- Can BMELTET support the identification of troublesome areas in English language teacher education with particular reference to digital critical literacy development?

### **3. Results and discussion**

There were different levels of engagements in the three groups of students and 24 out of the initial 71 participants completed the post-BMELTET survey.

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5. <https://gdpr-info.eu/>



Unlike in the previous cycles, the anxiety about integrating technology into their teaching practice did not appear to have been helped by the project at the time on completing the survey – **Figure 1** (pre-project 55% worried) and **Figure 2** (post-project 58% still worried).

Figure 1. Pre-BMELTET project survey (open to students between 3-20 October 2019)

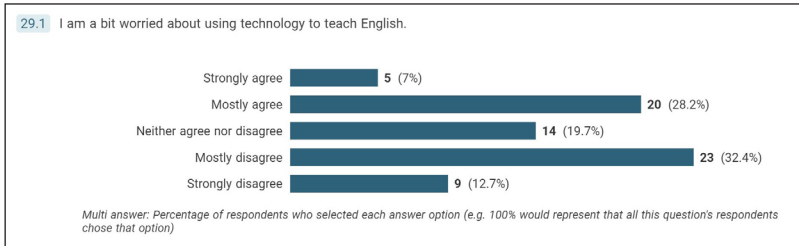
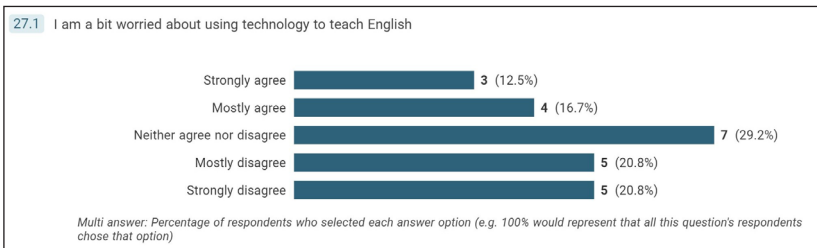
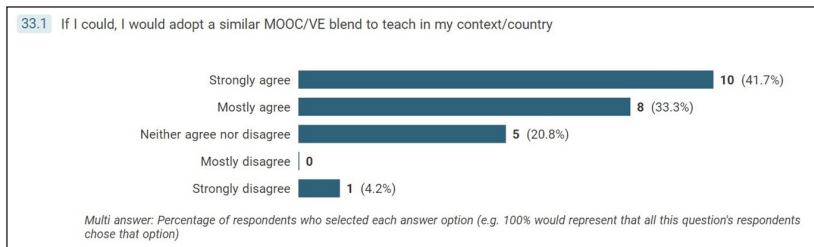


Figure 2. Post-BMELTET project survey (open to students between 4-12 December 2019)



A very positive outcome was the expression of willingness to adopt such a blend – if possible – in their own context (**Figure 3**).

Figure 3. Willingness to adopt a blend similar to BMELTET in own teaching context



In line with the results reported in [Figure 3](#), in the interviews carried out in March and August 2020 (15 participants), the most positive outcome was the declarations of changed beliefs about technology and blended/online learning: “I used to hate technology but I am definitely a convert now” (Student X, CU, group interview 3/3/2020). Also, the FU participants commented in the summer that the project had prepared them for their teaching practice, that had had to be carried out online.

Learner autonomy, critical digital literacy and some fundamental topics in applied linguistics (like task-based language learning) were confirmed as troublesome areas. These are particularly challenging for students who come from tutor-centred learning and teaching contexts. For example, some Chinese participants stated that they would not be able to integrate ‘off-the-shelf’ MOOCs into their teaching as they would not be in full control of the material if they did so, and student might ask questions they would not be able to answer.

As the telecollaborative aspect of the project was the one that worked less well, it was agreed to add more scaffolded opportunities for interaction in it in the next cycle. The most negative aspects were the lack of success with the group task and the lack of discussion postings on the last two topics. Most students disliked the Moodle interface and the Chinese partners found its access problematic. Students at CU mentioned that deadlines for other coursework tasks had also played a part in their lack of engagement.

The actions for the next cycle of BMELTET (starting in October 2020) are the following in view of the feedback received:

- add an element of gamification: e.g. quizzes in mixed teams;
- discontinue the use of Open Moodle: difficult to access from overseas and not dynamic in ‘look and feel’;
- use Padlet for reflections on the project;
- use of Zoom or Teams for synchronous exchanges instead of Skype (N.B. Zoom and Teams were not yet available at institutional level at the time of the October 2019-Feb 2020 exchange); and
- link the project to assessment in each country.

## 4. Conclusions

On the whole it was ascertained that BMELTET disrupts students' expectations of their learning experience at higher education level. This can be troublesome for them, but it can also be rewarding and cause a positive change of perspectives and beliefs.

It will be interesting to investigate the next post-COVID BMELTET cycle in October-December 2020, to see how remote learning has impacted on students engaging in teacher education and whether it will cause a shift towards the normalisation of technology in general (Bax, 2018) and telecollaboration in particular.

## 5. Acknowledgements

We would like to thank all the students who participated in the cycle of BMELTET discussed here.

## References

- Bax, S. (2018). MOOCs as a new technology: approaches to normalising the MOOC experience for our learners; paper posthumously transcribed by Marina Orsini-Jones. In M. Orsini-Jones & S. Smith (Eds), *Flipping the blend through MOOCs, MALL and OIL – new directions in CALL* (pp. 9-16). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.23.785>
- Borg, S. (2015). *Teacher cognition and language education : research and practice* (2nd ed.). Bloomsbury.
- DeLima Guedes, K. K. (2020). Integrating MOOCs into traditional UK higher education: lessons learnt from MOOC-blend practitioners. In K. Borthwick & A. Plutino (Eds), *Education 4.0 revolution: transformative approaches to language teaching and learning, assessment and campus design* (pp. 29-36). Research-publishing.net. <https://doi.org/10.14705/rpnet.2020.42.1084>
- Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.
- O'Dowd, R., & Ritter, M. (2006). Understanding and working with 'failed communication' in telecollaborative exchanges. *CALICO Journal*, 23(3), 623-642. <https://doi.org/10.1558/cj.v23i3.623-642>
- Orsini-Jones, M. (2015). *Integrating a MOOC into the MA in English language teaching at Coventry University: innovation in blended learning practice*. Higher Education Academy/AdvancedHE. <https://www.advance-he.ac.uk/knowledge-hub/integrating-mooc-ma-english-language-teaching-coventry-university-innovation-blended>

- Orsini-Jones, M., & Cerveró Carrascosa, A. (2019). BMELTET – Blending MOOCs into English language teacher education with telecollaboration. In A. Plutino, K. Borthwick & E. Corradini (Eds), *New educational landscapes: innovative perspectives in language learning and technology* (pp. 47-53). Research-publishing.net. <https://doi.org/10.14705/rpnet.2019.36.955>
- Orsini-Jones, M., Conde, B., Borthwick, K., Zou, B., & Ma, W. (2018). B-MELTT: blending MOOCs for English language teacher training. *British Council ELT Research Papers*. <http://teachingenglish.britishcouncil.org.cn/article/b-meltt-blending-moocs-english-language-teacher-training>
- Orsini-Jones, M., & Lee, F. (2018). *Intercultural communicative competence for global citizenship: identifying rules of engagement in telecollaboration*. Palgrave MacMillan. <https://doi.org/10.1057/978-1-137-58103-7>

# An exploratory analysis of the impact of learners' first language on vocabulary recall using immersive technologies

Kevin Papin<sup>1</sup> and Regina Kaplan-Rakowski<sup>2</sup>

**Abstract.** This exploratory post-hoc analysis examined the impact of learners' first language (L1) on learning vocabulary annotated in immersive 360° pictures. This analysis is a part of a larger, between-subjects study (Papin & Kaplan-Rakowski, 2020) in which learners ( $N=63$ ) of French as a second language (L2) studied vocabulary annotated in (1) Two-Dimensional (2D) pictures viewed on a desktop monitor, (2) 360° pictures viewed on a desktop monitor, and (3) 360° pictures viewed using a Virtual Reality (VR) headset. A multiple regression linear model revealed that native speakers of English benefited significantly more from immersive technologies compared with L1 Chinese speakers. When low-immersion and high-immersion technologies were used, Chinese L1 speakers were significantly disadvantaged by high-immersion VR. This study has implications in the field of L2 vocabulary research and learning materials design.

**Keywords:** 360° pictures, immersive technologies, virtual reality, low-immersion virtual reality, high-immersion virtual reality, vocabulary learning.

## 1. Introduction

Teachers have traditionally used 2D pictures as visual aids for vocabulary teaching. Such pictures restrict learners to passively viewing a small fraction of a scene. Technology advances now enable immersion in 360° pictures. The affordances of 360° pictures include omnidirectional viewing and active exploration of the surrounding area, similar to real life. Viewing 360° pictures

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1. McGill University, Montréal, Canada; kevin.papin@mcgill.ca; <https://orcid.org/0000-0001-7547-4524>

2. University of North Texas, Denton, Texas, United States; regina.kaplanrakowski@unt.edu; <https://orcid.org/0000-0002-6769-7784>

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on a desktop monitor can be considered Low-immersion VR (LiVR). These 360° pictures can also be displayed through a headset, yielding High-immersion VR (HiVR). As the terms 'LiVR' and 'HiVR' suggest, the level of immersion is the distinguishing factor between the two types of VR (Kaplan-Rakowski & Gruber, 2019). In this paper, we refer to LiVR and HiVR collectively as immersive technologies.

Similar to 2D pictures, 360° pictures can be annotated with target vocabulary, generating associations between the first language (L1) and the second language (L2). This practice of vocabulary learning through L1-L2 associations is supported by dual-coding theory (Paivio, 1971), the method of loci (Krokos, Plaisant, & Varshney, 2019), and the embodiment theory (Gallagher, 2006).

Despite some contradictory evidence (Kaplan-Rakowski, 2019), immersive technologies can be advantageous for vocabulary recall (Krokos et al., 2019; Lan, Fang, Legault, & Li, 2015). The question of whether all types of learners benefit equally from learning vocabulary in immersive settings has not been answered. Daigle, Mathieu, and Montésinos-Gelet (2008) show that the influence of L1 on L2 French language learning can vary cross-linguistically in more traditional educational settings. We thus explore the question: *does L1 influence the effectiveness of vocabulary learning using immersive technologies?*

## 2. Method

Our sample (mean age=20) consisted of 63 international students learning French as their second language at a large English-speaking Canadian university. We divided the sample into three groups: 27 were native speakers of Chinese (either Mandarin or Cantonese); 24, of English; and 12, of neither Chinese nor English (e.g. Punjabi, Swahili, Turkish, Portuguese). All participants were fluent in English.

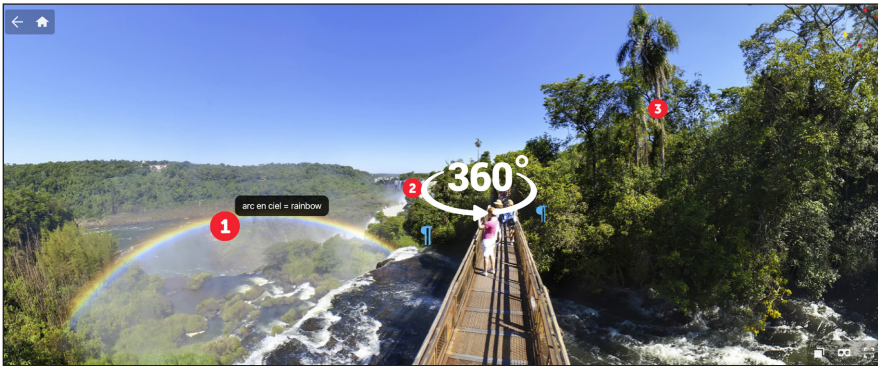
The procedure started with a practice activity in which subjects acquainted themselves with the equipment and the format of the experiment to be conducted. A vocabulary pretest confirmed the homogeneity of variances between the groups. Next, the subjects studied 15 advanced French words, none of which was a cognate of English or a Romance language. The words were annotated either in (1) 2D pictures viewed on the desktop monitor, as the control group; (2) 360° pictures viewed in LiVR on a desktop monitor; or (3) 360° pictures viewed in HiVR with a VR headset. The annotated pictures were identical across conditions,

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but the interactivity and the immersion level differed. Condition (1) offered no interactivity and little immersion. Condition (2) allowed for interactivity through scrolling and moving within the 360° pictures. Condition (3) embodied the viewers in 360° pictures, providing the highest immersion compared with Conditions (1) and (2). For a more elaborate description of the experiment, see [Papin and Kaplan-Rakowski \(2020\)](#).

The experiment involved the exploration of three annotated 360° pictures. [Figure 1](#) shows a screenshot of a 360° picture, which learners explored by scrolling around. By hovering over the numbered vocabulary items, the names of the items in French and English were revealed. Next, the subjects completed a demographic questionnaire and a survey. The last step of the procedure was a post-test consisting of receptive and productive tasks measuring immediate vocabulary recall. Two independent experts rated all the tests.

Figure 1. An example of a 360° picture annotated with vocabulary



To model the association between L1 and the impact of immersive technologies on learning vocabulary in VR, we estimated the following regression model:

$$(1) \text{Test score}_i = \text{Intercept} + \beta_1 (\text{Chinese}_i * \text{VR}_i) + \beta_2 (\text{English}_i * \text{VR}_i) + \beta_3 (\text{Other}_i * \text{VR}_i) + e_i$$

$\text{Chinese}_i$  takes a value of one if a subject reported Chinese as their L1.  $\text{English}_i$  and  $\text{Other}_i$  are defined similarly for English and other L1 languages, respectively.  $\text{VR}_i$  is an indicator variable taking a value of one if subject  $i$  was exposed to the VR treatment.

### 3. Results

Table 1 reports estimates for three specifications of Equation 1 based on the type of immersive technology treatment: either LiVR or HiVR (Model 1), LiVR only (Model 2), and HiVR only (Model 3). The significant positive coefficient for *English\*VR* in Model 1 indicates that, relative to the control condition, test scores were about three points higher (that is, about 40% higher) when the subjects reported English as their L1 and were exposed to immersive technology. Model 2 illustrates a similar finding when the immersive technology was restricted to only the LiVR treatment. The combination of English L1 and LiVR was associated with scores 4.64 points higher (approximately 58% better). Model 3 revealed a slightly different effect for HiVR. The significant negative estimate for *Chinese\*VR* shows that test scores were lower by 3.89 points (about 40% worse) with the HiVR treatment when Chinese was reported as the L1. In untabulated results, we observed similar patterns for scores on receptive recall tests.

Table 1. Regression results

Variable	Model 1 (LiVR or HiVR)	Model 2 (LiVR)	Model 3 (HiVR)
Intercept	8.13*** (9.08)	8.03*** (14.38)	9.64*** (16.67)
Chinese*VR	-.25 (-0.20)	2.26 (1.58)	-3.89*** (-2.78)
English*VR	3.09** (2.54)	4.64*** (3.60)	0.26 (0.20)
Other*VR	0.04 (0.03)	0.55 (0.38)	-2.04 (-1.19)
R2	0.15	0.20	0.14

Note: Coefficient estimates are reported with t-statistics in parentheses. Significance at the 0.01 level is indicated by \*\*\* and at the 0.05 level by \*\*.

### 4. Discussion and conclusions

Immersive technologies, including LiVR and HiVR, can foster language learning (Gruber & Kaplan-Rakowski, 2020; Kaplan-Rakowski & Wojdyski, 2018; Lan et al., 2015; Papin, 2018; Sadler, 2017). This exploratory analysis showed that native speakers of English benefited significantly more from immersive technologies for vocabulary recall than their Chinese L1 counterparts. This overall trend revealed two distinct components: English L1 speakers did better on LiVR and Chinese L1 speakers were significantly disadvantaged by HiVR.



Our findings are aligned with literature showing that some aspects of the French language are more easily acquired by L1 English speakers than L1 Chinese speakers in a non-immersive learning environment (Daigle et al., 2008). Further, our results could be explained by alphabetic L1 speakers performing better at alphabetic L2 (e.g. English) vocabulary recall than L1 logographic (e.g. Chinese) speakers (Wang, Koda, & Perfetti, 2003).

Based on the results of Papin and Kaplan-Rakowski (2020) and on this post-hoc analysis, future studies should examine the potential of various immersive technologies (augmented, extended, and virtual realities) for L2 vocabulary learning, with a special focus on learners' sociolinguistic background.

## References

- Daigle, D., Mathieu, I., & Montésinos-Gelet, I. (2008). Évaluation du traitement des correspondances phonèmes/phonogrammes chez des lecteurs/scripteurs adultes en début d'apprentissage du français langue seconde. *Canadian Modern Language Review*, 64(4), 637-661. <https://doi.org/10.3138/cmlr.64.4.637>
- Gallagher, S. (2006). *How the body shapes the mind*. Clarendon Press. <https://doi.org/10.1093/0199271941.001.0001>
- Gruber, A., & Kaplan-Rakowski, R. (2020). User experience of public speaking practice in virtual reality. In R. Z. Zheng (Ed.), *Cognitive and affective perspectives on immersive technology in education* (pp. 235-249). IGI Global. <https://doi.org/10.4018/978-1-7998-3250-8.ch012>
- Kaplan-Rakowski, R. (2019). The effect of stereoscopic three-dimensional images on vocabulary learning. *Contemporary Educational Technology*, 10(4), 324-337. <https://doi.org/10.30935/cet.634172>
- Kaplan-Rakowski, R., & Gruber, A. (2019). Low-immersion versus high-immersion virtual reality: definitions, classification, and examples with a foreign language focus. *Proceedings of the Innovation in Language Learning International Conference 2019* (pp. 552-555). Pixel.
- Kaplan-Rakowski, R., & Wojdyski, T. (2018). Students' attitudes toward high-immersion virtual reality assisted language learning. In P. Taalas, J. Jalkanen, L. Bradley & S. Thouéšny (Eds), *Future-Proof CALL: language learning as exploration and encounters – short Papers from EUROCALL 2018* (pp. 124-129). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.824>
- Krokos, E., Plaisant, C., & Varshney, A. (2019). Virtual memory palaces: immersion aids recall. *Virtual Reality*, 23(1), 1-15. <https://doi.org/10.1007/s10055-018-0346-3>
- Lan, Y. J., Fang, S. Y., Legault, J., & Li, P. (2015). Second language acquisition of Mandarin Chinese vocabulary: context of learning effects. *Educational Technology Research and Development*, 63(5), 671-690. <https://doi.org/10.1007/s11423-015-9380-y>

- Paivio, A. (1971). *Imagery and verbal processes*. Holt. <https://doi.org/10.1126/science.176.4035.628-b>
- Papin, K. (2018). Can 360 virtual reality tasks impact L2 willingness to communicate? In P. Taalas, J. Jalkanen, L. Bradley & S. Thouësny (Eds), *Future-Proof CALL: language learning as exploration and encounters – short Papers from EUROCALL 2018* (pp. 243-248). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.844>
- Papin, K., & Kaplan-Rakowski, R. (2020). *A study of vocabulary learning using annotated 360° pictures*. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3696821](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3696821)
- Sadler, R. W. (2017). The continuing evolution of virtual worlds for language learning. In C.A. Chapelle & S. Sauro (Eds), *The handbook of technology and second language teaching and learning* (pp. 184-201). Wiley Online Library. <https://doi.org/10.1002/9781118914069.ch13>
- Wang, M., Koda, K., & Perfetti, C. A. (2003). Alphabetic and nonalphabetic L1 effects in English word identification: a comparison of Korean and Chinese English L2 learners. *Cognition*, 87(2), 129-149. [https://doi.org/10.1016/s0010-0277\(02\)00232-9](https://doi.org/10.1016/s0010-0277(02)00232-9)

# Exploring L2 TV mode preferences and perceptions of learning

Anastasia Pattemore<sup>1</sup>, Maria del Mar Suárez<sup>2</sup>, and Carmen Muñoz<sup>3</sup>

**Abstract.** This study explores the effects of extensive exposure to L2 TV series, describing perceptions of learning from this type of input. A total of 136 university learners of English participated in a pre-/post-test design study which included extensive watching of ten full-length episodes of an English TV series. There were three groups: captions, textually enhanced captions, and no captions. Learners' viewing mode preference and feeling of learning from L2 media were explored through questionnaires on out-of-class exposure to English media distributed at the beginning and end of the classroom intervention. The study results suggest a shift in the preferred mode of exposure to L2 media after the intervention and provide insights on the students' impressions of and reactions to language learning from L2 TV series.

**Keywords:** audio-visual input, viewing mode, perceptions.

## 1. Introduction

Extensive exposure to L2 media has positive effects on several aspects of language, such as vocabulary (e.g. Suárez & Gesa, 2019), comprehension (e.g. Rodgers & Webb, 2017), and grammar constructions (Pattemore & Muñoz, 2020). It is, however, somewhat unknown how foreign language learners perceive these positive effects of L2 TV viewing. Captions (L2) and subtitles (L1) have been found to promote the feeling of learning for vocabulary, expressions, spelling, and accent comprehension (Vanderplank, 1988). Likewise, Montero Perez, Peters, Clarebout, and Desmet (2014) demonstrated feeling of vocabulary learning from the availability of captions and textually enhanced captions (bolding, highlighting,

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1. Universitat de Barcelona, Barcelona, Spain; anastasia.plotnikova@ub.edu; <https://orcid.org/0000-0003-2038-8017>

2. Universitat de Barcelona, Barcelona, Spain; mmsuarez@ub.edu; <https://orcid.org/0000-0002-1741-7596>

3. Universitat de Barcelona, Barcelona, Spain; munoz@ub.edu; <https://orcid.org/0000-0002-7001-4155>

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capitalizing). However, [Sydorenko \(2010\)](#) reported participants' feeling they had learned less due to lack of feedback. This might be affected by the viewing mode students are exposed to, as in [Pujadas \(2019\)](#), where students exposed to captioned TV series noted better vocabulary learning than the L1 subtitles group.

Preference for captions over no captions has been found for better content and listening comprehension ([Montero Perez, Van Den, Noortgate, & Desmet, 2013](#)); although, students might still prefer L1 subtitles in their daily exposure to L2 TV ([Kusyk & Sockett, 2012](#)). Choosing one type of subtitles over another might also depend on students' familiarity with different viewing modes. For example, [Vanderplank's \(2019\)](#) participants reported less use of captions as they became more familiar with the input.

This study explores feeling of learning and viewing mode preference through the following research questions:

RQ1: what is students' perception of learning from extensive classroom exposure to L2 TV series?

RQ2: is this feeling of learning related to in-class viewing modes?

RQ3: to what extent does students' experience with the different viewing modes affect preferred viewing mode?

RQ4: is viewing mode preference related to in-class viewing mode?

## 2. Method

The study involved 136 Catalan/Spanish bilingual undergraduate students from four intact classes. The participants' mean age was 19 and their proficiency varied from A1 to C2, with a mean of B2 according to Common European Framework of Reference for languages (CEFR) levels. The classes were randomly assigned to three different viewing conditions: with captions (n=71), without captions (n=27), and with enhanced captions (n=38).

The students watched ten episodes of *The Good Place* TV series ([Schur, 2016](#)) across five weeks. Before watching, the participants took a pre-test with grammar constructions (e.g. *I wish I had* – see [Pattemore & Muñoz, 2020](#)) and a viewing

habits questionnaire on their out-of-class L2 media viewing preferences and feeling of learning. After watching ten episodes (227 minutes), they took an immediate post-test and completed a follow-up questionnaire on feeling of learning from *The Good Place* as well as the viewing habits questionnaire (the same as at the beginning of the intervention).

The questions explored in this paper are:

Do you feel you have learned something from the <i>The Good Place</i> TV show?				
<input type="checkbox"/> Yes, vocabulary	<input type="checkbox"/> Yes, expressions	<input type="checkbox"/> Yes, grammar	<input type="checkbox"/> Yes, pronunciation	<input type="checkbox"/> No feeling of learning

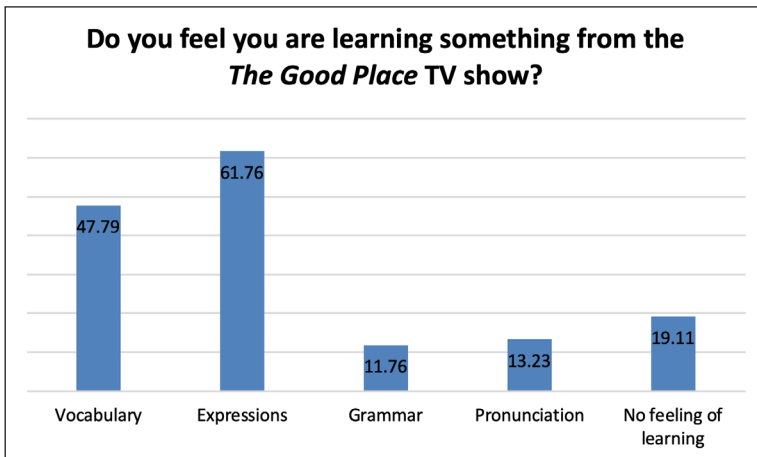
  

Have you watched films and/or TV series with subtitles in the last 7 days? If yes, specify the language of subtitles.		
<input type="checkbox"/> With Catalan/Spanish subtitles	<input type="checkbox"/> With English subtitles	<input type="checkbox"/> Without subtitles

### 3. Results and discussion

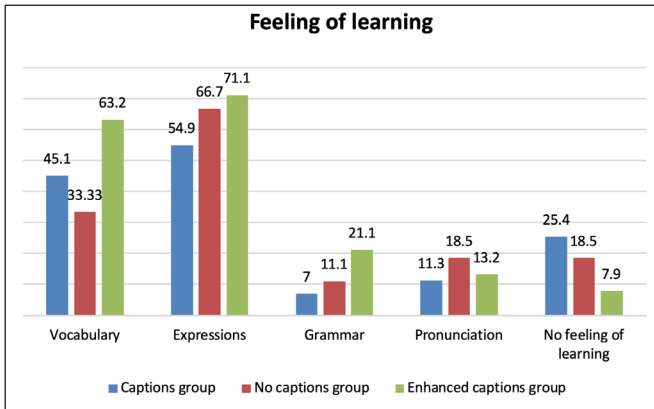
Figure 1 displays the distribution of answers to the first question above in percentages; the participants could choose more than one affirmative answer. Students reported learning mostly expressions and vocabulary, but not so much grammar or pronunciation, and 19% responded they did not know if they actually learned anything.

Figure 1. All participants' feeling of learning



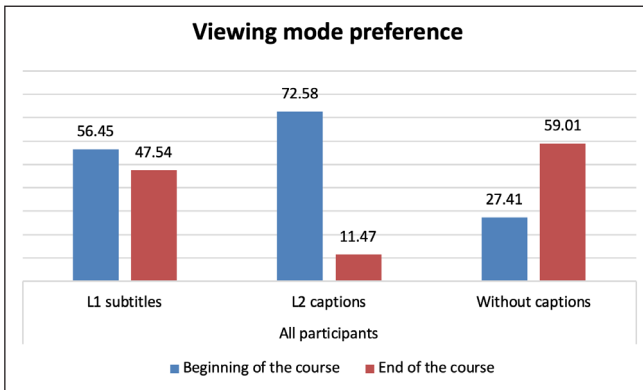
As for the second research question, also expressed in percentages, students perceived learning vocabulary and expressions more than grammar and pronunciation regardless of the in-class viewing mode. The captions group were most likely to report not perceiving any learning (see Figure 2).

Figure 2. Feeling of learning per treatment group



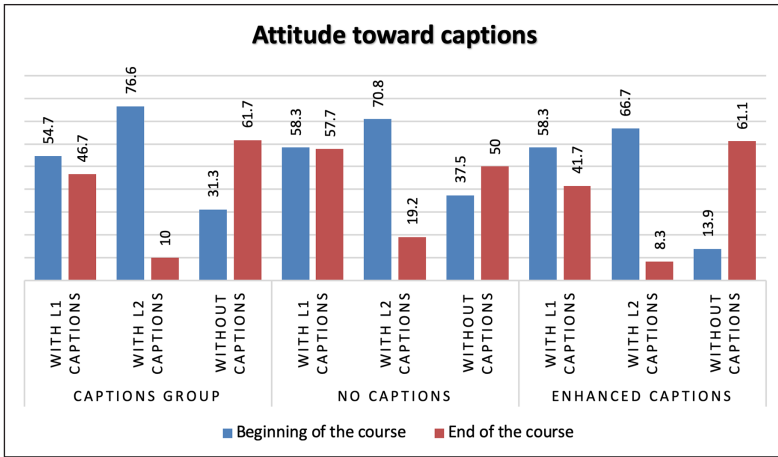
Concerning the third research question, the students' preferred mode of watching changed after the intervention (see Figure 3). While there was little change in viewing with L1 subtitles (56.45% before the intervention, 47.54% afterwards), there was a noticeable drop in the use of L2 captions (from 72.58% to 11.47%) and a remarkable increase in the preference for watching L2 media without captions (from 27.41% to 59.01%).

Figure 3. All participants' viewing mode preference



Finally, regarding the fourth research question, the results showed that both the captions and enhanced captions groups sharply decreased their use of L2 captions and increased their preference for watching without captions. Likewise, the no captions group greatly decreased their preference for use of L2 captions, but only slightly increased watching without captions (see [Figure 4](#)).

Figure 4. Attitudes toward viewing mode before and after the intervention



These results suggest that the students mostly perceived learning expressions and vocabulary. Perhaps expressions and vocabulary are easier to notice than grammar and pronunciation. Also, as in [Kusyk and Sockett's \(2012\)](#), and [Vanderplank's \(1988\)](#) studies, these are the linguistic aspects learners tend to pay more attention to in out-of-class exposure, so it is unsurprising they are also the ones perceived as most learned in this study. Grammar is the aspect felt to be learned least, although the analysis of the language outcomes of the intervention showed significant pre-/post-test grammar gains ([Pattemore & Muñoz, 2020](#)). A tentative explanation for this incongruity is that incidental grammar learning is less noticeable without additional feedback or practice, as suggested by [Sydorenko \(2010\)](#). Lastly, the enhanced captions group perceived more learning than the others, including grammar. This is likely due to the increased salience provided by caption enhancement.

Regarding students' viewing mode preferences, students who preferred L1 subtitles before the classroom exposure continued watching with L1 subtitles after the intervention. They may have faced some difficulties using L2 captions or no

captions in the classroom and therefore L1 subtitles were a more convenient way of watching L2 TV outside of the classroom. On the other hand, those who were originally watching with L2 captions tended to switch to no captions regardless of their in-class viewing mode. This echoes Vanderplank (2019), where participants turned captions off after a period of time. Our participants in the L2 captions and enhanced captions groups might have become comfortable with L2 audio-visual input and captions could have felt redundant for them. The without captions group also decreased their use of L2 captions in their out-of-school L2 media watching. As this group was exposed to a challenging viewing mode over an extensive period, students may have adapted to watching without any textual support and felt confident enough to view L2 TV in this mode.

#### **4. Conclusions**

This classroom intervention can be considered an overall positive experience as most students felt they were learning from this extensive exposure to L2 TV series. Both expressions and vocabulary were perceived to be learned the most, probably because they were more noticeable, especially for the enhanced captions group who had the strongest feeling of learning. This extensive viewing experience might have fostered the students' confidence as active viewers and foreign language learners given the general switch from L2 captions to no captions.

For further research, we hypothesize that the learner behaviors presented here might depend on learners' proficiency levels, as well as the use of learner viewing strategies.

#### **5. Acknowledgments**

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#### **References**

- Kusyk, M., & Sockett, G. (2012). From informal resource usage to incidental language acquisition: language uptake from online television viewing in English. *ASp*, 62, 45-65. <https://doi.org/10.4000/asp.3104>



- Montero Perez, M., Peters, E., Clarebout, G., & Desmet, P. (2014). Effects of captioning on video comprehension and incidental vocabulary learning. *Language Learning & Technology*, 18(1), 118-141.
- Montero Perez, M., Van Den Noortgate, W., & Desmet, P. (2013). Is less more? Effectiveness and perceived usefulness of keywords and full captioned video for L2 listening comprehension. *ReCALL*, 26(1), 21-43. <https://doi.org/10.1017/s0958344013000256>
- Pattermore, A., & Muñoz, C. (2020). Learning L2 constructions from captioned audio-visual exposure: the effect of learner-related factors. *System*, 93. <https://doi.org/10.1016/j.system.2020.102303>
- Pujadas, G. (2019). *Language learning through extensive TV viewing. A study with adolescent EFL learners*. PhD Dissertation, Universitat de Barcelona. <https://www.tdx.cat/handle/10803/668091#page=1>
- Rodgers, M. P. H., & Webb, S. (2017). The effects of captions on EFL learners' comprehension of English-language television programs. *CALICO Journal*, 34(1), 20-38. <https://doi.org/10.1558/cj.29522>
- Schur, M. (2016). *The good place* [creator]. Television series. Fremulon.
- Suárez, M. M., & Gesa, F. (2019). Learning vocabulary with the support of sustained exposure to captioned video: do proficiency and aptitude make a difference? *The Language Learning Journal*, 47(4), 497-517. <https://doi.org/10.1080/09571736.2019.1617768>
- Sydorenko, T. (2010). Modality of input and vocabulary acquisition. *Language Learning & Technology*, 14(2), 50-73.
- Vanderplank, R. (1988). The value of teletext sub-titles in language learning. *ELT Journal*, 42(4), 272-281. <https://doi.org/10.1093/elt/42.4.272>
- Vanderplank, R. (2019). 'Gist watching can only take you so far': attitudes, strategies and changes in behaviour in watching films with captions. *The Language Learning Journal*, 47(4), 407-423. <https://doi.org/10.1080/09571736.2019.1610033>

# Digital learning environments, multimodal and sensory affordances: reshaping the second language experience for a new era

Martine Pellerin<sup>1</sup>

**Abstract.** The paper examines how the game Minecraft can be used as a new digital learning environment in the context of second language teaching and learning. It explores how the concepts of digital space and digital place within the new 3D digital environment can contribute to reshaping the language learners' experience and promote greater engagement in the target language. The study involved one language teacher and his grade 6 (upper elementary) students in a French immersion program in Canada. Digital artifacts created by the students in Minecraft were collected and qualitative analysis was carried out. The findings reveal that the use of a new digital environment allows for the emergence of a sense of digital place (emotional connection), greater engagement, and a sense of agency and control on the part of learners. Higher levels of collaboration, creativity, and imagination were also observed in the language tasks.

**Keywords:** Minecraft, digital environment, digital space, digital place.

## 1. Introduction

Digital technologies have become ubiquitous, affecting all spheres of our daily activities and providing new ways to interact with the world and communicate with others in formal and informal ways. Emergent technologies offer new digital and virtual environments, as well as multiple modalities and multisensory affordances that contribute to the evolution of the concept of traditional literacy (Pellerin, 2017). The exponential development of digital 3D interactive environments is

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1. University of Alberta, Edmonton, Alberta Canada; pellerin@ualberta.ca

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penetrating the traditional walls of the classrooms and revolutionizing the concept of learning beyond the boundaries of the 2D textbook world (Karsenti, Bugmann, & Gros, 2017). In the last decade, studies in the field of mobile assisted language learning have examined the role of the affordances offered by new technologies in enhancing learning opportunities and the language learning process. However, the research related to the use of 3D interactive environments for second language learning at k-12 levels is still at an embryonic stage.

## 2. Theoretical background

### 2.1. Affordances of new digital environments

Gibson's (1979) theory of affordance explores the conceptualization of affordances in terms of an ecological approach to visual perception that emphasizes possibilities offered by the environment based on the perceptions of the actors. Following this perspective, the affordance of the environment or of an object is the result of the relationship between the actors and the environment/object. Norman (1999) adopted the concept in the field of human-computer interaction and focused instead on the users and defined *affordances* as “perceived and actual properties of the thing” (p. 9).

### 2.2. The role of game-based learning

Research has demonstrated that playful learning improves educational outcomes. According to Arnold (2019), games can contribute to reducing or discouraging negative behaviors, and can help to improve social skills. Digital games can contribute to the development of ‘soft skills’ such as collaboration and communication (Mohammed, 2019) as well as the problem-solving and critical thinking that are crucial literacy skills for a new digital era.

### 2.3. Minecraft as digital learning environment

Minecraft Education version is a digital 3D interactive environment that is adapted for use in the classroom (Figure 1).

According to reports from game developers, educators, and classroom research studies such as *Understanding the Impact of Minecraft in the Math Classroom*<sup>2</sup>,

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2. <https://education.minecraft.net/blog/new-study-understanding-the-impact-of-minecraft-in-the-math-classroom>

there are a number of benefits that can be realized through using Minecraft in the classroom such as:

- collaboration with peers via online social gameplay;
- engagement in problem-solving;
- learning new content from diverse subject areas (e.g. maths, science, history); and
- using creativity and imagination.

Figure 1. Picture of the Minecraft digital game (<https://www.minecraft.net/en-us/>)



#### **2.4. Transactional relationship between digital environment, digital space, and digital place**

The author examined elsewhere the multimodal and multisensory affordance offered by digital learning environments as a dynamic ecosystem (Pellerin, 2018).

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From this perspective, the digital learning environment can be understood as an organic element that is part of a larger ecological system that shapes the learning process. In the present study, the author investigates the transactional relationship between the three micro digital systems: the digital learning environment (e.g. the Minecraft platform); the digital space (e.g. the multimodal and multisensory 3D interactive environment in Minecraft), and the digital place (e.g. the digital world created by the learners in Minecraft).

### 3. Method

Exploratory and teacher action research was conducted with one experienced teacher and his grade 6 (upper elementary) students (n=26) as they used Minecraft in a French immersion program in the province of Alberta, Canada. The unit on ‘Citizens Participating in Decision Making’ lasted six weeks. The teacher’s classroom observations were recorded every day during the period allowed for the social studies. As part of the unit students were asked to work collaboratively to build a city in Minecraft that includes houses, schools, churches, hospitals, a city hall, roads, green spaces, etc.

A digital ethnography approach (Pellerin, 2017) was used to collect digital artifacts created by students while using Minecraft. The teacher, as participant researcher, collected digital artifacts (e.g. see Figure 2) created by the students as daily work in the framework of formative and summative evaluations in an authentic classroom context.

Qualitative data analysis, through an axial coding process, was used to explore the question about how the affordances of digital space and digital place within a 3D virtual environment such as Minecraft can contribute to reshaping the language learners’ experience and promoting greater engagement in the target language.

Figure 2. Some of the digital artifacts created in Minecraft Education version by the students



## **4. Results and discussion**

### **4.1. Key observations reported by the teacher**

The key observations reported by the teacher indicated:

- students showed greater engagement and enthusiasm for learning tasks in French;
- collaboration and problem-solving between students increased;
- creativity and imagination emerged in the digital artifacts produced by the students; and
- disruptive behaviors decreased.

The observed results from this small study are aligned with the results from previous research in K-12 educational context (e.g. [Karsenti et al., 2017](#); [Mohammed, 2019](#)). In the last decade, studies in the field of mobile assisted language learning have examined the role related to the benefits of using game-based learning, supporting the idea that games can improve social skills and discourage negative behavior, contributing to the development of ‘soft skills’ such as collaboration, communication, problem-solving, and critical thinking, which are crucial literacy skills for a new digital era. These results add new knowledge regarding to the use of 3D interactive environments for second language learning at k-12.

### **4.2. Insights gained from the digital documentation and students’ experience with the digital environment**

New insights were gained from the analysis of the digital artifacts created by students and the observation of the students’ experience using Minecraft in the context of second language learning at k-12 levels. The multimodal and multisensory affordances offered by the new digital environment contributed to the creation of new modes of expression, representation of thought, action, and engagement which, in turn, promotes the development of new digital skills and literacy in the context of language learning.

The use of Minecraft as a new digital environment also contributes to:

- the emergence of digital space and digital place;

- a greater sense of autonomy in the language learning task; and
- an increased motivation to use the target language as a cognitive and social tool for learning.

The research project demonstrates that within the new digital environments a sense of place (emotional connection) does emerge, providing greater control and agency over learning on the part of the learners. As a result, a greater sense of autonomy and motivation emerge toward the learning task at hand in the target language.

## 5. Conclusion

Digital 3D interactive environments like Minecraft provide new multimodal and multisensory affordances that contribute to reshaping the language learners' experience. Moreover, these 3D digital environments allow for the emergence of a sense of place in terms of emotional connection that promote greater engagement of students in the language task. Educational research has demonstrated that students' engagement is one of the best indicators of successful learning. Digital learning environments like Minecraft in the context of second language learning hold great potential in promoting greater students' engagement and, in turn, promoting successful language learning experience.

## 6. Acknowledgments

I would like to thank Gilbert Bérubé, classroom teacher, and all his students for sharing their learning experience with Minecraft.

## References

- Arnold, S. (2019, Jan 28). Change the game: using Minecraft to teach students with autism. *Edsurge*. <https://www.edsurge.com/news/2019-01-28-change-the-game-using-minecraft-to-teach-students-with-autism>
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.
- Karsenti, T., Bugmann, J., & Gros, P.-P. (2017). *Research highlights: transforming education with Minecraft? Results of an exploratory study conducted with 118 elementary-school students*. CRIFPE.

- Mohammed, S. (2019, May 8). Is technology good or bad for learning? *Brown Center Chalkboard Series*. <https://www.brookings.edu/blog/brown-center-chalkboard/2019/05/08/is-technology-good-or-bad-for-learning/>
- Norman, D. (1999). Affordance, conventions, and design. *Interactions*, 6(3), 38-43.
- Pellerin, M. (2017). L'usage des technologies numériques pour le développement de compétences multimodales en littératie au 21e siècle. *Éducation et francophonie*, 45(2), 85-106. <https://doi.org/10.7202/1043530ar>
- Pellerin, M. (2018). Affordances of new mobile technologies: promoting learner agency, autonomy, and self-regulated learning. *Journal of Interactive Learning Research*, 29(3), 335-350.



# Teaching and social presence in online foreign language teaching

Pasi Puranen<sup>1</sup> and Ruby Vurdien<sup>2</sup>

**Abstract.** This paper examines and reports on ways of promoting teaching presence in foreign language online learning environments in Finland and Spain. ‘Teaching presence’ refers to all the tools and resources teachers use during online courses to deliver teaching, guidance and feedback, or situations in which they are present for their students. A qualitative approach was adopted, and data were collated from questionnaires completed by 34 teachers and 16 students involved in different online language courses at different educational levels. The aim was to examine (1) the extent to which students’ views on feedback and teaching presence in online courses differ from those of teachers, and (2) the impact teaching presence has on student engagement and behaviour in online courses. Based on the polling data, both teachers and students find student engagement to be significant in fostering learning in an online environment. Students tend to be generally satisfied with teacher feedback.

**Keywords:** teacher presence, online learning, guidance, learning analytics.

## 1. Introduction

Research has shown that teaching presence plays a vital role in online education, as it connects students and teachers who are not physically in contact (Garrison & Cleveland-Innes, 2005; Nami, Marandi, & Sotoudehnama, 2018; Sheridan & Kelly, 2010). Online teachers design the structure of online courses, create learning tasks, and plan course schedules. Throughout the course, teachers assist students in interacting with their materials, peers, and teachers. Furthermore, they not only instruct students, but also provide them with feedback and monitor their social

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1. Aalto University Language Centre, Espoo, Finland; [pasi.puranen@aalto.fi](mailto:pasi.puranen@aalto.fi); <https://orcid.org/0000-0002-0724-6973>

2. White Rose Language School, Valladolid, Spain; [whiterose\\_va@yahoo.es](mailto:whiterose_va@yahoo.es); <https://orcid.org/0000-0002-6011-5606>

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activities online (Garrison, Cleveland-Innes, & Fung, 2010). However, teachers are faced with new challenges in online learning environments, and as mentioned in Yang, Quadir, Chen, and Miao (2016), it is of paramount importance to provide interpersonal communication opportunities for students to socially engage with their teachers and peers in order to afford online students a sense of presence similar to that in face-to-face classes. The importance of online presence has been highlighted by numerous studies (Garrison & Cleveland-Innes, 2005), and it has been found that teaching presence is important to maintain students' motivation, to prevent a feeling of isolation and to reduce the number of dropouts (Bowers & Kumar, 2015). Effective online guidance in language learning involves three main aspects: giving both time and attention to the learners, and showing them respect (Cunningham, 2015). Successful teaching presence also includes guidance in interaction during the online learning process, constructive use of peer reviewing, and providing feedback.

With these considerations, the two research questions are as follows.

- To what extent do students' views on feedback and teaching presence in online courses differ from teachers' views?
- What impact does teaching presence have on student engagement and behaviour in online courses?

## 2. Method

Our study explored how a group of 34 teachers (25 Finns and nine Spaniards) involved in different online language courses (English, Chinese, German, Spanish, Italian, French, Swedish, and Russian), in secondary, university, vocational, and private language school education, gave their students feedback via digital tools in order to guide and motivate them to perform their tasks regularly. 16 of these teachers' students, who voluntarily participated in the Finnish-Spanish study (11 Spaniards and five Finns), belonged to the 21-30 age group, and were studying English, Portuguese, French, Spanish, and Italian. They were requested to comment on how their teachers made their presence felt before, during and after a course.

A qualitative approach was adopted and the participants (both teachers and students) were asked to complete two questionnaires consisting of ten questions each, in order to gauge their views on (1) the effectiveness of the digital tools used

to provide feedback, (2) how important student engagement online was considered to be, and (3) what their preferred digital tool would be. The data were categorised to match the two research questions.

### **3. Results and discussion**

When comparing the results between the online tools teachers report using, and how students report getting feedback and their perception of teaching presence in online foreign language courses, it could be observed that there was coherence between the responses of both groups.

#### **3.1. Effectiveness of the digital tools used to provide feedback**

The students stated that they received sufficient feedback and guidance from the teacher, who was present online, making their presence felt prior to, during and after a course. When asked to respond to the statement *I get enough feedback and guidance from my online teacher/tutor*, 81.3% of the students agreed. Furthermore, 93.8% strongly agreed that their teacher provided enough feedback and guidance online.

When both teachers and students were requested to comment on the impact of teaching presence on student engagement and behaviour, the responses in both groups were similar in many cases. The teachers pointed out that they provided their students with substantial feedback and that student feedback was given regularly. The teachers also said that by being present online they became aware of their students' needs, and were able to encourage them to play an active role (e.g. via videoconferencing) online. In addition, and importantly, teachers could prompt students to interact with each other in online forums. However, a couple of teachers were critical:

“It would be great to have more time for teacher presence, but teaching resources are limited, so teaching presence is limited to a minimum” (Finnish, November 2019).

“I’m a learner, so if we are moving from contact to online courses, I guess I have to adjust my pedagogy” (Spanish, November, 2019).

This suggests that some teachers need support in order to be able to cater for their students' requirements.

### **3.2. Student engagement online is important**

75% of students perceived the impact of teaching presence on student engagement and behaviour as a positive experience. They mentioned, for example, that teachers were helpful and supportive, because they provided (1) advice on pronunciation, (2) feedback on spelling, and (3) made corrections and suggestions about how to improve their skills, and that they graded tasks and sent feedback. They also reported that teachers were concerned about students and took care of them, thereby confirming their appreciation of the role played by their teachers in their online courses.

### **3.3. Preferred digital tools**

The teachers reported that they use a variety of online tools. Those preferred were discussion forums (91.2%), email (85.3%), recorded videos (70.6%) and videoconferencing tools, including Skype, Zoom, Microsoft Teams, and Adobe Connect (67.6%). Other tools mentioned included the comment tool and wiki.

The students reported that they preferred receiving their feedback in written form by email or in the discussion forum (12 students out of 16). This was due to four reasons: (1) written feedback is more flexible when it comes to time management; (2) it is easy to send emails; (3) teachers can respond at their convenience; and (4) students can reread the received feedback when necessary.

However, when asked: *In an ideal case, how would you like to communicate with your online teacher/tutor?*, 9 out of 16 reported that they would prefer personal online chat tools (like Skype, Hangouts, or WhatsApp) because it allowed them to discuss and clarify issues instantaneously. Regarding this, one student said: “A balance between written and face-to-face skype communication would be desirable in order to practise speaking” (Finnish, November 2019). Another commented: “Skype, although I might be ashamed” (Spanish, November 2019), but did not explain why.

## **4. Conclusions**

This paper has shed some light on the importance of teaching presence in online courses, and the impact it can have on student engagement and behaviour. As the findings show, teaching presence plays a significant role in the organisation of courses, prompting students to engage with their materials, peers, and their teachers.

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In the present study, both students and teachers have expressed positive views regarding their experience of both teaching and social presence in online courses. Although the students' preferred tool for receiving teacher feedback is email, as comments can be reread, they also consider videoconferencing to be a timely option. In their view, Skype could be a convenient tool because the teacher-student relationship can be more personalised. It has also been seen that the impact of teaching presence on student engagement is crucial for students to benefit from their learning experience. However, due to the small scale of the study, the findings cannot be generalised and, hopefully, more research in this field will widen the scope of teaching presence in online courses.

## 5. Acknowledgements

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## References

- Bowers, J., & Kumar, P. (2015). Students' perceptions of teaching and social presence: a comparative analysis of face-to-face and online learning environments. *International Journal of Web-Based Learning and Teaching-Technologies*, 10(1), 27-44.
- Cunningham, J. M. (2015). Mechanizing people and pedagogy: establishing social presence in the online classroom. *Online Learning*, 19(3). <https://doi.org/10.24059/olj.v19i3.667>
- Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: interaction is not enough. *American Journal of Distance Education*, 19(3), 133-148. [https://doi.org/10.1207/s15389286ajde1903\\_2](https://doi.org/10.1207/s15389286ajde1903_2)
- Garrison, D. R., Cleveland-Innes, M., & Fung, T. S. (2010). Exploring causal relationships among teaching, cognitive and social presence: student perceptions of the community of inquiry framework. *The Internet and Higher Education*, 13(1-2), 31-36. <https://doi.org/10.1016/j.iheduc.2009.10.002>
- Nami, F., Marandi, S. S., & Sotoudehnama, E. (2018). Interaction in a discussion list: an exploration of cognitive, social, and teaching presence in teachers' online collaborations. *ReCALL*, 30(3), 375-398. <https://doi.org/10.1017/s0958344017000349>
- Sheridan, K., & Kelly, M. A. (2010). The indicators of instructor presence that are important to students in online courses. *MERLOT Journal of Online Learning and Teaching*, 6(4), 767-779.
- Yang, J. C., Quadir, B., Chen, N.-S., & Miao, Q. (2016). Effects of online presence on learning performance in a blog-based online course. *The Internet and Higher Education*, 30, 11-20. <https://doi.org/10.1016/j.iheduc.2016.04.002>

# Students' intention to use high-immersion virtual reality systems for learning paragraph structure: a PLS-SEM exploratory study

Ethan Douglas Quaid<sup>1</sup>, Austin Pack<sup>2</sup>,  
Alex James Barrett<sup>3</sup>, and Litong Zhou<sup>4</sup>

**Abstract.** This short paper reports the findings of a study exploring English for Academic Purposes (EAP) students' behavioral intention to use a high-immersion Virtual Reality (VR) system for learning paragraph structure. The study measured relationships between variables that may lead to learners' intention to use the high-immersion VR Reality system through leveraging a hypothesized theoretical framework based upon a widely used technology acceptance model. Quantitative data were collected from 134 Sino-British English as a medium of instruction by university undergraduate students enrolled in EAP classes by means of a post-participation questionnaire. A Partial Least Squares - Structural Equation Modeling (PLS-SEM) exploratory analysis was executed. Results suggested that students' intention to use the high-immersion VR learning environment was primarily determined by its usefulness for learning and not how easy it was to use. Furthermore, the degree to which the learners felt confident in their ability to operate the system had a large impact on how easy they perceived it was to use. And finally, the antecedent conditions of learners had little impact on the students' perceived usefulness of the VR system.

**Keywords:** virtual reality, high-immersion, technology acceptance model, paragraph writing.

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1. Xi'an Jiaotong-Liverpool University, Suzhou, China; ethan.douglasquaid@outlook.com; <https://orcid.org/0000-0003-2682-2347>
  2. Xi'an Jiaotong-Liverpool University, Suzhou, China; austin.pack@liverpool.ac.uk; <https://orcid.org/0000-0002-3861-5620>
  3. Xi'an Jiaotong-Liverpool University, Suzhou, China; alex.james.barrett@gmail.com; <https://orcid.org/0000-0003-1229-9743>
  4. Xi'an Jiaotong-Liverpool University, Suzhou, China; litong.zhou18@student.xjtu.edu.cn

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## 1. Introduction

Leveraging VR technology for language learning remains one of the least published topics in the field of computer assisted language learning, yet it is posited that utilizing virtual reality has an array of benefits which include reducing learners' affective filter, and increasing their engagement and motivation to learn content (Huang, Liaw, & Lai, 2016). This paper reports a study investigating students' behavioral intention to use a high-immersion VR system for the purpose of learning paragraph structure through an adapted version of Davis's (1989) technology acceptance model.

## 2. Background

Davis's (1989) Technology Acceptance Model (TAM) has perhaps been the most widely used base model that has been adapted for determining learners' intention to use VR systems.

Huang et al.'s (2016) analysis of their adapted TAM model found that students' Perceived Usefulness (PU) of the low-immersion VR system for learning, strongly and significantly determined their Intention To Use (INTU) it; whereas students' Perceived Ease of Use (PEU) of the VR system did not. However, these relationships have not been studied in learners' use of high-immersion VR systems to date, and therefore their applicability is uncertain.

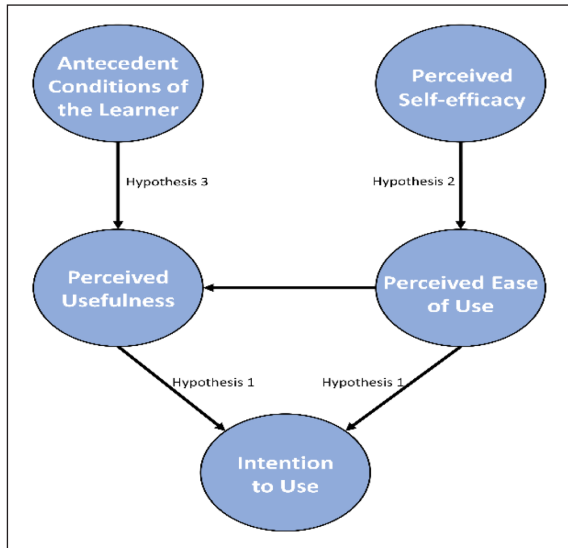
A frequently assimilated exogenous TAM model variable is Perceived Self-Efficacy (PSE) which is the degree to which a user feels confident in their ability to operate the technology. Venkatesh, Morris, Davis, and Davis (2003) consider PSE an indirect determinant of students' INTU, mediated by PEU, because the virtual literacy level of users is considered likely to impact their ease of VR system operation, although this relationship requires validation for high-immersion VR systems.

Pack, Barrett, Liang, and Monteiro (2020) have suggested that the Antecedent Conditions of the Learner (ACL), which include attitudes toward, and perceived value of, the subject matter being learned, might determine a student's PU of high-immersion VR technology for learning. However, the relatively small-scale study cited necessitates that the relationship is tested further; hence the inclusion of ACL as a predictor of PU for this present study.

Figure 1 illustrates the adapted exploratory TAM that was used in this current study according to the background presented in this section. To test the research findings outlined in the previous section and the resulting theorized exploratory model (see Figure 1) for their applicability to learners' INTU a high-immersion VR system, the following three hypotheses were formed.

- $H_1$  Learners' INTU will be more strongly determined by the VR system's PU than its PEU
- $H_2$  Learners' PSE will be a medium to high strength predictor for their PEU of the VR system
- $H_3$  The ACL will be a medium strength predictor for the learners' PU of the VR system

Figure 1. Exploratory TAM model



### 3. Method

One hundred and thirty-four undergraduate year-one students at a Sino-British EMI university responded to a call for participation through non-probability voluntary

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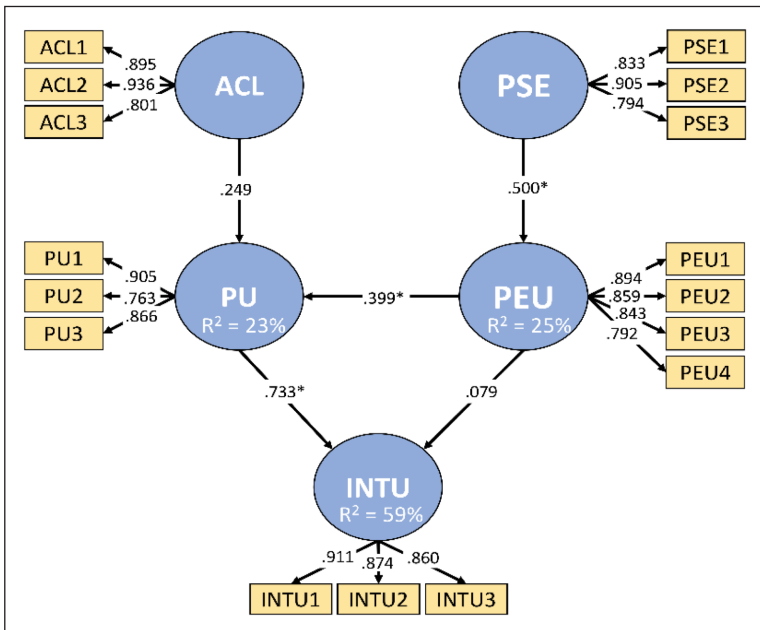


response self-selection sampling. Standard ethical procedures were undertaken to ensure participant consent and anonymity. Pack et al.'s (2020) in-house developed paragraph writing structure learning program was used in combination with an Oculus Rift high-immersion VR system. The mean length of participants' data collection sessions was 12 minutes. Data collection sessions were divided into the following stages: (1) system and program orientation; (2) supervised controlled practice; and (3) freer practice. A 16 item paper and pen questionnaire, which had been subjected to a content validity study (Rubio et al., 2003), was used for post-session data collection.

#### 4. Analysis and assessment

PLS-SEM was chosen for the method of analysis because of its suitability for testing a theoretical model from an exploratory perspective. The PLS-SEM analysis was executed by using SmartPLS 3 (Ringle, Wende, & Becker, 2015) with resulting output presented in Figure 2. Hair, Hult, Ringle, and Sarstedt's (2017) procedural recommendations and measurement value thresholds were applied in the following measurement and structural model assessments.

Figure 2. Exploratory TAM model results (\* $p < .001$ )



#### 4.1. Measurement model assessment

The outer measurement model was assessed for the validity and reliability of the questionnaire items representing each construct in the adapted model (see [Table 1](#)). Discriminant validity was also found to be acceptable through examination of the heterotrait-monotrait ratio of correlations whereby all construct values were  $<1$  at the 95% confidence level through completion of a 5,000 sample bootstrap procedure.

Table 1. Internal consistency ( $\alpha$ ), Composite Reliability (CR), and convergent validity (AVE) results

	ACL	PSE	PEU	PU	INTU	Benchmark*
$\alpha$	0.851	0.815	0.869	0.801	0.858	$>0.7$
CR	0.911	0.882	0.911	0.883	0.913	$>0.7$
AVE	0.773	0.715	0.719	0.717	0.778	$>0.5$

\*Hair et al. (2017)

#### 4.2. Structural model assessment

Collinearity was examined through the use of variance inflation factor values of relationships between constructs in the inner structural model, and ranged from 1.000 to 1.199 which met the recommended criterion of being  $<5$ .

[Figure 2](#) contains a visual representation of the following results testing this study's hypotheses.  $H_1$  was confirmed because the PU-INTU path coefficient exhibited a large and significant positive influence ( $\beta=0.733$ ,  $p<0.01$ ); while the PEU-INTU path was weak and nonsignificant ( $\beta=0.079$ ,  $p<0.322$ ). The coefficient of determination of INTU ( $R^2=0.590$ ) indicated medium effect from the two exogenous variables of PU and PEU.  $H_2$  was also supported in that PSE was found to be a strong and significant predictor for PEU ( $\beta=0.500$ ,  $p<0.01$ ). However,  $H_3$  was rejected due to the path coefficient for ACL-PU ( $\beta=0.249$ ,  $p=0.080$ ) being weak and nonsignificant, and PU's coefficient of determination ( $R^2=0.250$ ) exhibiting small effect from ACL and PEU.

Additional insights into the path model's results and subsequent confirmation and rejection of this study's hypotheses can be found in the  $f^2$  effect sizes, the  $Q^2$  predictive relevance, and  $q^2$  effect sizes obtained through a blindfolding procedure ( $D=7$ ), which are presented in the [supplementary materials](#).

## 5. Implications and conclusion

Huang et al.'s (2016) results were found to be transferable to the high-immersion VR system used in this study, because participants' PU of the VR system for learning paragraph structure was a greater determiner of their INTU than the perception of how easy it was to use. Interpretation of these results leads to the possibility that teachers introducing high-immersion VR systems into their learning spaces should perhaps consider prioritizing their usefulness for learning over how easy they are to use to some degree.

Venkatesh et al.'s (2003) assertion that PSE is an indirect determiner of users' INTU, mediated by their PEU of the system, was indicative of the learners and high-immersion VR system used in this study. A likely explanation for this finding is that newer populations of students are today more likely to be exposed to both low- and high-immersion VR systems prior to them being introduced in learning spaces.

Pack et al.'s (2020) construct of ACL was found not to be a significant predictor for students' PU of the system. One reason for this may be that students' attitudes toward their EAP class are negligible in comparison to other variables unobserved in this study, such as the wider educational merits afforded by VR learning environments.

## 6. Supplementary materials

<https://research-publishing.box.com/s/xwv2d8qor95vqm1e4bjcr4k302f8pc05>

## References

- Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage.
- Huang, H. M., Liaw, S.-S., & Lai, C. M. (2016). Exploring learner acceptance of the use of virtual reality in medical education: a case study of desktop and projection-based display systems. *Interactive Learning Environments*, 24(1), 3-19. <https://doi.org/10.1080/10494820.2013.817436>

- Pack, A., Barrett, A., Liang, H.-N., & Monteiro, D. V. (2020). University EAP students' perceptions of using a prototype virtual reality learning environment to learn writing structure. *International Journal of Computer-Assisted Language Learning and Teaching*, 10(1), 27-46. <https://doi.org/10.4018/ijcallt.2020010103>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). *SmartPLS 3*. SmartPLS. <http://www.smartpls.com>
- Rubio, D. M., Berg-Weger, M., Tebb, S. S., Lee, E. S., & Rauch, S. (2003). Objectifying content validity: conducting a content validity study in social work research. *Social Work Research*, 27(2), 94-104. <https://doi.org/10.1093/swr/27.2.94>
- Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>

# Collective design as a support for professional development: a case study

Nolwenn Quéré<sup>1</sup>

**Abstract.** Integrating digital resources into teachers' practice requires, notably, the availability of resources offering flexibility of use (Morgan, 1990) and proximity to teachers' schemes (Crisan, Lerman, & Winbourne, 2007). Collective designing and sharing of these resources can facilitate this integration and contribute to teachers' professional development (Quéré, 2019). The e-FRAN IDEE research group work looks at the cooperation between teachers and researchers jointly designing a digital resource to teach English. The aim of this paper is to observe a part of cooperation on one teacher's professional development. In this case study, I show that the interactions between teachers in the group, Ginger and Val, lead to the discovery of new resources, and working with the latter foster new knowledge.

**Keywords:** cooperative engineering, collective design, professional development, English as a foreign language.

## 1. Introduction

Also mentioned elsewhere (Quéré, Gruson, & Le Hénaff, 2018), the research presented is part of a French research project called e-FRAN IDEE<sup>2</sup> (Digital Interactions for Education and Teaching) conducted in conjunction with a research group studying Collectives' Teachers Group and Resources for Students' Autonomy (CERAD). As part of a multidisciplinary group, we are studying to ascertain if collective work, here between teachers, can help the latter to develop their use of digital resources in class. For a better integration of digital uses in schools, it is essential to involve teachers in the designing of resources (CNN, 2012). In foreign language didactics, research has shown that digital resources "may offer regular

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1. Université de Bretagne Occidentale, Brest, France; nol.queré@gmail.com

2. Based on cooperation between teachers and researchers who implement and re-implement didactic activities on a specific topic.

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opportunities to modify the very logic of teaching/learning practices” (Gruson & Sensevy, 2013, p. 222). Furthermore, collective designing and sharing of resources can facilitate the integration of digital resources into teachers’ practices and contribute to their professional development (Quéré, 2017).

## 2. Theoretical framework

The theoretical framework named documentational approach is applied (Gueudet & Trouche, 2010). Gueudet and Trouche (2010) argue that teachers develop documents comprising resources but also a scheme<sup>3</sup> of use of these resources during their work, and that their professional development is directly linked with the development of these documents. All the resources are organised into a resources system. It can be an individual resources system when it concerns the resources of an actor, or a collective resources system, for all of the group’s resources.

In order to highlight these documents, document tables are used (Gueudet & Le Hénaff, 2015). One line of a document table corresponds to a document developed, or being developed, by a teacher in relation to a goal identified for a given situation class<sup>4</sup>. The document table is used to describe the document, by associating resources and a scheme for using them. The scheme is composed, among other things, of operational invariants, which will be interpreted as professional knowledge in the *result and discussion* section.

The aim of this paper is thus to analyse the effects of collective design on teachers’ knowledge involved in this work.

## 3. Method

The data collected is a part of a larger study, mentioned earlier, e-FRAN IDEE. The qualitative methodology is built as follows: regular follow-ups of meetings, observations of implementation in the classroom, and interviews with the teachers. This data collection took place over two years. It includes a total of 36 hours of meeting videos and 24 hours of classroom observations. The teacher’s group is composed of Ginger, Val, and Aurore. For this case study, one of the teachers has been chosen, Ginger, and one particular episode showing her activity is analysed.

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3. A scheme is an invariant organization of the activity for a given class of situations (Vergnaud, 1998).

4. According to Rabardel and Bourmaud (2003) a situation class describes situations of professional activity that are similar in terms of tasks to be accomplished and actions to be undertaken with the same objective in mind.

She is one of the teachers who has pushed the most important didactic reflections in the group, and the evolution of her knowledge, related to her work on resources, is the most remarkable.

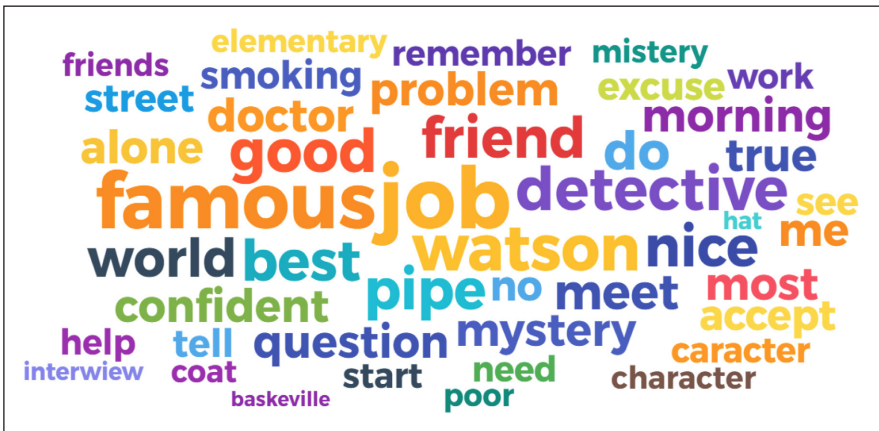
#### 4. Results and discussion

The objective of the E-FRAN IDEE's group is to produce a digital resource that seeks to foster the development of year 9 students' autonomy in their learning of English. The theme of the resource is based on Sherlock Holmes' novels. The example below is taken from the implementation of this resource in Ginger's classroom: *an activity carried out on the creation of a word cloud.*

The example analysed focuses on the word cloud activity. To start this activity, Ginger does not communicate with her students the theme at the beginning of the sequence. They must listen to the soundtrack 'Guess who' and recognise the words/clues that will enable them to identify the main character of this theme. After individually taking notes in their notebooks, the pupils must list the words recognised on the 'Beekast' software in order to collectively design a word cloud.

Figure 1 is the result of this activity.

Figure 1. Word cloud created in Ginger's classroom using Beekast software



I identified several professional skills in the preparation and the implementation of this activity. Firstly Ginger asked the students to write the first words they understood individually. The student saw what he was typing on his workstation

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only, without projection on the board. Secondly the collaborative word cloud, developed, was hidden until the teacher decided to show it to the whole class. In addition to temporarily hiding the cloud, Ginger explained she was using the software’s features to prevent students from making the same word bigger:

“[to]set up the word cloud so that they [teach students] don’t type the same word twice. They could enter ten or more words but not the same word. For example, typing ‘job, job, job’ to make it bigger is not allowed”.

As a result of teacher’s work analysis, the following document table is produced (see Table 1).

Table 1. Document being developed in connection with the situation class ‘designing and implementing a listening comprehension activity’

Goal(s)	Used resources	Rules of action	Operational invariants
Designing and implementing a listening comprehension activity	Non-digital resources	<ul style="list-style-type: none"> <li>• allow the student to see the words he or she is typing;</li> <li>• lock the number of entries to ensure that new words are searched for;</li> <li>• display the collaborative cloud once the task has been completed.</li> </ul>	<ul style="list-style-type: none"> <li>• allowing students to see their work allows them to control what they have written;</li> <li>• using the software’s settings allows you to control student actions and limit attempts at simple copying;</li> <li>• showing students the final collective production supports students’ involvement in the work.</li> </ul>
	Digital resources		
	<ul style="list-style-type: none"> <li>• ‘Guess who’ soundtrack</li> <li>• Beekast;</li> <li>• computer;</li> <li>• video projector.</li> </ul>		

This document table introduces a document under development and shows the impact of designing work with Val on Ginger’s choices. For example the operational invariant, allowing students to see their own work but not that of other peers, is a design choice arising from collective work. Indeed after Val explained her difficulties with the word cloud activity – pupils did not see the words they typed on the computer displayed either on their workstation or on the board during the activity; this slowed their progress – Ginger made the choice to select a new software, Beekast, and to adjust her didactical choices according to Val’s feedback.

In this document table, Ginger’s individual resource systems (Beekast) and her operational invariants, resulting from her past experiences and exchanges with Val,



are articulated to give rise to a document (Table 1) which is interpreted as a sign of the teacher's professional development.

## 5. Conclusions

In conclusion, in this short paper I presented a part of Ginger's case. I have shown that her participation in the collective teachers' work evolves her knowledge in two ways: first she relies on the knowledge of the other members to adjust her implementation, and second this leads her to modify the software used and adapt the instructions given. This work of adjustment, modification, and analysis, linked to interactions with Val, has effects on Ginger's knowledge. Collective design allows teachers to access new resources, here digital resources, and seems to support the development of new knowledge among the members involved in this work.

The continuation of my work is based on the verification of these initial findings. To do this, I will observe a collective composed only of teachers in order to see how collective design can have an effect on their knowledge in the absence of researchers.

## References

- CNN. (2012). *Permettre le choix du numérique à l'école*. Conseil National du Numérique.
- Crisan, C., Lerman, S., & Winbourne, P. (2007). Mathematics and ICT: a framework for conceptualising secondary school teachers' classroom practices. *Technology, Pedagogy and Education*, 16(1), 21-39. <https://doi.org/10.1080/14759390601167991>
- Gruson, B., & Sensevy, G. (2013). The joint action theory in didactics: a case study in videoconferencing at primary school. In N. Rummel, M. Kapur, M. Nathan & S. Puntambekar (Eds), *CSCL 2013 Conference Proceedings* (vol 1, pp. 216-233). <http://gerrystahl.net/proceedings/cscl2013/cscl2013proceedings1.pdf>
- Gueudet, G., & Le Henaff, C. (2015). *Atelier de travaux croisés sur les données : étude de la préparation d'une séance d'anglais*. REVEA.
- Gueudet, G., & Trouche, L. (2010). *Ressources vives : le travail documentaire des professeurs en mathématiques*. Presses Universitaires de Rennes.
- Morgan, C. (1990). Carry on SMILEing. *Micromath*, 6(3), 14-15.
- Quéré, N. (2017). Collective designing and sharing of open educational resources: a study of the French CARTOON platform. In K. Borthwick, L. Bradley & S. Thouësy (Eds), *CALL in a climate of change: adapting to turbulent global conditions – short papers from EUROCALL 2017* (pp. 260-264). Research-publishing.net. <https://doi.org/10.14705/rpnet.2017.eurocall2017.723>

- Quéré, N. (2019). Les effets du travail collectif entre enseignants et chercheurs : une étude de cas en anglais. *Recherches en éducation*, 38, 32-46. <https://doi.org/10.4000/ree.701>
- Quéré, N., Gruson, B., & Le Hénaff, C. (2018). Cooperative engineering: studying the collective design of a resource for English teaching [abstracts]. EERA. <https://eera-ecer.de/ecer-programmes/conference/23/contribution/44234/>
- Rabardel, P., & Bourmaud, G. (2003). From computer to instrument system: a developmental perspective. *Interacting with computers: the interdisciplinarity Journal of Computer Interaction*, 15(5), 665-691. [https://doi.org/10.1016/s0953-5438\(03\)00058-4](https://doi.org/10.1016/s0953-5438(03)00058-4)
- Vergnaud, G. (1998). Toward a cognitive theory of practice. In A. Sierpiska & J. Kilpatrick (Eds), *Mathematics education as a research domain: a search for identity* (pp. 227-241). Kluwer Academic Publisher.

# Fostering learning with the EcoLexicon corpus in the ESP classroom

Maria Rudneva<sup>1</sup>

**Abstract.** This pilot study provides a preliminary account on students' attitudes toward using specialized corpora in English for specific purposes (ESP) classes. Learners (N=39) were introduced to the EcoLexicon corpus and trained to use its basic query tools. The rationale behind this activity was to introduce learners to contextualization patterns and genre-specific features of the professional target language, which in its turn would ensure acceptability and appropriateness of their linguistic choices. The learners were offered a series of guided and independent tasks on terminology disambiguation and corpus-assisted speech production. At the end of the semester a survey was administered to the students to assess their perception of hands-on corpus experience. Descriptive statistics show preliminary evidence that corpus tools provide illuminating data, foster understanding of nuances within synonymous groups of words, and increase overall language awareness. However, hands-on Data Driven Learning (DDL) experience presented a few challenges which, however, may be remedied by careful design of teaching materials and assignments.

**Keywords:** DDL, specialized corpora, ESP.

## 1. Introduction

Introducing corpora in language learning draws on the DDL (Johns & King, 1991). Various tools and methodologies are widely used in DDL, this list includes but is not limited to language for specific purposes, frequency lists and learner corpora, error correction and contrastive analysis, corpus use in syllabus design, etc. (Boulton, 2017). According to meta-analysis of quantitative DDL studies by Boulton and Cobb (2017) this approach offers numerous benefits on

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1. RUDN University, Moscow, Russia; rudneva-ma@rudn.ru; <https://orcid.org/0000-0003-1161-9100>

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the instructor's side, fosters efficient language acquisition and develops students' analytical and problem-solving skills as well as learner autonomy (Vyatkina & Boulton, 2017).

Potential limitations of DDL are associated with the complex interface of many available corpora, as they were designed by linguists for linguists; therefore, introduction of corpus query tools to non-linguist students requires preliminary training. Apart from that, numerous examples derived from large corpora might be misleading for learners. On the instructor's side corpus-based pedagogic design requires considerable preparation time. Having said that, from the learners' perspective the level of language proficiency might be an obstacle to direct implementation of corpus data, as the query output needs to be carefully tailored and softened for novice learners.

Today DDL research falls into three major categories:

- learner corpora research (analysis of learners' oral and written production);
- corpus-based pedagogic material design; and
- inductive learning (hands-on experience of learners with existing or specifically designed corpora) (Boulton, 2017).

The intention of this project was to investigate if specialized language corpora belong in an ESP classroom, what their perceptions are of the hands-on DDL experience and to discuss potential limitations as well as the ways to address them.

## 2. Method

This study collected preliminary data regarding learners' (N=39) attitudes toward using a freely available corpus as a lexicographic reference tool in their ESP/translation studies classes. All participants were offered preliminary training on Sketch Engine basic query functions. This was followed by a series of guided search activities aimed at key terminology disambiguation. At the final stage the search activities were assigned as weekly homework with on-site follow-up discussion. At the end of the semester the students were requested to respond to an anonymous questionnaire grading their experience, with open answer options. Microsoft Excel was employed to analyze data using descriptive statistics.

## **2.1. Participants**

39 RUDN university students (median age=19) took part in this project; their English proficiency is B2-C1 CEFR, according to the results of Cambridge English exams. All participants are environmental sciences majors. All students are enrolled in double diploma programs and minor in specialized translation.

## **2.2. Instruments and procedure**

During the spring semester 2018-2019, three groups of students aged 18-20 were offered to use EcoLexicon online tool as a lexicographic reference source in cases when bilingual and monolingual dictionaries failed to provide clear understanding of meaning or usage differences between near-synonymic words.

EcoLexicon is a corpus of contemporary environmental texts, the size is 23 million words and it is an extensive terminological knowledge base on the environment (León-Araúz, Martín, & Reimerink, 2018). It is available for access and query in the corpus query system Sketch Engine.

The students were introduced to the basic features of Sketch Engine analysis tool and pre-taught to use it. The project lasted 16 weeks: 4 weeks of introduction and guided practice, 10 weeks of independent practice with on-site follow-up, and 2 weeks of evaluation.

## **3. Results and discussion**

### **3.1. Corpora for ESP**

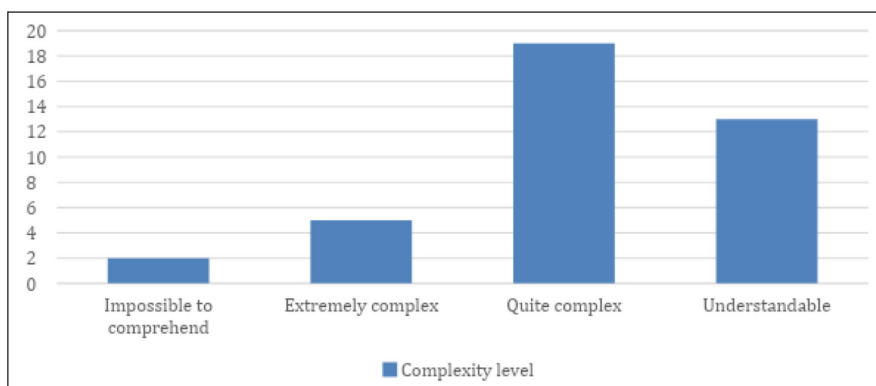
In an ESP class a specialized corpus can serve as a unique tool for overcoming existing asymmetries in terminological systems of source and target languages. The existence of such asymmetries often draws on extra-linguistic factors, e.g. numerous nature conservation technologies are not yet implemented in Russia which is directly reflected in learners' source language. Prospective specialized translators need to patch numerous lexical gaps by creating new terms in the L1. In this sense it is essential for language for specific purposes instructors to provide novice specialists with reliable tools and means that would facilitate creation of precise, accurate, and non-ambiguous terms. Therefore, LSP learners need specific corpus tool training to be able to make informed linguistic choices in future.

### 3.2. Learners' perception of DDL experience

Descriptive statistics provided preliminary results on the perception of corpus tools by the learners. Figure 1 is a histogram of the distribution of learners' perception of the complexity level of corpus-based assignments. The perception survey was administered to gather informal feedback on the project at its preliminary stage to explore principal possibility of corpus-based activities for non-linguist students. The results are provided here to illustrate the outcome of the project; however, the author intends to address the perception issue in more detail in future research.

The majority of respondents (N=19) considered lexicographic assignments quite complex, the second biggest category (N=13) considered the assignments understandable, few learners considered corpus tools extremely complex (N=5) or impossible to comprehend (N=2).

Figure 1. Complexity level



However, the majority of the participants (85%) acknowledged that corpus tools were helpful for terminology disambiguation. Among their comments were: “truly illuminating”, “like a linguistic detective”, “seems reliable reference source”, and “sometimes might be useful”. The remaining 15% were overall reluctant to master corpus tools commenting as “why do we need to do this at all”, and even “holy mother of god, get me out of this”.

### 3.3. Limitations and possible solutions

The survey also asked *Do you see any challenges in using a specialized corpus?* The answers can be subdivided into three respective categories. First of all,

insufficient language proficiency might be a considerable pitfall; exposure to authentic professional contexts can be discouraging for lower level students. The solution here might be to design instructor-guided activities, simplify and tailor tasks. Secondly, non-linguist students in general demonstrate less interest in lexicographic discoveries. Therefore, it might be a good idea to introduce corpus tools gradually and only when other reference sources are of no help. Thirdly, however user-friendly corpus query interface is, learners find it challenging. To address this issue the instructor needs to pre-teach and guide search activities.

## 4. Conclusions

Corpus tools have immense potential for providing precise, accurate, and non-ambiguous data on specific terminology in professional contexts. Increasing availability of specialized corpora holds great promise of new advances for ESP learners, shifting the pedagogic focus from prescribed vocabulary lists to inductive learning and learner autonomy. Overall, the learners demonstrated positive attitude toward hands-on corpus-based experience. Potential limitations of the approach, such as insufficient language proficiency, low motivation, and complexity of user interface can be remedied by thoughtful pedagogic design. It might be of interest for further research to develop a systematic approach to overcoming terminological asymmetries of source and target professional language by means of corpus tools.

## References

- Boulton, A. (2017). Corpora in language teaching and learning. *Language Teaching*, 50(4), 483-506. <https://doi.org/10.1017/S0261444817000167>
- Boulton, A., & Cobb, T. (2017). Corpus use in language learning: a meta-analysis. *Language Learning*, 67(2), 348-393.
- Johns, T., & King, P. (1991). Classroom concordancing. *English Language Research Journal*, 4, 1-16.
- León-Araúz, P., Martin, A. S., & Reimerink, A. (2018). The EcoLexicon English corpus as an open corpus in Sketch Engine. *arXiv preprint arXiv:1807.05797*.
- Vyatkina, N., & Boulton, A. (2017). Corpora in language learning and teaching. *Language Learning & Technology*, 21(3), 1-8. <https://doi.org/10125/44750>

# Can web series improve language learning? A preliminary discussion

Talia Sbardella<sup>1</sup>, Valentino Santucci<sup>2</sup>,  
Chiara Biscarini<sup>3</sup>, and Giacomo Nencioni<sup>4</sup>

**Abstract.** The use of innovative language in education is a current and pressing issue in a digital landscape where knowledge and skills are acquired in much more complex and fragmented ways than in the past (Di Blas, 2016; Selvaggi, Sicignano, & Vollono, 2007). We are experiencing a lot of interest in flipped classrooms, interactive learning environments and serious games, MOOCs platforms, and e-learning projects, which universities are increasingly adopting. The web series is a highly effective format, characterized by short episodes that can also be enjoyed individually, low budget, and a serialized and therefore potentially engaging narrative identity, and is particularly suitable for use on digital platforms. The aim of this paper is to preliminarily present the expected benefits of an interactive web series made by the University for Foreigners of Perugia for a B1 online Italian Language course, before deeper investigation of their suitability for language learning.

**Keywords:** webseries, interactive language learning, intercultural competence, communicative competence.

## 1. Theoretical background

Learning a foreign language inevitably requires an analysis of the context and circumstances that influence its proper use. In order to achieve effective communication, students are required to develop the ability to critically evaluate perspectives, practices and values within their own as well as other cultures

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1. University for Foreigners of Perugia, Perugia, Italy; talia.sbardella@unistrapg.it

2. University for Foreigners of Perugia, Perugia, Italy; valentino.santucci@unistrapg.it

3. University for Foreigners of Perugia, Perugia, Italy; chiara.biscarini@unistrapg.it

4. Tuscia University, Viterbo, Italy; nencioni@unitus.it

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(Kramersch, 1995). These issues are underlined by the Common European Framework of Reference for languages (Council of Europe, 2001), which recommends a curriculum oriented toward enhancing students' integrated skills. The main goal is to open a window on the rites and rituals, taboos, beliefs, and conventions within communication, in order to deconstruct any prejudices and stereotypes that could hinder the acquisition of knowledge about or the interpretation of a culture (Balboni, 1999).

Video is one of the most effective tools allowing learners to immerse themselves in a different culture (Biscarini et al., 2019b). The potential of this resource in language teaching has been exploited since the development of the communicative approach; through videos, learners receive sociolinguistic, cultural, and pragmatic information illustrating the worldview and values of the society that produced them (Bosc & Malandra, 1999).

In the context of the didactics of Italian as a foreign language, the importance of developing extra linguistic competence is essential. It is assumed that non-verbal communication is part of Italian culture, and in an intercultural perspective, gestures, facial expressions, looks, touch and distances, signs and habits could be a starting point for overcoming stereotypes in order to develop a more complex and multifaceted vision (Caon, 2016).

Quoting David Abercrombie (1968), “[w]e speak with our vocal organs, but we converse with our entire bodies” (p. 55), but often, paralinguistic and extralinguistic aspects still have a marginal role in the didactics of foreign languages, and in this context, the audiovisual medium becomes an excellent way of contextualizing learning experience.

In recent years, the use of ICT has found a place in foreign language training, with several files available on the Internet which provide authentic material that is indisputably useful for learners. However, research has shown (Comodi, 1995) that there are also potentially negative aspects to consider – in particular, when the authentic materials are not graduated or adapted to the level of the learners. This material is potentially too difficult and complex, or does not provide any stimulus to interact with the resource. The consequence may be loss of attention and motivation. In addition, in definition of interactivity, Jensen (1998) highlighted the importance of the transition from a one-way model where the content belongs to the medium, to bidirectional models in which user and medium alternate in production and content distribution, hence the importance of web series as a tool of interactivity, focusing on the storytelling construction process as a means to

involve students. The spectator-user can, for example, choose between two or more options in a story, selecting a particular character to continue the narrative with; or interact with the multiple narrative possibilities at her disposal, fostering at the same time the motivation to get in touch with the Italian language in all its diatopic, diaphasic, diastratic and diachronic varieties (Diadori & Micheli, 2010).

In this short paper, we discuss the elaboration of an educational project based on the design of web series for a B1 online Italian language course, with the aim of improving students' communicative skills and broadening their sociocultural knowledge of Italy.

## **2. Punto.it – an interactive webseries for a B1 online language course**

In order to overcome problems related to length or inadequate language, using video available on the web, the University for Foreigners of Perugia shot a web series called “Punto.it” for our B1 online Italian language course oriented to young adult and adult learners. The course is organized within the Moodle platform and is divided into 12 learning units, articulated in six sections. Each section is divided into multiple paths in which the tools available on the platform are exploited in order to enhance students' exploration of Italian language and culture, thus fostering their engagement throughout the learning process. All the episodes are 1-3 minutes long, which is the most typically recommended length to maintain the viewers' interest and to use the relevant linguistic content effectively (Diadori, 2009). The narration revolves around a small number of characters involved in a wide range of communicative situations, covering topics from everyday life to more abstract and complex themes. In the proposed sequences, linguistic and cultural elements of Italy emerge, and students will be able to use the related information in order to organize their knowledge from a sociolinguistic and sociocultural point of view, increasing their competence in facing new linguistic data. All the clips are exploited in many ways: in some units, a significant initial sequence without audio or a pause at an intense moment is used to allow students to make hypotheses that will be more or less confirmed by the integral vision. In other units the title of the video is presented, and once various elements have been elicited, a frame is offered that narrows the options to focus on the actual situation, followed by the visual, which will consolidate understanding of the episode itself. In other units, students will be called on to elaborate a prequel or a sequel, enhancing their interaction and participation by rewriting the story from different points of view. Attention has been paid to prosody: each word has

a different pitch according to intent, and many activities have been developed on expressions, and the identification and interpretation of communicative intention. In order to deepen the control of structures and expressions discovered, individual activities are accompanied by interaction on discussion boards, negotiating significates and activating metacognitive resources (Samu, Santucci, & Sbardella, 2019). The use of educational materials can be either self-paced or tutor-led. The integration of a wrap-around approach, i.e. the construction of a learning process with characteristics of flexibility and openness, allows learners to reflect on how to relate the knowledge and skills acquired with the communicative aspects, enhancing their skills from a lifelong learning perspective (Biscarini et al., 2019a).

### 3. Conclusions

In this paper, we have considered and discussed the potential benefits of using a web series made by the University for Foreigners of Perugia in a B1 online language course as a tool to boost students' motivation to get in touch with Italian language and culture with interactive activities, and to foster their communicative and sociopragmatic skills at the same time. The course is not yet started, and as a future line of research we are considering the use of learning analytics tools in order to collect information about learners' participation during their training and to optimize methods and resources, with the aim of verifying the sustainability of the course and providing new and increasingly engaging dimensions of learning.

### 4. Acknowledgments

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### References

- Abercrombie, D. (1968). Paralanguage. *International Journal of Language & Communication Disorders*, 3(1), 55-59.
- Balboni, P. E. (1999). *Parole comuni, culture diverse. Guida alla comunicazione interculturale*. Marsilio.
- Biscarini, C., Grego Bolli, G., Santucci, V., Sbardella, T., & Spina, S. (2019a). Raising lifelong learning skills using learning technology at University for Foreigners of Perugia. In *Proceedings of the 2019 2nd International Conference on Education Technology Management* (pp. 54-57). <https://doi.org/10.1145/3375900.3375920>

- Biscarini, C., Grego Bolli, G., Santucci, V., Sbardella, T., & Spina, S. (2019b). Soft skills with learning technologies: the project at the University of Foreigners of Perugia. In *Proceedings of 13th annual International Technology, Education and Development Conference INTED 2019* (vol. 13, pp. 3700-3708). <https://doi.org/10.21125/inted.2019>
- Bosc, F., & Malandra, A. (1999). *Il video a lezione*. Paravia.
- Caon, F. (2016). Dalla cultura e civiltà straniere alla comunicazione interculturale. In C. A. Melero Rodríguez (Ed.), *Le lingue in Italia, le lingue in Europa: dove siamo, dove andiamo*. Edizioni Ca' Foscari. <https://doi.org/10.14277/978-88-6969-072-3>
- Council of Europe. (2001). *Common European framework of reference for languages: learning, teaching, assessment*. Cambridge University Press. <http://assets.cambridge.org/052180/3136/sample/0521803136ws.pdf>
- Comodi, A. (1995). *Materiali autentici: selezione e uso nella didattica dell'italiano come lingua straniera*. Guerra Edizioni.
- Di Blas, N. (2016). *Storytelling digitale a scuola*. Apogeo Education
- Diadori, P. (2009). Cinema e didattica dell'italiano. In C. Bargellini & S. Cantù (Eds), *Viaggi nelle storie*. ISMU Milano.
- Diadori, P., & Micheli, P. (2010). *Cinema e didattica dell'italiano*. Guerra Edizioni.
- Jensen, J. (1998), Interactivity: tracking a new concept in media and communication studies. *Nordicom Review*, 12.
- Kramsch, C. (1995). The cultural component of language teaching. *Language, Culture and Curriculum*, 8(2), 83-92. <https://doi.org/10.1080/07908319509525192>
- Samu, B., Santucci, V., & Sbardella, T. (2019). Technologies for teaching and learning intercultural competence and interlanguage pragmatics in L2 Italian. Experiences of implementing an online language course on Moodle platform. In *Proceedings of the 12th International Conference on Innovation in Language Learning* (pp. 390-395). Filodiritto Editore.
- Selvaggi S., Sicignano G., & Vollono E. (2007). *E-learning: nuovi strumenti per insegnare, apprendere, comunicare online*. Springer.

# Exploring the nature of cultural communication between learners in a multicultural MOOC

Rana Shahini<sup>1</sup>, Hugh C. Davis<sup>2</sup>, Kate Borthwick<sup>3</sup>, and Will Baker<sup>4</sup>

**Abstract.** Massive Open Online Courses (MOOCs) attract worldwide learners from diverse backgrounds and cultures. When learners communicate directly in this multicultural space, there is potential for new cultural practices to be articulated or transcended into a new form of knowledge that blurs cultural boundaries. Our research is attempting to identify methods of facilitating such behaviour in MOOCs. This paper presents a case study to investigate existing cultural communicative practices between MOOC learners through their online discussions. Learners' comments were coded and analysed against the practice-oriented Intercultural Communication Awareness (ICA) model. Results show that a very limited number of interactions had elements of transcultural awareness and that the interaction and peer communication decreased as the course proceeded. These observations suggest that a collaborative pedagogical approach may interconnect learners well in the MOOC community.

**Keywords:** MOOC, culture, communication, ICA model.

## 1. Introduction

MOOCs have been associated with potentials for education democratisation, scalability, and globalisation. They have been reported to attract more than one hundred million learners from around the globe (Andersen et al., 2018), and create opportunities for fluid, complex, and dynamic cultural practices in these virtual spaces. When learners communicate directly and interact, there is the potential for

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1. University of Southampton, Southampton, United Kingdom; rs3c16@soton.ac.uk; <https://orcid.org/0000-0002-7998-2304>

2. University of Southampton, Southampton, United Kingdom; hcd@soton.ac.uk; <http://orcid.org/0000-0002-1182-1459>

3. University of Southampton, Southampton, United Kingdom; k.borthwick@soton.ac.uk; <https://orcid.org/0000-0003-2251-7898>

4. University of Southampton, Southampton, United Kingdom; w.baker@soton.ac.uk; <https://orcid.org/0000-0003-0533-2795>

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cultural forms and practices to be articulated or transcended into a new form of knowledge that blurs cultural boundaries within the online discourse.

However, the literature suggests that in reality there is little direct interaction between MOOC learners, and not much engagement in collective activities (Håklev, Sharma, Slotta, & Dillenbourg, 2017; Verstegen et al., 2018). Moreover, MOOC content is static in that it includes knowledge, but not collective experiences of or perspectives on that knowledge.

In this paper, we investigate different cultural communicative representations and practices between multicultural MOOC learners through their online discussions, and follow the cultural changes that occur.

## 2. Background

In the literature, there are several terms used to describe cultural communication, such as *multicultural*, which refers to fixed bands and entities where named cultures can be distinct and compared (cross-cultural). Another term is *intercultural*, which is used for describing cultural practices as dynamic and hybrid, where these practices are located in between specific cultures, blurring their boundaries (Monceri, 2019; Smith & Segbers, 2018). The term *transcultural* describes the continuous process of culture reformation. It is an extension to interculturality in a dynamic action which means ‘going beyond Culture’ (Baker, 2018; Welsch, 1999).

Digital information and network technologies boost the movement of cultural flows beyond national borders (Kim, 2016), ensuring fluidity and circulation of transition, creating the possibility of transforming new cultural practices in virtual spaces (Schachtner, 2015). Therefore, when exploring cultural communication in MOOCs, it is essential to consider these issues in practice.

## 3. Method

A total of 3,821 learners’ posted comments were our collected data from the MOOC ‘English as a Medium of Instruction for Academics’. The MOOC was run by the University of Southampton through the FutureLearn platform, and the course was designed to support academics, build upon their professional experiences and respond to their real challenges, providing examples and approaches that could

be applied within their settings. The MOOC was delivered via 81 ‘steps’ (units of learning objects or lessons), with each step allowing learners to contribute within the comment field. Within this course, discussion leading to interesting new perspectives and knowledge between participants was expected.

MOOC learners’ comments were coded manually by the first author and analysed qualitatively using a content analysis scheme based on the adopted version of the practice-oriented ICA model (Baker, 2011). Baker (2011) reconceptualised and produced dynamic conceptions of cultural competences and put them into practice to better suit the globalised nature beyond national scale. It is believed that the ICA model is ideal for the analysis of online discussions in relation to cultural practices, as it focuses on examining these practices as a whole set of flexible and adaptable knowledge, skills, and attitudes in real-time instances within the context.

Additionally, incidences of non-communicative cultural practices were excluded from the analysis and labelled ‘zero’, as well as adverts, duplicates and other languages, and any comment of less than five words. Thus, three levels with five components were used to code interactions and measure the level of cultural communication (Table 1).

In order to secure validity of the codes, data which were captured that were assigned and fit into more than one category of the above components or were on borderline were reviewed by an expert (the original developer of the ICA model), who provided suggestions for adjustments in case of discordance.

Table 1. The adopted analytical framework components

The adopted practice-oriented ICA levels	Components description
Level 1 Basic Cultural Awareness	<ul style="list-style-type: none"> <li>• Articulate one’s cultural perspective.</li> <li>• Compare cultures at a general level.</li> </ul>
Level 2 Intercultural Awareness	<ul style="list-style-type: none"> <li>• Move beyond cultural generalisations and stereotypes.</li> <li>• Compare and mediate (common ground between specific cultures) between cultures at a specific level, and awareness of possibilities for mismatch and miscommunication between specific cultures.</li> </ul>
Level 3 Transcultural Awareness	<ul style="list-style-type: none"> <li>• Negotiate and mediate between different emergent sociocultural communication modes and frames of reference.</li> </ul>

#### 4. Results and discussion

With 3,156 enrolments from 148 countries, more than 3,821 comments were generated. The majority of comments were at basic level of cultural awareness (Level 1), and a few were at the intercultural level of awareness (Level 2). A very limited number of comments (7) had elements of transcultural awareness (Level 3). **Figure 1** displays comments' level of awareness upon each step in the course.

Figure 1. The analysis of comments level of cultural communication

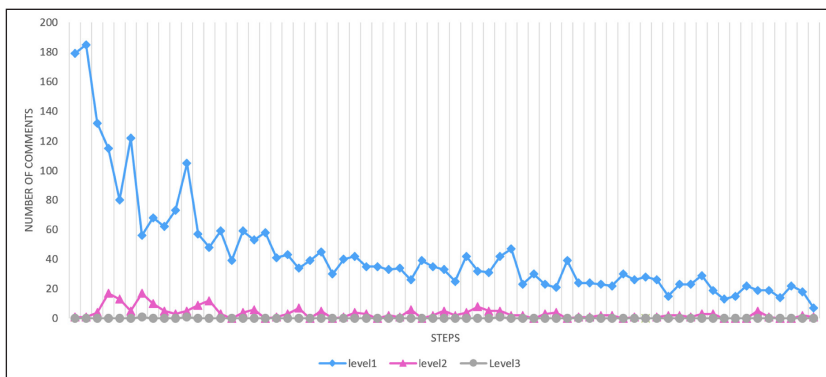
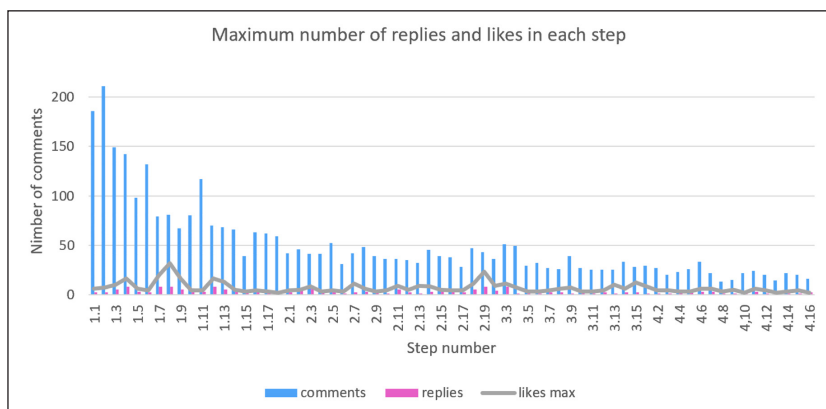


Figure 2. Maximum number of likes and replies per step



It was observed that participants were moving forwards and backwards between levels. As claimed by **Baker (2011)**, movement and development of awareness were not sequential. Yet, the appearance of comments with levels two and three



were declining generally as the course proceeded. That is in line with a decrease of the number of comments and replies, as shown in (Figure 2). It indicates that less interaction and less peer communication occurred. In addition, from the start of the course, the percentage of replies were minimum (an average of 7% of comments per step). As stated by Håklev, Sharma, Slotta, and Dillenbourg (2018), the asynchronous nature of the MOOC (with a massive number of comments) makes social presence difficult to achieve.

Although only seven comments presented transcultural communication, their occurrence validates the appearance of transculturality in MOOC contexts. Transculturality promotes collaboration between people and welcomes diversity, maintaining individual and national identity (Smith & Segbers, 2018).

## 5. Conclusion and future work

We have shown that the adopted ICA framework from a transcultural perspective can be applied to and functions in a MOOC context, taking advantage of learners' diversity. In this study, we traced the development of different levels of cultural practices, observing how these cultural practices were articulated, negotiated, in instances, were transcended. The study showed the complexity of cultural communicative practices in the context of a multicultural MOOC with the appearance of transculturality as an advanced level of cultural communication.

While we hope to improve learners' direct communication in future MOOC cycles, we suggest that transcultural perspective be further integrated. We propose a computer supported collaborative learning pedagogical approach for connecting different social levels of interaction (individual, small group and the whole MOOC community) (Stahl, 2013). We believe that transcultural communication may be promoted through multilevel pedagogical activities where different social levels are interconnected. Accordingly, collective global and transcultural knowledge can be produced as an extended learning experience, benefitting learners and reflecting the reality of diverse and global contexts.

## References

- Andersen, B. L., Na-songkhla, J., Hasse, C., Nordin, N., & Norman, H. (2018). Perceptions of authority in a massive open online course: an intercultural study. *International Review of Education*, 64(2), 221-239. <https://doi.org/10.1007/s11159-018-9708-z>

- Baker, W. (2011). Intercultural awareness: modelling an understanding of cultures in intercultural communication through English as a lingua franca. *Language and Intercultural Communication*, 11(3), 197-214. <https://doi.org/10.1080/14708477.2011.577779>
- Baker, W. (2018, July). *Transcultural communication and English as a lingua franca: new perspectives on language, culture and intercultural communication—11th International Conference of English as a Lingua Franca—Plenary talk*. 11th International Conference of English as a Lingua Franca.
- Håklev, S., Sharma, K., Slotta, J., & Dillenbourg, P. (2017). Contextualizing the co-creation of artefacts within the nested social structure of a collaborative MOOC. In É. Lavoué, H. Drachsler, K. Verbert, J. Broisin & M. Pérez-Sanagustín (Eds), *Data driven approaches in digital education* (pp. 67-81). Springer International Publishing. [https://doi.org/10.1007/978-3-319-66610-5\\_6](https://doi.org/10.1007/978-3-319-66610-5_6)
- Håklev, S., Sharma, K., Slotta, J., & Dillenbourg, P. (2018). Semantically meaningful cohorts enable specialized knowledge sharing in a collaborative MOOC. In V. Pammer-Schindler, M. Pérez-Sanagustín, H. Drachsler, R. Elferink & M. Scheffel (Eds), *Lifelong technology-enhanced learning* (pp. 370-384). Springer International Publishing. [https://doi.org/10.1007/978-3-319-98572-5\\_28](https://doi.org/10.1007/978-3-319-98572-5_28)
- Kim, G. M. (2016). Transcultural digital literacies: cross-border connections and self-representations in an online forum. *Reading Research Quarterly*, 51(2), 199-219. <https://doi.org/10.1002/rrq.131>
- Monceri, F. (2019). Beyond universality: rethinking transculturality and the transcultural self. *Journal of Multicultural Discourses*, 14(1), 78-91. <https://doi.org/10.1080/17447143.2019.1604715>
- Schachtner, C. (2015). Transculturality in the internet: culture flows and virtual publics. *Current Sociology*, 63(2), 228-243. <https://doi.org/10.1177/0011392114556585>
- Smith, H. A., & Segbers, T. (2018). The impact of transculturality on student experience of higher education. *Journal of Experiential Education*, 41(1), 75-89. <https://doi.org/10.1177/1053825917750406>
- Stahl, G. (2013). Learning across levels. *International Journal of Computer-Supported Collaborative Learning*, 8(1), 1-12. <https://doi.org/10.1007/s11412-013-9169-0>
- Verstegen, D., Dailey-Hebert, A., Fonteijn, H., Clarebout, G., & Spruijt, A. (2018). How do virtual teams collaborate in online learning tasks in a MOOC? *International Review of Research in Open and Distributed Learning*, 19(4). <https://doi.org/10.19173/irrodl.v19i4.3528>
- Welsch, W. (1999). *Transculturalism – the puzzling form of cultures today*. In M. Featherstone & S. Lash (Eds), *Spaces of culture: city, nation, world*. Sage.

# Enhancing primary students' vocabulary learning motivation and outcomes using the mobile user-generated-content tool

Yanjie Song<sup>1</sup> and Yin Yang<sup>2</sup>

**Abstract.** The purpose of this study was to investigate the effect of a mobile User-Generated-Content (m-UGC) tool on enhancing primary students' vocabulary learning motivation and learning outcomes. A total of 40 primary students in Hong Kong participated in this study. The results showed using the m-UGC tool could increase primary students' learning motivation and significantly improve their vocabulary learning.

**Keywords:** vocabulary learning, mobile user-generated-content tool, learning outcomes, learning motivation.

## 1. Introduction

Vocabulary learning is central to English language acquisition because words are the basic building blocks of English language. However, learners of English usually find that memorizing English vocabulary is boring (Chen & Chung, 2008). Many studies have been done to investigate the effectiveness of mobile technology on vocabulary learning. Some of the studies focused on tool or system development (Wu & Huang, 2017), while other studies proposed vocabulary learning strategies mediated by mobile technology (Wang & Huang, 2017). Regarding English vocabulary learning motivation, some studies have been conducted and found a positive correlation between vocabulary learning performance and motivation in a technology-enhanced learning context (Solak & Cakir, 2015).

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1. The Education University of Hong Kong, Hong Kong, China; [ysong@eduhk.hk](mailto:ysong@eduhk.hk); <https://orcid.org/0000-0002-8213-7670>  
2. The Education University of Hong Kong, Hong Kong, China; [s1135072@s.eduhk.hk](mailto:s1135072@s.eduhk.hk); <https://orcid.org/0000-0002-9966-248X>

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However, many studies were conducted in the classroom setting, and most learning activities were prescribed by teachers or researchers in the higher education context. Little is known about primary students' learning performance and learning motivation in the m-UGC context in which learners are allowed to generate learning logs and apply the newly learned words in real life contexts. The research questions are: (1) did primary students who learned with the m-UGC tool have better learning outcomes than those without the tool, and (2) were primary students who learned vocabulary with the m-UGC tool more motivated than those who learned vocabulary without the tool?

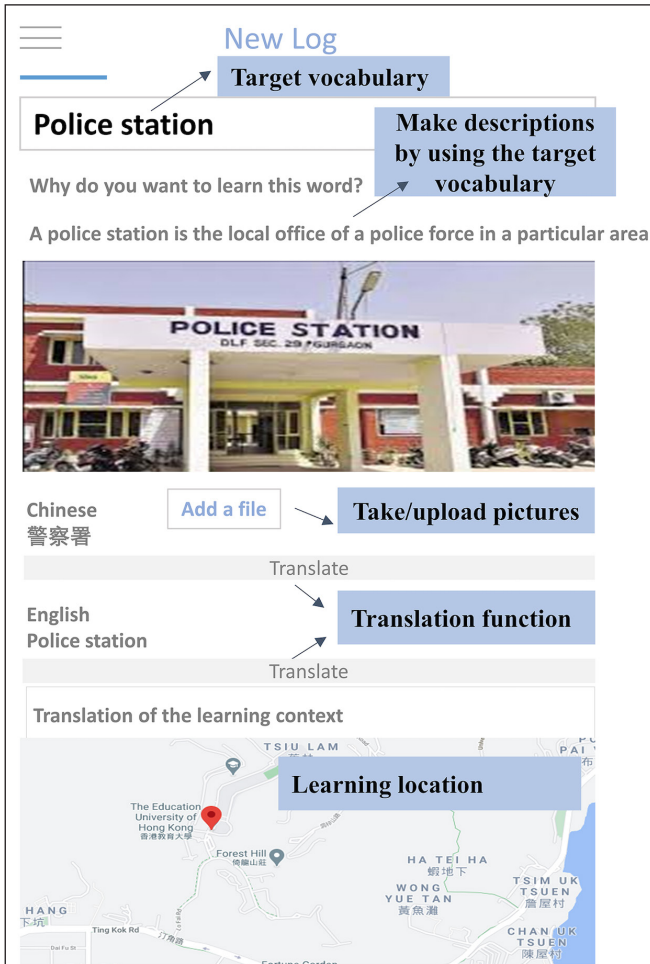
## 2. Method

This study proposed an in- and out-of-class vocabulary learning approach mediated by the m-UGC tool. The m-UGC learning tool was adapted from SCROLL (System for Capturing and Reminding of Learning Log) which was developed by our research collaborators in Japan (Ogata et al., 2014). The function used in this study included vocabulary learning log creation and peer-comments. Students were expected to generate their own vocabulary logs by inputting target vocabulary and taking or uploading pictures in real life related to the target vocabulary (refer to Figure 1 for an example). All the personalized vocabulary learning logs could be shared by the whole class. Students could make comments on others' learning logs.

The instructional design combined five-stage vocabulary learning processes mediated by the m-UGC tool across in-class and real life settings: (1) encounter a new word; (2) get its form; (3) understand its meaning; (4) consolidate the word; and (5) use the word. In the classroom, students first encounter a new word, get its form, and understand its meaning (Brown & Payne, 1994). Then, they are expected to consolidate and use the target words in real life settings.

A quasi-experimental design method was adopted in this study. A sample of 44 Grade 4 students was invited from two classes of a primary school in Hong Kong. The average age was 9.7. However, only participants who had completed instruments were included in the final analysis. Consequently, the data were drawn from 22 students in the experimental group and 18 students in the control group. English was used as the medium of instruction. The experimental group (n=22) used the m-UGC tool while the control group (n=18) learned vocabulary without the m-UGC tool. The topic of vocabulary learning reported in this paper was 'places' and 'a balanced diet' with 32 new words from Primary Longman Elect 4B.

Figure 1. Interface of a ‘learning log’ on the m-UGC tool



Data collection included students’ vocabulary learning logs recorded on the m-UGC tool and two groups’ pre-and post-vocabulary tests and surveys. A motivation questionnaire with 24 items was adapted from [Wu’s \(2018\)](#) study. Responses were given on a five-point Likert scale, ranging from one for ‘never’ to five for ‘always’. Quantitative data analysis was used with the assistance of SPSS version 25. Independent t-test was adopted to analyse the vocabulary achievement between two groups. With regard to learning motivation, a paired t-test was adopted. In addition, students’ vocabulary learning logs were used as evidence to triangulate the data.

### 3. Results and discussion

#### 3.1. RQ1: did primary students who learned with the m-UGC tool have better learning outcomes than those without the tool?

Table 1 presents the descriptive statistics of the learning performance in this study. The difference in pre- and post-test score means of the experimental group and control group was 4.091 and -3.778 respectively. The results of the paired sample t-test showed that the difference of pre- and post-test in the experimental group ( $t=3.93$ ,  $df=21$ ,  $p<.05$ ) was significant, while the difference of pre- and post-test in the control group ( $t=-2.11$ ,  $df=17$ ,  $p>.05$ ) was not significant. Table 2 indicated that primary students who learned vocabulary with the m-UGC tool had better learning outcomes than those without the m-UGC tool ( $F=8.47$ ,  $p=0.006<.05$ ).

Table 1. Results of vocabulary performance

	N	Mean Diff. (post-test – pre-test)	SD	t	df	Sig (2-tailed)
Experimental group	22	4.09	4.88	3.93	21	.001
Control group	18	-3.78	7.60	-2.11	17	.050

Table 2. Independent t-test among the experimental and control group

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Mean Diff. (post-test – pre-test)	Std. Error Diff.
Experimental group	Equal variances assumed	8.47	.006	3.97	38	7.87	1.98
Control group	Equal variances not assumed			3.80	27.84	7.87	2.07

There were 274 vocabulary learning logs (pictures and vocabulary) in total created by the students on the m-UGC tool. Among the 274 postings, 264 postings (96.4%) were related to the vocabulary learned on the topic of 'places' and 'a balanced diet'.


Some vocabulary learning logs created by students were identified and presented in Figure 2 and Figure 3. These user-generated learning logs show that the primary students were able to apply the newly learned words in real life supported by the m-UGC tool.

Figure 2. An example of a ‘learning log’ on the m-UGC tool – ‘fruit and vegetables’

**EDIT** **DELETE**

- AUTHOR 4A14
- CREATEATED 2019/10/23 11:42
- UPDATED 2019/10/23 11:42

Read (6) · ReLog (0) [Click to re-log](#)



**Fruit and vegetables(English)**

- **DESCRIPTION** Eats a lot of fruit and vegetables every day. They are good for you. They have a lot of vitamins and minerals. They keep you healthy. It is better to have fresh fruit and not juice. Too much fruit juice is bed for because it is often high sugar. (2019/10/23 12:15 )
- **COMMENTS** Eats a lot of fruit and vegetables every day. They are good for you. They have a lot of vitamins and minerals. They keep you healthy. It is better to have fresh fruit and not juice. Too much fruit juice is bed for because it is often high sugar.

Figure 3. An example of a ‘learning log’ on the m-UGC tool – ‘grain’

**EDIT** **DELETE**

- AUTHOR 4A03
- CREATEATED 2019/11/01 11:45
- UPDATED 2019/11/01 11:45

Read (13) ReLog (0) [Click to re-log](#)



**Grain (English)**

**糧食 (Chinese)**

- **DESCRIPTION** Grain is good for us. We should eat more. (2019/11/01 12:16 )
- **COMMENTS**
  - 4A01 (Nov 01, 2019 12:13:15 PM ) I like eating cereal. **I like eating cereal.**
  - 4A03 (Nov 01, 2019 12:17:58 PM ) I don't like eating cereal. **I don't like eating cereal.**
  - 4A13 (Nov 02, 2019 12:20:33 PM ) Grains is good for us **Grains is good for us**

### 3.2. RQ2: were primary students who learned vocabulary with the m-UGC tool more motivated than those who learned vocabulary without the m-UGC tool?

Table 3 presents the descriptive statistics of four dimensions of students' learning motivation and the results of the paired sample *t*-test over pre- and post-survey in this study. As noted, students' learning motivations in the experimental group increased, but the difference was not significant. Overall, students who learned vocabulary with the m-UGC tool were positive especially in terms of learning confidence and satisfaction. In contrast, the control group (n=18) reduced their mean score in terms of attention, relevance, and satisfaction.

Table 3. Results of learning motivation

Groups	Items	Pre	Post	Mean Diff.	SD	Paired sample t-test		
						t	df	Sig.
Experimental group	Attention	3.66	3.80	0.14	0.72	0.79	16	0.442
	Relevance	3.81	3.91	0.10	0.65	0.67	17	0.518
	Confidence	3.74	3.99	0.25	0.99	1.07	16	0.302
	Satisfaction	3.69	4.07	0.39	0.91	1.82	17	0.087
Control group	Attention	3.19	3.11	-0.07	1.18	-0.27	17	0.793
	Relevance	3.22	3.15	-0.07	1.16	-0.26	18	0.795
	Confidence	3.28	3.40	0.11	1.41	0.31	16	0.757
	Satisfaction	3.35	3.29	-0.06	1.30	-0.21	17	0.835

## 4. Conclusions

The findings of the study show that students' overall learning outcomes and learning motivation were increased and leveraged by the m-UGC tool. The increase of learning motivation in the experimental group was not significant. Several reasons may explain it: (1) the sample size in this study was quite small; (2) the duration time of the study was only two weeks; and (3) the limited functions of the m-UGC tool. It was found that some of the functions of the m-UGC tool were not compatible across different devices and were not user-friendly. Future work focuses on refining the tool and scaling up its implementation. In addition, future research will also be conducted to explore more factors that may affect student learning motivation and outcomes longitudinally leveraged by the m-UGC tool in a real life context.



## 5. Acknowledgments

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## References

- Brown, C., & Payne, M. E. (1994). Five essential steps of processes in vocabulary learning. In *TESOL Convention, Baltimore, Md.*
- Chen, C. M., & Chung, C. J. (2008). Personalized mobile English vocabulary learning system based on item response theory and learning memory cycle. *Computers & Education, 51*(2), 624-645. <https://doi.org/10.1016/j.compedu.2007.06.011>
- Ogata, H., Hou, B., Uosaki, N., Mouri, K., & Liu, S. (2014). Ubiquitous learning project using life-logging technology in Japan. *Educational Technology & Society, 17*(2), 85-100. <https://www.jstor.org/stable/10.2307/jeductechsoci.17.2.85>
- Solak, E., & Cakir, R. (2015). Exploring the effect of materials designed with augmented reality on language learners' vocabulary learning. *Journal of Educators Online, 12*(2), 50-72. <https://doi.org/10.9743/jeo.2015.2.5>
- Wang, W. Y., & Huang, Y. M. (2017). Interactive syllable-based English vocabulary learning in a context-aware environment. *Journal of Educational Computing Research, 55*(2), 219-239. <https://doi.org/10.1177/0735633116663212>
- Wu, T. T. (2018). Improving the effectiveness of English vocabulary review by integrating ARCS with mobile game-based learning. *Journal of Computer Assisted Learning, 34*(3), 315-323.
- Wu, T. T., & Huang, Y. M. (2017). A mobile game-based English vocabulary practice system based on portfolio analysis. *Journal of Educational Technology & Society, 20*(2), 265-277. <https://www.jstor.org/stable/10.2307/90002180>

## L2 Extensive reading: online graded readers or ‘old school’ paperbacks?

Andrew Thompson<sup>1</sup> and Saori Tsuji<sup>2</sup>

**Abstract.** The purpose of this pilot study was to investigate (1) students’ interest in reading English books, (2) students’ interest in using an online Virtual Library (VL), and (3) students’ experiences and preferences relating to the implementation of an online VL within an Academic English Program (AEP). First-year students (N=136) from a public university in southwest Japan participated in this study. The preliminary results provide a deeper understanding of student interest, experiences, and preferences relating to the implementation of a VL within an AEP.

**Keywords:** CALL, academic English program, extensive reading, virtual library.

### 1. Introduction

Research related to the positive impact of Extensive Reading (ER) has highlighted several benefits for English as a Second Language (ESL) students including: improved reading confidence, reading fluency, reading speed, grammar understanding, and vocabulary acquisition (Krashen, 2009; Nakanishi, 2015; Waring, 2006; Yamashita, 2013). ER research indicates that it improves not only reading proficiency, but also English language proficiency (Clarity, 2007). However, the costs of providing students with an extensive range of English Graded Readers (GRs) can prove difficult. Fortunately, with advances in online technologies and the increased adoption of mobile devices, accessibility to English GRs has greatly improved.

VL now, for instance, provides students with remote access to a large variety of GRs via electronic devices. VL offers a flexible option for language programs

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1. Fukuoka Women’s University, Fukuoka, Japan; thompson@fwu.ac.jp

2. Fukuoka Women’s University, Fukuoka, Japan; s.tsuji@fwu.ac.jp

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looking to implement ER. Advances in technology, more specifically educational technologies, have given increased access to English language resources to students. One such resource is Xreading® ([www.xreading.com](http://www.xreading.com)). Xreading is an online GR resource and learning management system designed to promote ER among English students.

This pilot study was the first phase in the potential integration of a VL into an Academic Reading (AR) course. To better understand student interest, experiences, and preferences relating to the implementation of a VL, the authors focused on the following question.

What is L2 students' interest in reading English books, interest in using an online VL, and their experiences and preferences relating to the implementation of a VL within an AEP course?

## **2. Method**

### **2.1. Participants**

First-year students (N=136) from a public university in southwest Japan participated in this study. Participants were non-English majors and came from three of the university faculties (environmental science, food and health sciences, and international liberal arts). All participants were studying within a coordinated compulsory first-year AEP course. The AR component has 64 classes per academic year with two 90-minute classes per week.

### **2.2. Instrument**

The student online surveys focused on investigating three areas, including (1) students' interest in reading English books, (2) students' interest in reading online books, and (3) students' experiences and preferences relating to the implementation of an online VL within an AEP course.

### **2.3. Procedure**

Eight AR classes of approximately 15 students per class participated. Four classes (N=67) were given access to the VL (Xreading.com) for a period of eight weeks.

These four classes were then split into two groups (Groups A and B) depending on the AR tasks the participants would be asked to complete. The remaining four classes completed AR classes as per the program guidelines. Students with access to the VL were assigned AR tasks to complete weekly. Table 1 indicates the schedule, GRs, reader level, and reading tasks that were assigned for Groups A and B. The reading tasks were assigned as homework during the fourth quarter of the academic year in Week 1, Week 3, Week 5, and Week 7. Students were provided with AR reflective worksheets (see Figure 1) that they were asked to complete before the following class. In the following class, students were asked to share their completed reflective worksheets with peers. The main difference relates to the tasks assigned to each group. Group A had reflective worksheets to complete and also class presentations in Weeks 4 and 8 that were linked to the GR they had read. Group B only had to complete the reflective worksheets and share readings with peers.

Table 1. AR schedule, GRs, level, and task (Group A: N=33; Group B: N=34)

Q4 Week	Group	Procedure	GR Options	Level/Headwords	Task
1	A	Assign Reading 1	Access to <i>Amazing Young Sports People</i>	4/400 headwords	Class Presentation 3 minutes in Week 4
	B				No Class Presentation
2	A & B	Complete Worksheet 1			Reflective Worksheet
3	A & B	Assign Reading 2	Access to 66 GRs	5/600 headwords	GR Discussion AR Class
4	A & B	Complete Worksheet 2			Reflective Worksheet
5	A	Assign Reading 3	Access to 20 GRs	5/395-450 headwords	Class Presentation 5 minutes in Week 8
	B				No Class Presentation
6	6	Complete Worksheet 3			Reflective Worksheet
7	7	Assign Task 4	Access to 169 GRs	6-7 600-1,000 headwords	GR Discussion AR Class
8	A & B	Complete Worksheet 4			Reflective Worksheet

Figure 1. AR reflective worksheet

<b>ACADEMIC READING (AR) REFLECTIVE WORKSHEET Q4 2019</b>			
Student Name:	Book Title:	Class:	Week:
Write a <b>brief summary</b> about the book you read: ..... ..... ..... ..... ..... .....			
The <b>most interesting part</b> of this book is: ..... .....	The <b>most interesting person</b> in this book is: ..... .....	I <b>liked</b> this book because: ..... .....	
The <b>least interesting part</b> of this book is: ..... .....	The <b>least interesting person</b> in this book is: ..... .....	I <b>didn't like</b> this book because: ..... .....	

### 3. Results and discussion

Preliminary analysis of the data collected indicates students' interest, experiences, and preferences (see [Table 2](#)).

- **Students' interest in reading English books:** Students noted reading English books would help them study English, learn English at university, and help in future professions.
- **Students' interest in using an online VL:** Students preferred reading English paperback books to VL online books.
- **Students' experiences and preferences relating to the implementation of a VL:** Students were divided on whether they wanted to use Xreading in the future.

It should be noted that only 42% of students that had access to the VL during this study would like to use it in the future. Students that preferred English

paperback books, noted technical issues and the increased screen time associated with reading books online. Another concern was the subscription cost associated with the VL system. Below is a snapshot of student responses relating to their paperback or online preferences.

Table 2. Quantitative data snapshot: student responses to the core research questions

Item	Question	Response	Percentage
1	Do you think reading English books will help you study English?	Yes	99%
2	Do you think reading English books will help you learn at university?	Yes	86%
3	Do you think reading English books will help you in future professions?	Yes	81%
4	Do you prefer reading English paperback books?	Yes	72%
5	Do you prefer reading English online books?	Yes	28%
6	Do you want to use Xreading in the future?	Yes	42%

Qualitative data: examples of student responses to 'why' they preferred English paperback books.

"Your eyes get tired when reading online books".

"I don't feel like reading online. Reading with a paper book gives you a sense of accomplishment".

"I can't concentrate on reading online for a long time".

"It's easy to skip a sentence or go back and re-read a page in a book".

"I don't want to keep looking at the glowing screen because my eyes are bad and because it's easy to read at a pace of my own with a paper book".

Qualitative data: examples of student responses to 'why' they preferred English online books.

"You can read it anytime, anywhere".

"You can read anywhere on your mobile phone without having to carry a book".

“If you read an English book online, you can quickly look up unknown words on the same device”.

“You can read when you have free time without carrying the book around”.

“There are many kinds of books, and you can choose a book about your interest”.

Based on the preliminary findings of this study the following recommendations could be suggested:

- provide students with workshops on VL functionality to develop user confidence and engagement prior to implementation;
- provide students with self-care guidance to limit potential eye strain relating to increased screen time; and
- provide students with post-reading tasks linked to the assigned GRs to ensure students are able to identify the purpose of the readings and language learning benefits.

## **4. Conclusion**

This pilot study provided useful insights relating to student interest, experiences, and preferences relating to the implementation of a VL within an AEP course. The data collected in this study suggests that students do see the benefits provided by reading English books. However, it seems that most students are not comfortable reading English books online. They are also cautious about increasing screen time and therefore are reluctant to embrace the VL within an AEP. It is hoped that through student workshops on VL functionality/benefits, self-care guidance to manage increased screen time and the use of specific AR tasks students will become more comfortable using a VL in the future.

## **5. Acknowledgments**

This pilot study would not have been possible without an internal grant provided by Fukuoka Women’s University 2019-2020. The authors would also like to thank Asuka Oba and Akiko Watanabe for their assistance and support of this project.

## References

- Clarity, M. (2007). An extensive reading program for your ESL classroom. *The Internet TESL Journal*, 8(8), 1-5.
- Krashen, S. (2009). 81 Generalizations about free voluntary reading. *IATEFL Young Learner and Teenager Special Interest Group*.
- Nakanishi, T. (2015). A meta-analysis of extensive reading research. *TESOL Quarterly*, 49(1), 6-37. <https://doi.org/10.1002/tesq.157>
- Waring, R. (2006). Why extensive reading should be an indispensable part of all language programs. *The Language Teacher*, 30, 44-47.
- Yamashita, J. (2013). Effects of extensive reading on reading attitudes in a foreign language. *Reading in a Foreign Language*, 25, 248-264.



# The development of an online game-based simulation for the training of English language teachers in virtual environments

Areti Vasmatzoglou<sup>1</sup> and Neasa Ní Chiaráin<sup>2</sup>

**Abstract.** Virtual simulation training has gained in usage in various educational fields and offers the potential to support and reinforce learning goals when practical experience is not possible. Teaching practice experience in an English as a Foreign Language (EFL) classroom is critical, yet frequently unobtainable for students in Teaching English to Speakers of Other Languages (TESOL)/English Language Teaching (ELT) Masters programmes. This paper describes the design, development, and evaluation of a gamified simulation prototype, *Virtual EFL Classroom*, that was built to offer teaching practice opportunities to students in such programmes. Eleven Masters students enrolled in the ELT programme at Trinity College Dublin took part in this study. Findings indicate that participants enjoyed active experimentation in *Virtual EFL Classroom* and that it has the potential to enhance student-teachers' decision-making skills, flexibility, and adaptability in planning and teaching learner-centred lessons.

**Keywords:** TESOL teacher education, virtual simulation training, serious games, gamification.

## 1. Introduction

To date, numerous studies suggest that Serious Games (SGs) can be extremely useful for obtaining experience in disciplines where opportunities for practice are critical for skills mastery (Graafland, Schraagen, & Schijven, 2012). Considerable research has been done on the use of SGs for teacher training in general education

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1. Trinity College, Dublin, Ireland; vasmatza@tcd.ie; <https://orcid.org/0000-0002-6920-1850>

2. Trinity College, Dublin, Ireland; neasa.nichiarain@tcd.ie; <https://orcid.org/0000-0002-4669-5667>

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(Bautista & Boone, 2015; Ferry et al., 2004; Kaufman & Ireland, 2016), but we are unaware of such research for student-teachers of EFL in TESOL/ELT Masters programmes. In this context, a simulation prototype was developed to investigate whether SGs could be useful in providing additional practical teaching experience to supplement such programmes and prepare Masters students for the needs of modern EFL classrooms. This study explores the impact of experimenting with TESOL theories and instructional approaches in a gamified virtual EFL classroom on student-teachers' adaptability and flexibility in planning and teaching learner-centred lessons.

## 2. Method

The gamified prototype *Virtual EFL Classroom* is designed to simulate the experience of teaching in an EFL classroom where student-teachers are given the opportunity to experiment with different instructional approaches, testing their effects on virtual-students.

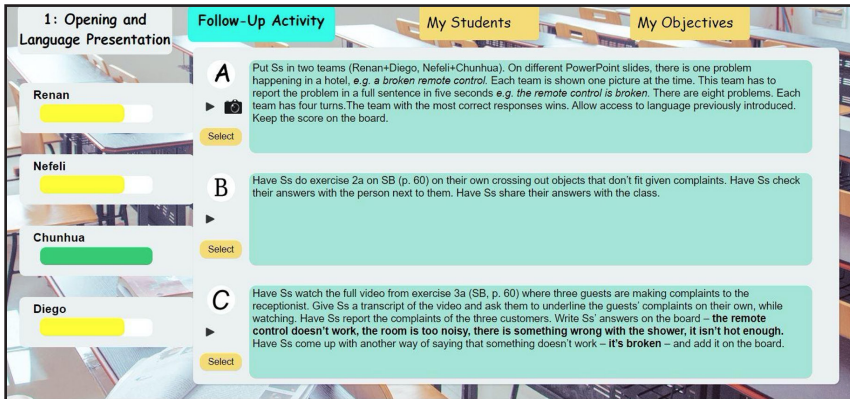
### 2.1. Prototype design and development

*Virtual EFL Classroom*, built using HTML, CSS, JavaScript, and RiveScript, adopts game elements in its design. It is presented in the form of an interactive chatbot, in line with previous dialogue-based computer assisted language learning systems (Bibauw, François, & Desmet, 2019; Ní Chiaráin & Ní Chasaide, 2016) and aims to simulate real-life teacher-student interaction. A choice of images and audio (synthetic voice) prompts are included to facilitate the training process and enhance the overall experience.

Four stages of a simulated lesson are included: *opening and language presentation*, *language presentation and practice*, *language practice*, and *language production*. Each stage includes one 'Lead-in' and one 'Follow-up' activity. For each Lead-in and Follow-up, three different activity options are presented at the time (see Figure 1) and each one integrates a different instructional approach: *controlled activities* promote explicit teaching and learning from rules, *free activities* approach learning through exploration and experimentation without teacher guidance whereas Middle-Ground (MG) activities combine characteristics of both. The learning content is closely aligned to the principles and learning objectives of Cambridge CELTA, an initial qualification for those with little or no previous teaching experience (Thornbury & Watkins, 2007). CELTA learning objectives are successfully met in this simulation through MG activities only, which represent the

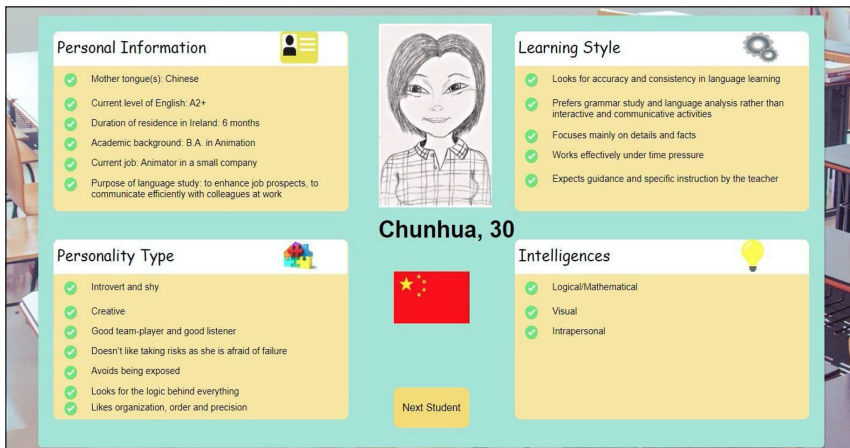
ideal path through a lesson, returning positive (green) student responses (Richards & Renandya, 2002).

Figure 1. Simulation overview



Fictional profiles were created for a class group comprising four B1-level virtual adult students. These include personal information, learning styles, personality traits, and intelligence types (see Figure 2).

Figure 2. Sample profile for Chinese virtual-student



Real-time interaction between student-teachers and virtual-students is a core feature of the prototype. Once a student-teacher chooses an activity (see Figure 1), the

system returns a response from the class, which is predetermined in Rivescript and unique for every activity. Responses are accompanied by motivation-level bars, a ‘game’ element which gives student-teachers instant visual feedback indicating the impact of their chosen activity on individual class members (see Figure 3). Changes in motivation-level bar colour indicate the degree of fitness-for-purpose of an activity given a virtual-student’s overall learning profile.

Figure 3. Class response to chosen activity, including motivation-level bars



## 2.2. Prototype evaluation

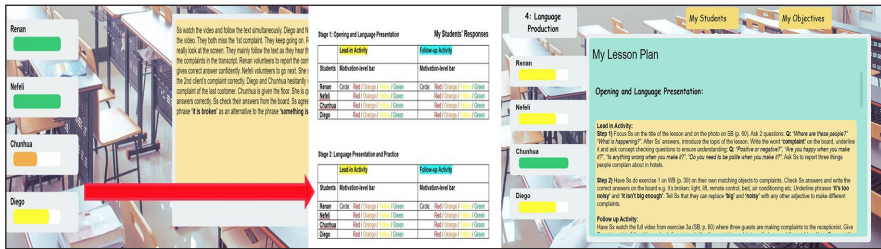
Eleven ELT MPhil.<sup>3</sup> students from Trinity College Dublin took part in the evaluation. One virtual EFL lesson targeting speaking was selected. Participants were asked to take the role of a student-teacher and teach a lesson, consisting of eight activities, twice (Round 1 and 2). Evaluations were carried out in the Phonetics and Speech Laboratory, CLCS, over two consecutive days.

**Round 1:** student-teachers began by reviewing (1) virtual-students’ profiles and (2) lesson objectives. Next, they completed their Round 1 lesson, selecting their preferred route from the range of available activities. They were asked to record colour changes in their virtual-students’ motivation-level bars on a virtual-student response form.

3. Master of Philosophy

After completing Round 1, the system automatically generated a lesson plan summary, outlining the activities chosen. Student-teachers were then asked to use this lesson overview and virtual-student response form to reflect on their performance (see Figure 4).

Figure 4. Virtual-student response form and lesson plan summary



**Round 2:** student-teachers restarted their lesson with the same virtual-students. This was to examine whether student-teachers would change their approach and make different choices to Round 1. Again, the system generated an overview of the path taken through the lesson. Participants were given time to reflect on both rounds using the two lesson plan summaries and virtual-student response forms.

### 3. Results and discussion

#### 3.1. Participants' performance

Table 1 demonstrates that nine of 11 participants used more MG activities in their Round 2 lesson. Although based on a small sample size, one can glean that the acts of reflection and self-evaluation after Round 1 played an important role in student-teachers' quest for more effective instructional approaches for their learner group (Crookall, 2010).

Table 1. Number of MG activities chosen in Round 1 and 2 of teaching practice

Participants	MG activities: Round 1	MG activities: Round 2
Student-teacher 1	2	6
Student-teacher 2*	5	2
Student-teacher 3*	3	2
Student-teacher 4	4	6
Student-teacher 5	2	4

Student-teacher 6	3	5
Student-teacher 7	1	5
Student-teacher 8	0	1
Student-teacher 9	3	5
Student-teacher 10	4	5
Student-teacher 11	2	4

2\* and 3\* less MG activities in Round 2, yet overall improvement

Participants’ degree of willingness to experiment with different instructional approaches in order to cater for their students’ needs is demonstrated in Table 2. Only one of the 11 participants left five or more activities unchanged in Round 2.

Table 2. Degree of active experimentation in Round 2

No. of unchanged activities	No. of participants
0-2	3
3-4	7
5+	1

Student-teachers’ openness to experimentation together with an increase in the number of MG activities they chose in Round 2 led to a more positive outcome for the virtual-students.

### 3.2. Participants’ feedback

Participants’ feedback on the concept of virtual simulation training in general and more specifically on *Virtual EFL Classroom*, was gathered via a five point Likert scale questionnaire. Fourteen statements were included addressing game elements, user experience, and performance and user satisfaction.

To summarise, 11 participants agreed that reflection and self-evaluation informed their teaching decisions in Round 2 and led to a better experience for their virtual-students. Nine of 11 participants agreed that they did not experience stress throughout training. Ten of 11 participants felt that motivation-level bars maintained their motivation throughout and all 11 participants strongly agreed that motivation-level bars gave them a good understanding of the impact of their teaching decisions on their virtual-students and facilitated their next steps in the simulated lesson. All 11 participants agreed they would devote time to practising their teaching skills using *Virtual EFL Classroom* as they found it engaging. All 11 participants also acknowledged the potential training benefits of *Virtual EFL Classroom* for ELT M.Phil. students at Trinity College.

## 4. Conclusions

This study gives an insight into the potential of gamified simulated teaching practice, where real-life teaching opportunities are absent in TESOL/ELT Masters programmes. Results revealing student-teachers' increased adaptability and flexibility in their teaching decisions and positive feedback indicate *Virtual EFL Classroom* is a good foundation from which to build a serious game to support the learning objectives of such programmes and enhance student-teachers' learning and professional development. However, longer-term, larger scale research is needed.

Future development would ideally include expansion of the prototype content to include a wide range of Common European Framework of Reference for languages (CEFR) levels and language skills and the integration of immersive technology (augmented/virtual reality) to enhance engagement with the training experience.

## 5. Acknowledgements

The implementation of *Virtual EFL Classroom* by Ciara Gilsenan, computer science and language student in Trinity College, Dublin, is gratefully acknowledged.

## References

- Bautista, N. U., & Boone, W. J. (2015). Exploring the impact of TeachME™ lab virtual classroom teaching simulation on early childhood education majors' self-efficacy beliefs. *Journal of Science Teacher Education*, 26(3), 237-262. <https://doi.org/10.1007/s10972-014-9418-8>
- Bibauw, S., François, T., & Desmet, P. (2019). Discussing with a computer to practice a foreign language: research synthesis and conceptual framework of dialogue-based CALL. *Computer Assisted Language Learning*, 32(8), 827-877. <https://doi.org/10.1080/09588221.2018.1535508>
- Crookall, D. (2010). Serious games, debriefing, and simulation/gaming as a discipline. *Simulation & gaming*, 41(6), 898-920. <https://doi.org/10.1177/1046878110390784>
- Ferry, B., Hedberg, J., Turbill, J., Cambourne, B., Jonassen, D., Kervin, L., & Puglisi, S. (2004). The use of an on-line classroom simulation to enhance the decision making skills of beginning teachers. In *EdMedia+ Innovate Learning* (pp. 3041-3046). Association for the Advancement of Computing in Education (AACE).
- Graafland, M., Schraagen, J. M., & Schijven, M. P. (2012). Systematic review of serious games for medical education and surgical skills training. *British journal of surgery*, 99(10), 1322-1330.
- Kaufman, D., & Ireland, A. (2016). Enhancing teacher education with simulations. *TechTrends*, 60(3), 260-267. <https://doi.org/10.1007/s11528-016-0049-0>

- Ní Chiaráin, N., & Ní Chasaide, A. (2016). Chatbot technology with synthetic voices in the acquisition of an endangered language: motivation, development and evaluation of a platform for Irish. In *Proceedings of the Tenth International Conference on Language Resources and Evaluation (LREC), Slovenia* (pp. 3429-3435).
- Richards, J. C., & Renandya, W. A. (2002). (Eds). *Methodology in language teaching: an anthology of current practice*. Cambridge University Press.
- Thornbury, S., & Watkins, P. (2007). *The CELTA course* (vol. 62, no. 3, pp. 318-320). Oxford University Press.



# CALL research in the primary school setting – problems, possibilities, and potential

Monica Ward<sup>1</sup>

**Abstract.** This paper looks at Computer Assisted Language Learning (CALL) in the primary school setting and the problems, possibilities, and potential associated with this context. CALL normalisation is a key feature of successful CALL usage. This paper looks at CALL normalisation in the primary school context through three different lenses: [Leakey's \(2011\)](#) 3P's, [Bax's \(2003\)](#) CALL normalisation, and [Chambers and Bax's \(2006\)](#) CALL normalisation. The paper provides an overview of the use of a CALL resource for primary school students over a period of three years, with students ranging in age from seven to 12, both boys and girls with a number of different teachers across two different schools. It finishes up with some reflections and tips for others looking to work in this particular area.

**Keywords:** CALL, primary school, normalisation, Irish Word Bricks, Irish.

## 1. Introduction

Successful adoption of CALL artefacts (resources) depends on many factors including pedagogical, technical, and deployment factors. The CALL artefact should be suitable for the target learner group, be pitched at the right level, and have a suitable pedagogical approach. The CALL artefact should work on the devices that are available to learners. Real world deployment factors are key – a CALL artefact must work within the physical infrastructure and classroom setting.

There are many different approaches to looking at CALL success and CALL normalisation is a key element ([Bax, 2003](#); [Chambers & Bax, 2006](#); [Leakey, 2011](#)). [Leakey \(2011\)](#) has proposed the 3P's approach which looks at platform, programme, and pedagogy. [Bax \(2003\)](#) looks at eight different components that

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1. Dublin City University, Dublin, Ireland; [monica.ward@dcu.ie](mailto:monica.ward@dcu.ie); <https://orcid.org/0000-0001-7327-1395>

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are key to CALL normalisation: task type, student activity, feedback, teacher roles, teacher attitude, curriculum position, lesson position, and computer position. [Chambers and Bax \(2006\)](#) follow on from [Bax \(2003\)](#) and they consider four different components: logistics; stakeholders' conceptions, knowledge, and abilities; syllabus and software integration; and training, development, and support. There is limited reported CALL research in the primary (elementary) and post-primary (secondary, middle/high school) sectors. [Macaro, Handley, and Walter \(2012\)](#) provide a systematic review of 117 post-2000 CALL papers in primary and secondary schools, [Pim \(2013\)](#) discusses game-based CALL at primary level and [Ward \(2007\)](#) looks at Irish CALL in the primary context. This paper looks at the problems, possibilities, and potential of CALL in the primary context through a normalisation lens.

## **2. CALL in the primary school context**

Ethical approval is particularly important in CALL research in the primary school context. There is an evolving understanding of consent/assent in this context which draws on the philosophy of 'nothing about me without me' (i.e. those affected by something should have their opinions heard). Adult and young learners differ in many ways: learner autonomy, access to CALL resources, maturity, and knowledge of their learning preferences – see [Knowles \(1973\)](#) for a discussion on pedagogy and andragogy.

In most countries, there is a set primary curriculum. It is generally full with limited extra space for additional activities that facilitate CALL normalisation including providing professional development for teachers, learner training, and time for learners to actually use CALL resources. Primary school teachers and CALL researchers have different domains of expertise. Primary school teachers are pedagogical experts, they teach a variety of subjects and have experience of teaching young learners. They have different levels and comfort and competence with digital learning. CALL researchers are generally not familiar with the primary school context (except maybe from a parental point of view). They may have to adjust their thinking and assumptions about suitable CALL resources at primary level.

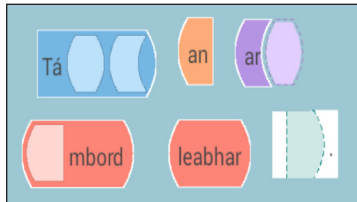
## **3. CALL potential – Irish WordBricks (IWB) example**

There is a lot of potential for CALL in the primary school context, especially if they are designed with the target learners in mind from the start. IWB ([Purgina,](#)

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Mozgovoy, & Ward, 2017) is a CALL resource that enables learners to construct grammatically correct sentences in Irish by combining bricks of different parts of speech together in the correct order. It is curriculum aligned, requires minimal running requirements, and very little teacher and learner training and these features are important for CALL normalisation. It is designed to complement rather than replace classroom teaching. Figure 1 shows a screenshot from IWB. The sentence is “Tá leabhar ar an mbord” (There is a book on the table).

Figure 1. Screenshot from IWB



The IWB app has been used in two different primary schools in Ireland by a total of 323 students over a period of three years to research the same app with students of different ages and teachers with a spectrum of interest in Irish and technology knowledge. The age range of the learners was from seven to 12 years of age across 13 different classes. This meant the app was tested by students with different levels of knowledge of Irish from two different schools. Students and staff were surveyed via anonymous, age-appropriate surveys with a mix of closed and open questions after each CALL session. The overall feedback on the app from students across the three years was that they enjoyed using it and had several suggestions for improving it (including gamification and more flexible components). The teachers across the three years were also happy with the app; it aligned with what they had done in the class and considered it a suitable tool for revision and refresh purposes (based on survey responses and interviews). Table 1 shows a summary of the class who used the IWB app.

Table 1. Summary of four cohorts (C1-C4) who used the IWB app

Class	Age	Y1	Y2	Y3
3rd	8-9	C1: 72 (3 classes)		
5th	10-11	C2: 52 (2 classes)		
2nd	7-8		C3: 72 (3 classes)	
5th	10-11		C4: 52 (2 classes)	
5th	10-11			C1: 75 (3 classes)
Total		124 (5 classes)	124 (5 classes)	75 (3 classes)

There were several challenges that had to be overcome. These included issues liaising with the schools, seeking ethical approval for the research and lack of computing devices in the schools. These were addressed by meeting with the principal and explaining the app, providing a clear plan to the University Ethics Committee and providing low-cost tablets on loan to the students to use the app. Other issues included finding a suitable time slot for the CALL session and catering for students of different abilities. These issues were addressed by being flexible and working with the teachers. It also involved being guided by teachers as they are the most knowledgeable about the abilities of their own students. It was also important to be efficient and effective with the CALL timeslot, including being organised and having the devices ready before each session.

#### **4. Discussion and reflections**

In terms of [Leakey's \(2011\) 3P's](#), IWB worked well on basic tablets (platform) as it was built on the WordBricks app (programme) for English ([Mozgovoy & Efimov, 2013](#)), and the students could work at their own pace (pedagogy). The students worked on constructing grammatically correct sentences, with immediate feedback. The teacher role was that of a facilitator and while attitudes towards CALL varied among the different teachers, they were all happy with the app. A key feature that contributed towards the success of the app is that it was curriculum and syllabus aligned. The app was used in a whole CALL lesson scenario with a table in the classroom and this enabled the students to focus on the content without interruptions. These features helped to somewhat normalise the app in the classroom ([Bax, 2003](#)). In relation to the four main categories of [Chambers and Bax \(2006\)](#), the app could be considered as appropriate in relation to stakeholders' conceptions, knowledge, abilities, and training, development, and support (as very limited support was required). However, there is room for improvement in terms of logistics and syllabus and software integration in future versions of the IWB app.

#### **5. Conclusion**

In summary, this paper presents an overview of a CALL app in the primary school context. The IWB app has been relatively successful from a pedagogical and technical point of view and could provide an example to others. The project and the related data-analysis is still on-going and there is still room to improve in terms of deployment and this is the most difficult part. CALL is not yet fully normalised in the Irish primary school context and while this will continue to be a big challenge,

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the IWB app shows what is possible. Some recommendations for other researchers in this space include adopting a co-creation approach whereby CALL researchers and teachers work together from the start and try to ensure curriculum/syllabus alignment where possible.

## References

- Bax, S. (2003). CALL—past, present and future. *System*, 31(1), 13-28.
- Chambers, A., & Bax, S. (2006). Making CALL work: towards normalisation. *System*, 34(4), 465-479. <https://doi.org/10.1016/j.system.2006.08.001>
- Knowles, M. S. (1973). *The adult learner. A neglected species.* Gulf Publishing.
- Leakey, J. (2011). *Evaluating computer-assisted language learning.* Peter Lang AG.
- Macaro, E., Handley, Z., & Walter, C. (2012). A systematic review of CALL in English as a second language: focus on primary and secondary education. *Language Teaching*, 45(1), 1-43. <https://doi.org/10.1017/s0261444811000395>
- Mozgovoy, M., & Efimov, R. (2013). WordBricks: a virtual language lab inspired by Scratch environment and dependency grammars. *Humancentric Computing and Information Sciences*, 3(1), 1-9. <https://doi.org/10.1186/2192-1962-3-5>
- Pim, C. (2013). Emerging technologies, emerging minds: digital innovations within the primary sector. *Innovations in learning technologies for English language teaching* (pp. 20-42). British Council.
- Purgina, M., Mozgovoy, M., & Ward, M. (2017). MALL with WordBricks—building correct sentences brick by brick. In K. Borthwick, L. Bradley & S. Thouëсны (Eds), *CALL in a climate of change: adapting to turbulent global conditions – short papers from EUROCALL 2017* (pp. 254-259). Research-publishing.net. <https://doi.org/10.14705/rpnet.2017.eurocall2017.722>
- Ward, M. (2007). *The integration of CL resources in CALL for Irish in the primary school context.* Doctoral dissertation, Dublin City University.

# Implementing online discussion forums based on principled approaches

Heather Woodward<sup>1</sup> and Andrew Warrick<sup>2</sup>

**Abstract.** For three months, Japanese university learners (N=40) utilized the YoTeach! application by Pedagogic and Active Learning Mobile Solutions (PALMS) Project, PolyU as a part of their English discussion class. Researchers re-purposed the application, which originally was designed to be an online classroom backchannel, as an asynchronous, pre-task activity so that learners could exchange ideas about homework topics (e.g. university life, foreign customs) for their discussion. Researchers chose a backchannel chat room rather than a discussion forum to accommodate the learners' spoken interactions rather than formal discussion. To foster interactions, researchers implemented the YoTeach! application based on principles in the field of second language (L2) development and Mobile-Assisted Language Learning (MALL) from [Doughty and Long \(2003\)](#) and [Stockwell and Hubbard \(2013\)](#). Using learners' and researchers' reflection journals, we consider ways we can connect and adapt the principles to our teaching context.

**Keywords:** CALL, YoTeach!, discussion, L2 development.

## 1. Introduction

Given that [Doughty and Long \(2003\)](#) and [Stockwell and Hubbard \(2013\)](#) mainly addressed different issues (i.e. language learning versus online environment implementation) we decided to separate their principles and address them in two research questions. [Doughty and Long \(2003\)](#) discuss optimal psycho-linguistic environments for online foreign language learning and offered teachers guidance by providing ten Methodological Principles (MP) of task-based language teaching for Computer-Assisted Language Learning (CALL). They categorized 10 principles

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1. Rikkyo University, Tokyo, Japan; heather.woodward@rikkyo.ac.jp; <https://orcid.org/0000-0002-2840-9305>

2. Rikkyo University, Tokyo, Japan; andrewwarrick@rikkyo.ac.jp; <https://orcid.org/0000-0001-6399-2519>

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into four groups (Table 1): (1) activities, (2) input, (3) learning processes, and (4) learners (Doughty & Long, 2003).

Table 1. Doughty and Long’s (2003) MP for CALL

Activities	Input	Learning Processes (a)	Learning Processes (b)	Learners
MP1. Use tasks as the unit of analysis	MP3. Elaborate input	MP5. Encourage chunk learning	MP7. Provide corrective feedback	MP10. Individualize instruction
MP2. Promote learning by doing	MP4. Rich input	MP6. Focus on form	MP8. Respect learners’ internal syllabi	
			MP9. Promote cooperative or collaborative learning	

Stockwell and Hubbard (2013) discussed emerging principles for MALL and explained potential issues concerning the design and implementation of online language learning environments. We categorized Stockwell and Hubbard’s (2013) principles into four groups (Table 2): (1) activities, (2) environment, (3) learning processes, and (4) stakeholders.

Table 2. Stockwell and Hubbard’s (2013) principles of MALL

Activities	Environment	Learning Processes	Stakeholders
Principle 7. Keep mobile learning activities or tasks short	Principle 2. Limit environmental distractions	Principle 1. Examine the affordances and limitations of mobile devices and learning environments in a principled way and connect these to L2 learning research and theory	Principle 4. Try mending learners’ inequalities due to various technology inaccessibility issues
Principle 8. Task should fit the technology and environment and vice versa	Principle 3. Push, but respect boundaries	Principle 9. Train learners to use mobile devices for language learning	Principle 6. Be cognizant of learners’ current uses of technology
		Principle 5. Plan to accommodate language learning differences	Principle 10. Provide preparation and motivational support

Our research questions are as follows: in what ways can researchers adapt (1) [Doughty and Long's \(2003\)](#) language teaching MP and (2) [Stockwell and Hubbard's \(2013\)](#) MALL principles of design and implementation to Rikkyo University's online discussion course using the YoTeach! application?

## **2. Method**

### **2.1. Participants and settings**

Forty participants at a Japanese co-educational university enrolled in a first-year compulsory English discussion course to increase spoken fluency, discussion skills, and communication skills. The course was twelve weeks and moved online due to COVID-19. Participants scored 480 to 679 on the TOEIC<sup>3</sup>. The purpose of the discussion course is threefold: increase student English speaking fluency, teach them discussion and communication skills, and broaden their understanding of important topics.

### **2.2. Procedure**

YoTeach! is a free, online chat room created by PALMS PolyU to support collaborative mobile teaching and learning ([PALMS, 2018](#)). We created two online, YoTeach! chat rooms for 20 participants each, then taught participants how to use the app. We also used Blackboard, where we gave participants weekly reflective journal assignments, in which learners were asked to write at least two to three sentences about their experiences using YoTeach! for three months. Researchers also wrote weekly reflections for three months on how to connect, modify, and adapt [Doughty and Long \(2003\)](#) and [Stockwell and Hubbard's \(2013\)](#) principles.

### **2.3. Analysis**

Weekly reflective journals from researchers and participants were examined using the qualitative method of thematic analysis. Our discussion was based on the interactions about chat and application use. We do not use the chat room as a direct source of data. We did use an inductive approach to thematic analysis insofar as we created themes after reading the reflections. Additionally, we did not analyze for underlying assumptions, but rather explicit reflections from researchers and learners. After reading the reflections, we highlighted interesting or prevalent

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3. Test of English for International Communication



comments. Next, we created, reviewed, and named themes. Lastly, we connected those themes to principles created by [Doughty and Long \(2003\)](#) and [Stockwell and Hubbard \(2013\)](#).

### **3. Results and discussion**

We adapted six of [Doughty and Long's \(2003\)](#) MPs: 2, 5, 6, 7, 9, and 10. We also added an output category. Additionally, we adapted three of [Stockwell and Hubbard's \(2013\)](#) principles: 1, 4, and 10.

#### **3.1. Research Question 1: adaptations to Doughty and Long's (2003) principles**

##### *3.1.1. Consider integrating applications with YoTeach!*

As a platform for student to student interaction, YoTeach! was not designed to evaluate L2 performance and development. We paired it with Blackboard to (1) provide corrective feedback, (2) help learners focus on form, and (3) individualize instruction (i.e. MP 6, 7, and 10). Feedback, focus on form, and individualized instruction improves learning outcome because students can identify areas that they can improve upon.

##### *3.1.2. Specify the number and types of interactions*

YoTeach! does not require a specified amount or type of interaction. However, interaction type matters because the discussion course evaluates learners not only on their ability to respond to questions, but also ask questions. We believe that specifying the interaction types improves the learning outcomes of participants because they use more language chunking and learning by doing (MP 5 and MP 2). We realized that task instructions should specify a minimum number of interactions and require more replies than questions to help decrease unanswered questions.

##### *3.1.3. Plan output rules for translanguaging and translation devices*

Participants needed to know when using Japanese and translation devices would be acceptable. We did not say, 'no Japanese', especially because our participants use Japanese to help other classmates learn about the L2. Some participants also expressed a desire not to overuse Japanese because they wanted to express their ideas in English. Given that we could not control whether they used translation

devices on YoTeach!, language instructors should teach learners how to reflect on aspects of the language that compelled them to use translation devices to promote learner autonomy. In this way, learners can improve their learning outcomes by noticing the gap between what they know and what they do not know about the language.

#### *3.1.4. Plan the extent to which the teacher participates*

In Asia, one disadvantage of teachers giving opinions is learners might be hesitant to disagree with or challenge their ideas. We did respond to some unanswered questions to promote more cooperative or collaborative learning (MP 9). YoTeach! does not highlight unanswered questions so these questions might go unnoticed by other learners and then ignored.

### **3.2. Research Question 2: adaptations to Stockwell and Hubbard's (2013) principles**

#### *3.2.1. Change the purpose of the task if changes to the learning environment occur*

We originally wanted to incorporate YoTeach! assignments so that learners can have discussions outside of class, then with COVID-19, we flipped the classroom and YoTeach! tasks became pre-task planning for Zoom meetings (Principle 1).

#### *3.2.2. Anticipate and plan for application server crashes*

Several times the YoTeach! app crashed so learners submitted their work via Blackboard rather than on the application (Principle 4).

#### *3.2.3. Open communication channels with other teachers*

Open communication channels with other teachers to know the applications and programs they use in their courses. Participants stated that they spent too much time learning apps and programs that it would be better to limit the number (Principle 10).

#### *3.2.4. Pilot the application*

We re-purposed YoTeach! because we appreciated the shorter exchanges as it is more comparable to spoken discussion than discussion forums, but some

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participants stated that the chatroom was not as organized as a discussion forum. It would be valuable information to know the application's original purpose when considering its affordances and limitations and then pilot it with other teachers, to gather ideas on the strengths and weaknesses of using it (Principle 1).

## 4. Conclusion

The main research findings were (1) teachers should consider app integration to give better form focus instruction, (2) create a guideline and activities for students to do when they use translation devices so that they can focus on the form they did not know, (3) anticipate app crashes by having a back-up plan so that students can continue to submit work, and lastly, (4) pilot the application before using it to see the strengths and weaknesses of the app. We recommend that other teachers also utilize these principles to improve the implementation and use of applications.

## References

- Doughty, C., & Long, M. (2003). Optimal psycholinguistic environments for distance foreign language learning. *Language Learning & Technology*, 7(3), 50-80. [https://scholarspace.manoa.hawaii.edu/bitstream/10125/25214/1/07\\_03\\_doughty.pdf](https://scholarspace.manoa.hawaii.edu/bitstream/10125/25214/1/07_03_doughty.pdf)
- PALMS. (2018). *YoTeach! (PolyU)*. Pedagogic & Active Learning Mobile Solutions Project. <http://palms.polyu.edu.hk/educational-apps/yoteach/>
- Stockwell, G., & Hubbard, P. (2013). *Some emerging principles for mobile-assisted language learning*. The International Research Foundation for English Language Education. [https://www.tirfonline.org/wp-content/uploads/2013/11/TIRF\\_MALL\\_Papers\\_StockwellHubbard.pdf](https://www.tirfonline.org/wp-content/uploads/2013/11/TIRF_MALL_Papers_StockwellHubbard.pdf)

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Despite the Covid-19 pandemic, the EUROCALL society succeeded in holding the 28th EUROCALL conference, EUROCALL2020, on 20-21 August as an online, two-day gathering. The transition process required to make this happen was demanding and insightful for everyone involved, and, in many ways, a logical consequence of the core content and purpose of EUROCALL. Who would be better suited to transform an onsite conference into an online event than EUROCALL?

CALL for widening participation was this year's theme. We welcomed contributions from both theoretical and practical perspectives in relation to the many forms and contexts of CALL. We particularly welcomed longitudinal studies or studies that revisited earlier studies. The academic committee accepted 300 abstracts for paper presentations, symposia, workshops, and posters under this theme; 57 short papers are published in this volume.

We hope you will enjoy reading this volume, the first one to reflect a one hundred percent online EUROCALL conference/Online Gathering.



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