

Introduction

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Welcome to the 2025 publication of e-TEALS, our peer reviewed journal specialising in the didactics of English as a second or foreign language, and which seeks to reflect the latest research in the field. The four articles here result from papers presented at the 9th TEFL conference held at the Faculty of Social Sciences and Humanities of Nova University, Lisbon, Portugal, in November 2024, and reflect the theme of the conference – Innovation in English language teaching: Adapting pedagogies to meet modern challenges. Increased diversity in the classroom, alterations in work and study patterns and the use (and abuse) of new technologies have significantly influenced the characteristics of language learning and teaching in formal educational settings in the last twenty years, and the objective of the conference was to focus on pedagogies in formal education that have contributed to successfully overcoming the challenges of our modern times.

Our first article by Kirsten Birsak de Jersey, Harriet Jeeves, Annika Kolb and Nurjona Pinguri focuses on how participation in the Erasmus+ INVITED project can develop teacher competences for implementing virtual exchanges (VE) in primary and preschool settings. The paper presents criteria for successful VE projects based on research review, a five-country teacher survey, and eTwinning quality standards.

In the second article, Nanna Jørgensen, Juljana Gjata Hjorth Jacobsen and Karen Lassen Bruntt write about Danish lower-secondary students' and teachers' experiences with digital and analogue literary texts in foreign-language learning, exploring reading habits, motivation, and the potential of various media formats to enhance literary engagement. Findings show interactive texts are not a universal solution, and the article offers recommendations for motivating literary reading.

Our third article considers the topic of motivation, and in it, María del Carmen Arau Ribeiro, Ágnes Ibolya Pál, and Réka Asztalos examine how involving learners in collaborative materials design boosts motivation, autonomy, and creativity in language learning. Drawing on data from two European projects and 200 university students, it shows that co-creation fosters ownership, engagement, and critical reflection. Students shift from passive learners to active agents when designing their own materials. Practical strategies are offered for integrating collaborative autonomy into diverse educational contexts.

Our final paper by Asuka Nakagawa again returns to the topic of virtual exchanges and investigates a Kolb-based Preparation-Reflection model for integrating VE into SLA classrooms. A three-week U.S.-Japan exchange revealed challenges such as anxiety and uneven participation, addressed through structured preparation, mediation, and reflection. Student reflections show increased autonomy and metacognitive awareness. The model offers practical guidance for sustainable, experiential VE implementation.

Many thanks to our contributors.

Recommendations for successful virtual exchange projects in early language education

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Abstract

Virtual exchange (VE) provides ample opportunities for language, cultural and digital learning, even young learners can benefit from these authentic communicative situations (e.g. Dooly & Vinagre, 2021; Pennock-Speck & Clavel Arroitia, 2023). The Erasmus+ project INVITED (Integrating primary and preschool virtual exchange projects into language teacher education) seeks to promote (future) teachers' competences to realise VE projects in the primary and preschool classroom.

The paper presents criteria for successful VE projects with young language learners that have been identified in the project. Several sources have been used in this process: a review of existing research on VE in the primary classroom, an online survey with teachers in five European countries on their experiences with and attitudes towards VE (INVITED consortium, 2024b, 2024c), and the criteria the European eTwinning programme uses to award their quality labels. After the discussion of the set of criteria that was compiled in the project, a practical example of a VE project between French and German primary school learners is presented to illustrate the criteria.

Keywords: Virtual exchange, telecollaboration, primary school, young learners, FL teacher education

INTRODUCTION

Virtual exchange or telecollaboration projects, in which learners communicate worldwide via digital media, offer many opportunities for linguistic, cultural and digital learning. As a growing number of examples show, even children in preschool and primary schools can benefit from this approach. The use of English as a foreign language in authentic communication situations can develop their language competences, boost their motivation and foster cultural learning (e.g. Dooly & Vinagre, 2021; Kratzer et al., 2025; Pennock-Speck & Clavel Arroitia, 2023). However, the developing linguistic, digital and cognitive competences of children of this age group place specific demands on VE projects with young learners. Due to their limited language competences, children need a considerable amount of scaffolding. Early language teaching focuses on oral language, so that written products can only be incorporated to some extent in the exchange. Furthermore, children will not be able to deal with complex topics for VE projects in English and they might not be familiar with the digital tools that are used.

These challenges led to the following research question: What are criteria for quality VE projects in early language education?. We will outline different sources that the compilation of criteria that was developed in the Erasmus+ project INVITED draws on, discuss the set of criteria and illustrate it with an example VE project from the primary classroom.

1. VIRTUAL EXCHANGE IN PRIMARY AND PRESCHOOL LANGUAGE EDUCATION

The idea of virtual exchange (VE) as “the process of communicating and collaboratively learning with peers from different locations through the use of technology” (Dooly & Vinagre 2021: 393) is gaining ground around Europe. Following principles of communicative and task-based language learning it provides opportunities for learners to use English in authentic communicative situations. Research on VE in higher education has shown that it promotes intercultural, digital and language competences (Evaluate Group, 2019). Virtual exchange was found to be a flexible approach that can be integrated in a variety of contexts and “an ideal opportunity to engage students in social interaction and collaboration with other participants whom

they would be less likely to meet in 'normal' educational circumstances" (Dooly & Vinagre 2021: 394). Presenting an alternative to physical mobility, VE allows for real-life language practice and internationalisation also for disadvantaged groups (e.g. due to their socio-economic situation or their age). To promote the idea of VE, in 2005 the EU commission started the eTwinning initiative to provide a platform for schools across Europe to collaborate and engage in educational projects using digital tools. eTwinning is part of the Erasmus+ program and seeks to foster cooperation between teachers, learners, and schools through virtual exchanges.

While there is a multitude of projects and research on VE in higher education, "its application to beginner or younger learners is still lagging behind" (ibid.: 396). Nonetheless, first research projects and reports from primary classrooms show the potential of VE with young learners (see the summary of reports and findings in Pennock-Speck & Clavel Arroitia, 2023):

Children are often very enthusiastic to meet peers from other countries. For many of them, it is the first time that they use English as a lingua franca in an authentic communicative situation which might give them a sense of achievement and boost their confidence (Mont & Masats, 2018). Many teachers report that learners can surpass themselves and use language structures that are beyond their level, particularly in synchronous communicative situations (e.g. Cutrim Schmid & Whyte, 2015: 249; Dooly & Sadler, 2016: 67). Furthermore, there is evidence that VE in the primary classroom can foster cultural learning (Abe & Beecroft, 2024; Hempel, 2023; Okumura, 2020).

However, virtual exchange with young learners also presents some challenges. The limited technical as well as linguistic competences of children make it more difficult to address complex real-life topics and realise synchronous online meetings than this would be with older learners (Dooly & Sadler, 2016: 55).

2. THE INVITED PROJECT

The INVITED project (Integrating primary and preschool virtual exchange projects into language teacher education) aims to promote VE in primary and preschool language

learning contexts and to develop pre- and in-service teachers' competences to realise VE projects (INVITED consortium, 2024). The project group (a consortium of researchers from four universities in Germany, Spain, Slovenia and Poland in cooperation with local schools) experienced that pre-service teachers often find VE very appealing and benefit from taking part in VE projects in university courses. This personal experience can be backed up by research: Participating in VE projects on university level significantly increases future teachers' competences (Evaluate Group, 2019). It helps trainee teachers develop digital-pedagogical competences, intercultural awareness and foreign language abilities. The first-hand experience of overcoming communicative, organizational and technological challenges builds confidence regarding VE. However, when it comes to realizing such projects with younger learners, many teachers are still hesitant because of the children's limited linguistic, literacy and digital competences. Experts therefore identify teacher education as a "key area for improvement in VE" (Dooly & Vinagre, 2021: 401) and advocate teacher training on how to implement VE in the classroom.

Along these lines, the INVITED project tries to give pre-service teachers the opportunity to experience VE in cooperation with local schools as part of their university studies (for example during internships) and support in-service teachers through training, networking opportunities and the provision of best practice examples.

After a survey with pre- and in-service teachers on their experiences with and their needs regarding VE (INVITED consortium 2024b, 2024c), the project is building a community of teachers interested in VE with young learners and developing materials for teacher education on VE. The community is promoted through the project website as well as an eTwinning group on the European school education platform (ESEP) (INVITED consortium, 2024d). It provides opportunities to exchange experiences and materials, displays good practice examples and short how-to-do videos and hosts a series of webinars by experienced teachers. Furthermore, the project consortium is developing a teacher education module that will be incorporated into the partner universities' curricula as well as an online professional development course for in-service teachers to be published on the European School Education Platform (ESEP).

3. QUALITY CRITERIA FOR VE IN THE EARLY LANGUAGE CLASSROOM

Given the specific requirements of VE projects with young learners, the project consortium set out to develop quality criteria for VE in the early language classroom, drawing on a variety of sources: existing research on VE in primary school, the INVITED questionnaire survey with in-service teachers and criteria for the eTwinning quality labels. While virtual exchange can have multiple objectives and some projects with children primarily aim at a cultural exchange, the focus of this compilation of criteria lies on telecollaboration as an integral part of language teaching and learning.

a. Existing research on VE

The limited number of research or reports on VE projects in the early language classroom all focus on the primary classroom, we are not aware of any research in preschool contexts. Pennock-Speck & Clavel Arroitia (2023) give an overview of VE projects in primary school that are reported on in the literature. Only very few of these texts take an actual research perspective. In their overview, the authors conclude that there are three crucial factors for the success of primary VE projects: linguistic competence, classroom management and teaching style (ibid.: 121). In their own study, the scaffolding by the teacher seems to be the most relevant aspect, probably more so than with more advanced language learners. The study demonstrates how the different teaching styles of the two partner teachers and their classroom management support Spanish and French children to communicate despite differing language levels. The Spanish learners were more autonomous, taking initiative and asking questions freely, while the French children relied on their teacher heavily to prompt and assist. The Spanish teacher stepped back, offering few prompts, while the French teacher was more involved, providing frequent guidance. Their findings indicate that a careful balance between guiding and monitoring is needed to encourage autonomy and authentic interaction. Cutrim Schmid & Whyte (2015) come to a similar conclusion in their study with French and German learners. Dooly & Sadler (2016) show that the sequencing of the tasks plays an important role and that the actual telecollaboration of the children has to

be thoroughly prepared and reflected upon afterwards, thereby providing adequate language support. They advocate “pre- and post-telecollaboration tasks that introduce and repeat the target language through many different modes” (ibid.: 73). Okumura (2020) emphasizes the relationship between participants and highlights that “a good partnership of collaborators is indispensable for the success of online collaboration projects” (ibid.: 384), for example through get-to-know activities at the beginning of the project. Mont & Masats (2018) come up with a checklist for teachers, that is a collection of aspects to consider when designing a VE project. Among others they highlight backward planning of projects that requires “keeping the final product in mind from the very beginning” (ibid.: 109). The product of this main task should give children “a good reason to collaborate” (Canto, 2023). Characteristics of good tasks for VE projects that were developed in the E-LIVE project (2024) include that the outcomes are jointly developed and the “students depend on one another to complete the task” (ibid.). Bejarano Sánchez & Giménez Manrique (2018: 178) emphasize that learners should have an active role and a say in the whole process. Children would need to know what they are doing in each activity and why, and the project goals and contents should be explained and discussed with them.

Compared to the little research on VE in primary school, there is a body of research which focuses on VE in university contexts. Summing up several studies, Kurek & Müller-Hartmann (2017) identify four main criteria for good tasks in VE projects: tasks need to involve and challenge learners, they need to be clearly communicated, structured and sequenced, the use of technology should be meaningful and promote digital competences and the tasks should allow learners to develop an open attitude and promote cultural learning.

O’Dowd & Waire (2009) categorise VE tasks in three types and suggest these as a suitable order for a sequence of tasks in a VE project to gradually increase the complexity of encounters:

Information exchange activities serve as ice-breakers and help the partners get to know each other. They are predominantly monologic. Learners could for example post a profile of themselves on a shared Padlet, exchange videos in which they present an

object that means a lot to them or share photos of their class. *Comparison and analysis* activities go beyond the presentation of information to the partners but make learners compare practices in their daily lives. Therefore, they have to engage in a dialogue with the partners. Young learners could for example compare their breakfast habits, hobbies or free-time activities and try to find similarities and differences. *Collaboration* activities require learners “not only to exchange and compare information but also to work together to produce a joint product or conclusion” (O’Dowd & Waire 2009: 178), for example a collaboratively developed calendar or a digital book.

b. INVITED teacher survey

At the beginning of the INVITED project, a survey with 309 in-service primary and preschool teachers in Spain, Slovenia, Poland and Germany was conducted to investigate their experiences with and attitudes towards VE (INVITED consortium, 2024c). The online survey was distributed to teachers via email using a convenience sampling which was considered suitable due to the intent to investigate attitudes in a rather unfamiliar area. It contained 40 questions and was divided into 6 thematic sections. Questions combined dichotomous, multiple-choice, Likert-type scales, numerical scales and open format. Open questions were categorised in a multiethnic team of distinct area specialists, which reduced the likelihood of subjective interpretations, whilst coding was mainly closed. Some of the results give insights into teachers’ perspectives on quality criteria for VE projects (cf. fig 1): The participating teachers particularly highlighted the following aspects: Effective VE projects should provide opportunities for authentic communication (95,1% of teachers agreed) and foster cultural learning (90%). 79,7 % of teachers agreed to the need for pre-planned and structured tasks and 83,4% of teachers attribute VE projects with fostering children’s learner autonomy.

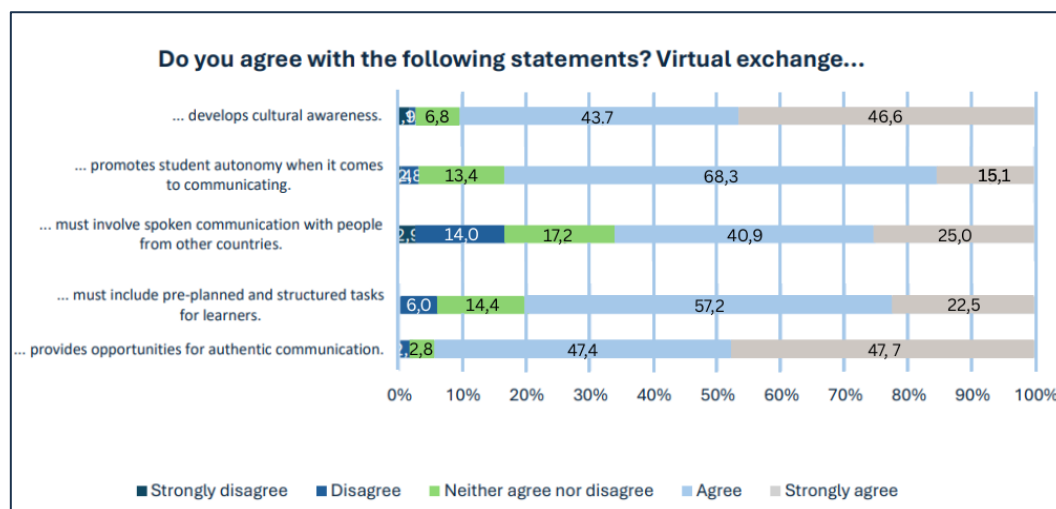


Fig.1: Teachers' views on virtual exchange (INVITED consortium 2024c: 10)

The fact that 65,9% of the participants said that VE projects must involve spoken communication with people from other countries points towards a preference for synchronous communication.

c. eTwinning quality criteria

To promote the eTwinning initiative, both the national and the European support organisations award eTwinning quality labels for outstanding virtual exchange projects every year. The criteria for this award refer to different kinds of virtual exchange projects which not all aim at language learning and are designed for projects with different age groups. Nevertheless, they can inform the compilation of criteria for VE projects in the early language classroom. The eTwinning quality criteria are grouped into six categories (ESEP, 2022): *Collaboration between partner school* involves activities that go beyond basic communication. Students from different schools are supposed to interact, communicate and collaborate towards a shared goal and produce a "tangible outcome" (ibid.). The *use of technology* contributes to the pedagogical aims of the project and facilitates collaboration. The tools should be age-appropriate and accessible for all. Data protection, copyright rules as well as an online code of conduct are to be followed. In terms of *pedagogical approaches*, student-centred learning and children's agency are highlighted as well as the use of "methods such as information gathering, problem solving, research and comparative work" (ibid.). According to the eTwinning criteria,

good projects feature a *curricular integration* in one or several subjects and follow a multi-disciplinary approach. *Results and documentation* of the project refer to an evaluation of project results at the end as well as the visibility of products beyond the individual classroom.

4. CRITERIA FOR VE PROJECTS AND TASKS IN EARLY LANGUAGE EDUCATION

Drawing on these sources and with the participation of experienced practitioners in the field, the criteria for VE projects in early language education were grouped into five categories: content, teaching methodology, communication, use of technology and outcomes (see figure 1). It goes without saying that no project will fulfil all the criteria, but they are supposed to provide a framework for evaluating projects and identifying good practice examples while taking account of the specific needs and prerequisites of young language learners.

a. Content

Considering the target group's age, interests, linguistic and cognitive competences, the choice of topic is fundamental for successful VE projects. In line with task-based approaches to language learning, relevance for the learners is indispensable for learning (eg. Kolb & Schocker 2021: 47f.). Only if themes and *topics are appealing, age-appropriate and relevant* to the children they will get involved and enthusiastic to work with the partner class, exchanging ideas and experiences and brainstorming together. Relevance can be enhanced if the topic stems from the children's daily lives and a real-world context which will allow teachers to include *cross-curricular content* (Dooly & Sadler, 2016). Real-world contexts involve different cultures and, when well-designed, VE projects can support the development of intercultural awareness, cultivating an understanding and appreciation of different cultures, which may involve unfamiliar reactions and practices of the partner class (Okumura, 2020). The choice of topic should also make sure that children from different backgrounds feel acknowledged and can contribute their unique experiences and ideas. This *inclusivity* might also entail *plurilingual expression*. A special focus on *early literacy skills* takes account of the learning needs of this age group.

Area	Nº	Criteria	Definition
Content	1	Appealing and ageappropriate topics	Topics that are engaging and relevant for children taking into consideration their interests, as well as their linguistic and cognitive abilities
	2	Cross-curricular content	Content and/or activities that integrate concepts and skills from more than one subject area to encourage more holistic learning and competence development
	3	Inclusivity and different forms of otherness	Content and/or activities that (i) ensure that all children, regardless of their background or abilities are included and valued in the project; (ii) celebrate diversity and promote tolerance of difference
	4	Intercultural practices and plurilingual expression	Content and activities that foster understanding and appreciation of different cultures and/or encourage the use of multiple languages to enhance students' intercultural awareness and language skills
	5	Early literacy skills	Activities that develop reading and writing competences
Methodological Approach	6	Curriculum innovation through creative educational approaches, strategies, and methods (e.g., storytelling, STEAM, project-based learning, reflective learning, multisensory learning, etc.)	The use of novel and imaginative activities to enhance student engagement and learning outcomes
	7	Activation of children's creativity and higher order thinking skills	Encouraging children to think critically, solve problems, and express their creativity through challenging tasks
	8	Language scaffolding	Language support provided by teachers to help children participate in project activities. This includes modelling and practising the vocabulary and language patterns needed for different tasks, and providing feedback.
	9	High degree of children's agency in designing, shaping and evaluating the educational process	Allowing children to participate in decision-making and gain some control over their project and learning experience to foster independence and responsibility
	10	Different forms of collaboration (peer teaching, national and international group work)	Tasks that involve working together with peers, either within the same classroom or with children from partner countries to achieve common learning goals

Communication	11	Synchronous and asynchronous communication between participating students	Facilitating both real-time (synchronous) and timeindependent (asynchronous) activities among students
	12	Opportunities for authentic language use in meaningful communicative oral, written and multimodal tasks	Inclusion of tasks that allow children to use language in realworld contexts employing multiple modes (linguistic, visual, aural, gestural, spatial) and different media (video, audio, digital, print)
Use of Technology	13	Creative, meaningful, and responsible use of diverse technological tools	Integrating technology in ways that are innovative and purposeful to support and enhance the learning experience and develop digital competences
Final outcomes	14	Visible results in the form of digital, multimodal and/or handmade products (booklets, posters, videos, etc.)	Encouraging the creation of tangible outcomes from learning tasks to showcase children's communicative, linguistic, intercultural, digital, social and citizenship competences
	15	Wider community impact including schools and families with local/global outreach	Ensuring that project activities have a broader influence, engaging not just the students but also their families, the school and the wider community

Figure 2: Criteria for good virtual exchange projects in early language education (INVITED consortium, 2024e)

b. Teaching methodology

As the research review has shown, teaching methodology and the role of the teacher play a critical role in VE projects with young learners. The need for a real-world topic so that the children have something to communicate about lends itself well to a variety of *learner-centred and holistic teaching approaches*, such as STEAM or project-based learning and can foster children's *higher order thinking skills*. A good VE project can thus be the motor for innovative teaching approaches and have an impact on all partner classrooms involved.

The research review has demonstrated the indispensable role of *language scaffolding* in VE projects with young learners. Teachers need to provide structured support to guide learners through complex tasks, helping them build confidence and skills over time. This includes modelling and practising language structures the children need for synchronous and asynchronous activities (Pennock-Speck & Clavel Arroitia, 2023). Both research and teachers in the INVITED study highlight the sequencing of tasks which leads to the children systematically building up the language that they need for the

collaborative tasks. The studies on VE in the primary school context have also shown that children's confidence in new situations may depend on the level of trust their teacher shows in them, conveyed through classroom management and teaching style. Teachers therefore need to monitor how much help they provide for the children to be able to continue comfortably but keep their independence at the same time.

Children's agency is on the one hand important to sustain motivation and involvement in a challenging project that might stretch over longer periods of time. On the other hand, it is a prerequisite to develop learner autonomy and children's ownership of their learning. This involves teachers handing over responsibility in their classroom management by agreeing on results and products together, allowing the learners to choose how to approach their work, and giving them control over their time when possible (Bejarano Sánchez & Giménez Manrique, 2018).

In line with research and the eTwinning quality criteria *collaboration* is an indispensable criterion for a good VE project. Only if learners work on a collaborative project together will they engage in negotiation of meaning (Canto, 2023). In primary or pre-school, the children could for example jointly develop a joint digital book, a calendar or a poster.

c. Communication

Communication naturally serves as the foundation for VE projects, enabling learners to build connections, work together and overcome challenges in both language and cultural understanding. It covers both *synchronous and asynchronous communication*, giving children various ways to build up their language competences and confidence in using the foreign language outside of their classroom setting (Kratzer et al., 2025; Pennock-Speck & Clavel Arroitia, 2023). "Providing opportunities for authentic communication" was what teachers considered to be most important in VE projects with young learners in the INVITED study (INVITED consortium, 2024c: 10). Although synchronous communication puts considerable demands on learners, these interactions enable students to engage directly with each other in a dialogue, offering opportunity to address questions or ideas on the spot and allow children to experience the exchange more immediately (Cutrim Schmid & Whyte, 2015). Collaborating with a real audience in

an *authentic communicative situation* makes children feel their contributions matter, increasing their involvement and impact on the outcome (Dooly & Vinagre, 2021).

Asynchronous communication, such as making videos, writing messages or sending emails gives learners other ways of communicating which allow them time to think and consolidate the language and their thoughts. It also enables more monitoring and editing to take place. To make up for the limited linguistic competences, multi-modal texts like posters, digital books with audio recordings or videos provide helpful support for the children to get their message across.

d. Technology

Virtual exchange means that pupils are navigating a digital learning environment, relying on technological tools to facilitate communication and collaboration, such as video conferencing, online discussion forums, and collaborative digital workspaces. In effective VE projects in the early language classroom, these *tools should be used creatively, meaningfully and responsibly*. For young learners, the digital tools need to be user-friendly and accessible. The children should be able to creatively use these tools to get their communicative aims across, for example through a combination of pictures and written text or audio recording. Developing a sense of responsibility in the digital space includes safeguarding privacy, being conscious of data protection when choosing technological tools and adhering to a code of conduct for online communication (Mont & Masats, 2018).

e. The outcomes

The above-mentioned need for collaboration as a quality criterion for VE projects in the early language classroom results in a *visible product* of the project that was jointly developed by the partners (Canto, 2023). The outcomes can range from videos, eBooks, booklets, digital posters to podcasts, blogs, and interactive presentations. On the one hand, this common goal gives the project a purpose, on the other hand it showcases the children's achievements and their developing language, cultural, digital or disciplinary competences.

Good VE projects do not only impact the learning culture in the participating classrooms, but they can also *impact the wider community*. For example, in the ICEPELL project (2022), children painted rocks and leaves with positive messages like "Be a friend" and "Peace," then placed them in the school grounds, local parks and community spaces. In the sense of "taking action" involved in global citizenship education and with the active collaboration of local organisations and stakeholders, children can feel empowered to directly address real issues as they see their work being a contribution to their immediate environment and are supported in understanding global challenges.

The project "Reducing Plastic Pollution"

To illustrate the set of criteria that was compiled in the INVITED project, this section presents a VE project that took place between two primary school classes from France and Germany. The project explores plastic consumption, seeks to raise children's awareness of plastic pollution, encourages them to explore alternatives to plastic in their daily lives and ultimately seeks to empower the children to protect their environment through sharing ideas and strategies (Lakatos, 2023). With the choice of this topic, the teachers made sure that the content was relevant for the children and the project followed a cross-curricular approach since it addressed subject matter of science teaching as well as maths when the children compared the weight of plastic waste they had collected.

The exchange took place between two 4th year classes: a class of 21 children in Germany and a class of 25 children in France. The children were 9 to 10 years old. The class in Germany had been learning English for two years, the French class for three years. The time allocated for the project was three lessons a week, over a three-week period.

The structure of the project followed O'Dowd & Waire's (2009) phases (cf. figure 3): In the information exchange phase, the children in both classes were introduced to the topic of plastic in the environment by first burying an apple and some plastic items weeks before the exchange project started to see how the plastic did not decay. This hands-on

multisensory activity ensured an age-appropriate access to the topic by showing the relevance of not only being careful with plastic waste but also of reducing plastic. Language scaffolding was provided, and literacy skills were fostered through creating a mind map to explore the role of plastic in the children's daily lives and then collecting plastic waste from both school and home for a week. The learners also collected vocabulary and language structures for the first video conference between the two partner classes. These were then displayed on the board as language support during the meeting. The children shared their findings and committed themselves to collaborate and take action. The relevance of the topic was increased as the children understood the consequences of plastic pollution. By agreeing on a common goal they took over responsibility for the project and their own learning.

In the comparison phase, the learners collected additional plastic waste from around the school (in Germany) or beach (in France) and compared the weight of the materials gathered in their next meeting. They created a video about the clean-up activities to share with their partner class, including a comprehension check for their partners. During the collaboration phase, children jointly developed videos with the App ChatterPix in which animals suffering from plastic pollution asked for help, highlighting the impact of plastic on the environment. The videos were sent to the partner class which was supposed to find a solution for the different animals' problems, thus making the videos a collaborative product (see example in figure 4). Technology was creatively used to communicate and develop a multimodal product since the app allowed the children to animate photos with voice over. The outcome of the project was a visible product that could be shared in the school community thus having an impact beyond the individual classrooms. The sequence of activities created a meaningful authentic purpose for both synchronous and asynchronous communication. In particular the synchronous communication in the video sequences showed the potential for cultural learning as this anecdote demonstrates: A German child spontaneously took off her shoe and used it to wave goodbye to the partners during the first video conference. The French learners were assuming that this was a German tradition and a French child copied her in the next meeting. After the misunderstanding had been cleared up, learners could discuss the

danger of stereotyping and making assumptions about groups of people. At the same time, the anecdote demonstrates that a relaxed atmosphere and authentic situations stimulate interaction, as the children felt free to react spontaneously, and foster meaningful connections.

Project phase	Project activities
Information exchange	• Introducing the topic • Experiment: burying an apple • Making a mind map on plastic use • Collecting vocabulary and structures • Introducing each other in first online meeting
Comparison	• Collecting plastic waste at school and at home • Developing a video about clean-up days • Comparing collected waste and videos in second online meeting
Collaboration	• Jointly developing video about animals suffering from plastic pollution and asking for help

Figure 3: Overview of project activities



Partner 1 (problem): *Hi! I am a storck. I live in a nest. We use plastic for our nest.*

Partner 2 (solution): *We want sticks, not plastic for our nest. Thank you.*

Figure 4: Sample learner texts (collaborative video)

5. CONCLUSION

Based on existing research on VE with young learners, a survey with teachers and an analysis of good practice examples, the paper gives answers to the question what are criteria for successful VE projects, taking account of the specific needs of young language learners. These criteria help to identify examples of good practice and support teachers in designing their own projects. Considering primary and preschool teachers' need for training and support regarding VE that became evident in the survey, the framework might contribute to encouraging teachers to embark on more telecollaboration projects to provide young language learners with valuable opportunities to interact with and learn from each other. A limitation of this study is that the development of criteria relied mainly on the teachers' perspectives. Further studies could include interviews with children, classroom observations and learner texts to get a variety of perspectives on the topic. Additional research on VE with young learners could also look into the interaction in live online exchanges as well as the children's perspective on these exchanges.

BIBLIOGRAPHY

- Abe, M., & Beecroft, R. (2024). Fostering primary students' competences for democratic culture in EFL: The PEACE project. *Language Teaching for Young Learners* 6(2), <https://doi.org/10.1075/ltyl.00055.abe>
- Bejarano Sánchez, G., & Gimenez Manríque, G. (2018). What makes our schools unique? A telecollaborative experience from the perspective of two 'new-comers'. In M. Dooly Owenby & R. O'Dowd (Eds.), *In this together: Teachers' experiences with transnational, telecollaborative language learning projects* (pp. 145–181). Peter Lang.
- Cutrim Schmid, Euline, & Whyte, Shona. (2015). Teaching Young Learners with Technology. In Bland, Janice (Ed.), *Teaching English to Young Learners: Critical Issues in Language Teaching with 3-12 Year Olds* (pp. 239–259). Bloomsbury.
- Dooly, M., & O'Dowd, R. (2018). Telecollaboration in the foreign language classroom: A review of its origins and its application to language teaching practices. In M. Dooly & R. O'Dowd (Eds.), *In this together: Teachers' experiences with transnational, telecollaborative language learning projects* (pp. 11–34). Peter Lang.
- Dooly, M., & Sadler, R. (2016). Becoming little scientists: Technologically enhanced project-based language learning. *Language Learning & Technology*, 20(1), 54–78. <http://dx.doi.org/10.125/44446>
- Dooly, M., & Vinagre, M. (2022). Research into practice: Virtual exchange in language teaching and learning. *Language Teaching*, 55(3), 392–406. <https://doi.org/10.1017/S0261444821000069>
- European School Education Platform (2022). eTwinning national quality label. https://school-education.ec.europa.eu/system/files/2022-11/QL_infosheet%20%281%29.pdf
- E-LIVE (2024). Engaging language in intercultural virtual exchange. <https://sites.google.com/view/eliveproject>
- Hempel, C. (2023). Über die Potenziale virtuellen Austauschs für das Globale Lernen in der Grundschule. *ZEP – Zeitschrift für internationale Bildungsforschung und Entwicklungspädagogik* 4, 17–20. <https://doi.org/10.31244/zep.2023.04.05>
- ICEPELL Consortium. (2022). *The ICEGuide: A handbook for intercultural citizenship education through picturebooks in early English language learning*. CETAPS, NOVA FCSH.
- INVITED consortium (2024a). Integrating primary and preschool virtual exchange into language teacher education. <https://invited-project.eu/>

INVITED consortium (2024b). Pre-service teachers' experiences with virtual exchange and their attitudes towards implementing virtual exchange into the curriculum – A needs analysis report. <https://invited-project.eu/wp-content/uploads/2024/12/Pre-service-INVITED-Report-2.pdf>.

INVITED consortium (2024c). In-service Teachers' experiences with virtual exchange and their attitudes towards implementing virtual exchange into the curriculum – A needs analysis report. <https://invited-project.eu/wp-content/uploads/2024/12/IN-service-INVITED-Report-1.pdf>

INVITED consortium (2024d) eTwinning group "Virtual exchange in primary and preschool language education". <https://school-education.ec.europa.eu/en/etwinning/group/virtual-exchange-primary-and-pre-school-language-education>

INVITED consortium (2024e). Criteria for virtual exchange projects in early language education. <https://invited-project.eu/criteria-for-ve-projects-in-early-language-education/>

Kolb, A., & Schocker, M. (2021). *Teaching English in the primary school: A task-based introduction for pre- and in-service teachers*. Klett Kallmeyer.

Kratzer, A., Delgado, A., Cvetkovic Kienle, A., Dooly, M., & Cutrim Schmid, E. (2025, i.p.). Bridging cultures between rural areas: Plurilingual virtual exchange and intercultural communicative competence in primary school language education. In S. Silvia Melo-Pfeifer & V. Tavares (Eds.), *The Palgrave handbook of internationalization of language education*. Palgrave.

Kurek, M., & Müller-Hartmann, A. (2017). Task design for telecollaborative exchanges: In search of new criteria. *System*, 64, 7–20. <https://doi.org/10.1016/j.system.2016.12.004>

Lakatos, L. (2023). *Benefits and challenges of global citizenship education through a virtual exchange project* (Unpublished MA thesis). University of Education Freiburg.

Mont, M., & Masats, D. (2018). Tips and suggestions to implement telecollaborative projects with young learners. In M. Dooly Owenby & R. O'Dowd (Eds.), *In this together: Teachers' experiences with transnational, telecollaborative language learning projects* (pp. 93–122). Peter Lang.

O'Dowd, R., & Waire, P. (2009). Critical issues in telecollaborative task design. *Computer Assisted Language Learning*, 22 (2), 173–188. <https://doi.org/10.1080/09588220902778369>

Okumura, S. (2020). Design and implementation of a telecollaboration project for primary school students to trigger intercultural understanding. *Intercultural Education*, 31 (4), 377–389. <https://doi.org/10.1080/14675986.2020.1752546>

Pennock-Speck, B., & Clavel-Arroitia, B. (2023). Virtual exchanges among primary-education pupils. In A. Potolia & M. Derivry-Plard (Eds.), *Virtual exchange for intercultural language learning and teaching: Fostering communication for the digital age* (pp. 115–132). Routledge. <https://doi.org/10.4324/9781003024620>

Reviving reading through interactive digital literature in EFL: a study of students' reading motivation in the Danish lower secondary school

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Abstract

This article presents a recent research project investigating students' and teachers' reading experiences with interactive digital and analogue literary texts in foreign languages within a Danish lower secondary school context. The project has a dual objective: first, to examine teachers' and students' reading habits and motivation for literature, and second, to explore ways of improving reading motivation through various media formats including the crossover of digitalisation and literature. The importance of this study is underscored by previous research indicating a decline in reading interest in Denmark, juxtaposed with the rapid increase in students' consumption of digital media. Taking an empirical stance, this study therefore provides evidence of students' literary reading experiences and motivation in English in a school context.

The research design consists of three parts: 1) a quantitative survey with responses from 60 teachers and 190 students, 2) a didactic intervention featuring exemplary teaching sequences that incorporate literature in interactive digital as well as analogue media format, and 3) a qualitative study based on focus group interviews exploring students' reading experiences across different media. The study shows that students have very different reading preferences and interactive texts are not necessarily the only answer to enhancing students' reading motivation. Drawing upon the study's findings, the article offers recommendations for selecting literary texts to support reading motivation.

Keywords: *digital literature, reading motivation, EFL, foreign language education*

Introduction

Currently the media in Denmark discuss the notion of “hatred of reading” referring to a growing reluctance among children and teenagers to engage with literary texts (see e.g. the series of articles in *Politiken*, 2025). This term encapsulates the challenges faced by educators and parents in fostering reading motivation among children and reflects broader concerns about the decreasing enthusiasm for reading among younger generations. Despite many national and local initiatives that try to foster reading motivation (Lund & Skyggebjerg, 2021), the number of children and teens in Denmark that are not fond of reading is growing. In order to understand reading motivation in an EFL context, this study examines how young students in the Danish lower secondary school experience reading in both analogue and digital formats. Additionally, it explores the demands that a digital foreign language text imposes on students as readers. Conducted in 2022-2023, this dual language study focused on the subjects of English and German as foreign languages at lower secondary school level in Denmark; however, this article addresses findings solely related to English with a particular focus on students’ reading motivation.

Literature Review

While *reading motivation* (often understood as the interest or desire to read texts) may seem straightforward, research in the field reveals that the concept is far more complex, encompassing different perspectives on what drives individuals to engage with reading. A rich array of terminology has emerged to capture the various facets of the phenomenon, including reading engagement (Brozo et al., 2007; Cremin, 2014), pleasure/joy of reading (Clark & Rumbold, 2006), willingness to read, affective aspects of reading etc. (Lund & Skyggebjerg, 2021). In this article, reading motivation and engagement are used synonymously and view the psychological grounding of the term as readers’ state of mind and their driving force in interaction with literary texts.

A recent systematic literature review conducted by Lund & Skyggebjerg (2021) identifies several dominant themes in reading motivation research, including its connection to reading competence, gender differences (with girls generally reading

more frequently), and measurements of reading motivation through questionnaires and surveys. Due to the complexity of reading motivation, these measurement tools may not always provide a complete or accurate picture, for reading motivation is often (mis)understood as the amount of time spent on reading, which is not the same as being motivated to read. Despite the lack of measuring accuracy, several recent studies in Danish as L1 in Denmark highlight the significant decline in children's interest in reading – a general trend apparent both during leisure time and in school settings (Hansen et al., 2017; Hansen et al., 2022). This tendency can also be observed in the general population, both in Denmark and other Nordic countries (Michelsen, 2021).

Children, and especially teenagers, show decreasing motivation to read as their digital media consumption rises (Hansen et al., 2022), suggesting that increased digital media consumption leads many students to engage in what is known as a “hyper-attention” mode rather than a “deep attention” mode needed for immersive reading (Hayles, 2007). Other studies take a positive stance and instead of focusing on students' lack of reading motivation, they concentrate on the variety of media students use to read and conclude that students have very different reading preferences affected by text formats: analogue, audio or digital (Henkel, Pedersen & Poulsen, 2022; Henkel, Mygind & Svendsen, 2022; Henkel, 2023). For instance, in a study that examines reading of Year 8 students in Danish as L1, Henkel (2023) and Henkel, Mygind & Svendsen (2022) distinguish between reading experience, materiality and reading comprehension when using the same text in three different media (analogue book, audiobook and literary app). Their findings highlight the role of multisensory reading in the meaning making process when interacting with literature across the different media.

Building on this, our study further draws insights from Lütge et al. (2019), who explore the intersection of digital media and foreign language literature teaching. They propose the FINaLe model, which provides a framework for understanding the relationship between digital literature and digital literature competences. In attempting to understand the digital reading condition today, several scholars have contributed research across disciplines, addressing and challenging print-biased conceptions of

reading that still dominate the research – regardless of whether the medium is print or digital (Engberg et al., 2023).

While most studies focus on reading in the first language (L1), research on reading motivation in foreign languages remains limited. The present study thus seeks to address this gap by examining reading motivation from a foreign language perspective. To provide some context for our research, the following section explores the Danish language teaching landscape and the current state of digitalisation in Denmark.

The Danish context

Our study concerns 14-year-old learners of EFL in Year 7. Students begin learning English in Year 1 at the age of 7-8 and this means that they are generally at the A2 level of the CEFR. Figure 1 below shows the stages of primary and secondary education in Denmark.

Nursery/Kindergarten/ Pre-school years Aged 0-6	Mandatory comprehensive municipal school Years 0-9, roughly aged 6-16	High school Years 10-12 Roughly aged 18-19
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Figure 1: Danish school context

The situation of digitalisation is assumedly quite different in Denmark from that in many other countries. In recent years, Denmark has seen heavy investments in digitalisation at all levels in society; for instance, 94% of Danes are online daily (Statistics Denmark, 2017). At school, 2.5 billion DKK was invested in municipal schools from 2012 to 2017. All subjects are expected to integrate IT (Børne- og Undervisningsministeriet [Ministry of Children and Education], (2020), and this is reflected in the following statistics: Approximately 82% of teachers use digital materials in class (Rambøll, 2018), 72% of students use digital tools in every or almost every class; 30% of learners spend 5-7 hours per day using digital tools for learning activities, and 47% of Danish students use their digital devices more than half of the school day (PISA, 2022).

Many schools never use analogue teaching materials but rely on digital learning platforms designed by publishing houses (Danske Forlag [Danish Publishers], 2023). Most classrooms have interactive whiteboards with internet access. The consequences of this in relation to our project are that students are used to digital teaching materials, and less to analogue books. We stipulated that this digitalisation would change EFL learning and teaching and there may be a potential of using multimodal interactive digital literature to engage students in reading.

Research project design

In the light of the above, our examination of interactive digital literature in EFL therefore centres on student interaction with digital texts and the possible effects on student motivation for reading and thus also the effects on foreign language learning potential in general. However, as the project progressed – and as the findings show – student motivation revealed itself to be more complex than simply a matter of digital or analogue reading preferences. The study covers three main phases as shown in figure 2 below:

Phase 1	Research design Teacher & student surveys Data analysis
Phase 2	Development of teaching materials Didactic intervention & observations
Phase 3	Focus group interviews with students Data analysis Dissemination

Figure 2: Project phases

The study's overall aim and objectives were to strengthen students' reading motivation in EFL classes, to identify potentials for language acquisition and intercultural competence, as well as to formulate criteria for choosing interactive digital

literary texts. The study thus encompassed several research questions, but for the purpose of this article we aim to focus only on answering the following: What factors promote or inhibit students' reading motivation? What is the potential of interactive digital literature in EFL and what might be the consequences of reading digitally compared to analogue reading? What criteria are relevant for teachers when choosing interactive digital literary texts for foreign language teaching?

Our hypothesis was that students' interest in reading could be enhanced if they encountered familiar texts – both in form and content – also known from their spare time activities in digital formats. This included interactive digital narratives and content-rich texts that were relevant to the students' age group and aligned with their interests. Danish teens are likely to meet different multimodal texts outside the classroom context, and they are thus able to decode multiple modalities and performances when they meet these in any form of text. To build on this, we first investigated the relationship between digital literature and the digital literature competences needed to engage in and analyse such texts. For this purpose, the FINaLe model (Lütge et al., 2019) proved a useful tool, illustrating the above-mentioned relationship very well.

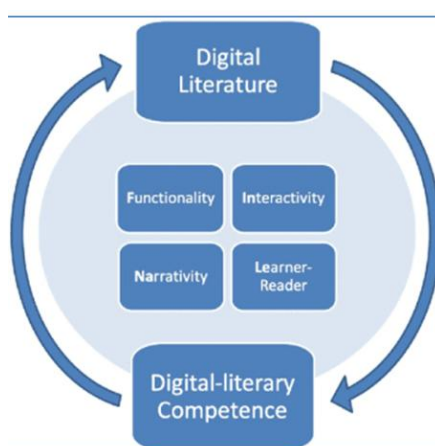


Figure 3: The FINaLe model (Lütge et al., 2019)

The model's four parameters (*Functionality*, *Interactivity*, *Narrativity* and *Learner-Reader*) formed the core of our didactic discussions when evaluating and selecting digital

literary texts for the didactic interventions undertaken in the project. *Functionality* indicates the extent to which digital features can transform the reading experience and the comprehension hereof. *Interactivity* refers to the reader's ability to alter the narrative's content or structure through choices made throughout the reading, while *Narrativity* implies whether the text is linear with a closed ending or open and multi-linear. Finally, the *Learner-Reader* component signals whether the reader remains a peripheral observer outside the world of the text or becomes involved in the narrative, and whether the reader can actively influence the text or only engage in an exploratory manner.

Consequently, we settled on the linear, interactive story *Weirdwood Manor* (Mineker & McGhee, 2020) for our EFL didactic intervention. This digital narrative is a fantasy story about an orphan boy with extraordinary powers who has an adventure in an old castle. Readers can explore the text and, for instance, click on so-called hotspots, collect items and activate games. There are short animated sequences, and the text is also read aloud. The story comes in both a digital version for iPad and an analogue version, which was essential for us to compare students' reading experiences.

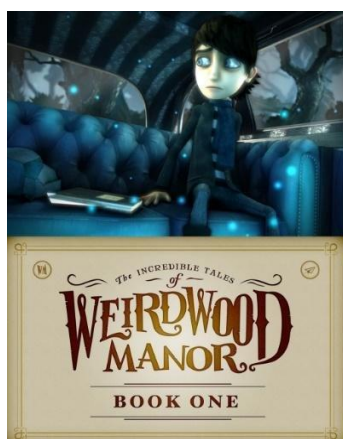


Figure 4: The interactive digital story *Weirdwood Manor* (Mineker, L. & McGhee, D., 2020) used in the intervention

Research data

The methodological framework of the study was a mixed-method approach with quantitative as well as qualitative data. The aim was to gain an insight into the reading habits of language teachers and students. We hypothesised that the teachers' own reading habits and preferences could influence their students' motivation for reading. Likewise, we were interested in the type of media used and reading motivation (or the lack hereof) and how this affects reading preferences regarding digital or analogue texts.

Based on electronic surveys sent to language teachers and students, we developed teaching materials that were implemented in lessons which we observed. The purpose of this type of data was to observe students' interaction and motivation with analogue and digital media. Said data led to focus group interviews with students, where we inquired about their reading experiences and motivation.

Overview of the study's data	
Electronic survey for students	190 lower secondary school students
Electronic survey for teachers	60 teachers in lower secondary school
Intervention	Didactic intervention based on both digital and analogue formats. Teaching materials were developed and tested in a course plan consisting of eight lessons.
Field notes	Observations based on reading motivation, reading experience and reading comprehension. Focal points: concentration, interaction with the text and distractions
Focus group interviews with students	Semi-structured interviews with two groups of students.

Figure 5: Data overview

The study's quantitative data consisted of electronic surveys targeting lower secondary school teachers (60 responses) and students (190 responses). The survey aimed at foreign language teachers included questions focused on literary reading practices in the classroom, as well as the teachers' own interest (or lack thereof) in reading in their spare time. The survey aimed at students included questions about reading preferences regarding text type, language, media, and reasons for reading in different media both at school and in their spare time. Both teacher and student surveys comprised closed and open-ended questions to capture a range of insights through their comments.

The study's didactic intervention consisted of teaching materials based on the students' survey responses and the text's availability in both digital and analogue media. All students read in both media, some starting with the digital version on iPads and others with the analogue version. Other selection criteria for the chosen text not based on the FINaLe model included literary quality, content and genre and language level, as well as the possibility for interacting with the digital text. The teaching sequence developed around *Weirdwood Manor* was based on a communicative, task-based approach with scaffolded pre-, while- and post-reading activities. These included creative approaches to working with literature, for instance: ICT tools like Padlets, BookCreator and Word Clouds were used for both written and oral tasks. Pair and group work took preference to make learners active and to support language acquisition, encouraging students to communicate and negotiate meaning and form. The observations were conducted based on an observation sheet concerning reading motivation, reading experience, and reading comprehension. Particular focal points were signs of concentration, interaction with the text, and distractions/interruptions to see if there were observable differences between analogue and digital reading.

The study's qualitative data consists of two semi-structured interviews with six English students who were selected based on their responses to the survey as well as our observations and teachers' recommendations regarding who could be expected to be willing to engage in a dialogue with us. To obtain as many perspectives as possible, the following criteria were used when selecting students:

- Read literature in their spare time or not (as this could influence motivation)
- Gender (expectations were that boys' and girls' competences and preferences might vary)
- Interesting responses in survey (for instance, reflections on the quality of digital vs. analogue reading)
- Computer use in spare time (with the expectation that gaming could influence the reading process and reading motivation for digital reading)

During these interviews, focus areas were reading experiences, decoding skills, reading speed, engagement, concentration and distraction and materiality as well as motivation to read.

We analysed the data created across all three research phases, including surveys, observations and focus group interviews. First, the surveys were analysed based on the categories created through the survey questions. Then, answers and comments from the open-ended questions were examined and coded. This analysis was inductive and data-driven (Braun & Clarke, 2006). The same data-driven approach was applied to the focus group interviews and the observations. The initial codes from across the data set were for example: learning potential, reading identity, materiality, senses, disturbances and well-being. These initial codes were finally condensed into four main themes: Content & genre, Reason for choosing favourite media, Students' perceptions of digital reading, and Well-being & sensory experiences while reading.

Research findings

Overall, our data support recent studies showing that very little literature is being read in EFL classes, and that students are generally unsure about what literature is. The following four themes emerged.

Content & genre

The first theme reveals that content and genre played a more significant role in motivating students to read than whether the medium was digital or analogue. When asked in an interview how the literary text *Weirdwood Manor* differed from other school

texts, many students focused on the content and genre without mentioning the medium at all. They were aware of how content influences their motivation to read: *It's really important... that it's something you're actually interested in... because otherwise I have absolutely no motivation to do schoolwork.*

Some of the students expressed that it did not matter whether they read on iPad or analogue texts, as long as the story was exciting. In particular, students highlighted authenticity of texts (original texts, not simplified and adapted). They expressed a preference for authentic texts with engaging plots as opposed to traditional textbook and platform materials and noted that they would appreciate the opportunity to sometimes select texts themselves. Authenticity and quality of content as well as preferred genre thus hold greater importance for students than the highly visible digital features in a text. This finding resonates with other findings in the context of L1 (such as in Lund & Skyggebjerg, 2021).

Reason for choosing favourite media

The second theme we identified focuses on students' reasons for selecting their favourite medium. Two distinct perspectives emerged here: one emphasising the importance of accurate reading comprehension, and the other prioritising a personal experience with a sense of ownership over the reading process, regardless of the medium. The concept of accurate reading comprehension surfaced during interviews, with some students expressing a strong preference for digital reading, because it supports comprehension through audio and visual aids. As one student put it: *... with digital, it was pretty cool that you could listen to it again... if I didn't... quite catch what they said*, while another shared: *I don't think I would have understood the whole situation if I hadn't seen it in pictures.*

However, some students preferred analogue reading, as they believed it helped improve their reading skills and provided a greater sense of personal engagement. They felt they were reading on their own. An interesting observation was how digital reading could sometimes evoke a sense of shame in some students. As one of them explained: *You feel a bit of shame... if you read digitally, because then you're not learning as much.*

This may reflect the students' self-perception of how they learn and benefit educationally from reading.

Some students focused more on the perception of reading as an individual experience. They preferred to visualise the story themselves and create their own images. According to many of them, this happened best through analogue reading, as one of the students pointed out: *Yeah, then you have a movie in your own head, and you just keep reading... I immerse myself more in the book – I can see it better in my mind.* This sense of reading ownership can be connected to reading identity, which may be diminished when reading digitally. This is how a student voiced this feeling of reading identity loss: *It went a bit faster on the iPad because he sort of read it aloud, but I didn't really feel like I was the one reading.*

Students' perceptions of digital reading

Another theme that emerged in our analysis is how students perceive advantages and disadvantages of digital elements: whether audio, games, and images are seen as distracting, unnecessary, and demotivating, or whether they are recognised as help for reading comprehension and motivation. During observation, we noted that analogue reading was faster; however, this may be due to differences in students' proficiency levels and the games in the digital version, with which students took their time. According to data from the student survey, 64% preferred analogue texts. When interviewed, several students explained that digital elements disrupted their reading process. Some of them revealed this disadvantage like this: *I don't follow along as well as if I were just reading it on paper and I found it a bit confusing because I wasn't reading at the same pace as the audio.* Teachers in the survey also pointed out that screens can be distracting. Our observations, however, indicated that the enthusiasm for digital reading is more prevalent among boys using iPads than among girls. Boys engaged with each other about the games while reading, indicating an interest for a shared reading experience.

Well-being & sensory experiences while reading

The fourth theme we identified revealed a consistent pattern related to well-being and the use of senses. This was particularly evident in the student survey and interviews. We were surprised to see more positive comments about analogue reading compared to digital reading. As mentioned in the beginning, we initially had a hypothesis that the students would prefer digital reading over analogue, given their constant exposure to digital media both in school and in their spare time. This hypothesis did not hold in the intervention.

Students also reported differences in sensory experiences and comfort levels between digital and analogue reading. Some students felt physical discomfort when reading on digital devices. In the student survey, 45 out of 190 respondents indicated eye strain or headaches from screen use, impacting their concentration: *I feel like the words are flying all over the place*, as a student writes, for example.

Many students especially appreciated the physical and tactile qualities of a printed book, which they associated with calmness and coziness. As one student put it, *It's nicest to sit with a book in your hand*. Others enjoyed the act of turning pages. This preference is further echoed in interviews: *I prefer having the book in front of me where I can touch it... and see how far I've come*. The sensation of touch contributed to greater reading motivation: *Now I'm more than halfway through – it's a great feeling*, writes a student, for example, in the survey. However, there were also a few students who mentioned the inconvenience of paper books: *Books are heavy*, some wrote. *They break easily*, and *you can forget them at home*. A few students in the survey also highlighted the impracticality of paper books and their *dry pages*.

Conclusions

Based on the identified themes from our analysis, we conclude the following:

1. Some students read to practise and learn the language, while others read for the content, the experience, and the sense of community around a text.

2. Some students value sound and images to ensure correct understanding, while others prefer to create their own mental images through analogue reading.
3. There is disagreement on whether digital elements such as games, sound, and images support or disrupt the reading process and experience.
4. Some students find great support and motivation in these digital elements, while others experience the opposite.

Regarding the three research questions, we conclude that many students are motivated to read interactive digital texts. Yet, in addition, our study shows that reading motivation is much more complex and e.g. also depends on the students' preferences for genres, authenticity of texts and relevance of literary content. Therefore, digital reading is not necessarily the only answer for reading motivation as many students prefer analogue reading. We thus recommend that language teachers carefully consider the choice of reading texts in class, so these vary and, if possible, are offered in both analogue and digital formats. It is also a good idea to allow students to choose literary texts themselves based on content, genre, and medium.

Seen from an EFL-perspective, we also recognise that some students' reading comprehension is improved by digital multimodal elements. This means there is great potential in using digital literary texts. However, some students find the interactive elements very disturbing physically as well as psychologically, which may influence their reading motivation. As our data show, according to the students both analogue and digital texts can be relevant as long as the students find the content interesting.

The FINaLe model which incorporates the parameters of *functionality*, *interactivity*, *narrativity* and *learner-reader* serves as a useful tool for teachers who consider using interactive digital texts in their classrooms. The model highlights that such texts are more than just online materials – they represent a dynamic combination of these parameters. However, teachers should also ensure that text selection aligns with well-established criteria, including literary quality, content relevance and appropriate language level.

In short, the study identifies the following recommendations for selecting literature to enhance reading motivation:

- Content is more important than the medium
- Age-appropriate content
- Authentic literary texts rather than non-authentic ones
- Appropriate level of difficulty, with support from images and sound as a differentiation option
- Opportunity to create mental images
- Opportunity for free reading with self-selected texts in terms of content, genre, and mediums
- Opportunity for a reading community and a sense of creating “cosiness”

Discussion

The above conclusion is based on both teacher and student voices, as heard in questionnaires, observations, and interviews. Although the project draws on multiple types of data, the results are not necessarily representative of all foreign language contexts. Had we interviewed more students, we might have encountered other perspectives and reached other conclusions.

Despite this limited scope, our study is the first Danish one investigating reading motivation among foreign language students, thus there is little basis for comparison. Yet, research on teenagers’ reading and use of media in general within a Danish as L1 context indicates that students’ reading preferences are complex and diverse regarding genre, media and context with a tendency that students focus on content before choosing media (Henkel, Pedersen & Poulsen 2022). This highly resonates with our findings in an EFL context.

Furthermore, the fact that our project reveals some students find digital literature distracting aligns with the ongoing public debate about the effects of digitalisation. Many teachers and researchers argue that mobile phones and laptops disrupt learning, as students are frequently distracted by digital devices across subjects (PISA, 2022). This growing scepticism toward digital materials and screens is also reflected in recent

recommendations from the Danish Ministry of Children and Education (Børne- og Undervisningsministeriet, 2024). Key recommendations include: establishing common guidelines for screen use, limiting digital distractions during school hours as well as balancing analogue and digital teaching materials and methods.

Many teachers in our survey are sceptical about the use of digital devices in English teaching. One teacher, for instance, writes: *Reading on screens is distracting and I know you read better and are more present in a book*. This scepticism resonates with the current pedagogical and political debate and recommendations in Denmark regarding the role of digital devices and materials in school contexts, particularly concerns about student distraction. While digital literary texts can play a role in fostering reading motivation, they are not a standalone solution. To effectively support students' engagement with reading, other approaches must also be considered.

References

- Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3, 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Brozo, W., Shiel, G., & Topping, K. (2007). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent & Adult Literacy* 51(4), 304-315. <https://doi.org/10.1598/JAAL.51.4.2>
- Brozo, W., Shiel, G., & Topping, K. (2007). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent & Adult Literacy* 51(4), 304-315. <https://doi.org/10.1598/JAAL.51.4.2>
- Børne- og Undervisningsministeriet [Danish Ministry of Children and Education] (2020.). IT og medier – vejledning [IT and media – guidelines]. <https://emu.dk/sites/default/files/2020-04/It%20og%20Medier%20-%20vejledning.pdf>
- Børne- og Undervisningsministeriet [Danish Ministry of Children and Education] (2024). Skærmbrug i grundskolen – anbefalinger om begrænsning af digital distraktion og balanceret brug af skærme [Screen time in primary and lower secondary school – recommendations on limiting digital distraction and balanced use of screens]. <https://www.uvm.dk/-/media/filer/uvm/aktuelt/pdf24/feb/240205anbefalinger-grundskole-final.pdf>
- Clark, C. & Rumbold, K. (2006). Reading for Pleasure. A Research Overview: National Literacy Trust.
- Cremin, T. (2014). Building communities of engaged readers: reading for pleasure. Oxfordshire: Routledge.
- Danmarks Statistik (2017). IT anvendelse i befolkningen [Use of IT in the population]. <https://www.dst.dk/Site/Dst/Udgivelser/nyt/GetPdf.aspx?cid=24235>

Danske Forlag [Danish Publishers] (2023). *Undersøgelse blandt danske lærere: Oplevelse af digitale og analoge læremidler i folkeskolen* [Survey among Danish teachers: Experience of digital and analog teaching materials in primary school]. RP Insight. <https://www.danskeforlag.dk/media/2683/071-rapport-oplevelse-af-digitale-og-analoge-laeremidler-i-folkeskolen.pdf>

Engberg, M., Have, I., & Pedersen, B.S. (Eds.) (2023). *The Digital Reading Condition*. London & New York: Routledge.

Hansen, S. R., Hansen, T. I., & Pettersson, M. (2022). *Børn og unges læsning 2021* [Children's and young people's reading 2021]. Aarhus Universitetsforlag.

Hansen, S. R., Gissel, S.T., & Puck, M.R. (2017). *Børns læsning 2017: en kvantitativ undersøgelse af børns læse- og medievaner i fritiden* [Children's reading 2017: a quantitative study of children's reading and media habits in their free time]. København: Tænk tanken Fremtidens Biblioteker.

Hayles, Katherine 2007, Hyper and Deep Attention: The Generational Divide in Cognitive Modes, *Profession* 2007(1):187-199. https://www.researchgate.net/publication/250061169_Hyper_and_Deep_Attention_The_Generational_Divide_in_Cognitive_Modes.

Henkel, A. Q. (2023). *Børnelitteratur i en medietid* [Children's literature in a media age]. Frederiksberg: Samfundslitteratur

Henkel, A. Q., Pedersen, B. S., & Poulsen, N. J. (2022). *Læsere mellem medier: Silkeborgundersøgelsen – Rapport om læse- og medievaner* [Readers between media: The Silkeborg study – Report on reading and media habits]. UC Viden. <https://www.ucviden.dk/da/publications/l%C3%A6sere-mellem-medier-silkeborgunders%C3%B8gelsen-rapport-om-l%C3%A6se-og-me>

Henkel, A. Q., Mygind, S. & Svendsen, H. B., (2022). *Læseoplevelser i tre medier. Rapport om 8. Klasseelevers læseoplevelser af fortællingen Nord som papirbog, lydbog og digital fortælling* [Reading experiences in three media. Report on 8th grade

students' reading experiences of the story *Nord* as a print book, audiobook, and digital narrative]. Aarhus Universitet.

Mineker, L. & McGhee, D. (2020). *The Incredible Tales of Weirdwood Manor, Book 1: Shadow of the dragon* <https://weirdwood.com/apps/> Wasabi Entertainment Inc.

Lund, H. & Skyggebjerg, A. K. (2021). *Børns læselyst* [Children's reading motivation]. Pædagogisk indblik, 13. Aarhus Universitetsforlag.

Lütge, C., Merse, T., Owczarek, C. & Stannard, M. (2019). Crossovers: Digitalization and literature in foreign language education. *Studies in Second Language Learning and Teaching* (9) 3, 519-540

Michelsen, J. (2021). *Specialrapport. Pejlemærker i aktuel forskning om læsning* [Special report. Milestones in contemporary reading research]. Kulturministeriet.
https://kum.dk/fileadmin/Bogpanel/Pejlemaerker_i_aktuel_forskning_om_laesning.pdf

PISA (2022). <https://www.dst.dk/da/Sites/pisa-danmark>

Politiken (2025). Læsehad [Hatred of reading].
<https://politiken.dk/tag/main/L%C3%A6sehad>

Motivating Language Learners through Collaborative Autonomy and Materials Development: Case Studies from European projects

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Abstract

This paper explores how collaborative autonomy and learner involvement in materials development can enhance motivation and creative engagement in language learning. Drawing on case studies from two European projects, CORALL – *Coaching-oriented Online Resources for the Autonomous Learning of Languages for Specific Purposes* (2019-2022) and SEED – *Sustainable Entrepreneurship in Education* (2022-2024), the study highlights how integrating learners into the design of their own learning pathways and materials fosters a sense of ownership, self-awareness, and critical reflection, all of which positively influence motivation. The research, conducted in English and Spanish language courses at universities in Hungary and Portugal (N=200), employed classroom observations, reflective student portfolios, and interviews with teaching assistants to investigate the relationship between collaborative materials development and learner motivation. Findings indicate that when students act as co-creators of learning content, they exhibit higher levels of engagement, autonomy, and creative thinking, shifting from passive recipients to active agents in the learning process. This paper offers practical recommendations for fostering collaborative autonomy through materials design, with strategies to support creative expression, peer collaboration, and reflective learning in university language classrooms. The paper also provides adaptable suggestions for applying these principles to other educational contexts, encouraging educators to embed collaborative materials development into diverse learning environments to sustain learner motivation, autonomy, and creative engagement.

Keywords: Collaborative Autonomy, Materials Development, Learner Motivation, Creative Thinking, Language Learning

INTRODUCTION

Motivating language learners involves not only strengthening their language skills but also building their overall learning strategies. These include critical and creative thinking, autonomy, and teamwork, all of which can be supported through engaging and well-designed materials. As students develop interdependent and collaborative learning strategies, the value of co-creating learning materials becomes more apparent.

Teachers can play a role in enhancing learner autonomy by offering students opportunities to actively contribute to their learning processes and even to building their learning materials. This principle is central to two European projects: [CORALL](#) (*Coaching-oriented Online Resources for the Autonomous Learning of Languages for Specific Purposes*) and [SEED](#) (*Sustainable Entrepreneurship in Education*). The teacher guides developed for these initiatives ensure that language learning remains relevant, engaging, and student-centered. In shaping these guides, students were involved at every stage, contributing meaningfully and collaboratively. For both CORALL and the SEED course on *Entrepreneurship for a Sustainable Future*, their constructive feedforward and co-creation of learning material were an integral part of collaboration to develop content and suggest teaching strategies based on their assessment of their own learning experiences.

This article explores how materials development and learner autonomy intersect, particularly through the integration of structured yet flexible approaches to teaching. Grounded in action research with Spanish and English language students, we examine the impact of involving students in materials design and strengthening their ability to work autonomously together. Our findings show that this integrated coursework can enhance motivation, self-awareness, and engagement in language learning. We offer strategies for dealing with the challenges that arise and offer a framework that links autonomous learning and creativity. These learning spaces that involve co-creation and personal development can contribute to language learning experiences that are engaging, relevant and transformative.

1. BACKGROUND

Exploring the synergy between learner autonomy and materials development, sustained by motivation and creative thinking, we find that at the heart of this study is the idea that learners should take charge of their own learning, directing themselves, making decisions, and setting goals (cf. Arau Ribeiro et al., 2024). To help learners become more independent, learning environments must be created where they actively participate in their education. When learners are involved in deciding how they learn and what materials they use, they become more responsible and make better choices about their language development (Little, 1991). A collaborative approach, where students help design activities and resources, is especially helpful (cf. Cotterall, 1999; Dam, 1995; Dillenbourg, 1999; Graves & Freeman et al., 1996; Holec, 1981). By working together to create materials, learners think more critically and become more aware of their own learning process.

Supported by these insights and our own experience, involving learners in materials development should be a powerful way to promote autonomy. By participating in the creation of their own learning resources, students begin to take initiative, engage in critical thinking, and become more self-aware of their learning process, which could ultimately lead to greater independence and self-directed learning.

Another premise of this study is our belief that materials should not only support language learning but also promote learner autonomy. Effective materials, especially teacher guides created collaboratively, meet the needs of all learners and make learning more engaging (cf. Daflizar et al., 2022; Fink, 2003). The bidirectional relationship between materials and learners means that materials do not simply shape learning; learners themselves can influence materials through their interaction. A sense of shared ownership can come from teachers and students working together to develop materials.

A cascade of research also shows that materials-based learning builds confidence, storytelling, and decision-making skills, deepening language engagement and cultural appreciation. Creative thinking, which helps learners find new ways to use language, is cultivated through collaborative materials design (Dewey, 1938; Dillenbourg, 1999; Ellis &

Barkhuizen, 2005; Maley & Duff, 2005). This involvement can, in turn, drive effective language learning and enhance motivation through a growing sense of ownership and autonomy (Ryan & Deci, 2000; Tomlinson, 2011). The joint construction of learning materials further develops thinking skills and motivation to participate in an interactive, learner-driven environment where students are empowered to shape their own education (Freeman et al., 2011; Little et al., 2017; Tomlinson, 2011).

2. METHODOLOGY

This study adopted a qualitative action research design to explore how collaborative materials development influences learner motivation, creative thinking, and autonomy in university language courses. Data collection took place between 2022 and 2024, involving 200 undergraduate students studying English and Spanish at two European universities: Guarda Polytechnic University (Portugal) and Budapest University of Economics and Business (BUEB, formerly Budapest Business University, Hungary). Our central research question was:

How does learner involvement in collaborative materials development influence their motivation, creative thinking, and autonomous learning in language courses?

Our qualitative research design was built on three primary data collection methods: classroom observations, written reflections and semi-structured interviews. This triangulation of data sources aims not only to provide a comprehensive view of the impact of materials development on learner motivation and engagement, but also to optimise the study's credibility and transferability. The methodological choices align with D rnyei's (2007) argument that using multiple data sources can provide a more holistic and in-depth understanding of complex phenomena in language learning.

2.1 Data collection tools and procedures

The procedure for data collection and the tools used varied across the three identified methodological sources: classroom observations, written reflections and semi-structured interviews.

2.1.1 Classroom observations

Classroom observations were conducted during class sessions to monitor how students engaged with the development of learning materials. Using classroom action research as a lens (Ellis & Barkhuizen, 2005), we recorded students' behavioural responses in a field-note template, focusing on their levels of participation/interaction, any signs of motivation and engagement and finally, possible indicators of their collaboration in creativity and autonomy in the design and creation phases. **Table 1** replicates the field-note template we used to observe these three focus areas as well as some general impressions:

Table 1*The Field-note Template for Classroom Observations*

1. Participation/Interaction

Students or groups:

Activities: writing, drawing, using technology, just observing and/or other _____

Interaction/Collaborative behaviours: sharing ideas, debating, working independently within the group and/or other _____

Notable quotes and/or descriptions

2. Signs of Motivation and Engagement

Body language: facial expressions, posture and/or gestures

Verbal cues: excitement, frustration and/or confusion

Sustained attention: staying on task or getting distracted or other

Examples of (dis)engaged behaviour

3. Indicators of Collaboration in Creativity and Autonomy

Decision-making: choices about the content and/or design of the materials

Problem-solving: dealing with challenges without direct intervention from the teacher

Innovative ideas: unique proposals or original solutions

Examples of student-driven decisions or creative contributions

4. General Impressions

Overall atmosphere: energetic, quiet, chaotic, focused

Unexpected events or observations:

Questions for follow-up

The observations gathered in the field-note template helped to identify patterns, errors and developmental sequences as learners worked together in the classroom.

2.1.2 Written reflections

To give language learners a safe space to articulate their personal learning journeys, they were encouraged to document their experiences and thoughts in written reflections, which were submitted as part of their individual portfolios. **Table 2** presents the reflection template in ten steps:

Table 2

The Written Reflection Template to Accompany Submission of the Course Portfolio

For your final reflection, follow these 10 steps:

- 1) Begin by describing WHAT you have learned in detail.
- 2) Then describe the processes and methods you used. This is HOW you learned English in this class.
- 3) Point out the activities you liked the MOST and justify your selection. Remember that your ideas will help me design better classes for future IPG English students.
- 4) Do the same thing for what you liked the LEAST in our classes. Explain why it was not a successful strategy for YOU and suggest alternative ideas.
- 5) Evaluate your general effort in this class on a scale of 1 to 10, where 10 is the best.
- 6) Apply the same scale for the specific areas of pronunciation, listening, speaking, writing, team work, leadership and empathy.
- 7) Classify the quality of your participation in class (always on the same scale of 1-10) and justify your evaluation.
- 8) Classify the quality of your portfolio (always on the same scale of 1-10) and justify your evaluation.

9) Give me some concrete ideas for how to make these classes more interesting, appealing, and useful for other students.

10) Conclude with your own ideas about why English is important for your area, what you could have done differently to improve your work with me AND your specific plans for improving your English in the future.

We then analyzed the results of this artefact created by each student for insights into areas where learners felt more motivated, their perceptions of the materials development process, and their feelings about their involvement.

2.1.3 Semi-structured interviews with students and student teaching assistants

Semi-structured interviews were conducted, as described by Mackey and Gass (2015), with a volunteer sample of student participants and student teaching assistants, notable for their critical thinking and dedication to the teaching experience, in periods varying between 3 and 60 minutes, depending on the synergies created. These interviews allowed for deeper exploration of the themes that had emerged from observations and reflections which, in turn, provided additional perspectives on student behaviour, motivation and creativity. The semi-structured format was leveraged to ensure coverage of key topics while giving participants the flexibility to elaborate on their unique experiences. **Table 3** illustrates these key topics.

Table 3

The Key Topics of the Semi-structured Interviews

1	2	3	4
Participation/Interaction	Signs of Motivation and Engagement	Indicators of Collaboration in Creativity and Autonomy	General Impressions

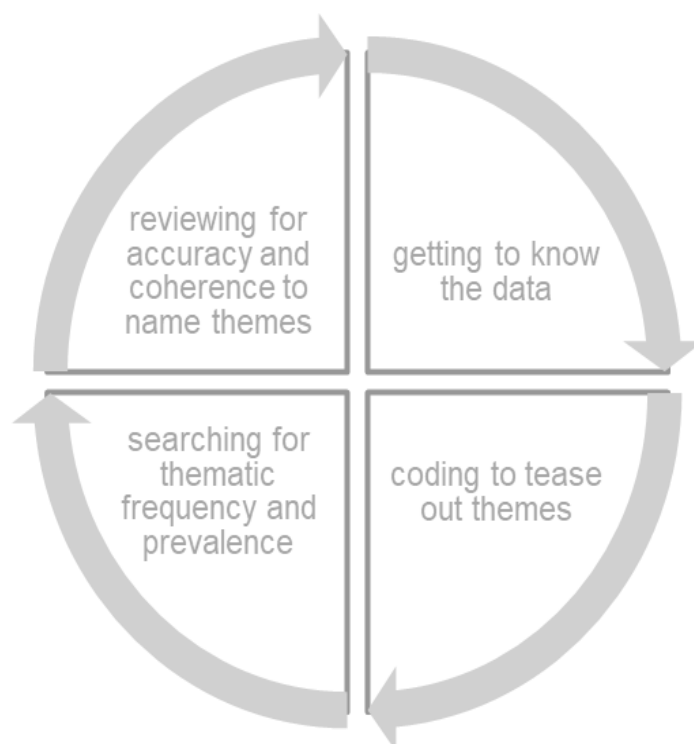
By drawing directly from the themes of the classroom observation template (Table 1) we aimed to preserve coherence while simultaneously encourage exploration of individual perceptions

2.2 Data analysis

All three qualitative data sources were analysed using thematic analysis (Braun & Clarke, 2006) to identify recurring patterns and themes related to learner motivation and engagement; perceptions of creative and autonomous learning; indicators of ownership and personal meaning attached to the learning materials; and peer collaboration dynamics and emerging co-creation processes.

To conduct this analysis, we followed the iterative process in **Figure 1**.

Figure 1 *The Interdependence of Autonomy*



By integrating the data sources into this iterative process, the analysis provides a multi-dimensional picture of how collaborative materials development can promote a sense of agency, creativity, and meaning – the core elements of the proposed framework.

3. FINDINGS AND DISCUSSION

Our research suggests that student involvement in materials development aligns with at least four areas of influence:

- collaborating for autonomy and creative thinking

- building a sense of ownership and critical thinking
- motivating learner engagement in their community of learning
- co-creating with peers.

Taken together, the four areas represent a powerful blend of reflective, critical thinkers with a sense of ownership and self-awareness who are motivated by their community of learning in a positive classroom environment, where creative thinking makes learners feel they are really problem-solvers. The interplay of these influences on learners strengthens their added value as co-creators of educational content. Teachers can integrate these insights into their practice by designing dynamic learning environments that encourage autonomy and creativity, including for example strategies and techniques for design thinking and avoiding bias to support learner engagement in materials development.

The SEED and CORALL projects offer practical guides that support language learning in these interconnected educational contexts. Based on the *SEED Guide* (Arau Ribeiro et al., 2025a), students engage with entrepreneurial endeavors through activities that emphasize risk-taking, boundary-crossing, and sustainability while the *CORALL Guide* drives learners through coaching-oriented resources as they develop language skills for specific purposes. Discovering these structured yet adaptable approaches to teaching involves experimenting with diverse solutions for contextualizing lessons within local realities and for students to take an active role in the iteration and refinement of their learning strategies. Both guides are built on the principle of learner agency, transforming students from passive recipients into active designers of their educational pathways.

3.1 Collaborating for autonomy and creative thinking

The study reveals that this collaborative atmosphere, where learners feel valued and heard, contributes to a positive classroom environment, characterized by active participation and peer support for creative thinking. Our findings on student-teacher collaboration align with Auerbach's (1995) work on critical pedagogy, which showed that participatory curriculum development can challenge traditional power dynamics and

empower learners. Through this shift in power dynamics, an environment of less risk can be created for linguistic and cultural exploration. Positioned as co-creators rather than passive recipients, the learners perceive correction (or failure) as the essential risk-taking required for genuine language acquisition and creative output. The resulting psychological safety acts as a necessary foundation for confidently pushing their linguistic boundaries and engaging with complex, potentially sensitive, cultural topics in depth.

When students see their contributions being taken seriously, it fosters a sense of community and mutual respect. In our study, student teaching assistants reported that learners seemed more willing to share their thoughts and suggestions, knowing that their ideas could shape the learning materials used by others. As a result, our language classes are perceived as dynamic learning spaces where students take initiative, pose thoughtful questions, and demonstrate a greater willingness to explore complex linguistic and cultural topics in depth. This atmosphere of mutual support and involvement has been a key factor in sustaining high participation rates and encouraging learners to take risks and explore new ideas. By explicitly cultivating this safe space for risk-taking, learners especially feel more supported to test unfamiliar linguistic structures without fear of judgment.

3.2 Building a sense of ownership and critical thinking

Students displayed a stronger sense of ownership and commitment to learning activities when they really believed they were directly involved in the materials development process. This sense of ownership has led to higher levels of engagement in classroom discussions and collaborative projects, as learners see that their input has real value and influence. Mirroring Breen and Littlejohn's (2000) research on materials development as a pedagogical task, both studies emphasize that, when learners become producers – not just consumers – of materials, they develop a deeper, more analytical understanding of the language. When the work they developed in teams was shared on digital platforms for other teams to interact with them, their heightened participation was reflected in their enthusiasm and willingness to participate with in-depth contributions. The context of the projects, going beyond their immediate sphere of

influence, gained relevance since their work would be used by other students across Europe. They felt responsible for thinking more carefully about what other learners might struggle with. As they practiced taking responsibility for an external audience, the task was transformed from a classroom assignment into a more meaningful, authentic, and consequential project.

In their written reflections, the creation of materials stood out as a source of greater understanding of the language content, which went beyond surface-level knowledge. Their perception of the positive impact on their critical thinking and problem-solving abilities enabled a more analytical approach to their language tasks. Thus, for example, they demonstrated more creativity about how a question might be broken down; by asking how a teacher would do it, they were analyzing their language usage differently. This metacognitive shift from merely *doing* the task to actively *designing* it was what activated their higher-order thinking skills.

3.3 Motivating learner engagement

The research findings indicate that involving language learners in a community of learning where they can focus on the development of educational materials has a significant positive impact on their motivation, engagement, and overall learning experience. Our findings on learner involvement directly support the core tenets of Self-Determination Theory (SDT) (Deci & Ryan, 1985; Ryan & Deci, 2000). Through the lens of SDT, learner involvement in materials creation directly satisfies the core tenets of intrinsic motivation, defined as autonomy, competence, and relatedness.

Interviews with the student teaching assistants consistently indicated that these learners, participating in the creation of learning resources, demonstrated increased levels of autonomy and self-directed learning. Their active involvement in designing materials has fostered a sense of ownership and commitment, motivating them to participate in classroom activities and discussions. The freedom to choose not only relevant topics but also the format for their materials satisfied the need for autonomy; receiving and providing feedforward built their sense of competence; and collaborating with peers and teachers established a strong sense of relatedness. This heightened

participation was often noted in their written reflections, where they expressed feeling more engaged and eager to contribute ideas.

3.4 Co-creating with peers

By engaging in this process, the students expanded their roles beyond that of consumers of the materials; instead, the learners became co-creators, enhancing their understanding of language learning dynamics and fostering a deeper connection with the educational content. Their involvement required that they think critically about what makes learning effective and how different materials can support various language skills. Working alongside teachers and other student teaching assistants, the students provided valuable input on the types of exercises, topics, and resources that might be most engaging and effective for learners like themselves. They reviewed drafts, offered feedforward on usability, and suggested modifications to ensure the guides are accessible and relevant to diverse learning styles. They also actively made decisions about the types of tasks, topics, and formats that might be engaging and meaningful. Their collaboration gave them a real influence on the structure and presentation of the learning materials, making the guides more attuned to the needs of future learners. Their contributions helped shape the final versions of the guides, ensuring that the materials were suitable not only for teachers but also for the learners themselves.

As a form of distributed cognition, this co-creation process is characterized by the shared burden of design and the pool of creative solutions across the learning community. With this approach, the learners are actively involved in shaping the content rather than passively receiving it. Their expanding roles in the learning community align with Lave and Wenger's (1991) concept of a *community of practice*, where learners transition from peripheral participants to full members through active collaboration. Through co-creation, they play an active role in language learning dynamics. By collaborating with instructors to design activities and resources, they gain a unique, behind-the-scenes perspective on language learning. Moreover, being part of the creation process encourages students to view language learning as a holistic and interactive process, rather than a series of isolated tasks. As a result, they feel more connected to the educational content and are able to apply this insight to their own

language development, reinforcing their motivation and interest in the subject matter. This more integrated and meaningful learning experience, where students' roles evolve from learners to expert contributors, enables an understanding of how particular activities can develop specific skills and competences, from active listening, semantic selection, cultural mediation, and social agency to how to adapt materials for different contexts and learners. The practical application of pedagogical theory through materials design also serves as a powerful form of knowledge transfer that moves abstract concepts into concrete practice.

3.5 Overcoming challenges in materials-based learning

While the collaborative development of learning materials offers clear benefits for building up learner autonomy, creativity, and motivation, the process is not without its challenges. Several recurring issues emerged during the classroom observations, student reflections, and teaching assistant interviews, shedding light on areas where additional support was required to fully engage with the approach.

Scaffolding from CLIL methodology (Morgado et al., 2015) helped meet these challenges to transition learners from traditional roles to co-creators. Providing structured guidance in the early phases of materials development revealed increasing familiarity with the iterative nature of development, especially when learners could feel a sense of accomplishment in meeting the smaller goals in more achievable tasks. The integration of project management skills, whether scope definition or milestone setting, was quite new to most learners, who embraced this addition to their learning process. This also involved becoming familiar with respecting the time frame, which had initially led to setting unrealistic goals and overly ambitious products.

Practice with sharing their design choices and justifying their revisions at each step helped to shift the mindset towards criticism. Building on the influential meta-analysis on the power of feedback (Hattie & Timperley, 2007) when future-oriented to guide the learner toward improvement, constructive feedback – re-framed as *feedforward* – was a successful strategy for revision (Arau Ribeiro & Fischer, 2021). Peer and teacher *feedforward* became an integral feature of every stage of development. Learners

commented that they came to expect the feedforward due to its added value for refining their work as well as for the opportunity to develop their critical voices.

Another effective strategy involved using the target language with the support of functional language banks and co-created glossaries, which minimized over-reliance on the learners' first language(s). The language banks, where phrases and expressions were collected based on purpose and/or social function, were particularly useful in brainstorming sessions and more conceptual activities, where meaning had to be negotiated and when spirited conversations could have drifted away from the target language. Learners reported that having the terminology at hand, including the useful idiomatic expressions they were curious to try out in context, was beneficial and felt that the act of co-creating a lexical tool gave them a more vested interest in making it work for them and for others.

Learners also struggled with self-assessment, protesting about analyzing their own contributions and evaluating their evolving competences. The prompts opened the door to guided reflection, which quickly led to their own development of these self-assessment rubrics. The key was constant inclusion of reflection moments for metacognitive awareness and opportunities to write about their personal experiences, goals, and creative choices. This resistance to self-assessment echoes a common learner reliance on external validation, which the reflective prompts aimed to internalize.

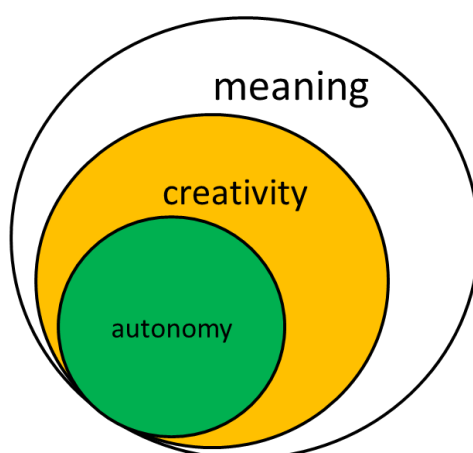
3.6 A proposed framework for developing collaborative work

The results of our research have led to the core tenets of a proposed framework in which autonomy, creativity, and meaning together make for an impactful learning experience. This framework suits the activity of materials development, where learners create a usable, real-world approach for other learners; have control and ownership over their actions and learning (autonomy); generate diverse ideas and possibilities (creativity); and find personal significance and purpose (meaning). The emphasis on co-creation and peer collaboration within a community of learners finds strong support in Vygotsky's (1978) Sociocultural Theory, whereby learning is fundamentally social process. When knowledge is constructed through interaction with others, the effective learning

is best supported in the learner's Zone of Proximal Development (ZPD), guided by a more knowledgeable peer or instructor. This dynamic was a key driver in the enhanced creative and analytical skills observed in our student sample. The framework, therefore, posits that the act of designing learning materials functions as a powerful, situated learning task that inherently operates within the learners' ZPD.

The interconnectedness of this framework, depicted in an iterative interdependence of rolling wheels, joins autonomy, creativity, and meaning (**Figure 2**). When taken as decidedly integrated concepts, the wheels are aligned and synergetic reinforcement comes into play. Note that *creativity without autonomy* can lead to frustration; *autonomy without meaning* can lack direction; and *meaning without creativity* can be stagnant, all of which are descriptions antagonistic to what we imagine as dynamic, collaborative learning in higher education.

Figure 2 *The Interdependence of Autonomy, Creativity and Meaning*



The iterative and interconnected rolling wheels of creativity, autonomy, and meaning together emphasize their dynamic nature in a system aimed at re-invention that can be applicable to either practical, real-world situations or the fantastic and imaginary. Learner-centeredness here is critical – in individual and collaborative learning – so that the students know, see, and feel that not only are autonomy and meaning at the forefront but also that their learning experiences are shaped by a blend of their collective academic, cultural, and personal backgrounds (N methov  et al., 2022). Essentially, the framework encourages a reflective, active, and meaningful approach, where learners

take ownership of their development and connect that progress to their own personal and cultural contexts.

In order to illustrate the observed trends in the classroom as per the collection of data, the tenets of autonomy, creativity, and meaning have been codified below (**Table 4**).

Table 4 Trends Correlated with the Framework Tenets

Observed Trend	Evidence from Data	Autonomy (A) Creativity (C) Meaning (M)
Increased team participation and peer interaction	Learners negotiated materials design choices, debating wording, visuals, and formats	A+C: learners took ownership of decisions and applied creative solutions
Increased willingness to take creative risks	Learners experimented with humor, visual metaphors, and alternative formats, like podcasts and puzzles	risk-taking and innovation may be due to the freedom they were given to design
Higher sense of ownership over learning process	Portfolio reflections repeatedly mentioned their pride in contributing to materials that other learners would use	A+M: learners attached personal significance to the co-created materials
More frequent reflection and self-assessment	Learners asked themselves, "How would a teacher design this?" and reflected on how and why they made certain choices	active metacognition linked personal growth to creative tasks
Stronger connection to real-world relevance	For SEED, learners reported that designing sustainability-themed materials helped them connect language learning to future career goals For CORALL, learners repeatedly noted the curious interconnection between collaboration and autonomy. The INTERdependence was a new notion for them to better understand teamwork	M+C: Creative work became purposeful and tied to personal aspirations
Enhanced sense of classroom community	Learners provided more and better peer support, helping teammates revise content and brainstorming collectively and identifying more with their community of practice and learning	Collaboration and shared creative work supported a growing sense of belonging and cultural exchange

Shift from passive learning to active co-creation

Teaching assistants observed more volunteering, even from the more timid, to lead segments of teamwork and offering solutions to design challenges

A+C+M:
Co-creation cultivated motivation through ownership, innovation, and relevance

To provide insight to our data, we share some student voices from learner reflections submitted with their final portfolios.

“At first, I was nervous about designing something for other students to use. When we got started, I discovered that we could use our creativity. My team decided to create a bunch of role-playing games instead of making a regular worksheet. A much cooler way to practice that gave our colleagues an opportunity to interact.”[S1]

“When [our teacher] told the class that our work was for the public, I was confused. How was our contribution important? It was a crazy idea to imagine that other students can use our work. Even from other countries? But it is true. I checked. The alterations and adaptations we made are in the final project and other countries can use it. I even told my family.”[S2]

“The collaboration in designing materials with [our teacher] for other people to use made me feel like the activities were important. I felt responsibility for creating added value and led my team better. We were careful with our choices and how we explained things. We also wanted to make our examples interesting, especially the technical and cultural parts.”[S3]

“The project was about sustainability and I have to say that it is a topic that is really old. Every year, in every class, it is the same. But then our team understood what was special - our work and our decisions were going to be used by other students outside of [our university]. So I was actually interested in sharing my ideas about upcycling for ethical fashion and my team liked that a lot.”[S4]

“Part of this reflection is dedicated to our work on the Erasmus projects so I just have to say that I felt like a teacher. On our team, we thought about how other students learn and the problems they usually have. We worked on the [company] app to discover how it was created and we wrote questions that were important to us and FOR other students.”[S5]

“We started badly. We had such a hard time on our team because we did not agree about anything. But then we discovered that our disagreement was like divergent thinking and we suddenly could see it as an opportunity to find many new ideas. That was awesome. We had the greatest selection from all of our disagreements and then the techniques for finding the best options were so much fun. We completely forgot about grades with so much creating.” [S6]

While S1 shows a shift from nervousness to discovery, where they seem proud and confident about taking creative risks and clearly owning their team’s creation, S2 and S3 show the impact of personal purpose in their work. These three extracts show the connections between creativity and autonomy [S1] and then link autonomy to meaning [S2, S3].

The example of S4 is important for teachers to understand that a topic can be overused and requires re-framing to elicit ongoing interest; more specifically for this learner, they connected creation for language learning to their own passion and personal, thus linking creativity to meaning. Bringing it all together, S5 and S6 reflect the full integration of the three aspects as well as the importance of peer-collaboration and creative support.

These reflective excerpts demonstrate how learners can experience the creative autonomy process as both personally meaningful and socially collaborative. Their sense of ownership, creative risk-taking, and desire to contribute to a broader learning community can be taken as critical factors in sustaining motivation. By framing materials development as a collaborative, student-driven process, learners adopted more active roles. As they moved beyond a receptive, more passive engagement, they found meaning in self-directed, creative, and purposeful learning behaviors.

CONCLUSIONS AND FURTHER RESEARCH

To help teachers implement co-creation, the specific teaching strategies used to meet challenges were adjusted, resulting in a collaborative classroom culture (see **Table 5**).

Table 5 *Teaching Strategies to Overcome Co-creation Challenges*

Challenge	Strategy
Unrealistic goal-setting	Goal-setting frameworks can break down large tasks into achievable stages to manage progress and understand the iteration
Reluctance to engage with feedforward	Frequent reflective exercises where learners justify their design choices and revisions can encourage them to incorporate feedforward
Excessive reliance on mother tongue	Scaffolding with functional language banks and co-created glossaries can support learners as they negotiate meaning
Reluctance to reflect and self-assess	Guided reflection prompts and self-assessment rubrics are valuable tools to link their creative choices with their personal learning goals and build metacognitive awareness

These strategies not only helped students develop more manageable, realistic projects but also nurtured their ability to engage critically with feedforward, express themselves in the target language, and build metacognitive skills. As a result, learners transitioned to their role as active co-creators, which contributed significantly to a collaborative environment for enhancing their motivation and engagement.

Our research-based argument for involving language learners in the development of educational materials finds support in their experiences. The findings advocate for a collaborative approach to materials development where learners' insights, preferences, and creativity are integrated into the design of learning activities. This approach has dual benefits in that it tailors the materials to learner needs and makes the materials more relevant. Inclusive steps like these, such as involving learners in their own assessment and visions of progress, further enhance the learning process and even provide support for authentic assessment through learning journals, portfolios, and collaborative open-book exams (Arau Ribeiro et al., 2025b). Ultimately, involving learners in this creative process aligns with teaching and learning objectives that prioritize learner-centered approaches, promoting a richer, more meaningful educational experience.

References

- Arau Ribeiro, M. C., Coutinho, P., Gomes, N., Lopes, N., Silveira, C., Marcos, ... &  ilinskien , D. (2025a). Using Design Thinking to Solve Sustainability Challenges: The SEED Guide to Entrepreneurship for a Sustainable Future. IMEDIALAB Labor rio de Comunica  o e Media, IPG – Guarda Polytechnic University. <https://doi.org/10.46691/seed-guide-2025>
- Arau Ribeiro, M. C., & Fischer, R. (2021). Chapter 2: Design Thinking and Digital Organizations. In Y. Salamzadeh (Ed.), *Digital Transformation: A Human-Centric Approach* (pp. 25-58). Istanbul: Efe Akademi Yayınları.
- Arau Ribeiro, M. C., Sudhershnan, A., & Schemien, A. (2024). Fostering interdependence in the language classroom with resources for collaborative autonomy. *MindBrainEd think tanks: How building learner autonomy aids language learning*, 10(8), 32-39. <https://www.mindbrained.org/august-2024-learner-autonomy/>
- Arau Ribeiro, M. C., Vesala-Varttala, T., Koris, R., & P l,  . (2025b). Chapter 7. LSP and EMI teacher and student perspectives on authentic assessment practices at European universities amid the COVID-19 crisis and beyond (pp. 107-130). In M. Aguilar-P rez, B. Moncada-Comas, & D. Tatzl (Eds.), *Developing language competence through English for specific purposes in English-medium university settings* (New perspectives on language and education). Multilingual Matters.
- Auerbach, E. (1995). The politics of the ESL classroom: From theory to practice. In J. W. Tollefson (Ed.), *Power and inequality in language education* (pp. 9-33). Cambridge University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Breen, M., & Littlejohn, A. (2000). *Classroom decision-making: Materials development for language teachers*. Cambridge University Press

CORALL – *Coaching-oriented online resources for the autonomous learning of languages for specific purposes* (2019-2022), <https://corallprojecteu.wixsite.com/presentation>

Cotterall, S. (1999). Key variables in language learning: What do learners believe contributes to success? *System*, 27(4), 493–512.

Creswell, J., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Daflizar, D., Syahrial, S., & Syafryadin, S. (2022). The effect of autonomy-based active participation in motivating learning activities on students' English learning outcomes. *Journal of English language teaching and linguistics*, 7(1), 161–174.

Dam, L. (1995). *Learner autonomy 3: From theory to classroom practice*. Authentik.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.

Dewey, J. (1938). *Experience and education*. Macmillan.

Dillenbourg, P. (1999). What do you mean by collaborative learning? In P. Dillenbourg (Ed.), *Collaborative-learning: Cognitive and computational approaches* (pp. 1-19). Elsevier Science.

D rnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford University Press.

Ellis, R., & Barkhuizen, G. (2005). *Analysing learner language*. Oxford University Press.

Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. Jossey-Bass.

Freeman, D., Coolican, P., & Graves, K. (2011). *Learning to teach through co-mentoring: Collaboration, dialogue and inquiry*. Delta Publishing.

Graves, K., & Freeman, D. (1996). Community of practice: a source of support for curriculum development. In D. Freeman & J. C. Richards (Eds.), *Teacher learning in language teaching* (pp. 91-115). Cambridge University Press.

- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112. <https://doi.org/10.3102/003465430298487>
- Holec, H. (1981). *Autonomy and foreign language learning*. Council of Europe.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
- Little, D. (1991). *Learner autonomy 1: Definitions, issues and problems*. Council of Europe.
- Little, D., Dam, L., & Legenhausen, L. (2017). *Language learner autonomy: Theory, practice and research*. Multilingual Matters.
- Mackey, A., & Gass, S. M. (2015). *Second language research methodology and design* (2nd ed.). Routledge.
- Maley, A., & Duff, A. (2005). *Drama techniques: A resource book of communication activities for language teachers*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511733079>
- Morgado, M., Coelho, M., Arau Ribeiro, M. C., Albuquerque, A., Silva, M. M., Chor o, G., Cunha, S., ...& Chumbo, I. (2015). *CLIL training guide – Creating a CLIL learning community in higher education*. Santo Tirso, Portugal: De Facto Editores and ReCLes.pt, <http://paol.iscap.ipp.pt/~paol/docentes/recles/CLILTrainingGuide.pdf>
- N methov , I., Arau Ribeiro, M. C., & Stradiotov , E. (2022). Reinforcing the paradigm shift to focus on the learner in 21st-century higher education. In S. C. Marginean, C. Budac, & T. B. Wiwczaroski (Eds.). *The paradigm shift in higher education: Experiences in and considerations of virtual, hybrid and blended learning* (pp. 95-127). Verlag Dr. Kova .
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- SEED – Sustainable Entrepreneurship in EDucation (2022-2024), <https://e-seed.eu/>

Tomlinson, B. (2011). *Materials development in language teaching* (2nd ed.). Cambridge University Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Integrating Virtual Exchange into SLA Classrooms: A Kolb-Based Preparation–Reflection Model

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Abstract

This study explores the integration of Virtual Exchange (VE) into Second Language Acquisition (SLA) classrooms through a Kolb-based Preparation–Reflection model. A three-week VE involving 12 U.S. and 33 Japanese students was conducted to examine how structured preparation, guided mediation, and video-based reflection can enhance language and intercultural learning. Qualitative analysis of student reflections revealed common challenges such as time constraints, anxiety, and unequal participation. The proposed model mitigates these issues through pre-exchange video analysis, teacher-facilitated mediation, and post-exchange reflection, fostering learner autonomy and metacognitive awareness. Findings suggest that experiential and reflective frameworks can connect classroom instruction with authentic global communication, offering practical guidance for sustainable VE integration.

Keywords: Virtual Exchange, Second Language Acquisition, Intercultural Competence, Curriculum Integration.

1 Introduction

The question of raising language proficiency levels with second language learners, especially at the beginner level, remains a significant challenge. Currently, Virtual Exchange (VE) is known as a helpful way for students to acquire another language and intercultural competence. However, in many cases, VE is often implemented as a one-time special event, a sort of festival-like experience, and it is not integrated continuously into the school curriculum, especially in the case of beginner language learners. This is due, in part, to the need to adapt the exchanges to the unique circumstances of each class. This study explores the limitations of VE and proposes a model applying a virtual exchange model derived from Terada et al. (2019) that integrates VE into SLA classrooms more effectively by addressing challenges such as time constraints, teacher workload, and student preparedness.

2 Literature Review

2.1 Virtual Exchange

In today's globalized world, students need to have communication skills in a foreign language. However, SLA instructors face a challenge in developing these skills and cultural awareness due to the limitations of the classroom environment. A lot of SLA classrooms consist of only monolingual students, and financial constraints and obstacles such as the COVID-19 pandemic have made it difficult for students to gain international experience and interact with other cultures. Nevertheless, Virtual Exchange (VE) provides an affordable and efficient way for students to experience the world without leaving their homes. O'Dowd (2021) clarified the definition of the virtual exchange:

Virtual exchange (VE) is an umbrella term used to refer to the different ways in which groups of learners are engaged in online intercultural interaction and

collaboration with partners from other cultural contexts or geographical locations as an integrated part of course work and under the guidance of educators and/or expert facilitators. (p.1)

By incorporating VE into the language curriculum, students gain authentic intercultural experiences that enhance their linguistic abilities, digital literacy, and global competence.

2.2 Benefits of Virtual Exchange

2.2.1 Authentic Communication with Target Language Speakers

There are several benefits of virtual exchange. First, VE leads to authentic communication with target language speakers. Through spontaneous communication, students experience the challenges of communicating in a foreign language such as negotiating meaning, interpreting gestures and other non-verbal cues that are essential for communication in different cultures. Since interpersonal communication is spontaneous, conversational partners must listen to interpret what the other speaker says. Shrum and Glisan (2016) argue that conversational partners often find it necessary to negotiate meaning with one another or to interpret meaning. Negotiation means asking for repetition, clarification, confirmation, or indicating a lack of understanding. Lindholm and Myles (2019) also argue that understanding and experiencing integration with native speakers of the target language is of great significance for students. By interacting with target language speakers, students can compare their own experiences. They illustrate that misunderstandings can occur when relying only on direct translation. If people depend on direct translation, they cannot read between the lines, and meaning may be lost. Therefore, students need to understand the contextual and cultural meanings behind the words and phrases they are learning.

2.2.2 Raising Students' Autonomy

Bhattacharya and Chauhan (2010) point out that “learning does not take place in a vacuum and ‘independence’ does not necessarily imply learning on one’s own. Interaction, negotiation, collaboration, etc., are important factors in promoting learner autonomy” (p. 377). This implies that the phrase “autonomous learners” does not mean that students have to learn entirely on their own or in isolation.

VE can raise students’ autonomy by improving cognitive self-monitoring and raising motivation. Many researchers discuss how to encourage autonomous learning in language learning. Green et al. (1997) explain that “learners develop metacognitive awareness of the recursive nature of the learning process, which, in turn, is likely to help them to evolve into effective lifelong learners” (p. 226). This means enhanced self-awareness of thinking is crucial for boosting learner autonomy, and it helps uplift their intrinsic motivation to keep learning language themselves as a form of ongoing self-improvement.

In the context of VE, this recursive nature of learning becomes visible through continuous interaction and reflection. When students communicate with their partners, they receive immediate feedback, notice misunderstandings, and adapt their language use accordingly. Each exchange allows them to evaluate and refine their strategies, creating a cyclical process of learning, reflection, and improvement that fosters greater autonomy.

Also, some research shows that VE requires learner autonomy to promote multimodal and multiliteracies learning. Maina et al. (2017), who discuss how online collaborative learning can be integrated in a flipped classroom, showed that virtual exchanges need peer-to-peer collaboration. This requires constructive collaboration, which stimulates learner autonomy and promotes autonomous learners.

By developing self-monitoring and increasing motivation through interaction with others, VE can promote autonomous learners who actively manage their own learning process.

2.2.3 Enhance Intercultural Awareness

These days, the need for cultural awareness is increasing around the world. Winkelman (2005) mentioned that awareness of cultural differences and their influence on how people act is the basis of intercultural effectiveness. The author mentioned that "Cultural self-awareness includes recognition of one's own cultural influences upon values, beliefs, and judgments, as well as the influences derived from the professional's work culture" (p. 9). Intercultural awareness is essential not only for working abroad or working with foreigners but also for working effectively in one's own country, where employees, clients, or community members may come from diverse cultural backgrounds, including immigrants. For example, the Center for Substance Abuse Treatment (2014) created a guide to help providers and administrators understand the role of culture in the delivery of mental health and substance use services. They also argue that because of cultural complexity, it is no longer a 'one-size-fits-all' environment. This idea applies not only to healthcare but also to education, where students and teachers interact with people from diverse cultural backgrounds. Students in the classroom may have this multicultural experience in the workplace or in their daily lives, even if they do not go abroad in the future. That is why connecting classroom learning with students' personal and workplace experiences, as well as fostering cultural understanding, is so important. However, even though the importance of teaching culture is widely recognized, it presents several challenges in practice.

Byram and Kramsch (2008) discuss the reasons why teaching culture is difficult. First, the teacher's own stereotypes, derived from information from TV shows or books, can affect their teaching. As they tend to have a limited knowledge of culture, it may have given them a different perspective of the culture and could also reinforce stereotypes. Second, understanding culture requires knowledge of its historical background, yet many teachers have limited historical knowledge. This can make it difficult for them to explain cultural practices accurately or to contextualize cultural behaviors for their students. Third, it is difficult to learn about cultures without real experience of the culture of the target language.

To address this limitation, some recent studies have explored the potential of virtual exchange as a way to provide authentic intercultural experiences without the need to go abroad. Some case studies show that through virtual exchange, students can connect with people from other cultures and develop intercultural awareness. For example, O'Dowd (2021) examines 13 virtual exchange projects and finds out what they have learned through virtual exchange by coding their reflections. The author found that the top three things they learned were "knowledge of partner cultures", "Openness to cultural otherness" and "Focus on linguistic form." This research shows that through virtual exchange, students can learn about the culture of others. Rubin and Guth (2022) show another example of how the virtual exchange brings authenticity to such moments of global learning, emphasizing the need to let international communities tell their own stories and serve as important primary sources for knowledge construction. Through virtual exchange, students not only understand stereotyping culture, but they can understand through a real experience by sharing each student's own story, and this can raise their cultural awareness. In a study by Rubin and Guth (2022), the authors implemented a questionnaire for teachers asking them why they wanted to use VE in language learning. In the results, their top reason for using VE was raising their students' cultural awareness. The results indicate that teachers clearly recognize the importance of developing intercultural competence, yet they also acknowledge the difficulty of teaching culture only within the classroom. Therefore, VE can be seen as a valuable tool that supports teachers in overcoming this challenge by giving students opportunities to experience real intercultural communication. In this sense, VE not only promotes language learning but also plays a key role in fostering genuine intercultural understanding.

2.2.4 Delivering International Learning to a Greater Number of Students

Learners in small cities or areas with very few native speakers often face challenges in accessing environments where they can actively use the target language. Similar challenges exist for learners of other languages or subjects that require interaction with experts or native communities. For example, learners of Japanese

living in small cities or areas with very few Japanese speakers may find it difficult to interact with native speakers. According to PEW Research Center (2021), the top 10 U.S. metropolitan areas had the largest Japanese populations in 2019. Nevertheless, students who do not live in these large cities often find it difficult to access an environment where they can speak Japanese with members of the Japanese-speaking community. Consequently, VE can create opportunities even if students live far away from a Japanese community or big city. It helps students in small communities connect with people from around the world.

Moreover, financial or social accessibility will be a problem for several students. Historically, students who have financial difficulty cannot study abroad, which has been a major way to use the target language actively. Due to financial constraints, some students may be unable to participate in study abroad programs, resulting in few opportunities to actively use the language they are learning. Also, because of the COVID-19 pandemic, the number of students who can participate in study abroad programs has lowered. In the United States, a mere 1.9% of undergraduate students have studied abroad (Open Doors, 2021).

In education, it is always important to give equity. However, historically, some groups of people have been physically, socially, or economically disadvantaged in comparison to others. At the same time, digital mobility can encourage equal learning. Sabzalieva et al. (2022) show that virtual approaches have “excellent potential to open access and opportunities to students who would otherwise be unwilling or unable to travel due to physical, social, or financial reasons” (p. 15). This suggests that students who wouldn’t have a chance to talk with native speakers can have a chance to do so through virtual exchange. Furthermore, VE can also open our classrooms to cultures or geographical regions that are not easily accessible for physical, financial, or safety reasons.

3 Research questions

This study investigates the challenges that SLA students face in Virtual Exchange (VE) and introduces a Kolb-based Preparation–Reflection model as a pedagogical framework to address these challenges. Based on this aim, the study focuses on the following questions:

1. What challenges do SLA students face when participating Virtual Exchange?
2. How can a Kolb-based Preparation–Reflection model mitigate these challenges while fostering learner autonomy and intercultural competence?

4 Methodology

Qualitative surveys are an essential tool for collecting students' perceptions of their experiences, as they allow for "depth of inquiry into complex processes, individual experiences, and concepts that are difficult to quantify" (Limberg et al., 2021, p. 220). As Tomita et al. (2021) explain, qualitative survey research allows researchers to understand topics from participants' perspectives. Additionally, Braun et al. (2021) highlight the value of online surveys as a qualitative research tool. In this study, student perception surveys provided feedback on language learning and cultural exchange experiences. Conducted as part of a Quality Assurance / Quality Improvement (QA/QI) activity aimed at enhancing the curriculum, this project was determined not to require Institutional Review Board (IRB) review.

4.1 Participants and Context

Students enrolled in intermediate-level Japanese courses at a mid-sized university in the midwestern United States (n=12) participated in this study. The courses emphasized linguistic proficiency in speaking, listening, and reading, and were conducted in a regular face-to-face format. Eleven students' first language (L1) was English, and one student was Spanish. These 12 students were paired with 33 native Japanese-speaking students from Japan for a three-week virtual exchange.

During this program, the primary goal was to practice language skills and engage in cultural exchange.

4.2 Data Collection and Procedure

At the end of the program, participants were asked to complete a survey reflecting on their VE experiences. The online questionnaire, administered via Google Forms, included 19 open-ended questions in English, allowing students to provide paragraph-length responses. Questions focused on perceived benefits, challenges, and suggestions for improvement. Participation was optional, and students could withdraw from the study at any time. The survey was administered in the final week of the three-week exchange, after students had completed all VE activities, enabling them to reflect on their experiences throughout the program.

4.3 Data Analysis and Trustworthiness

Analysis of the qualitative survey responses followed the principles of grounded theory (Strauss & Corbin, 1990). Words, phrases, and concepts were compared systematically to identify patterns and emergent themes across students' experiences (Glaser & Strauss, 1967). This approach allowed themes to arise directly from the data, providing insights into the challenges students faced and the effectiveness of the VE activities.

All coding was conducted solely by the primary researcher. To ensure trustworthiness, a detailed audit trail of the coding process, including reflective memos documenting the evolution of categories and analytical decisions. To mitigate potential researcher bias, the final thematic structure and supporting data were subjected to peer debriefing with a supervising professor, who provided critical feedback on the interpretations and challenged the coherence of the developed model.

5 Results

To address Research Question 1 (RQ1), this section reports the findings from student questionnaires and teacher observations regarding the implementation of the Virtual Exchange model. Analysis indicated that students perceived the exchange as rushed due to limited time.

5.1 Lack of Fruitful Exchange Due to Time Constraints

Students reported that within the 50-minute session, the need to complete several tasks resulted in the actual time for communication being severely restricted. This time constraint, primarily caused by the significant time difference between the partner institutions, was identified as a major difficulty.

5.2 Nervousness of Unexpected Conversations and Problems

Students reported high levels of nervousness when speaking in the target language with native speakers and having to interact with strangers. This nervousness was often worsened by the unpredictable nature of the conversations and the potential for technical difficulties or unexpected problems. Some students noted that these factors added stress to the experience.

5.3 Reduced Corrective Feedback as Students Become Friends

The data suggested that the exchange often lacked sufficient corrective feedback. As students developed friendships, the balance of power in their relationships made it more difficult for partners to offer explicit corrections. This reduction in feedback was identified as a drawback, limiting opportunities for language acquisition.

5.4 Value of the Exchange Varied by Interlocutor

The students' learning experiences and the perceived value of the exchange are dependent on the partner's language skills, cultural understanding, motivation, and engagement level. The difference results in some students receiving less valuable or equitable experiences than others.

6 Discussions of the findings (RQ1)

To address RQ1, this section examines the challenges faced by SLA students in VE (as presented in Chapter 5) and interprets these findings with reference to existing literature.

6.1 Lack of Fruitful Exchange Due to Time Constraints

One of the biggest difficulties of virtual exchange is how to secure the time for both schools. According to Healy and Kennedy (2020), who explain the problems of VE, it was mentioned that it is difficult to coordinate counterpart's schedules, considering different working hours, academic cultures, time constraints, and time zones. The findings in Chapter 5 confirm that the 15-hour difference between Japan and the USA, limiting exchanges to 50 minutes, is a major issue. Furthermore, Ware's (2005) study, which found that American students were less enthusiastic about participating due to time constraints, supports the idea that the amount of time available for an exchange is key to its success. Ware (2005) also indicates that the shorter the time is that students spend on VE with one another, the less fruitful the exchange. This issue requires dedicated extra time from the teacher and creates pressure for student time management.

6.2 Nervousness of Unexpected Conversations and Problems

The finding of student nervousness aligns with the nature of VE. Thorne (2003) argues about developing a conceptual framework for understanding how intercultural communication and the online contexts make "compelling, problematic, and surprising conditions for additional language learning" (p.38). Especially in the Virtual Exchange's context, Kurek (2015) and O'Dowd (2013) mentioned VE as the most complex and unpredictable of computer-assisted language pedagogies. The difficulty for students is not being able to predict what may happen during a conversation. Many students are nervous about speaking in the target language with native speakers and talking with strangers. Krashen (1985) described how a learner's psychological filter related to

attitudes affects their success in language learning. Helm (2013) proposes a dialogic model for telecollaboration, arguing that tensions need not be avoided, and that impromptu conversation is the key to the virtual exchange. Therefore, nervousness is also a natural thing, and the impromptu nature of virtual exchange is a good characteristic for language pedagogy. Teachers can reduce stress during preparation by addressing technical issues. Dooly (2008) explained that providing students with key insights on technology use may be very beneficial for them to “be in control of technology and not slaves to it” (p. 23). Designing classes for teaching technology before the exchange starts, such as how to share their screen or how to record their meeting, can help students feel more confident and contribute to a smoother interaction.

6.3 Reduced Corrective Feedback as Students Become Friends

The finding of reduced corrective feedback is consistent with known issues in peer-to-peer language exchanges. Virtual exchanges often lack the structured corrective feedback essential for enhancing students’ learning. Bower and Kawaguchi (2011), who searched how much corrective feedback occurred in an online exchange situation, show that “corrective feedback was provided at a very low rate” (p.59), assuming that participants do not wish to interrupt the flow of conversation. This shows a downside to virtual exchange, as students could not receive enough feedback. Zourou (2009) points out that the symmetrical power relationship of eTandem tends to lead to less corrective feedback than studies with an asymmetrical power relationship (native speaker/non-native speaker or teacher/learner). While friendship is a positive characteristic, the equal balance of power formed with partners makes corrective feedback more difficult.

6.4 Value of the Exchange Varied by Interlocutor

The challenge of varied exchange quality is rooted in individual differences in language skills, cultural understanding, or background. As Chapter 5 revealed, the value of the exchange is dependent on the students’ interlocutor. Konishi (2021) observed that communication in a case study was hindered because one student's target language skill and motivations were completely different from their counterpart's. The argument that successful virtual exchange requires pairing partners of roughly equivalent skill levels is

often difficult to implement due to differences in educational contexts. Despite this challenge, possible methods exist to prepare students to do virtual exchange in a way that they can still communicate effectively with varying levels of cultural and language knowledge.

In summary, the primary challenges identified include time constraints, unequal participation, and student anxiety related to interactions with unfamiliar peers and technical difficulties.

7 The Kolb-Based Model: Mitigation and Implications (RQ2)

To address RQ2, this section examines how the Kolb-based Preparation-Reflection model can help SLA teachers mitigate these challenges and promote learner autonomy and intercultural competence in Virtual Exchange.

7.1 Theoretical Foundations and Model Development: Terada et al.'s Guided Reflection (2019)

In terms of remedies for these types of problems, we can look to an article written by Terada et al.'s Guided Reflection (2019). This study was written about a project to improve the discussion management skills of Japanese language learners. In this project, to improve students' discussion-leading skills, they suggested several activities. It was based on experiential learning by Kolb (1984) and it helps students raise metacognition and motivation. Before the students start their activity, as a preparation activity, students watch a video recorded during last year's class, and they discuss the problems that arose from the conversations in the videos and how they could be resolved. In the main activity, one student is a discussion leader. In the reflective activity, the discussion leader will watch a video recording of the activity and annotate their reflection in their reflection sheet. Also, this study mentioned the reflection process becomes deeper with interaction with others. Therefore, after the discussion activity, the DL student will do a one-on-one reflection session with their teacher. At the end of the project, the reflection activity helps students raise their metacognition, and it helps their Japanese-language skills to improve.

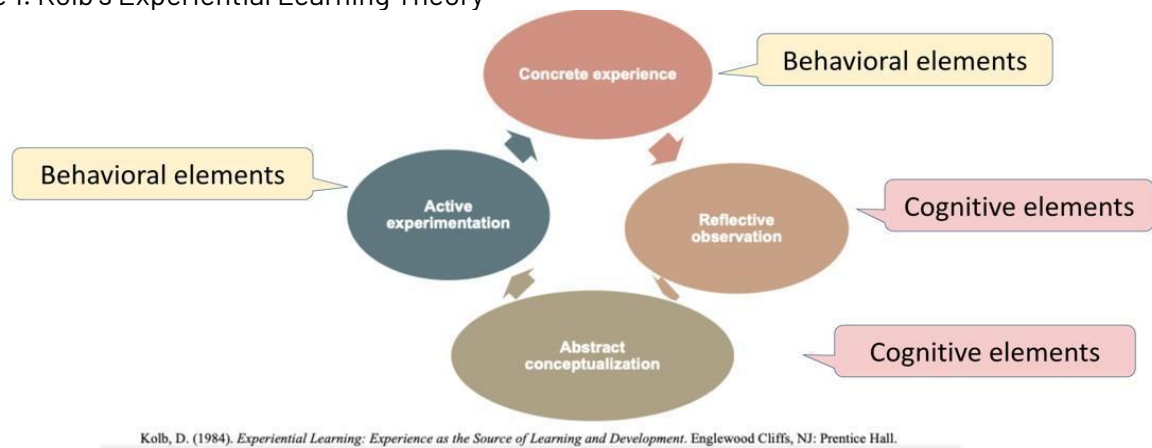
Based on previous studies and practical experiences, Terada's discussion model has implications for language learning in Virtual Exchange (VE) and appears to support the development of students' metacognitive language skills through reflective analysis of recorded videos. Although the sources are reliable, most of them are done on a small scale and not so many studies can be found in other contexts. Also, this study was only conducted on advanced learners. Therefore, this study investigates the applicability of Terada's model in the context of Virtual Exchange, following the approaches proposed by Lenkaitis et al. (2020) and Terada et al. (2019).

7.2 Model Components and Mechanisms : Developing a Model of VE Based on Kolb (1984) and Terada et al. (2019)

To solve the challenges of VE, the model was developed based on Terada et al. (2019) and Kolb's (1984) framework. This theory discusses how individuals learn through their experiences and how this learning can be applied in various settings. Kolb's theory of experiential learning is different from other learning theories in that it emphasizes the importance of concrete experiences in the learning process.

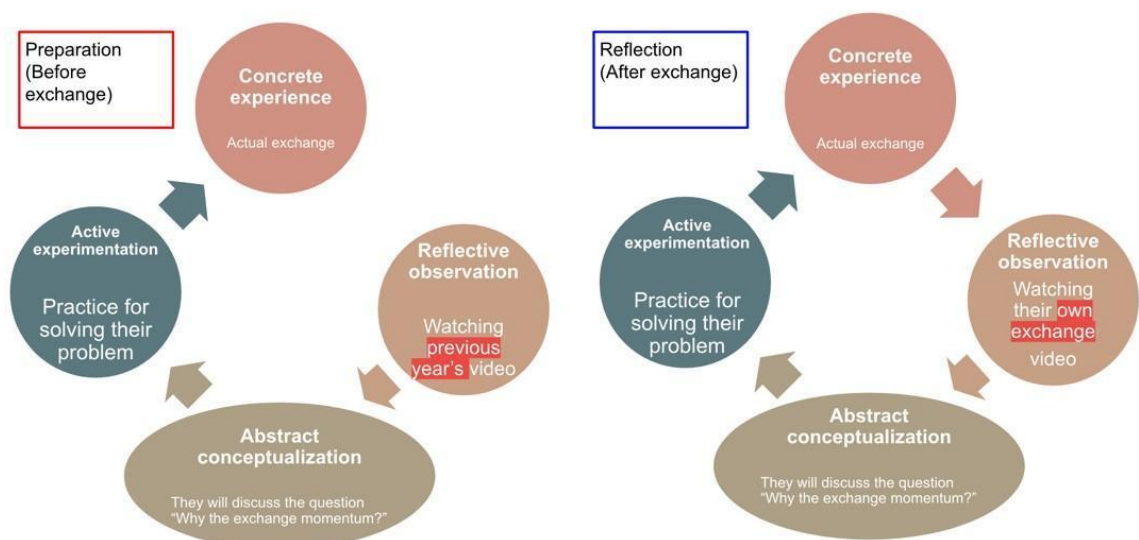
According to Kolb, learning is a cyclical process that involves four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. This process differs from other learning theories that focus on either behavior or cognition alone. Kolb's theory integrates both cognitive and behavioral elements and emphasizes the importance of reflection and experimentation in the learning process. He not only conducts experiments but also does reflective observation, which is important. Through reflective observation, students develop metacognitive skills by reviewing and evaluating their experiences.

Figure 1. Kolb's Experiential Learning Theory



Based on Kolb's theory, the Preparation and Reflection models were made for VE. These are both about watching videos, but the difference is at the reflective observation stage. In the preparation model, students watch previous years videos and prepare for the actual exchange. This helps them prepare for their exchange. On the other hand, In the reflection model, students watch recordings of their own exchanges to evaluate their language use, interaction strategies, and cultural understanding, identifying strengths and areas for improvement.

Figure 2. Preparation and Reflection Model Based on Kolb (1984)



7.3 Preparation Phase: Support for Student Learning Prior to Exchange

There is a huge difference between letting students' study freely or letting them express themselves freely with support from the teacher. The teacher should be involved in the lessons. Sauro and Chapelle (2017) indicates that "Teachers of VE must be prepared to mentor students in the development of "langua-technocultural competence". This concept refers to the integrated ability to use language effectively while navigating cultural norms and employing digital tools. In other words, students not only need linguistic skills and cultural understanding, but also the ability to communicate appropriately through technology-mediated platforms.

To foster learner autonomy, the teacher's support of their preparedness is crucial. O'Dowd et al. (2020) also mentioned that "pedagogical mentoring in virtual exchange involves providing students with examples or models of effective or appropriate online interaction strategies before they engage in online interaction with their partners" (p.149). Therefore, in this model, to prepare for their lessons, students can see previous students' videos and have time for discussion, and they can prepare for speaking the language itself. Nissen (2016) indicates that face-to-face sessions were to prepare students for their online interaction and to analyze students' experience in virtual exchange. For example, the videos can show how they can ask for the repetition and the timeline for the exchange with their classmates and/or teachers. It can help students struggle less.

Also, teachers can use an asynchronous exchange platform. Also, teachers can use an asynchronous exchange platform. Nowadays, such platforms are widely used to facilitate collaborative learning, allowing students to engage in discussions, share ideas, and create video content at their own pace. The ICT tool Flip, developed by Microsoft (formerly known as Flipgrid), has recently become an important resource for fostering social and collaborative learning. Research has shown that Flip can effectively facilitate social learning, enhance students' video content creation skills, and promote the development of learning communities (Hanh & Huong, 2021). It helps them to do icebreaker exercises before the exchange, allowing them to understand each other and

helping them to no longer feel like “strangers.” These activities can be a remedy to help lower the affective filter for students.

7.4 Reflection Phase: Raising Metacognitive Skills through Video Reflection

In the exchange, students watch videos from a prior class and their own recorded video, too. Through watching video, students can raise their metacognition. Corrections can be made, through watching their recorded video again. Watching videos can help students understand what their mistakes were and identify the barriers of their exchange. O’Dowd et al. (2020) mentioned “It is vital to underline to students that communication breakdowns and reflection and learning and not as failure of the learning process.”

In this reflection, students will engage in several instances of languaging (Swain, 2006). Through these experiences, they can develop deeper insights as they reflect on their own learning.

It also can connect the importance of the interaction. In the first reflection, students might not reflect on themselves in a deeper way, but in the last, because of the interaction and using the teacher’s scaffolding, they can do deeper reflection. Cunningham (2016) also mentioned “Integrating extracts and recordings of students’ own online interactions into class interaction as learning ‘rich points’ emerge”.

7.5 Group Mediation Phase : Mitigating Inequality

Elstermann (2022) mentioned peer group mediation sessions are workable for virtual exchange content. While students do virtual exchange projects, teachers set a time for group mediation. After interacting with other countries’ students, they do discussions inside of the classroom. For beginners, it is difficult to conduct discussions, so they use their L1 language. The teacher’s role here is to control and guide discussion. O’Dowd (2015) mentioned that the teacher’s support such as reflecting upon culturally contingent patterns of interaction in follow-up classroom discussions is important. Through this activity, students are able to share their experiences, leading to a better quality and more equitable education and experience that is not limited by their partners.

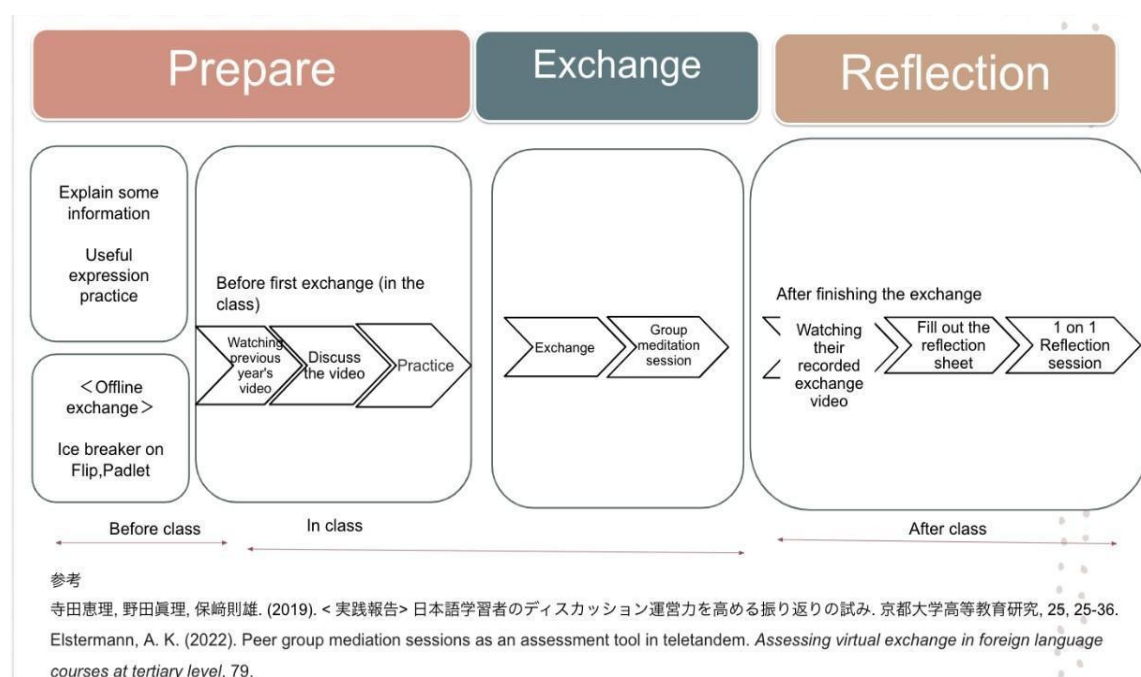
7.6 Whole Virtual Exchange Model

The results for Research Question 1 revealed that while students perceived the virtual exchange as a valuable opportunity to practice communication and learn about different cultures, they also faced challenges such as unequal participation, anxiety when speaking with unfamiliar partners, and insufficient preparation time.

To address these challenges identified in RQ1, a new virtual exchange model was developed based on experiential learning theory (Kolb, 1984) and reflection framework (Terada et al., 2019).

This is the virtual exchange model specifically designed for this study. As preparation, students watch the previous year's video and practice the target grammar in advance. Also, doing an ice breaker before they start the exchange helps students relax and calm their nerves before speaking in front of strangers. After the exchange, students will do the group mediation session. It helps them to raise their metacognition and will lead to an opportunity for the same quality of experience as their classmates not matter who their partner was. Lastly, as a reflection, they will watch their recorded exchange video. By watching their recorded video, they raise their own metacognition.

Figure3. Virtual Exchange Model



In summary, the Kolb-based Preparation–Reflection model addresses the identified challenges by providing structured preparation, group mediation sessions, and post-exchange reflection, thereby promoting learner autonomy, equitable participation, and intercultural competence.

8 Conclusion

This study explored the challenges SLA students faced when participating in a Virtual Exchange (RQ1) and provided practical recommendations for teachers to improve future VE implementation (RQ2). The analysis revealed that students valued opportunities for authentic intercultural communication but experienced difficulties such as unequal participation, limited preparation time, and nervousness when speaking with unfamiliar partners.

To address these challenges, this study proposed a Kolb-based Preparation–Reflection model, adapted from Terada et al. (2019). The model emphasizes structured pre-exchange preparation, group mediation sessions, and post-exchange reflection through watching recorded videos. These stages promote students' metacognitive awareness, equitable participation, and learner autonomy, leading to deeper intercultural understanding.

The findings suggest that Virtual Exchange can be a powerful pedagogical tool in SLA classrooms when supported by clear guidance, reflective practice, and teacher mentoring. However, since this study involved a small sample of intermediate-level learners from one institution, future research should apply the model in different educational contexts and levels to examine its broader effectiveness.

Overall, integrating Virtual Exchange through experiential and reflective learning models offers an effective way to connect language learning with real-world intercultural communication.

References

- Bhattacharya, A., & Chauhan, K. (2010). Augmenting learner autonomy through blogging. *ELT Journal*, 64(4), 376-384. <https://doi.org/10.1093/elt/ccq002>
- Bower, J., & Kawaguchi, S. (2011). Negotiation of meaning and corrective feedback in Japanese/English eTandem. *Pragmatics & Language Learning*, 15(1), 41-71.
- Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2021). The online survey as a qualitative research tool. *International Journal of Social Research Methodology*. 24. 1-14. 10.1080/13645579.2020.1805550.
- Byram, K., & Kramsch, C. (2008). Why is it so difficult to teach language as culture? *The German Quarterly*, 81(1), 20-34.
- Center for Substance Abuse Treatment. (2014). Introduction to cultural competence. In *Improving cultural competence. Substance Abuse and Mental Health Services Administration (US)*. <https://www.ncbi.nlm.nih.gov/books/NBK248431/>
- Cunningham, D. J. (2016). Request Modification in Synchronous Computer-Mediated Communication: The Role of Focused Instruction. *The Modern Language Journal*, 100(2), 484-507. <https://doi.org/10.1111/modl.12332>
- Dooly, M. (Ed.). (2008). *Telecollaborative language learning: A guidebook to moderating intercultural collaboration online*. Peter Lang.
- Elstermann, A. K. (2022). Peer group mediation sessions as an assessment tool in teletandem. In A. Czura & M. Dooly (Eds.), *Assessing virtual exchange in foreign language courses at the tertiary level*, (pp. 79-91). <https://doi.org/10.14705/rpnet.2022.59.141179>
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine. <https://books.google.co.jp/books?id=oUxEAQAIAAJ>
- Green, C. F., Christopher, E. R., & Lam, J. (1997). Developing discussion skills in the ESL classroom. *ELT journal*, 51(2), 135-143.

- Hanh, L. T. T., & Huong, T. T. B. (2021). Applying Flipgrid-based portfolio to improve Vietnamese EFL high school students' speaking scores. *3L: The Southeast Asian Journal of English Language Studies*, 27(4), 85–100. <https://doi.org/10.17576/3L-2021-2704-07>
- Healy, S., & Kennedy, O. (2020). Reflective practice and rethinking teacher leadership identity in telecollaborative environments. In S. Egitim & Y. Umemiya (Eds.), *Leaderful Classroom Pedagogy Through an Interdisciplinary Lens: Merging Theory with Practice* (pp. 271–287). Springer Nature. https://doi.org/10.1007/978-981-99-6655-4_16
- Helm, F. (2013). A dialogic model for telecollaboration. *Bellaterra Journal of Teaching and Learning Language and Literature*, 6(2), 28–48. <https://doi.org/10.5565/rev/jtl3.522>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. FT press.
- Konishi, M. (2021). eTandem via video chat: Collaborative communication for online international exchange. *Journal of the Society for Foreign Language Education Media*, 58, 43–67.
- Krashen, S. (1985). *The input hypothesis: Issues and implications*. Longman.
- Kurek, M. (2015). Designing Tasks for Complex Virtual Learning Environments. *Bellaterra. Journal of Teaching & Learning Language & Literature*, 8(2), 13–32. <https://doi.org/10.5565/rev/jtl3.633>
- Lenkaitis, C. A., Hilliker, S. M., & Roumeliotis, K. (2020). Teacher candidate reflection and development through virtual exchange. *IAFOR Journal of Education*, 8(2), 125–139.
- Limberg, D., Springer, S. I., Bayne, H., & Wymer, B. (2021). Examining the Use of Consensual Qualitative Research in Counseling Research. *Journal of ethnographic & qualitative research*, 15(3).
- Lindholm, T., & Myles, J. (2019). *Navigating the intercultural classroom*. TESOL Press.

- Maina, E., Wagacha, P., & Oboko, R. (2017). *Enhancing Active Learning Pedagogy through Online Collaborative Learning*. <https://doi.org/10.4018/978-1-5225-0783-3.ch103>
- Nissen, E. (2016). Combining classroom-based learning and online intercultural exchange in blended learning courses. In R. O'Dowd & T. Lewis (Eds.), *Online intercultural exchange: Policy, pedagogy, practice* (pp. 173–191). Routledge.
- O'Dowd, R. (2013). Telecollaborative networks in university higher education: Overcoming barriers to integration. *The Internet and Higher Education*, 18, 47–53. <https://doi.org/10.1016/j.iheduc.2013.02.001>
- O'Dowd, R. (2015). The competences of the telecollaborative teacher. *The Language Learning Journal*, 43(2), 194–207. <https://doi.org/10.1080/09571736.2013.853374>
- O'Dowd, R. (2021). What do students learn in virtual exchange? A qualitative content analysis of learning outcomes across multiple exchanges. *International Journal of Educational Research*, 109. <https://doi.org/10.1016/j.ijer.2021.101804>
- O'Dowd, R., Sauro, S., & Spector-Cohen, E. (2020). The role of pedagogical mentoring in virtual exchange. *TESOL Journal*. <https://doi.org/10.1002/tesq.543>
- Open Doors. (2021). 2021 fast facts. <https://opendoorsdata.org/annual-release/u-s-studyabroad/>
- Rubin, J & Guth, S (2022). *The guide to COIL virtual exchange: Implementing, growing, and sustaining collaborative online international learning*. Stylus Publishing.
- Sabzalieva, E., Mutize, T., & Yerovi, C. (2022). *Moving minds: Opportunities and challenges for virtual student mobility in a post-pandemic world*. UNESCO. www.iesalc.unesco.org/wp-content/uploads/2022/03/IESALC_220315_RE_VSM_EN.pdf
- Sauro, S., & Chapelle, C. A. (2017). Toward Langua-technocultural Competence. In C. A. Chapelle & S. Sauro (Eds.), *The Handbook of Technology and Second Language Teaching and Learning* (pp. 459–472). Wiley. <https://doi.org/10.1002/9781118914069.ch30>

- Shrum, J. L., & Glisan, E. W. (2016). *Teacher's handbook: Contextualized language instruction* (Fifth edition). Cengage Learning.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage.
- Swain, M. (2006) *Languaging, Agency and Collaboration in Advanced Second Language Proficiency*. In H. Byrnes (Ed.), *Advanced language learning: The contribution of Halliday and Vygotsky* (pp. 95-108). Continuum, London, 95-108.
- Terada, E., Noda, M., Hozaki, N. (2019). <Educational Practice Report> Guided Reflection to Enhance Discussion Leader Effectiveness in a Japanese as a Foreign Language Environment. *Kyoto daigaku koutou kyouiku kenkyuu*, 25, 25-36.
- Thorne, S.L. (2003). Artifacts and Cultures-of-use in Intercultural Communication. *Language Learning & Technology*. Vol. 7, No. 2, May 2003, pp. 38-67.
- Tomita, K., Alangari, H., Zhu, M., Ergulec, F., Lachheb, A., & Boling, E. (2021). Challenges implementing qualitative research methods in a study of instructional design practice. *TechTrends*, 65(2), 144-151. <https://doi.org/10.1007/s11528-020-00569-2>.
- Top 10 metro areas by Japanese American population*. (2021, April 29). PEW Research Center's Social & Demographic Trends Project. <https://www.pewresearch.org/socialtrends/chart/top-10-u-s-metropolitan-areas-by-japanese-population-2019/>
- Ware, P. (2005). 'Missed' communication in online communication: Tensions in a German-American telecollaboration. *Language Learning & Technology*, 9(2), 64-89.
- Winkelman, M. (2005). *Cultural Awareness, Sensitivity and Competence*. Eddie Bowers Publishing.
- Zourou, K. (2009). Corrective feedback in telecollaborative L2 settings: Reflections on symmetry and interaction. *The JALT CALL Journal*, 5(1), 3-20.