Students' Perceptions of Wiki Site Deployment for Mediation Activities in English Language Teaching and Learning

Maria Liashenko

August 2025

This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Department of Educational Research

Lancaster University, UK

Abstract

The thesis describes the deployment of wiki sites for mediation activities in learning and teaching English. The research was carried out with undergraduate students who study English as a foreign language at university. The study uses a mixed methods methodology to explore both quantitatively and qualitatively students' perceptions of using specially designed wiki sites and wiki-mediated tasks for mediating text, concept and communication. The quantitative data about students' level of wiki acceptance were gathered using Technology Aacceptance Model (TAM) to inform the deployment of the wiki sites. The qualitative data about students' experiences of using wiki sites for mediation activities were gathered through a series of interviews and a questionnaire. Thematic analysis was used to analyse the data. The research presents three thematic maps that describe students' experiences of using wiki sites for 14 mediation activities in English learning. In addition, the study reveals explicit and implicit contextual factors that can enhance or impede the process of teaching students how to mediate text, concepts and communication. The study contributes to knowledge by extending the use of the Common European Framework of Reference of Languages (the CEFR) to inform and guide a mixed-methods research in the field of technology enhanced learning (TEL). The research presents implications and recommendations for teachers wishing to deploy wiki sites for teaching how to mediate text, concepts and communication in English studies. Some potential areas for further research are also identified.

Keywords: wiki sites, mediation, mediation activities, ELT, TEL, CEFR, TAM, English language teaching, technology enhanced learning, contextual factors

Contents

List of Tables

List of Figures

List of Papers

Liashenko, M. (2018). Knowledge and learning in virtual communities of practice (VCOPs): theoretical underpinnings. In *Proceedings of the International Conference on Networked Learning* (Vol. 11, pp. 440-446).

Liashenko, M. S. (2020). Design students' perceptions of a wiki enhanced English learning at university. In *SHS Web of Conferences* (Vol. 87, p. 00054). EDP Sciences.

Liashenko, M., & Öztok, M. (2020). The acceptance of a wiki site as a learning platform in English exam training: students' perceptions. In *Proceedings of the International Conference on Networked Learning* (Vol. 12, pp. 26-29).

Liashenko, M. (2023). Deployment of Wiki Sites for mediation activities in language learning and teaching at universities. In Conference Proceedings: Full Paper Series of MIRDEC 21st Barcelona 2023 International Academic Conference on Economics, Business and Contemporary Discussions in Social Science, pp. (14-23). 21 22 November 2023. Barcelona, Spain. https://www.mirdec.com/barca2023proceedings

Liashenko, M. (2024). A Mixed Methods Approach to Understanding Mediation Activities Via Wiki Sites in Teaching the English Language at University. In Conference Proceedings: Full Paper Series of MIRDEC 23rd - Barcelona 2024 International Academic Conference on Economics, Business and Contemporary Discussions in Social Science, pp. (28-37). https://www.mirdec.com/barca2024proceedings. 29-30 October 2024. Barcelona, Spain.

Liashenko, M. (2025). Mediation Activities in Language Learning: Students' Perspectives on Challenges and Opportunities of Using Wiki Sites. In Conference Proceedings: Full Paper Series of MIRDEC 24th – Istanbul 2025 International Academic Conference on Economics, Business and Contemporary Discussions in Social Science, pp. (57-64). 24-25 April 2025. Istanbul, Türkiye. https://www.mirdec.com/istanbul2025proceeding

Acknowledgements

First and foremost, I would like to thank my supervisor, Professor Malcolm Tight, for his expertise, invaluable feedback and encouragement.

My gratitude also to all the lecturers and administrative colleagues at Lancaster university on the PhD E- research and TEL.

I wish to thank my peers from Cohort 10 for support and friendship. I would like to thank all the participants of the research.

I also want to thank my parents for their love and belief. Although my Dad is no longer with us, his stamina is still an inspiration for me.

Finally, I want to thank my family for supporting and encouraging me to keep learning.

Author's Declaration

I declare that this thesis is my own work. It has not been submitted for the award of a higher degree or diploma elsewhere. I declare that the word-length of this thesis, 43, 886 words, conforms to the permitted maximum.

Signature *Liashenko Maria*

Chapter 1: Introduction

1.1 The background

Information communication technologies have become an integral part of our lives, penetrating all spheres of human activity. Computer-mediated technologies have facilitated the paradigm shift in the culture of communicating, working, and learning (Harasim, 2000), yet despite a common belief and high expectations, digitization of education at a global level has been facing challenges. Universities are trying to address challenges at an institutional level and teachers are facing the digitization of academic work at a micro or individual level (Selwyn, 2014; Hubbard, 2023).

These significant changes have affected the second language learning and teaching, which are underpinned nowadays by more complex and dynamic action-oriented approaches based on the ideas of mediation across cultures, worlds, and media (Piccardo et al., 2019). The concept of mediation is not new for language learning; it is viewed as a key skill for learning languages because it can happen in any context where people produce or process information. Revised and updated in 2018 and in 2020, the Common European Framework of Reference for Languages (CEFR) describes new approaches with a focus on the mediation and interaction of learners as social agents (Council of Europe, 2020). As a multifaceted phenomenon, mediation is presented as the fourth mode of communication (after reception, production and interaction) and an important factor in the language learning process. Mediation activities include mediation of text, concepts, and communication. These activities are unpacked using illustrative descriptors that the teacher can choose from according to their relevance to the local context and the learner's needs, centered around the required level of language proficiency. These activities are stated to be appropriate for "small groups, collaborative tasks" that engage learners in sharing and explaining information, working together to achieve a goal (ibid., p. 36).

With the new updates to the CEFR, there arises a need to explore how language teaching and learning, which are guided by new strategies, can be mediated through technology. This research proposes the deployment of a wiki site as a learning platform (Passey &

Higgins, 2011) to enhance involvement of students in mediation activities. The effectiveness of using wiki tools for learning languages is well documented in the literature (Halim & Abd. Halim, 2024; Lee, 2010; Li, 2012). Wiki sites create learning communities where collaborative goal-oriented practices can take place (Henderson et al., 2017). My research presents an attempt to explore how a wiki site can be deployed to enhance students' involvement in mediation activities, and how mediation activities enhanced by a wiki are perceived by students in the process of learning English as a foreign language.

1.2 The research context

Since the publication of the CEFR in 2001, it has been used as an international standard to show learners' progress against a reference level in language learning. Learners' skills are assessed using the CEFR levels to measuree language proficiency. The CEFR describes levels from A (basic user) to C (proficient user), using descriptors for each skill (Council of Europe, 2001, p. 22). Thus, the language learning process is oriented at achieving a certain level of language proficiency. The required level is viewed as a learning outcome for the programme or a course in language learning and teaching and the requirements are stated in the syllabuses. The level set as an entry requirement at university can vary, depending on the specifics of the programme and the level of education. The level framework allows textbooks and teaching materials to be chosen according to the expected learning outcomes.

Since 2001 there has been much criticism of the CEFR as some descriptors were not defined clearly; for example, mediation. In 2018, a Companion Volume of the CEFR was published with the purpose of extending the existing CEFR and providing more illustrative descriptors for activities that had not been presented clearly before. In the new document, mediation is given a key role in the process of language learning. New approaches to understanding the complex phenomenon of mediation highlighted the need to find novel ways of deploying new ideas in teaching practices (Byram, 2022). The rationale behind the current study is to explore students' perceptions and experiences of the proposed wiki-mediated mediation activities in English learning. The investigation took place in two Russian universities in a bachelor level program. One of the

universities is a pedagogical university where students study English for two years and the entry level is pre-intermediate (A 2 according to the CEFR). The other university expects students to have B1 (intermediate) as an entry level for studies. 2nd-year students from different faculties (design, economics, IT, and management) participated in the research.

Despite the differences in the programs and the entry level, the requirements of the foreign language training are quite similar: students need to acquire language skills to work with spoken and written texts; to produce academic writing (essays/graph descriptions/reports); to be able to work with projects individually and collaboratively with the help of information communication technologies (ICT); and finally to pass oral and written exams based on the international standards. These requirements are aligned with the mediation activities for text, concepts and communication, which can be trained in a wiki-mediated interaction. According to the CEFR, mediation of text involves processing, relaying, responding to or describing a text presented in speech, writing or visually. Mediation of concepts relates to collaborating in a group or leading group discussion. Mediation of communication is aimed at viewing the learner as a "cultural mediator" in different formal and informal situations (Council of Europe, 2018, p. 106).

The formal training in this study was arranged using traditional face-to face weekly class meetings (two or four hours per week) and a learning management system (Moodle). Moodle offers obvious advantages and benefits, but there are challenges of accepting it by teachers and learners (Liashenko, 2017; Dlalisa & Govender, 2020). The teachers and learners are faced with a lack of language practice, given the fact that students study English as a foreign language and the discipline is not the major in the curriculum. Moodle does not provide an opportunity for interactive collaboration where students can be fully engaged in content generation. Given the importance of social media in our lives, the necessity arises to switch to more shared and "dynamic learning platforms" to integrate traditional approaches with collaborative Web 2.0 media (Stern & Willits, 2011, p.347). Wiki sites are known to provide "an excellent collaborative environment" for learners and teachers (Godwin-Jones, 2003, p.15; Halim & Abd. Halim, 2024).

1.3 Rationale

My personal motivation was to bridge organization and individual levels by deploying a less hierarchical, multi modal, wiki-based learning environment to engage students in mediation activities outside the classroom and to meet the challenges at three levels: global CEFR agenda, an institutional drive for ICT, and individual teaching practice to meet the institutional exam requirements based on the updated CEFR and new descriptors for mediation activities. Wiki technology is deployed as "a transition zone" between the university with its formal approach and life-worlds of students (Bergold &Thomas, 2012, p. 196).

I support the idea of viewing the process of online distance education at a macro level (an educational system as a whole), a meso level (management, organization, and technology) and a micro level (learning and teaching practices) (Blaxter et al., 2006; Passey, 2019; Zawacki-Richter & Anderson, 2014). The alignment between different levels of the problem under consideration can be presented visually, where at the global (or macro) level the CEFR demands a paradigm shift in language education which becomes more digitized and action oriented. A new paradigm and updated CEFR consequently affect the institutional level, at which learners have limited opportunities for exam training and teachers must cope with new challenges of more descriptors for mediation activities with fewer teaching hours and digitization of all processes. At this individual level, there is a need for integration of technology with everyday professional practices. A multilevel approach to illustrate the problem statement is presented below (Figure 1).

The rationale for conducting the research is threefold. First, the research describes the way the updated CEFR is applied to research and teaching practices. Second, it explores the ways wiki-enhanced mediation activities are experienced by students. Through this lens of students' experiences, the research views different descriptors of mediation activities. Third, it investigates the process of wiki development for mediation activities (the implementation of wiki sites for mediation activities, its organization and factors enhancing or impeding students' experiences). The research describes the ways that technology can be integrated with teaching. Finally, a self-reflection process, which

is part of the action-oriented approach, makes it possible to propose ways for teachers to enhance mediation activities through wiki technology (implications and guidelines generated as an outcome of the research and its findings).

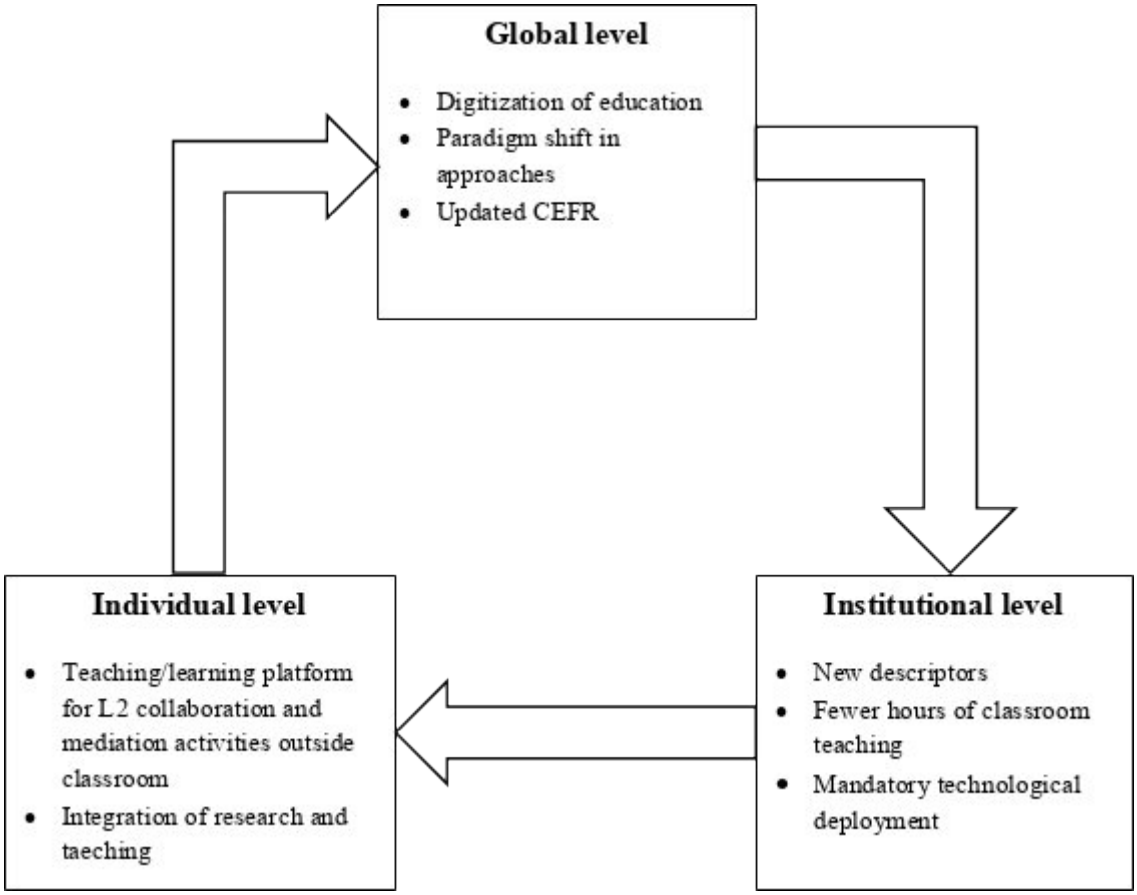


Figure 1: Multilevel approach to viewing the problem statement

Overall, the research focuses on identifying various factors that could influence the deployment of wiki technology for mediation activities in English language learning. Knowledge is generated through a mixed methods methodology which implies qualitative and quantitative interpretations of students' opinions about the way wiki is deployed for mediation activities in English language teaching and learning.

1.4 Researcher's position

The philosophical underpinning for the research is a pragmatic worldview as I am striving for understanding whether my educational intervention (a wiki site for mediation activities) really impacts learning and helps students be better prepared for these activities in language learning. The pragmatic worldview does not restrict the research to either a quantitative or a qualitative approach (Creswell & Creswell, 2014). Pragmatism is based on understanding the research as problem- centred and embedded in social, historical, and other contexts, in line with socio cultural theory. As a researcher, I am interested in the consequences and factors affecting wiki deployment for solving the problem of engaging students in mediation activities. The research is practice oriented and I take into account pluralistic views of the participants involved in the wiki-enhanced mediation activities under investigation. Pragmatism provides me – as a researcher – with the freedom to choose the most suitable methods of collecting and analysing the data to answer my research questions. I agree with Creswell, who states that pragmatism "opens the door to multiple methods, different worldviews … as well as different forms of data collection and analysis" (ibid., p. 11). So, I base my inquiry on the assumption that gathering diverse types of data can provide a more holistic understanding of the research problem.

1.5 Methodology and methods

Given my position as a researcher, a mixed methods approach was used to answer the research questions. Mixed methods research is the third paradigm in educational research and aims at describing and developing tools that are closer to professional contexts (Onwuegbuzie & Leech, 2005). The study lies within the professional environment of teaching and learning English as a second language . This mixed methods study addresses the deployment of a wiki site for mediation activities in the process of learning the English language at university. An embedded sequential mixed method design is used in which one data set (in this case, quantitative) provides a supportive role in research that is based primarily on the other (in this case, qualitative) data set.

In the quantitative stage, the TAM (technology acceptance model) is used to evaluate students' acceptance of wiki technology for learning and to evaluate their needs and objectives. This stage was used as a pre-intervention phase before designing the site and its deployment. It informed the intervention stage and identified some problem areas that were additionally explored at a qualitative level using semi-structured interviews and questionnaires at a post-intervention stage of the research design. The main reason to collect the qualitative data was to research the students' perceptions and experiences of wiki-enhanced mediation activities in the process of language learning at university in order to understand and delineate their perspectives on using wiki sites.

When conducting this research several factors were considered:

a). Timing: the data was collected in phases, beginning with a quantitative survey, which was followed by semi-structured interviews, which were analysed at the qualitative stage of the research.

b). Weighting: priority was given to qualitative data to answer the overarching question. The quantitative data was embedded within the larger design of the wiki site to inform the intervention.

c). Mixing: at the first stage of the research a questionnaire about the acceptance of the wiki technology by students was conducted to inform the design of the wiki site.

This design is applicable to small-scale projects due to its straightforward nature, separation into clear stages, and the ease with which it can be described and reported (Creswell & Creswell, 2014, p. 233). At the quantitative stage, TAM was used to explore the degree of students' acceptance of the technology and to find out their assessment of various aspects of wiki deployment (needs, ease, usefulness, readiness, etc.). The quantitative stage was followed by a qualitative stage during which the wiki was deployed into educational contexts at two universities. The embedded mixed methods approach is known to be an advanced mixed methods design and its expected outcomes focus on "an understanding of participants' views within the context of intervention" (ibid.). The chosen approach best fits the research aim because the mediation activities are designed and implemented in teaching via a wiki site that was

deployed and embedded in the teaching process. These methods enable students' experiences of the intervention to be explored.

1.6 Research Objectives

The research is aimed at achieving three main objectives and addressing the gaps at three levels of the problem statement.

At the global or macro level there is a conceptual gap to be addressed, which is focused on better understanding the factors affecting wiki-mediated mediation activities. The study enabled the identification of four factors that influence effective deployment of wiki sites for mediation activities: technological, motivational, psychological, and educational. These factors are classified in the research into explicit and implicit factors that help us understand contextual knowledge of wiki-mediated spaces better.

At an institutional or a meso-level there is a knowledge gap which is identified as the need for better understanding how wiki technology can be embedded in the educational learning environment for the purpose of enhancing mediation activities. Despite significant research on language mediation and the educational potential of wiki technology, there is a lack of understanding of the facilitating factors that can enhance and the barriers that can impede students' perceptions of various mediation activities. The research is aimed at identifying the themes describing the students' experiences of using wiki sites for mediation activities. Additionally, the research presents enhancing and impeding factors for each descriptor that unpack the students' perceptions of each activity: mediation of text, concepts, and communication.

At a micro or an individual level of teaching and learning, there is a gap in "research in practice" that is aimed at practical teaching issues (Passey, 2019, p. 974). There is a need for more research to generate guidelines or implications for those wishing to deploy the technology in their professional context. The research presents the implications for teachers and educators as the outcome of the data analysis and findings. This gap will be addressed by providing implications for effective wiki integration as a result of reflective practice on the students' experiences and my experience of wiki-deployment for mediation activities.

Before identifying the research questions, it is necessary to delineate the interconnection between *perceptions* and *experiences*. In my research, I use the term *perceptions* to describe students' viewpoints and ways of thinking about wiki-enhanced mediation activities for language learning. According to Gibson's theory of perceptual learning, there is an improvement in perception as a function of experience (Pick, 1992). So, experiences have effects on perceptions. An exploration of students' *experiences* would give me an understanding of their perceptions of using the wiki for mediation activities.

1.7 The research questions of the study (RQ):

Given the research gaps, the following research questions are addressed:

Overall guiding question: What are the students' perceptions of wiki sites deployment for mediation activities in language learning at university?

RQ1: How do the students accept wiki sites for learning the English language at university?

RQ2: What are the students' experiences of using wiki sites for mediation activities in the English language learning?

RQ2.1 What are the students' experiences of using a wiki for mediating a text in the English language learning?

RQ2.2 What are the students' experiences of using a wiki for mediating concepts in language learning?

RQ2.3 What are the students' experiences of using a wiki for mediating communication in language learning?

1.8 Contributions to knowledge and the significance for audiences

The research can contribute to theory and practice in ways which are delineated below.

The CEFR and its companion volume have been applied to theoretically underpin the research, analyse the data and discuss the findings. In this study, the CEFR is viewed from a broad theoretical perspective as a conceptual framework that guides the whole research. The CEFR is integrated with other theories and models from the TEL area. Using the categories of scholarship proposed by Boyer (1990), the study is integrative as it proposes a way to integrate several models and theories to design the wiki deployment for mediation activities.

The CEFR is applied beyond its scope, which is mainly about learning, teaching, and assessment (Council of Europe, 2001). In this regard, the findings can be of interest to practitioners and TEL researchers because they provide theoretical underpinnings to conduct further research in technology-enhanced learning and mediation activities. It is aimed at strengthening the understanding of how wiki sites can be effectively deployed, given new mediation descriptors and scales. The research can inform educators about other areas of TEL identified by Boyer (1990), particularly discovery, integration, application, and teaching (Passey, 2019).

Exploring students' perceptions qualitatively, the study is interpretive in nature. It describes the way knowledge about students' experiences and perceptions can be applied to improve teaching practices in TEL. The study provides a comprehensive understanding of the factors that impact students' perspectives. The factors are classified as explicit or implicit in nature and by the effect they can have on students' perceptions when using a wiki (enhancing and impeding). In this way the findings could contribute to better understanding "contextual factors affecting implementation" (Passey, 2019, p. 980). These factors, which are underpinned by thematic analysis and thematic maps, seem to provide a holistic view of the wiki-mediated spaces which are created for mediation activities. The proposed thematic maps describe 14 descriptors that unpack mediation activities through students' experiences and perceptions.

In addition to the TEL dimension, the research contributes to methodology by presenting the innovative research design, which is guided by an action-oriented approach.

A sequential embedded mixed methods design is aimed at explaining the specifics of mediation activities via wiki in English language learning. The research provides theoretical explanations for empirical evidence found as the result of the study.

There is potential pedagogical value of the research that can be of interest for practitioners and teachers of the English language. The study shows the way how new descriptors can be put into practice to design tasks for mediation activities that engage and motivate students. By describing students' perspectives, which are based on their perceptions and experiences of wiki usage, the study delineates pedagogical, technological and language underpinnings for pedagogical intervention and wiki deployment.

In addition to reporting on language training opportunities, the research describes how a wiki can be used as "a safe space" for learning, teaching and assessing (Bergold & Thomas, 2012, p. 196). Purposefully designed wiki-mediated tasks engage learners in decision making and reflection about their learning and consequently increase students' autonomy (Kessler, 2009). It creates opportunities for students to voice their opinions in a variety of collaborative forms that can be offered by the wiki in combination with other digital forms of communication. Also, it creates conditions for a more inclusive educational environment, given the variety of perspectives and patterns of participation. Wiki sites are viewed in this research as a safe environment which is built on trust, partnership, respect, equal distribution of power, freedom of speech, active learning and other ethical principles for supporting the community (Banks, 2022).

Overall, the study presents certain potential organisational gains. Initiating collaborative processes in a digital environment and engaging students in decision making process can have a transformative impact, not only on students by also on the system. Such small-scale initiatives can be viewed as "catalyst to further change" (Bennett & Roberts, 2004, p. 11) if organizations are searching for new forms of teacher-student digital communication and collaboration. In this way, the study can be significant for the following stakeholders:

a). researchers interested in advanced mixed methods methodology and the way the approach can be used to solve context-oriented problems.

b). researchers and practitioners interested in better understanding of new illustrative descriptors of mediation activities and the ways mediation activities can be enhanced by technology and deployed in real teaching practice with tasks and student-generated artifacts.

c). teachers and educators wishing and willing to deploy wiki technology in their educational practices.

d) decision makers wishing to incorporate technology for the benefit not only of the educational system but also of students, because the research presents students' experiences and perspectives that give an inside view of the problem under consideration.

1.9 Thesis Structure

This dissertation consists of five chapters and utilizes the traditional dissertation format. Chapter I includes an introduction to the study, including background information and rationale for the study together with the research questions, an overview of the methodology, a summary of the contributions to theory and practice, and implications for further research. Chapter II presents the literature review, describing the conceptual framework and the main concepts which underpin the study. Chapter III outlines the research design and methodology for both quantitative and qualitative stages . It also delineates the findings for both stages. Chapter IV presents a discussion of the findings and the responses to the research questions. Chapter V includes the conclusion and suggestions for future research.

Chapter 2: Literature review

In this chapter I review the literature related to the study in five sections: conceptual framework, the concept of mediation in general and in language learning in particular, the gaps to be addressed in the study, and the philosophy and axiology of the research. The literature was identified from three main databases: Academic Search Complete, OneSearch (Lancaster University) and Google Scholar. I used the filters "peer-reviewed" and "full text available online" to select easily available sources of the highest quality. Different search terms and their combinations were used through Boolean operators to identify sources relevant to the study (Blaxter et al., 2006, p. 112).

The aim of the literature review is to delineate the theoretical underpinnings of the study and share the overview of the research in the field of mediation for language learning. It is not exhaustive because the idea is to provide a summary of the main studies related to the research problem. In this section I describe the main framework and the concepts which are used for the study "to provide a lens that shapes what is looked at and the questions asked" (Creswell & Creswell, 2014, p.51).

In the study the conceptual and theoretical frameworks are presented separately. The theoretical framework, which is presented later in the study, is used to guide the empirical part of the research. When choosing the models and theories to underpin the research stages, I pragmatically use those that could inform the research design (Hammond & Wellington, 2013). Thus, the theoretical framework encompasses several theories and models that supported my research at different stages of the intervention.

The conceptual framework for the study is the CEFR, which guides the whole research. The theoretical models, which play a supportive role to underpin the research stages, are presented in the methodology section of the study. The need for particular theories and methods arises from the necessity to address the research problem and design the study. The literature review isaimed at identifying the central issues in the field and the gaps. In addition, the literature which has informed the methodology is presented at each stage of the research design. Such an approach is well suited to the mixed methods approach which is deployed in this study (Creswell & Creswell, 2014, p.30).

2.1 The CEFR as a conceptual framework

There is no single view of what a conceptual framework is (Hammond & Wellington, 2013). There are three ways to view a conceptual framework (Antonenko, 2015). First, it can be understood as a concept map summarising the information from the literature review. Second, there is a belief that there is no difference between theoretical and conceptual frameworks and they are viewed as the same phenomenon (ibid., p.55). From another perspective, it is a system of beliefs, assumptions, theories, and concepts that supports and informs research (Maxwell, 2013, p. 39). In this study, the CEFR serves as the conceptual foundation and provides the main concepts of the research, key descriptors of the mediation, and options for the design and implementation of mediation activities. It calls for an action-oriented approach which represents "a shift away from syllabuses based on a linear progression through language structures, or a predetermined set of notions and functions, towards syllabuses based on needs analysis, oriented towards real-life tasks and constructed around purposefully selected notions and functions" (Council of Europe, 2018, p.25). The CEFR plays an important role in the study as "an overarching argument why and how the work should be done" (Ravitch & Riggan, 2016, p.8). The CEFR is reported to be an effective conceptual tool for conducting action research in the field of language learning (Schmidt & Bower, 2024).

The CEFR has had a profound impact on language learning and teaching. Since the publication of the CEFR, it has been used as an international standard to show learners' progress or a reference level in language learning. Learners' skills are assessed using the levels that measure language proficiency. The CEFR describes levels from A1 to C2 using descriptors for each skill. Since the language learning process is oriented at achieving a certain level of language proficiency, the required level is viewed as a learning outcome for the programme or course in language training. The level set as an entry requirement at university can vary, depending on the specifics of the programme and the level of education. The level framework allows textbooks and materials for learning and assessment to be chosen according to the expected learning outcomes.

Being very flexible and adjustable, the CEFR was designed as "a basis for reflection and communication …a common point of reference" (Jones & Saville, 2009, p. 51). Its main

aim is to provide a common framework "to relate language courses and assessment in Europe to each other" (North, 2007, p. 22). Initially, the CEFR was written with three main purposes: to establish a metalanguage to talk about language level, to agree on common reference points, and to motivate practitioners to reflect on teaching practices to improve them. The overall aim was "to provide a mental framework that values and encourages diversity" (ibid., p. 22).

Cambridge exams, which are used by many universities in formal assessment of learners' language proficiency, are closely aligned with the CEFR (Hawkey , 2009). There is much research into the ways how the CEFR underpins language education (Harsch, 2014). It is beyond the scope of this study to explore the relationships between exams, formal assessment and the CEFR, as they are very complex (Taylor & Jones, 2006). Generally speaking, the CEFR is widely used as "an instrument of language policy within Europe" and considered to be "uniquely influential in a European context, as well as beyond Europe" (Jones, 2011, p. 42). The CEFR can be viewed as a set of reference levels for language proficiency and as a conceptual framework. Conceptually, the CEFR presents a discussion of a variety of ways in which learning can happen. It has an "open and unfinished" nature to help practitioners deal with complex and different learning environments (ibid.). The CEFR does not give prescriptions: rather, it opens new possibilities for language learning and teaching (Council of Europe, 2018, p. 26).

Although it has brought positive changes into the system of language teaching and learning, there has been much criticism since its introduction in 2001 (Alderson, 2007; Hulstijn, 2011). There have been requests to improve it by paying more attention to the descriptors, strategies, individual contexts, and local learning needs (Alderson, 2007; Díez-Bedmar & Byram, 2017; North, 2007). During its development, the CEFR underwent a series of revisions (1996, 1998, 2001), with the descriptors being more clearly defined and the strategies and concepts being specified and broadened (Piccardo et al., 2019). In 2018 the new volume was published where profound changes were presented, with the focus on mediation, pluricultural education and online interaction (Council of Europe, 2018). The new companion volume (CV) refined the general pedagogical vision of the framework and made it more understandable, clear and flexibly applicable for teachers to use in everyday class practices. On the other

hand, it broadened and deepened the interpretation of mediation and online interaction (North & Piccardo, 2017; Piccardo et al., 2019): the necessity to extend the scope of the framework to other dimensions and educational contexts had been discussed in the research before the launch of the new volume (Jones, 2011).

Since its introduction, the CEFR has been used not only across Europe but also worldwide at different levels—from national policies to individual case studies showing the way it can be embedded in language teaching. Many countries refer to it when planning educational policies regarding foreign language education (Piccardo, 2020; Byram, 2022). Many countries have adopted CEFR-aligned educational programs for English learning and teaching: Canada, the Netherlands, Sweden, Japan, Thailand, China, Malaysia and many more (Arnott et al., 2017; Lee et al., 2022; Piccardo, 2020). The CEFR was used to implement the European Language Portfolio to document plurilingual background and intercultural experiences of its user (Broeder & Martyniuk, 2008). Despite the positive changes described in the CV, there still remains much criticism of its methodology and conceptual underpinnings. Researchers point to the challenges in the framework related to changes of terminology and proposing mediation and plurilingualism as key concepts of the CEFR Companion Volume. Deygers (2021), for example, states that these terms should be more conceptually defined to score and operationalise them in assessment. Additionally, there is the necessity to "consider learners' performances and views when mapping and validating descriptors and their scales" (ibid, p.189).

Regarding the TEL dimension, there are some studies relating to the way the CEFR can be combined with TEL research in different countries. For example, Taylor (2015) explored the ways the CEFR could inform IT-enhanced pluricultural pedagogy in Canada. Cinganotto (2019) investigated how effectively the CEFR descriptors could used for online interaction in teaching and learning a foreign language in Italy.

Some research has been devoted to the use of the CEFR in automatic essay scoring systems (Gaillat et al., 2022; Shermis, 2018;) and online digital assessment (Cervini & Masperi, 2021). Others are more attracted to investigating how ICT can be combined with the CEFR-aligned curriculum (Kok & Aziz, 2019; Lopes, 2011; Sadhasivam et al., 2023). The CEFR underpinned many European technology-enhanced projects in the field

of language education: English profile, eTwinning, INDIRE, etc. (Cambridge ESOL, 2011; North et al., 2022). Many of the case studies describing the implementation of the CEFR along with technology are well described in the literature (North et al., 2022). Overall, the CEFR has "many references to new media and technology", as noted by Murphy-Judy and Youngs (2006, p. 46), and encourages instructors to think about using it to inform technology-enhanced language teaching and learning (Jager, 2009).

Despite this potential extension of the CEFR, its general use of the CEFR centres around curriculum design, classroom teaching and assessment using reference descriptions of proficiency levels (Cambridge ESOL, 2011; Piccardo, 2020). Only a few studies have so far explored the use of the CEFR as a conceptual model for conducting TEL research. For example, Jager (2009) proposed a framework for ICT-integrated language learning which employed the CEFR as one of its conceptual underpinnings. Lafleur (2023) used the CEFR as a foundational document to describe a digital pedagogical model in language teaching and learning. Recent research in the way the CEFR can be used as a conceptual and reference tool is in line with action research and proposes the CAMR model (the CEFR-focused Action research model), which could guide theoretical investigation and empirical practices in future (Birch et al., 2021). However, cases describing practical implementation of the model do not cover TEL practices, with the exception of the E-portfolio (Birch, 2024).

In addition to the gap in TEL, CEFR-related studies stress the value of using more empirical research involving learners and their perceptions (Alderson, 2007; Deygers, 2021; Hulstijn, 2007). Overall, the literature analysis demonstrated the need to conduct research into the way a CEFR-informed, action-oriented approach can be implemented in digital dimensions and to identify learners' perspectives of CEFR-mediated learning (Arnott et al., 2017).

The core principles of the CEFR and its Companion Volume that are used in this study are outlined below:

- It introduces and explains the concept of mediation and mediation activities with illustrative descriptors;

- It views the learner as a "social agent acting in the social world and exerting agency in the learning process". This means engaging learners in the process, using "the descriptors as a means of communication". It also signifies the social nature of the learning process, which is based on "the interaction between the social and the individual" (Council of Europe, 2018, pp. 26-27).
- It puts "the process of co-construction of meaning through interaction at the centre of the learning and teaching process". The interaction can take many forms: between teachers and the classroom or between peers (ibid. p. 27).
- It describes collaborative tasks in the language classroom as essential. Suitable formats involve "small group settings" that offer opportunities for cooperation and assistance (Council of Europe, 2001, p. 165).
- It advocates an action-oriented approach which requires needs analysis, orientation towards real-life tasks and can be used as a key aspect of CEFR-focused action research (Birch, 2024);
- Being descriptive but not prescriptive by nature, it gives freedom in choosing the methods that practitioners can employ. It is positioned as an "open, dynamic and non-dogmatic" framework which is aligned with a pluralist attitude to teaching and learning processes so "it cannot take up a position on one side or another of current theoretical disputes on the nature of language acquisition and its relation to language learning, nor should it embody any one particular approach to language teaching to the exclusion of all others" (CEFR, 2001, p.18)
- "The methodological message of the CEFR is that language learning should be directed towards enabling learners to act in real-life situations, expressing themselves and accomplishing tasks of different natures (Council of Europe, 2018, p. 27).

Summarizing the information, Figure 2 presents conceptual ideas from the CEFR and the CEFR/CV which are relevant to this study.

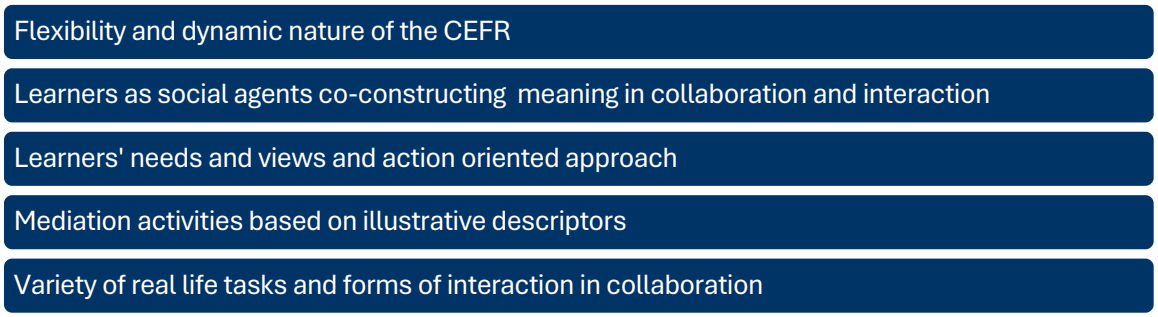


Figure 2: The conceptual use of CEFR for this study

These concepts underpinned the empirical part of the research. In this study, I refer both to the CEFR and its Companion Volume, where the extended illustrative descriptors for mediation activities are provided. It gave me "inspiration" and guidance through the investigation process (Council of Europe, 2018, p.22). The CEFR/CV emphasises the importance of mediation as the key element of language learning. In the Section "Key aspects of the CEFR for teaching and learning", the CEFR descriptive scheme *de facto* gives mediation a key position in the action-oriented approach (Council of Europe, 2018, p.33).

2.2 The concept of mediation and its role in language learning

2.2.1 Mediation in the CEFR

The concept of mediation was not new for the CEFR, as it was presented in the previous volume in 2001 (Little, 2007). It is an interdisciplinary term having a nomadic nature (Lenoir, 1996), since it is fundamental to many scientific fields. Being used in a variety of contexts from political discourse to multicultural studies, this concept was reconsidered and reconceptualized in a new vision of strategic approaches to teaching and learning languages (North & Piccardo, 2017). Mediation is considered the fourth mode of communication alongside reception, production and interaction (Figure 3) (Council of Europe, 2001, 2018).

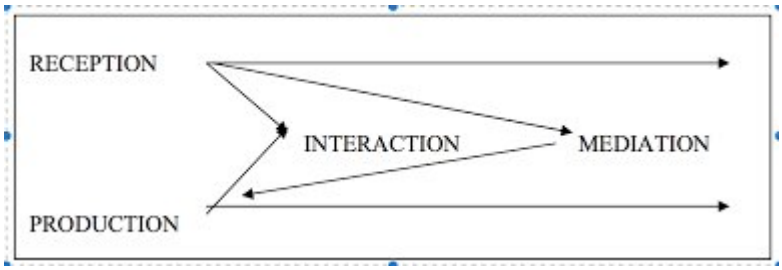


Figure 3: Mediation in the CEFR (Council of Europe, 2018, p. 34)

According to the schema, mediation appears to be entwined with the other three modes of communication and incorporates them in language activities. The CEFR introduces the concept of mediation as follows:

> In both the receptive and productive modes, the written and/or oral activities of mediation make communication possible between persons who are unable, for whatever reason to communicate with each other directly. Translation or interpretation, a paraphrase, summary or record, provides for a third party a (re)formulation of a source text to which this third party does not have direct access. Mediation language activities, (re)processing an existing text, occupy an important place in the normal linguistic functioning of our societies. (CEFR , 2001, Section 2.1.3: English version, p. 14).

Mediation is viewed as a social process where it is used for scaffolding, enhancing communication, solving conflicts or co-constructing the meaning (Piccardo, 2020). According to the CEFR/CV, mediation is a complex, multifaceted phenomenon which should not be restricted to the process of transmitting information or counselling in solving conflicts.

Taking into account different perspectives from which mediation is viewed in the CEFR, mainly four types of mediation are outlined: linguistic, cultural, social and pedagogic (North & Piccardo, 2016). Linguistic mediation is the general term for various forms of content transfer between languages. In this regard, there are two types of linguistic mediation: intralinguistic mediation, which is carried out within the same language, such as English to English, and interlinguistic mediation, which is carried out between two different languages. In academic research, it is studied in relation to grammar and

language structure (Jenkins & Palermo, 1964; Fontich et.al, 2020); written tasks in exam assessment (Stathopoulou, 2014); bilingual education (Baker, 2011; Olmedo, 2003); or in translation studies (Sabio Pinilla, 2006, Scarino, 2016).

This type of mediation is closely connected with cultural mediation as it involves a flexible use of different languages and cultures while learning a target language. North and Piccardo (2017) noted that "mediation is the linchpin to the notion of cultural awareness, which applies within a language as well as across languages and cultures, with consideration of styles, genres and the different sub-cultures, social and professional, within a society" (North & Piccardo, 2017, p. 85). The importance of mediation is emphasized in intercultural education (Scarino, 2016; Corbett, 2021).

Attention is also paid to social mediation and pedagogic mediation when developing illustrative descriptors for mediation activities (North & Piccardo, 2016). As the authors note, the concept of social mediation is "multifaceted" and thoroughly explained in past and recent research (ibid., p. 10). In the CEFR, this type is viewed in relation to "the idea of helping two or more persons to communicate who are unable to communicate alone because they cannot understand each other" (ibid.). Language is used to help avoid comprehension difficulty or any form of misunderstanding caused by the lack of knowledge, experience or expertise. However, this type of mediation should be understood in a broader sense in connection with cultural mediation when the "third space" is created in social interaction to facilitate understanding of another perspective, thus giving rise to cultural awareness (ibid., p.10).

When talking about the ability to view others' perspectives critically, North and Piccardo (2016) introduce the concept of pedagogic mediation, which encompasses the following actions:

> facilitating access to knowledge, encouraging other people to develop their thinking (cognitive mediation via scaffolding); collaboratively co-constructing meaning as a member of a group in a school, seminar, or workshop setting (cognitive mediation via collaboration) and creating the conditions for the above by creating, organizing and controlling space for creativity (relational mediation) (North & Piccardo, 2016, p.11).

In addition to the classification of mediation types, the CEFR views mediation in two categories which depict its dual nature: relational (establishing and managing interpersonal relationships) and cognitive (enhancing access to knowledge) (Piccardo et al., 2019). In the context of education, it involves engaging and scaffolding students in the process of appropriating knowledge in interpersonal relations based on collaborative goal-oriented tasks. The meaning is co constructed in interaction, where learners are social agents who constantly move between individual and social levels, making understanding of mediation close to social constructivism theories (Piccardo, 2012). The CEFR proposes the following approach to understanding the distinction between two types which can be summarised in Table 1(Council of Europe, 2018, p.175).

Table 1: Relational and cognitive types of mediation in the CEFR

Type	Definition	Mediation Scales Function
Relational Mediation	The process of establishing and managing interpersonal relationships in order to create a positive, collaborative environment	Used for establishing conditions for facilitating collaborative interaction with peers and managing interaction
Cognitive Mediation	The process of facilitating access to knowledge and concepts, particularly when an individual may be unable to access this directly on one's own, due perhaps to the novelty and unfamiliarity of the concepts and/or to a linguistic or cultural barrier.	Developing ideas for collaborating to construct meaning, and encouraging conceptual talk

Overall, the approach to mediation in the new volume of the CEFR has been broadened: in addition to text mediation, the document provided scales for mediating text, concepts and communication, totalling 14 in number, with 5 scales for mediating strategies (Appendix 1).

The authors point to the fact that it is "virtually impossible to undertake cognitive mediation without taking into account the relational issues concerned. Real communication requires a holistic integration of both aspects" (Council of Europe,

2018, p. 175). For this reason, the mediation scales are presented in four groups: mediating a text; mediating concepts; mediating communication; and mediation strategies. This study is focused on describing only mediation activities because "the acquisition of proficiency is in fact seen as a circular process: by performing activities, the user/learner develops competences and acquires strategies" (Council of Europe, 2018, p.33). In this regard, communicative language strategies are seen in the CEFR

> as a kind of hinge between communicative language competence and communicative language activities" (ibid.). The development of the descriptors for strategic competence was affected by the model: plan, execute, monitor, and repair. However, descriptor scales were not developed for all categories. For mediation, descriptors for only execution strategies were developed. (Council of Europe, 2018, p.33).

2.2.2 Theoretical underpinnings of mediation

There is a range of research devoted to the concept of mediation in philosophy, psychology and language learning in general (Brown et al., 2002; Gibbons, 2007; Thompson, 2013), where mediation is viewed from a socio-cultural perspective and underpinned by the categories of zone of proximal development (ZPD), scaffolding, and collaborative interaction (Vygotsky, 1978; Lantolf, 2000).

From a theoretical point of view, learning is mediated in the Zone of Proximal Development, where meditation is "a core concept in theorizing" (Lantolf, 2000, p. 2). Vygotsky attached great importance to the concepts of mediation and especially mediated activity in his research. Mediated activity is viewed as a link between sign and tool as means of developmental activities. There is "basic analogy between sign and tool (which) rests on the mediating function that characterizes each of them" (Vygotsky, 1978, p. 54). According to Vygotsky's theory, both concepts are subsumed under a more general concept of mediated activity (Figure 4).

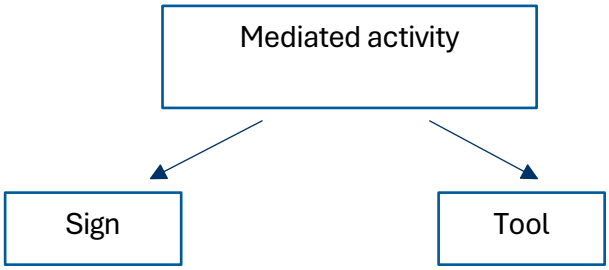


Figure 4: Logical relationship between mediated activity, sign and tool (Vygotsky, 1978, p. 54)

In his explanation of mediated activity Vygotsky referred to Hegel, who "saw in it a characteristic feature of human reason" (ibid.). When defining one of the main concepts of his system of logic – sublation (Aughebung)– in "The Science of Logics", Hegel emphasised the role of mediation in this process (Hegel, 2014, § 184):

> To sublate, and the sublated (that which exists ideally as a moment), constitute one of the most important notions in philosophy. It is a fundamental determination which repeatedly occurs throughout the whole of philosophy, the meaning of which is to be clearly grasped and especially distinguished from nothing. What is sublated is not thereby reduced to nothing. Nothing is immediate; what is sublated, on the other hand, is the result of mediation; it is a non–being but as a result which had its origin in a being. It still has, therefore, in itself the determinate from which it originates. (Hegel, 2014, § 184)

In Hegel, mediation is seen as "essential to the possibility of transition when talking about unfolding certain concepts" (O'Connor, 1999, pp. 84-85). The concept of mediation was mentioned more than 96 times in "The Science of Logic" (Hegel, 2014). However, it has not received special attention despite its centrality to Hegel's system of logic (O'Connor, 1999).

Developing the idea of mediated activity, Vygotsky describes the difference or divergence, or "essential difference between sign and tool", in the way they orient human behaviour—the former being internally oriented at "mastering oneself", whereas the latter is externally oriented at "mastering nature" (Vygotsky, 1978, p. 54). This

understanding underpins the concept of "higher behaviour" or "higher psychological functions", referring to the combination of tool and sign in psychological activity (ibid). According to this theory, the transition to mediated activity through artificial means involves changes in psychological operations because the employment of new tools creates new activities that require new psychological functions. The definition of higher mental processes is "grounded in the notion of mediation (Wertsch, 2007, p.178). Wertsch points to the fact that mediation is a "central theme that runs throughout Vygotsky's thinking" (ibid). However, it was viewed from different perspectives and emerged with different meanings, as in Hegel's Science of Logic, where Hegel presents four different versions of mediation (O'Connor, 1999; Wertsch, 2007).

One of Vygotsky's perspectives on mediation is closely connected with the relationship of signs and tools to mediated activity. Wertsch (2007) describes two basic types of mediation, which he calls "explicit mediation" and "implicit mediation". Explicit mediation relates to the activity itself and the "stimulus means" or tools that are used intentionally to orient the behaviour of an individual. Tools are used as "the conductor of human influence on the object of activity; it is *externally* oriented; it must lead to changes in objects" (Vygotsky, 1978, p. 55). Explicit mediation deals not only with "stimulus means" or tools but also it requires the activity of another person who intentionally introduces " stimulus means in "the stream of activity" (Wertsch, 2007, p.180). In contrast, implicit mediation relates to signs which are not artificially or intentionally introduced because sign "changes nothing in the object of a psychological operation. It is a means of internal activity aimed at mastering oneself"(ibid.). In his research, Vygotsky is focused more on qualitative transformations that happen as a result of development (Vygotsky, 1978, p.65):

> The result of development will be neither a purely psychological structure such as descriptive psychology considers the result to be, nor a simple sum of elementary processes such as associationistic psychology saw it, but a qualitatively new form that appears in the process of development.

Such a perspective on the qualitative approach to understanding mediated activity is not in line with the CEFR, which proposes to measure mediation quantitatively using

descriptors and scales to assign levels. The latter approach prompts much criticism among educators because assessment of such a complex phenomenon using quantitative characteristics can be challenging (Deygers, 2021; Corbett, 2021). Having predicted this criticism, North and Piccardo (2016, p. 46) noted that in drafting the descriptors, "The over-arching nature of mediation meant that it was very challenging to 'reduce' it in the categories and descriptors that we have provided".

I agree with the idea of viewing mediation from a qualitative perspective because this category pays a central role in a qualitative change or "a qualitative leap" from one stage of development to another (Vygotsky, 1978, p. 57). Vygotsky understood the process of development using the idea of a series of qualitative transformations or chaanges. Following his understanding,

> child development is a complex dialectical process characterized by periodicity, unevenness in the development of different functions, metamorphosis or qualitative transformation of one form into another, intertwining of external and internal factors, and adaptive processes which overcome impediments that the child encounters (Vygotsky, 1978, p. 73).

A qualitative approach to exploring mediation from learners' perspectives is in line with the Vygotskian approach to learning and development. Researchers in the field of the CEFR state that it is problematic to assess relational aspects of mediation referring to interactions between language users (such as establishing a positive atmosphere, facilitating collaborative interaction with peers, resolving delicate situations ,etc.) (Martyniuk, 2017). What is more, when designing the descriptors and scales, the authors took into account only teachers' and experts' views: no learners' performance was taken into account (Deygers, 2021). Hence, there is a need for further investigation to explore learners' perceptions of mediation activities through a qualitative lens (Luís , 2024).

Using the terminology of the study, in my research I view mediation through the combination of external and internal factors (explicit/implicit) enhancing or impeding mediation activities in English learning. Talking about relational and cognitive mediation,

I refer to the scales and descriptors proposed in the CEFR. Given a holistic approach towards mediation, it is close to impossible "to undertake cognitive mediation without taking account of the relational issues concerned" (Council of Europe, 2018, p. 245). Describing language use, I use the CEFR classification into 4 domains where mediation can occur: personal, public, occupational and educational (ibid., 191). As for the contexts, much attention is paid to the pedagogic field (ibid., 103); however, cultural, linguistic and professional contexts can be researched in the future.

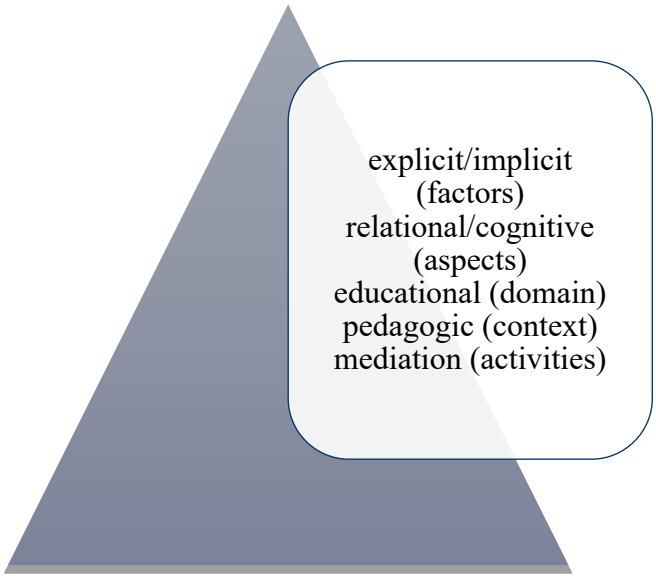


Figure 5: Research focus on mediation in the study

In my research, I would like to contribute to descriptions of the factors affecting mediation activities and mediation types from students' perspectives in the context of English learning, where second language acquisition (SLA) is mediated through the collaborative platform of wiki sites. Furthermore, attention should be paid to the pedagogic context for mediation activities where teachers play the role of more experienced participants and create the conditions for the ZPD for learners.

Pedagogic mediation is viewed through cognitive and relational mediation. The cognitive type of mediation involves scaffolding learners' activities and collaborating with them to co construct knowledge. The relational aspect of pedagogic mediation deals with "creating, organizing and controlling space for creativity" (ibid, p.15). However, it would be simplistic and reductionist to view mediation and its activities only as the pedagogic

type because in the process of teaching and learning all types of mediation are intertwined: linguistic, cultural, social and pedagogic.

2.2.3 Mediation and a technological perspective in research

There is a field of research in the mediation literature devoted to the role of technology (Carrel & Ebner, 2019). It is beyond the scope of this study to describe the ways technology has affected various professional contexts which are underpinned by the concept of mediation. Various theoretical approaches deploy the concept of mediation in explaining technological interaction. Mediation is viewed as one of the central concepts in Cultural Historical Activity Theory (Bligh & Flood, 2015; Engeström, 2009; Igira & Gregory, 2009; Virkkunen & Newnham, 2013;); in technological mediation (Driskell et al., 2003; Ihde, 2004; Kiran, 2015; Verbeek, 2016;); in Actor-network theory and networked learning (Carvalho et al., 2016; Fox, 2002; Hodgson et al., 2011; Latour, 1996; Wright & Parchoma, 2011). The selected literature review shows that much research has explored the role of technology as a mediation tool in language learning (Chapelle, 2001; Hubbard, 2023; Li, 2006; Shaw, 2009; Thorne, 2014; Tumolo & Finardi, 2021); and particularly wiki mediated environments in L2 (Alghasab, 2015; Lee, 2010; Li, 2012; Ng, 2016; Storch, 2017).

Overall, much attention has been paid to the teacher's role in creating mediated environments (Gibbons, 2007) and wiki technology for collaborative writing (Altanopoulou et al., 2015; Khezrlou, 2024; Lin & Yang, 2011; Miyazoe & Anderson, 2010; Morgan & Smith, 2008). However, the research is not primarily focused on describing different theories that use mediation as an underpinning concept when exploring mediated environments. In this study, mediation activities are viewed through the CEFR, which emphasizes the importance of collaborative environments for co-construction of knowledge. Wiki as a Web 2.0 technology is collaborative in nature and viewed as "an effective tool for collaborative learning" (Luo & Chea, 2020, p.1).

Wiki-technologies have been actively used by teachers to achieve the aim of collaboration and active equal participation in English learning activities (Brownson, 2009; Li, 2012; Halim & Abd. Halim, 2024). Wiki sites are proposed as an effective scaffolding platform to support L2 teaching and learning (Chao & Lo, 2011). Scaffolding

is a form of learner support provided in a variety of ways, assigning several roles and responsibilities for students and other participants in the educational environment (McLoughlin, 2002). Scaffolding is considered to be a feature of cognitive mediation when teachers facilitate "access to knowledge, encouraging other people to develop their thinking" and collaboratively co-construct "meaning as a member of a group in a school, seminar, or workshop setting" (North & Piccardo, 2016, p. 15).

Wiki sites can be used to solve various teaching problems: support of collective cognition (Lund, 2008); collaborating for language learning and peer activity (Bradley, 2014; Halim & Abd. Halim, 2024); collaborative writing and students' interaction (Lin & Yang, 2011; Miyazoe & Anderson, 2010; Khezrlou, 2024). The technology provides participants with the opportunity to download and upload information, to get easy access to the materials, and to do projects collaboratively (Kessler, 2009; Hung&Wang, 2020). Speaking generally, wiki creates an "architecture of participation" in shared learning spaces (O'Reilly, 2004, p.101) or some type of community of practice where knowledge is developed collectively, and the practice can be improved due to collective sharing (Godwin-Jones, 2003; Warschauer & Grimes, 2007;Hung&Wang, 2020).

Being underpinned by the idea of collaboration, wiki sites are an open, multimodal space where mediation activities can be designed by teachers and practiced by learners. As Achterman (2006) noted, the structure of a wiki provides meaningful interactions among teachers, students, and content. In other words, wiki collaborative spaces create opportunities for students to learn how to work with others and how to create a community (Kessler, 2009; Reinhardt, 2019). The examples of this type of deployment are web-quests, wiki-sites or Google forms which can be used to support an English course and facilitate T-S (teacher-student) interaction (Biasutti & EL-Deghaidy, 2012; Hu & Johnston, 2012;Hung&Wang, 2020; Li & Zhu, 2017; Luo& Chea, 2020, Mills, 2007;Nguyen, 2022).

Google sites, as a free open tool, are used for educational purposes, though there is little research reporting the deployment of this technology. OneSearch produced only about 43 open access papers from peer review journals, books and book chapters written in English related to using Google sites as an educational technology, with only 4 devoted to using them in English learning and teaching. The papers are devoted to using Google

sites in blogging (Gerich, 2013) or in teaching English via Google sites in general without focusing om mediation activities (González, 2014, Karkoulia, 2016; Oktalia & Drajati,2018). Despite a shift of current research in L2 towards social media (Reinhardt, 2019), there is scant literature about the mediation aspects of wiki-enhanced learning (Lin & Yang, 2011; Piccardo et al., 2019). This highlights the importance of addressing the issue of how exactly a wiki site can scaffold students' mediation activities and tasks designed intentionally by the teacher to increase collaboration and more student engagement in online interaction. Following Lund and Rasmussen (2008), it is necessary to explore the alignment of "the task-tool relationship in activities involving collective knowledge production" (Lund & Rasmussen, 2008, p. 378). Learning is seen not only through the connections between the agents and tasks in a wiki-mediated learning environment at a collective level, but also at an individual level to see how these individual experiences vary in terms of what is learned and how (Booth, 2008). Due to the introduction of new descriptors into the CEFR and the pedagogical potential of wiki in English language and learning, the necessity arises to refocus research attention to wiki as a learning platform for mediation in English training.

2.3 The gaps

The CEFR provides guidelines for teaching a foreign language worldwide. The new volume has clarified many underdeveloped core concepts for teaching and learning, including mediation and mediation activities. Mediation is given a key role in the process of learning languages and it is presented in the CV using descriptors and illustrative scales to measure the skill levels. Despite positive changes and much clarification, the CEFR and its CV have been much criticized by researchers because of viewing mediation using quantitative measures (levels and scales) and ignoring learners' views and perspectives on the new descriptors.

In addition, there is a gap in the literature showing the need to deploy the CEFR conceptually to inform action-oriented research in the field of TEL. Wiki has been chosen due to its dynamic nature and affordances for collaborative task-oriented projects that are needed for mediation activities. Research is scarce describing the factors that could enhance or impede the deployment of wiki sites for mediation

activities to teach English at university. The flexible and pluralistic nature of the CEFR allows researchers and educators to choose from a variety of methods and designs that are appropriate to create collaborative wiki-mediated environments for mediation activities.

Given the gaps in the research, my motivation to conduct this study is to explore mediation activities which engage learners through wiki technology. To achieve this aim, a variety of methods and approaches are used at different stages of the research design. The mixed-methods methodology chosen for the research will enable me to provide a broader view of the factors that could be explicit or implicit in nature and could impede or enhance students' learning mediated with wiki.

2.4 Philosophy of the research

2.4.1 Ontology of the research

The ontological foundation of research concerns "claims about the nature of being and existence" (Hammond & Wellington, 2013, p.114). In social research, ontology refers to understanding the nature of social reality through the dichotomy between objective reality – existing independently of the observer – and subjective reality, being negotiated within the group (Bryman, 2004). Mediation is viewed in the study as a product of social interaction "when a learner/user acts a social agent who creates bridges and helps to construct or convey meaning" (Council of Europe, 2018, p. 103). Ontologically, mediation is viewed as a dependent variable which is embedded into different cultural contexts and its meaning may eventuate as a result of a dialogue among learners acting as social agents. It means that the truth about it can be constructed through a dialogic interaction between social agents involved in mediation activities. As North and Piccardo noted (North & Piccardo, 2017, p.16):

> The means of mediation are culturally connotated human constructions. The action of mankind with the environment is always mediated by tools that are socially constructed and evolve over time as a result of the experience of successive generations.

Mediation is viewed as a developing and evolving phenomenon which happens when "there is bridging and exchange between different elements and spaces, where the individual and the social interact" (ibid., p. 16). Such a perspective is underpinned by an ontological position that asserts that social phenomena and their meanings are continually being accomplished by social actors. It implies that social phenomena and categories are not only produced through social interaction but that they are in a "constant state of revision" (Bryman, 2004, pp. 16–18).

This understanding of the concept of mediation makes it possible to classify the ontology of the study as anti-foundationalist, which asserts that "truth – and any agreement regarding what is valid knowledge – arises from the relationships between members of some stake-holding community" (Guba & Lincoln, 2000, p.177). 'Antifoundational' is understood as "a refusal to adopt any permanent, unvarying (or "foundational") standards by which truth can be universally known" (ibid.). The truth results from the relationships between community members during "community negotiations regarding what will be accepted as truth" (ibid.).

Following this logic, mediation arises from human experience and is the effect of human practices. This echoes with the ideas of pragmatism as a worldview that "arises out of actions, situations and consequences" (Creswell & Creswell, 2014, p. 10).

2.4.2 Pragmatism as a world view

In this study, pragmatism is used to provide philosophical assumptions for the research design and the methods. The term 'worldview' is defined as "a basic set of beliefs that guide action" (Guba & Lincoln, 1994, p.107). Creswell states that philosophical worldview which is brought into the study determines the choice of the methodology in the research (Creswell & Creswell, 2014, p. 6). He defines pragmatism as an approach that is more focused on methods and concerned with" applications – what works – and solutions to problems" (ibid., p. 245).

Philosophical underpinnings for pragmatism derive from the works of Peirce, James, Dewey and Rorty . According to James: "Truth is made, just as health, wealth and strength are made, in the course of experience"(James, 1907, p 148). His understanding of a pragmatic approach to the study centres around "the shifts from abstract theory to

the plane of concrete praxis" (Gory, 2023, p. 16). Peirce called it "the principle of practicalism-or pragmatism," (James, 1898, p. 290).The ideas of taking a practical orientation to the process of inquiry are further developed in the works of Patton (1985), Teddie and Tashakkori (2009), Creswell (2014), and Morgan (2014). These ideas serve as a philosophical underpinning for mixed methods studies (Creswell & Creswell, 2014, p. 11) Following James (1898,1907), Morgan (2014) and Creswell (2014), the main ideas of pragmatism can be defined as follows:

- Researchers who investigate complex and dynamic social reality, need methodological pluralism, as no single method or body of data could account for differences in perspective and the study of human action
- The researcher can enjoy freedom of choice in the research methods and strategies that best fit the research problem. The research focus is on the problem solving and the consequences of actions. James states, "Thus to develop a thought' s meaning we need only to determine what conduct it is fitted to produce: that conduct is for us its sole significance: (James, 1898, p. 291).
- Pragmatist researchers are striving to find out "How is truth made?" and the rationale for using a mixed methods approach is to investigate the intended consequences. To support this idea, I would like to quote James, who defended the following thesis about pragmatism (James, 1907, p. 142):

> The truth of an idea is not a stagnant property inherent in it. Truth *happens* to an idea. It *becomes* true, is *made* true by events.

- Pragmatism is particularly suited to a mixed methods research because it values each method for its contribution (Morgan, 2014)
- Pragmatism does not describe the world "as an absolute unity" (Creswell & Creswell, 2014, p. 11). Such a perspective opens the door to using different forms of data collection and analysis.

2.5 Axiology

My own position is that that research should be used to solve problems in real-world practice. Having been a teacher for more than 20 years, I am interested in the problem-centred approach, which is focused on the consequences of actions. Such a perspective echoes with pragmatism. My basic beliefs predetermined the inquiry process: the choice of the problem from my teaching practice, the choice of the theoretical framework that underpins the research design and the mixed methods methodology of the study, which helps address the research questions using quantitative and qualitative approaches.

This study explores students' perspectives through their perceptions and experiences of mediation activities via wiki technology. Therefore, the CEFR, which introduces and describes the concept of mediation and its specific activities, is in the focus of attention and can be viewed as a theoretical foundation for the study. Specifically, the study examines the ways that students perceive mediation activities for text, concept and communication on specially designed wiki sites for English studies.

Chapter 3: Methodology

In this chapter, I describe the research design and the research methods that were used to collect data. I commence a brief overview of the methodology and research design, and then describe the research site, the participants and my role in the research process. The deployment of a wiki site as an intervention is presented in a timeline. I describe two stages of the research design: data collection tools for each stage, and data analysis. Finally, I will highlight the ethical considerations and limitations of the study. Issues of the reliability and validity of the research will also be delineated.

3.1 Overview and Justification

The study is based on a mixed methods methodology (Venkatesh et al., 2013**;** Creswell & Creswell, 2014; Cohen et al., 2017) that "involves combining and integration of qualitative and quantitative research and data in a research design" (Creswell & Creswell, 2014, p.14). I used this type of methodology because its strength is the analysis of "complex organizational and social phenomena" (Venkatesh et al., 2013, p.22). Generally, mediation is viewed as a multifaceted phenomenon occurring in different dimensions (linguistic, cultural, social, pedagogic) (North & Piccardo, 2016, p. 13). In the CEFR, mediation activities are presented with 18 illustrative descriptors operating in four domains (public, private, occupational, educational) (CEFR/CV, 2018). Such a complex phenomenon can be better explored using "methodological pluralism" to develop "stronger inferences than a single method or worldview" (Venkatesh et al., 2013; Teddlie & Tashakkori, 2009). Being of "open, dynamic character" the CEFR allows the use of a variety of methods and approaches that best suit teaching and learning needs (Council of Europe, 2020, p 13).

There are several reasons for a mixed methods research design. Following the classification of the reasons given by Venkatesh (Venkatesh, 2013, p.26), I can delineate the major ones behind my motivation to use it.

First, complementarity: a quantitative method is used to gain information about the acceptance of the wiki platform by students at the pre- intervention stage. The quantitative method plays a supporting role in the research design, while the qualitative

method is used to explore students' perceptions of the platform and mediation activities.

Second, expansion: qualitative post-intervention interviews provided the explanation for the findings of the quantitative stage, which was aimed at exploring the general level of acceptance of the wiki site by students.

According to the typology developed by Creswell and Plano Clark (2007), this research design can be classified as an embedded sequential design in which mixing of data occurs chronologically, with a quantitative stage preceding a qualitative one. The quantitative data about the usefulness, ease of use and general acceptance of the platform underpinned the intervention stage of the wiki deployment, after which qualitative data were gathered to answer the research question about mediation activities and explain the findings from the quantitative stage. In this way, the research questions are interconnected; the first one giving a general understanding of the acceptance of the technology and the second dwelling particularly on the mediation activities and students' perceptions of the platform. This research design is especially useful when unexpected results can arise from a quantitative study (Morse, 1991). This design is applicable to small-scale projects due to its straightforward nature, separation into clear stages, and ease of describing and reporting (Creswell & Creswell, 2014). The sequence of stages is presented below (Figure 6). The figure uses notations that show the priority of the qualitative data in the study's analysis, where lower-case letters indicate "lesser importance given to a method" and upper-case letters show greater emphasis (ibid., p.228).

Figure 6: The research design in stages

When conducting the research, three factors were taken into account (Guest & Fleming, 2015):

- **Timing**, which refers to the way two data sets are mixed, either sequentially or concurrently. In this research I initially used a quantitative survey to find the general level of students' acceptance of a wiki site as an educational platform. After deployment of the wiki and putting mediation activities into practice, in-depth qualitative interviews were conducted. Hence, in this research, the data were mixed sequentially.
- **Weighting**, which characterizes the priority of quantitative or qualitative methodology in the overall research study. In this research design, qualitative data formed the central data set, providing the findings for the research questions and helping to explain the findings from the quantitative stage.
- **Mixing**, which describes the way the data are integrated and where and how the mixing occurs in the research. In this study, the quantitative data initially collected plays "a supportive role" for a larger phase of the research design (Creswell & Creswell, 2017).

Table 2: Aspects influencing the mixed methods research design. (Adapted from Creswell and Creswell (2017)).

Timing	Weighting	Method of Integration	Purpose of integration
Sequential	Qualitative is prioritised	Quantitative data (QUANT) is embedded into qualitative data (QUAL)	Quantitative data set was used to inform the design of the wiki site for mediation activities, after which qualitative data was gathered and analysed

The employment of a mixed methods methodology offers several advantages over a mono-method research strategy (Guest & Fleming, 2015). According to Creswell (2014), there are several benefits to mixing methodological approaches:

- A combination of methods provides a more comprehensive understanding of the phenomenon under investigation;
- The collection of both data sets "neutralizes" the weaknesses of each form of data;
- Use of multiple forms of data drawing on all possibilities to best address the research question;
- Encouraging interdisciplinarity in the research.

Despite the numerous benefits of the mixed methods methodology, such as "epistemological and methodological pluralism" (Venkatesh, 2013), a more holistic view of the phenomenon (Cohen et al., 2002) and reliability of data through triangulation (Creswell & Creswell, 2014), the methodology can be challenging in terms of validation procedures (Venkatesh, 2013), and the clarity with which data-gathering is presented (Guest & Fleming, 2015). This study consists of several stages, as presented below (Table 3).

Table 3: Timeline showing the design strategy and the researcher's role

Stage/period	Objective	procedure	Product	Role
1. Preparatory/ Quantitative	Analysis of wiki acceptance; designing the community, inviting the participants	Curriculum analysis Descriptors analysis Designing the survey of Students' acceptance of wiki (RQ1)	On-line survey of students' acceptance	Designer Researcher
2. Development	Using quantitative data to inform pedagogical design of the wiki	Designing a wiki site	Mediation driven wiki site	Designer, Researcher, Teacher
3. Implementation	Active working of the wiki community	Mediation activities in practice (deployment stage)	Teacher-student/ Peer-to-peer interaction	Designer, Researcher, Teacher, Facilitator, E-moderator
4. Qualitative	Data collection	Semi-structured open-ended interviews (RQ2) and semi-structured questionnaires	Qualitative data analysis	Researcher

3.2 Action research and the research design

I opted for an action research approach because it is aligned with the theoretical framework of the CEFR, where action research

> implies purposeful, collaborative tasks in the classroom, whose primary focus is not language. The methodological message of the CEFR is that language learning should be directed towards enabling learners to act in real-life situations, expressing themselves and accomplishing tasks of different natures. (Council of Europe, 2020, p. 29).

The idea of action research is "to bridge the gap" between new descriptors for mediation activities and practical application of teaching strategies using wiki sites (Somekh, 1995, p.340). It was important for me to understand better how mediation activities can be designed and deployed using wiki sites and how they are perceived by students.

Action research is cyclical in nature, including several stages of development. It develops through a spiral of cycles which includes planning, implementing, observing and reflecting. The cycles start again, considering the necessary changes to introduce at the next cycle (Kemmis & McTaggart,2007). The three cycles of wiki deployment studied here are presented in Table 4 below. Each cycle means creation of a new wiki site with the purpose of using mediation activities for different teaching aims and different aspects of English language learning. The research site was based in two universities located in Russia: The Higher School of Economics (HSE) and Minin University of Nizhny Novgorod.

Table 4: Three cycles of the action study

	Cycle 1	Cycle 2	Cycle 3
University	HSE	Minin University	Minin University
Aspect of English teaching	IELTS training	General English	ESP (English for specific purposes)
Link	https://sites.google.com/view/wiki-for-ielts-training/home	https://sites.google.com/view/english-file-pre-interm-wiki/home	https://sites.google.com/view/art-and-design-mininuniver/home
Academic year	2019-2020 (start February 2020)	2020-2021 (start November 2020)	2020-2021 (start December 2020)
Course	2 courses	1-2 -courses	2 courses
Mediation activities	Individual and group projects Working with video/ audio content Collaborative writing Co-constructing concepts (Glossary) Writing group Forum	Individual and group projects (The story behind the photo, Inventions) Collaborative writing Co-constructing concepts (Glossary) Using wiki names	Individual and group projects (Colours in the interior, My favourite art supplies) Working with video/ audio content Collaborative writing Co-constructing concepts (Gallery, Art hacks, Unusual art styles, Glossary)

With each cycle, the site was developed by embedding more tasks for mediation activities for English learning.

I viewed the action study not only as practical classroom research to improve teaching practice, but also as Aristotle's practical thinking, which is aimed at achieving ways to act well through thinking about the ends and means (Kemmis, 2009; Price, 2012). During the implementation, I kept a reflective journal where I noted information about problems, students' statistics, and the challenges I had to overcome. This strategy helped me understand how the site could be improved and which mediation activities were more or less popular with students. Such a self-reflective activity is an inseparable part of the action research. It resulted in making the wiki site more complex in structure and more saturated with mediation activities. Furthermore, the self-reflective nature of the action research enabled me to propose some implications for teachers who would like the idea of deploying a wiki for mediation activities in their professional practice.

Overall, the study can be presented in three levels (Blaxter et al., 2006):

- research family, i.e., mixed-methods methodology;
- research approach, i.e., an action-oriented approach;
- research techniques, i.e., semi-structured interviews and questionnaires for the qualitative stage and a survey for the quantitative stage.

3.3 Researcher's role in action-oriented research

In the research process, I took the role of a teacher as a researcher. Such a research position is in line with the action-oriented approach to research design (Stenhouse, 2007). There are different definitions and types of action research. Carr and Kemmis proposed three types: technical, practical, and critical, each having different aims and structures (Kemmis, 2009).I can classify my research as practical because I explored the voices of students who were involved in the process of changing their practice via wiki. The study is focused on exploring "the means" of the teaching practice and "the ends", i.e., the outcomes of these changes. The study is aimed at "enlightening" practitioners so that they can "act wisely" in their professional context (ibid., p.12). Following Kemmis's understanding of action research, I act as a practitioner-researcher, "having intellectual and moral control over their practice" (ibid, p.10). Cohen et al. define

action research as a "small-scale intervention in the functioning of the real world and a close examination of the effects of such an intervention" (Cohen et al., 2002, p.226). In conducting this intervention, I observed the following principles: (Blaxter et al., 2006, pp. 67-70; Cohen et al., 2002, p.228):

- focused on practical problems and context-bound;
- collaborative, as the participants are active agents of intervention and change;
- cyclical and reflective in its nature;
- open-minded about the evidence and educative about the outcomes;
- methodologically eclectic.

Methodological eclecticism is an attribute of mixed methods methodology, where not only paradigms are combined but also various techniques, methods, approaches and conceptions (Onwuegbuzie & Leech, 2005).

3.4 The research sites

The study was conducted at two leading Russian universities where I have been working as a teacher. The first university where I deployed the wiki site was the Higher School of Economics (HSE) in Nizhny Novgorod. This university was chosen as the research site for the first cycle as I had access to a larger sample of students and their level of English proficiency was higher than that of the students at Minin University, which was chosen for cycles 2 and 3. Moreover, I was afraid that students with a lower level of English proficiency would find it difficult to cope with both technological and language difficulties.

The HSE is a national research university which has campuses in four big cities (Moscow, Nizhny Novgorod, St. Petersburg, and Perm). The university was established in 1992, and in 1996 a campus was founded in Nizhny Novgorod. In HSE, there is a requirement for the academic curriculum to achieve a good command of the English language (intermediate and higher) because knowledge of English is an important prerequisite for admission and instruction at the university. In each educational program, the number of hours devoted to studying English is practically equal to the number of hours at language schools. Moreover, every student, regardless of educational program,

takes an exam in the format of the IELTS (International English Language Testing System) in the second year of study. Only upon successful completion of this test can students advance to the next course. Each educational programme provides a number of special courses (called minors) and lectures taught in English. Currently, more than 2,700 students study in 22 educational programs at the campus. There are 9 undergraduate programs.

The second university chosen as a research site was Minin Nizhny Novgorod State Pedagogial University (Minin University), which is one of the oldest pedagogical universities in Russia, founded in 1911. Since that time, the university has transformed, paying attention not only to pedagogy and psychology but other humanitarian disciplines. Nowadays, there are 9 faculties and more than 10,000 students studying in bachelor, master and PhD programs. The aim of the university is to educate future teachers from six departments in more than 150 educational programmes, including both humanitarian and engineering profiles. As for language teaching, English is an obligatory discipline for undergraduate students, but the teaching hours are fewer than in HSE. In both universities, Moodle is used as a platform for formal learning and formative assessment. Moodle is embedded into the curriculum, providing access to lectures, tests, and other materials for studies.

3.5 The participants

The participants in the study were from undergraduate programs of the two universities described above: they were first- and second-year students who studied economics, management, IT, art, and design. Overall, more than 100 students were involved in mediation activities via wiki sites over the period of academic years 2019-2020 and 2020-2021. The sample represents a rather homogeneous group of learners in terms of age, cultural background, and study level. The main difference is the curriculum and the students' language proficiency, with B2-C1 for the students from HSE and A2-B2 for the students from Minin University. According to CEFR, A2 corresponds to pre-intermediate level, B1 corresponds to intermediate, B2 corresponds to upper-intermediate, C1 corresponds to advanced level. The relationship between the levels and language proficiency is presented in Table 5.

Table 5: The relationships between the levels and language proficiency (Adapted from the British Council (https://learnenglish.britishcouncil.org/english-levels/understand-your-english-level)

Reference Level	CEFR	English Level (British Council)
C1	Proficient user	Advanced
B2	Independent user	Upper-intermediate
B1	Independent	Intermediate
A2	Basic user	Pre-intermediate

Only the students from HSE took part during the first cycle of the research. They showed C1-B2 levels of English proficiency and were trained for an IELTS-format test. They were familiar with the IELTS format, assessment criteria and exam tasks. The students (n=42) were from three programmes: Management (n=13), IT (n=15) and Economics (n=14). They took part in a quantitative survey of the general acceptance of a wiki site and their perceptions before the intervention. After the deployment of the wiki site for mediation activities, the students from both universities were invited to take part in interviews to share their experiences. Some students were also invited to answer questionnaires in the final stages of the data gathering process. Participation was voluntary and those who agreed to take part signed a participation consent form. At the qualitative stage, a total of 25 students (5 male and 20 female students) from both universities were recruited and interviewed . The number of respondents from HSE and Minin University was 14 students and 11 students, respectively (Appendix 4). For the qualitative stage, purposive sampling was used to identify students with various degrees of wiki participation (Blaxter et al., 2006).

At the beginning of each cycle, the students were given clear instructions during class activities about the purpose of the site, the tasks to be done via wiki and the technical recommendations on how to get access through a Google account. In some cases, I gave individual consultations to students who experienced uncertainty or problems with access, uploading or editing the materials.

3.6 Pre intervention stage: Quantitative approach

3.6.1 An overview of the quantitative stage

Before implementing a wiki site in teaching and learning, it was necessary to explore how students accepted wiki sites as an educational tool. The quantitative stage was aimed at answering RQ1 about general perceptions and students' acceptance of a wiki site for English studies. In considering models and frameworks that would adequately answer RQ1, several alternatives were evaluated. As a starting point for the study, the framework proposed by Hord and Roussin (2013) and summarized by the Concerns-based Adoption Model (CBAM) was considered (Passey, 2010). The model is used to illuminate the individual moves in adoption from awareness level "0" to refocusing level "6". Describing the stages of implementation with the focus on individual concerns, it lacks "initial focus on acceptance of technologies and involvement with them" (ibid, p.70).

The second model under consideration was UTAUT (The Unified Theory of Acceptance and Use of Technology) (Venkatesh et al., 2003) consisting of 4 constructs: performance expectancy, effort expectancy, social influence and facilitating conditions. Together, these can describe the degree of organisational readiness in terms of technical support and infrastructure (Liu, 2010). UTAUT also describes users' behaviour based on their behavioural intention, with emphasis on the individual users (gender, age, experience, voluntariness of use). Although it has been widely used as a theoretical lens, critical reviews point to the application of this model to a formal university level with rather large samples (Williams et al., 2015), and it is believed that Davis's Technology Acceptance Model (TAM) has a greater level of maturity (Williams et al., 2015, p.467). According to Lee et al. (2013), TAM is common for field studies, whereas UTAUT is employed to analyse user types, sector types or models (Williams et al., 2015, p.479). However, UTAUT seems to be too challenging to apply, as it presents a "model with 41 independent variables for predicting intentions and at least eight independent variables for predicting behaviour" (Bagozzi, 2007, p.245).

In thinking more about students' perspectives of technological usability and usefulness, TAM was applied because it "focuses more on the importance of a technology as a tool"

(Passey, 2010, p.7). The chosen model (see Figure 7) mainly describes the constructs of perceived ease of use (PEU) and perceived usefulness (PU):

> Perceived usefulness… is defined as the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organisational context. Perceived ease of use… refers to the degree to which the prospective user expects the target system to be free of effort. (Davis et al., 1989, p.985).

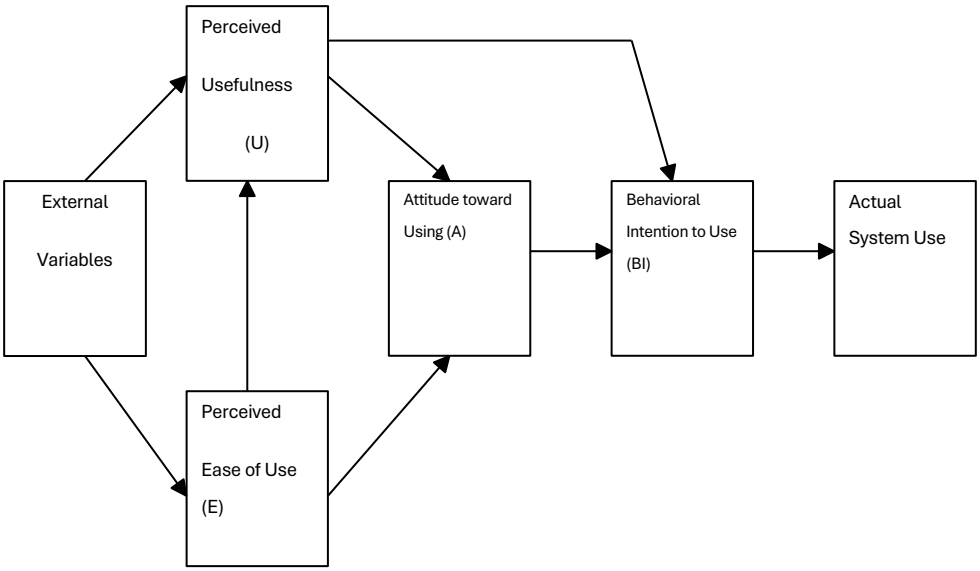


Figure 7: Technology acceptance model (Davis et al., 1989)

This is a vital stage in the research design because it was necessary to find out about students' needs, and their willingness and readiness to use the technology prior to the intervention stage. Following the principles of action research, this stage can be viewed as diagnostic or a planning phase – a kind of 'reconnaissance' aimed at exploring the field of action and the students' readiness and willingness to be involved in the intervention, which was the next stage of the action study. At this stage initial data were collected for the "formation of a plan, which was then put into action" (Kemmis et al., 2013, p.9).

3.6.2 Data collection procedure

3.6.2.1 Sampling

Data were collected from 3 groups of undergraduate students during the first cycle of the action study (42 students in total), who were having regular face-to-face English classes at HSE university. A sample size of 30 is considered to be minimal for statistical analysis (Cohen et al., 2005, p.93). Most students who took part in the survey came from Russia and they were of one age group (18-21 years old). The gender split was 47% male students and 53% female students. All the respondents taking part in the study were 2nd-year students who demonstrated a good level of English language skills (Intermediate level and higher according to CEFR). I decided to use a small sample for this stage of the study because the acceptance of wiki as an educational platform is well reported in the literature (Toh, 2013; L. Cilliers , 2017; Altanopoulou & Tselios, 2017). Furthermore, the purpose of this stage was to identify students' perceptions of the wiki before its actual use, rather than its actual acceptance. Following Borg and Gall (1989), the sample for this study can be small because there are not many variables to be measured.

In addition, the student community in the research context was homogeneous in terms of age, education, culture, religion, and language proficiency. I used convenience sampling, inviting the students from groups where I was going to deploy a wiki site; thus, the respondents were chosen based on convenience and availability (Creswell & Creswell, 2014). Such a sampling strategy accords with the overall action-oriented approach undertaken in the study. This sampling strategy is pragmatic in nature, "less complicated and expensive", and it can be used as "a prelude to the main study" (Cohen et al., 2005, p.102).

3.6.2.2 Data collection instrument

In order to understand the degree of wiki acceptance among the participants, I used a survey based on TAM (Davis et al., 1989). The rationale for conducting the survey was to find out students' intentions and perceptions of using a wiki site as a learning platform. The survey was conducted at the preparatory phase of the study, prior to deploying a wiki for mediation practices. It involved creating a Web-based internet survey using

Survey Monkey (https://ru.surveymonkey.com/home/). A survey was chosen because of its advantages, such as "the economy of the design and the rapid turnround in data collection" (Creswell & Creswell, 2014, p.157). Other advantages include the reliability of the method and its anonymity as this "encourages greater honesty" (Cohen et al., 2005, p.129).

The respondents were asked to answer 7 questions using a Likert scale from "strongly agree" to "strongly disagree". The questions were designed by adapting TAM constructs to construct statements about the ease of use, usefulness, and students' desire to use wiki for studies. The questions were designed by adapting questionnaires from past research (Davis, 1989; Wiid et al., 2015, Jeffrey, 2016). In order to establish the reliability of the questions, I used the template that I designed within a TEL programme at Lancaster University (Liashenko & Oztok, 2020).

The questionnaire for the survey was piloted in a module of the PhD program, where the module leader checked the questions for ambiguity and completeness. The students were provided with information about the purpose of the wiki and general instructions regarding the tasks, the rationale for joining the site, the frequency of working with the platform and other learning opportunities. This was done through a series of face-to-face classes where I explained all the details and provided answers to questions related to the educational potential of the wiki. The students were informed that participation would be rewarded by extra grades and the projects (essays, graph descriptions or other pieces of writing or joint works) would be shared on the platform for review by teachers and peers.

Participation in the survey was voluntary and anonymous. A total of 32 responses were returned, meeting the minimum requirement recommended for statistical analysis (Cohen et al., 2005, p.110). The first two questions were about the students' awareness of the wiki technology and their past experiences of using it for studies. The rest of the survey covered the main TAM constructs: 'perceived ease of use' refers to statements 3 and 4; 'perceived usefulness' refers to statement 5; 'students' attitudes' and 'intentions to use' are explored using statements 6 and 7. The full questionnaire is given in Appendix 2.

3.6.3 Data analysis and Findings

3.6.3.1 Data analysis

The data analysis showed that all the respondents knew about wiki technology and had previously used it in their studies, such as by using Wikipedia or wiki forums in Moodle. The results of the collected data are presented below (Table 6, Table 7, Table 8). Table 6 summarizes the students' ranking of the ease of wiki as an educational tool for language learning.

Table 6: Perceived ease of use: distribution of responses to survey questions 3 and 4

Question number	Statement	Strongly disagree	Moderately disagree	Neutral	Somewhat agree	Strongly agree
3	Wiki is easy to use	0.00%	3%	25%	53%	19%
4	Wiki is easy to access	0.00%	12.5%	3%	50%	34.5%

Most respondents moderately or strongly agreed with the statements. There were no responses showing strong disagreement. In percentage terms, the most agreed-upon response was the statement "Wiki is easy to access". However, more than 10% of the respondents moderately disagreed about the ease of use of the platform. This aspect was explored at the qualitative stage.

The construct PU (Perceived Usefulness) was analysed using the question related to studies in general. During a preparatory face-to-face class, I explained how the students could use the technology in English learning.

Table 7: Perceived usefulness: distribution of responses to survey question 5

Question number	Statement	Strongly disagree	Moderately disagree	Neutral	Somewhat agree	Strongly agree
5	Using wiki is useful for studies	0.00%	6.25%	0.00%	37.5%	56.25%

Most respondents (n=18) strongly agreed with statements about the usefulness of wiki sites for studies in general. However, 6.25% of respondents disagreed moderately with

the statement. The usefulness of the site for these users will also be explored at t qualitative stage to find out how students perceive the usefulness of the tasks and the site as a whole after the wiki is deployed. Table 7 illustrates the responses towards construct attitude (6) and intention (7) to use wiki technology in language learning in future.

The overwhelming majority of the respondents (n=31) showed a positive attitude towards the idea of wiki deployment for studying English, with 29 respondents expressing their readiness and a high degree of intention to use it for English studies.

Table 8: Attitudes towards using wiki for English learning and students' intentions: distribution of responses to survey question 6 and 7

Question number	Statement	Strongly disagree	Moderately disagree	Neutral	Somewhat agree	Strongly agree
6	It is a good idea to use wiki sites for English studies	0.00%	0.00%	3%	53%	44%
7	I am going to use this site for English studies	0.00%	3%	6.25%	60%	31.25%

3.6.3.2 Findings

The findings of the data analysis illustrate that a wiki site as an educational tool proves to be easy for students to accept. However, a minor percentage of the respondents disagreed with the idea that access to the platform was easy and that the technology was useful for studies. These statements can be categorized as issues for deeper research at the qualitative stage. As for perceived ease of use of the wiki sites for studying English, the respondents rated both constructs highly, with a larger percentage of agreement about usefulness than ease of use, thus making the sub-construct PU more influential in decision-making than PE. In other words, the students showed a higher rate of agreement concerning the usefulness of the technology for studies (statement 5) than with its ease of use (statement 3), at 94% and 72%, respectively. The attitude and intention to use the technology in future exam preparation was high, with

91% of students moderately or strongly agreeing (statement 7). These findings correspond with research in this field indicating that deployment of wiki technology in higher education is an effective teaching strategy but requires "design knowledge" and much scaffolding (Zheng et al., 2015).

The quantitative stage provided supportive information before the deployment of a wiki site for language learning and particularly for putting mediation activities into educational practice. The main aspects to be considered were the issues related to enhancing access to the wiki site and, at the qualitative stage, further exploring the factors that can impede the ease of access and actual usage. What is more, the analysis showed the necessity of paying attention to the rationale and the appropriateness of the tasks designed for a wiki site so that the students could see its usefulness for their studies. These findings were used to inform the design of the wiki site when considering the activities for different types of mediation activities.

3.7 Intervention: design and deployment of a wiki site

The intervention stage involved the actual deployment of a wiki site in the educational context. During the first cycle of the research design, it was done in the HSE. Before the deployment, certain conditions were created to enhance effective implementation of the wiki site into the teaching process.

3.7.1 Underpinnings for Intervention-Deployment of a wiki site

The second stage of the research required the design of a wiki site, with attention to several dimensions:

- -Technological underpinnings (affordances)
- -Pedagogical underpinnings (pedagogy)
- -Language learning underpinnings (mediation tasks)
- -E-learning underpinnings (e-moderating)

3.7.1.1 Technological underpinnings

In the proposed project, a wiki site was created using the Google platform, which was chosen for its ease of use, availability, and the students' and my personal experience of using Google products (Lyashenko, 2016). Google Sites are defined as a structured wiki

and a free web page creation tool which allows users to create and edit files while collaborating with others in synchronous and asynchronous formats. The tool provides an opportunity to work with Google Docs, Google Sheets, Google Slides, Google Drawings and other functions provided by Google. The site can be easily created without any registration or a fee; the only requirement for access is to have a Gmail account. Google gives clear instructions (https://support.google.com/sites#topic=7184580), with many tutorials on how to design and use Google sites. The designer can choose the logo, the name and custom themes, embed any images from the stock of images, and design the structure of the site by creating different pages, which may be grouped by theme or topic. There can be subpages, which make the structure very flexible for sharing a lot of materials in a systemic way. There is a variety of editing options and analytics that a teacher-designer can make use of. The site can be viewed from any device which has the editing functions available. An example of a wiki page with the structure of the wiki site from cycle 1 is given below (Figure 8). Overall, wiki-sites are proposed as an effective scaffolding platform to support a particular discipline in a varied way, assigning a number of roles and responsibilities for students, lecturers, and other participants in the educational environment (Lindoo & Lauderdale-Davie, 2009). The sites could be virtual semi-formal platforms for e-learning within the formal university structure (Liashenko, 2020). A limitation of the technical affordances, however, is that the site cannot be used for direct online interaction due to its asynchronous nature, so not all aspects of speaking skills were trained. This limitation was considered when designing the language and mediation tasks for wiki sites.

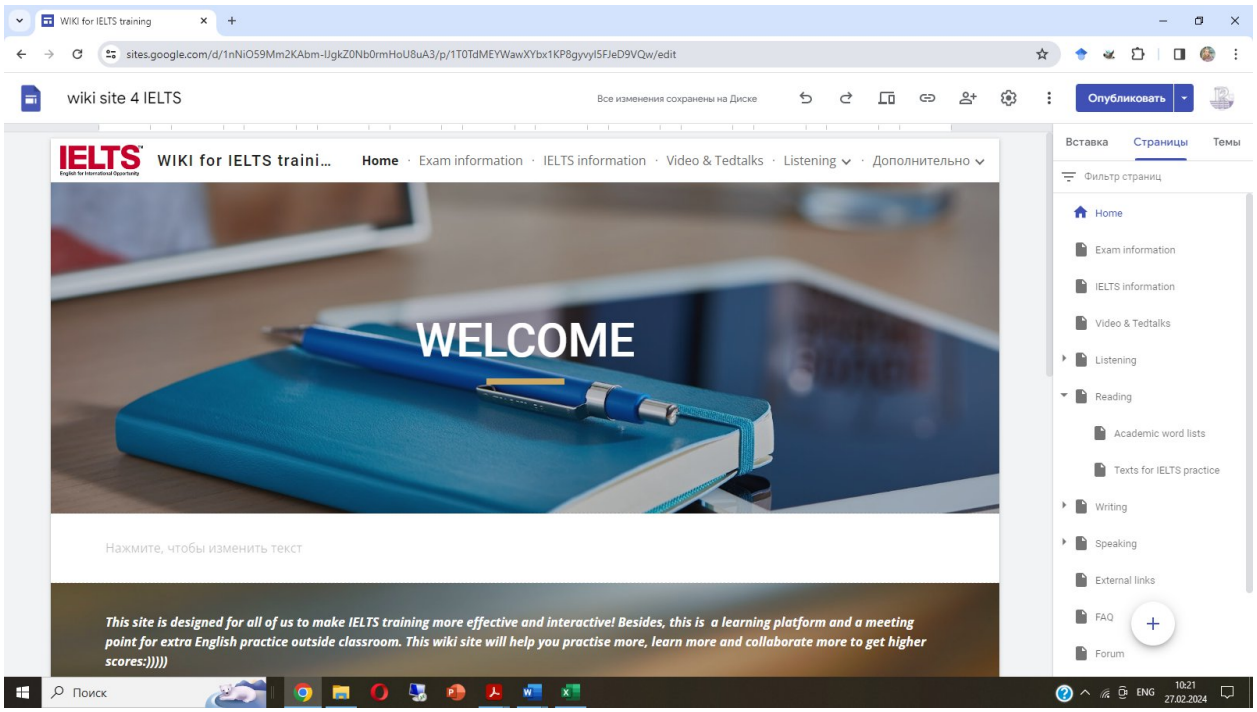


Figure 8: A welcome page from the wiki site developed in Cycle 1

3.7.1.2 Pedagogical underpinnings

The site was created using a free Google site platform with separate pages for different groups. The students were invited to take part in several collaborative activities, such as designing a glossary of active vocabulary for the course; sharing their own works or papers; creating their own projects; sharing ideas in the forum and many more. The sites were underpinned by the dialogue and collaboration on ideas taking place in groups with different modes of participation among students. The pedagogical design of the wiki site was underpinned by key principles of computer-supported cooperative learning (McConnell, 2000), as stated in Table 9 below. The strategy involved numerous mediation activities (text, concepts, communication) embedded into the wiki-mediated teaching process. Wiki enhanced learning lasted for several months leading up to the exam period in both universities. Extra exam materials, the course progress and final grades for the final exam were also shared with the students via the wiki over three cycles of wiki deployment.

Table 9: The pedagogical design of a wiki-based community

Model of a wiki community	Principles	Tasks and activities
Learning process	Learning tasks are the source for social collaborative dialogic learning	Mediating the text, concepts and communication underpinned by students' needs and exam essentials
Role of student	Active constructor and a co-presenter. Viewed as diverse individuals having weak and strong ties	Different patterns of interactions online (S-S /T-S/S-resources)
Role of teacher	Facilitator critical observer and co-expert	Mainly in mediating communication and choosing the content embedded into the curriculum
Assessment	Collaborative self-peer-teacher	Mediating the concept in peer assessment practices
Learning outcomes	Creation and sharing expertise/ mastery of skills	The alignment between mediation and wiki collaboration
ICT used	Wiki site	Affordances of wiki for interaction and collaboration

In a wiki-mediated context, the roles of the teacher and the students change, making the learners more autonomous and the teacher a facilitator of the process. Cooperation is based on different patterns: Teacher to student (T-S), among the students (S-S) and students working with the resources (S-resources). The whole process is student-centred because it is predetermined by their learning needs (to improve writing or reading skills). Assessment is carried out through the teacher's or peers' feedback via wiki. The mediation activities are designed, selected and then shared by the teachers according to the group's needs. As a result, the participants take part in various collaborative tasks aimed at different mediation activities.

3.7.1.3 E-learning underpinnings (e-moderating)

Pedagogy is closely related to pedagogical communication, which in the case of wiki technology generally takes place asynchronously. Such a format of T-S interaction calls for new approaches which differ from conventional class management. In virtual asynchronous learning environments, it is important for e-moderators at this stage "to ensure that a compatible and achieving community is built for the purpose that is intended" (Salmon, 2013, p.23). The wiki-mediated "move" of students from a formal face-to-face learning space to an informal wiki-site can be enhanced by reconsidering "the interplay between pedagogy, technology and their fusion" (Kinshuk et al., 2016, p. 562).

In my research, I followed a 5-stage model which enables effective teaching and learning through online technologies. This model was chosen due to its focus on asynchronous communication (Salmon et al., 2010). The model is presented in the following stages:

1st stage – access and motivation
2nd stage - online socializing
3rd stage - information exchange
4th stage - knowledge constructing
5th stage - development.

The movement from stage to stage was aligned with mediation activities and general progress in complexity of the wiki site.

In the first stage, issues about access and the rationale behind the deployment of the site were discussed with the students during face -to-face English classes. A common Gmail address (wiki2020@gmail.com) and a password were created for site access. The students were shown how to upload and edit documents and given basic information about the structure of the wiki site. The piloted version of the site was presented, with an explanation of the structure and the mediation tasks. For some students, it was more convenient to access the site via their personal Google accounts so "individual prerequisites" were considered (Salmon et al., 2010).

Some scaffolding was provided via a social media community which was launched for the project, devoted to academic writing, and which had been used previously (https://vk.com/club139674761). Using a direct message via the community, the students could ask me direct questions about access, editing and other wiki functions, or discuss any other technical issues related to working on the platform. Information about how to navigate the site, what sections could be found there and how to do the tasks was shared during classes at the university and further explained individually if needed.

Much attention was devoted at this stage to increasing the motivation for better student engagement in mediation activities via wiki. This was achieved through giving clear instructions and descriptions of the benefits or learning outcomes that the students could enjoy through active participation. For example, for cycle 1, the main purpose of the site was to create opportunities outside the traditional classroom for extra IELTS practice. As a form of extrinsic motivation (Salmon, 2013), I suggested giving extra marks for those who participated actively in writing groups and peer reviews. 31 students were taking part in writing groups using their wiki names at stages 3 and 4 of the first cycle. They shared graph descriptions and essays and took part in peer reviews. At this stage, the tasks were supposed to be simple and short, with the focus on technical aspects and future social interaction happening online (ibid.).

The second stage involved establishing "a personal online identity" (Salmon et al., 2010). The students were asked to invent wiki-names under which they would be working on the platform. The students presented their variants (Appendix 3), while some decided to work under their real names; surprisingly, some students did not hide their identities from each other, and I thought this could be a good sign as they were not afraid to work openly.

Another variant for establishing a personal online identity was to write an introduction post on the wiki site, using all the editing functions of the site and choosing an avatar for one's personality (https://sites.google.com/view/english-file-pre-interm-wiki/pd-20-1?authuser=0). At this stage, attention was paid to the differences each group showed in terms of professional and English training. This is why mediation activities were different for each cycle; stage two was more focused on tasks for mediating text and mediating

communication, because social interaction, even in an asynchronous format, implies exploring the identities and perspectives of other participants. Writing and reading are often inseparable aspects of "exploring cultural differences and alternative understandings" (Salmon, 2013, p.23).

In the third stage, information exchange started via co-operative tasks and my role was to facilitate this by uploading more tasks for mediation activities and encouraging mutual interaction. At this stage, I was actively participating by providing feedback for the descriptions, commenting on the tasks, providing scaffolding to encourage the learners and showing my presence and involvement. The students were asked to participate in discussions for mediating the text, and forums where they shared their views and opinions. Different techniques were used for group working: from "buzz groups" (when students were given one topic to work on in the Glossary project in cycle 1 or "Unusual art styles" project in cycle 3) to "syndicates", when groups were assigned to be either authors or peer reviewers in Writing group or other group projects during cycles 2 and 3 (Salmon, 2013). The participants joined writing groups, chose a glossary section, and shared their views in the reading section and the forums. This was the stage when "mutual connections" were established (ibid.). The focus was on learning how to contribute to the group discussion, with the focus on mediating the text, because at this stage "participants have to read masses of information online" to retrieve necessary information for studies (ibid.). My function was to provide scaffolding in the form of individual consultation on how to work with the tasks and upload them on the site. I also gave regular feedback on the descriptions and other forms of writing on the wiki site. The students were given instructions on the criteria for peer review and writing. At this stage, the task was to encourage further interaction and prepare learners for more complex collaborative projects at stage 4.

In the fourth stage, the students were fully engaged in various collaborative tasks, such as Writing group, Glossary or Art gallery. At this stage, the knowledge was co-constructed during collaboration, which took different formats: teacher-student (individual feedback or consultation), teacher- students (facilitating group discussions), and student- students (working with peers). The learners were required not only to exchange information but to solve problem-oriented tasks collaboratively. The

mediation activities at this stage were grounded in professionally oriented or practice-based tasks. The focus was shifted towards "knowledge building (rather than exchange of information) or a series of ideas or challenges" (Salmon, 2013, p.31). This stage was aimed at co-constructing knowledge with the focus on mediating concepts.

Stage 5 was associated with "personalized learning", which was arranged through individual projects. At this stage, the learners were required to think about their own experiences and reflect on them through the tasks, where a combination of mediation activities could be used. An example can be tasks that encouraged students to reflect on their experience and knowledge and defend their point of view. At this stage students were expected to present their projects and evaluate others.

Overall, mediation activities were designed for each stage of the e-moderating process, following Salmon's 5-stage model. I was guided by the need to design tasks for mediation activities at each stage. The interconnection between the 5-stage model and mediation activities is presented below (Figure 9).

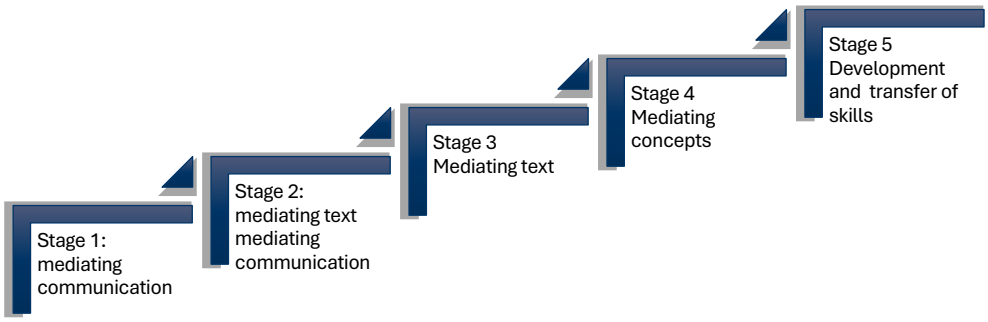


Figure 9: The interconnectedness between dominant mediation tasks and the 5-stage model of teaching and learning online

It is necessary to emphasise that the complexity of mediation tasks and the degree of interaction increases from stage to stage. Such a view of the progression coincides with the general understanding of the 5-stage process proposed by Salmon (2013). In the diagram above (Figure 9), each stage is linked with the dominant mediation activity that must receive special attention, but this does not mean that other tasks for mediation activities are not trained or designed.

3.7.1.4 Language underpinnings

At the preliminary stage before launching the site, I thought about the structure of the site, the content that I needed to share, and the tasks which would be based on mediation activities. Cross-linguistic mediation involves not only language knowledge but also social, cultural and plurilingual competences that cannot be trained or practiced separately (Council of Europe, 2018, p.106). In designing the tasks for the wiki sites, I considered the scales for mediation which are outlined in CEFR and presented below (Table 10):

Table 10: Mediation activities with scales (CEFR, 2018, p.106)

Mediation activity	**Scales**
Mediating a text	Relaying specific information – in speech/writing Explaining data (e.g. in graphs, diagrams, charts etc.) –in speech/ writing Processing text – in speech/writing Translating a written text– in speech/writing Note-taking (lectures, seminars etc.) Expressing a personal response to creative texts Analysis and criticism of creative texts
Mediating concepts	Collaborating in a group Facilitating collaborative interaction with peers Collaborating to construct meaning Leading group work Managing interaction Encouraging conceptual talk
Mediating communication	Facilitating pluricultural space Acting as intermediary in informal situations (with friends and colleagues) Facilitating communication in delicate situations and disagreements

According to the definition in CEFR, *mediating a text* implies passing on to other people the information expressed in the text or mediating a text for oneself in the form of note-taking or commenting. *Mediating concepts* involves constructing and enhancing the understanding of concepts and meanings. It also refers to facilitating conditions of knowledge development and exchange. *Mediating communication* is about the conditions for successful communication and any misunderstanding that can arise. As

stated in CEFR/ CV, the descriptors for mediating communication are provided only for spoken communicative activities (Council of Europe, 2020). Thus, there is a certain limitation to deployment of wiki sites for this type of mediation. In addition, the participants are from the same cultural background, and this does not allow creation of the conditions for pluricultural communication.

3.7.2 The structure of the sites and tasks for mediation activities

One of the main priorities and initial steps was to think about the structure and design of the site (number of pages, background, logo, and other details). Three independent wiki sites were created for learners from two universities. The principles of wiki design were underpinned by the general aims and principles of language teaching, the curriculum, and the learners' needs. I followed the main principles of effective teaching, such as clarity of presentation of the material; teacher enthusiasm; variety of activities during wiki interaction; achievement-oriented behaviour in classrooms; opportunities to learn material; acknowledgement and stimulation of student ideas; criticism (peer review in this research); use of structuring comments; guiding of student answers (Hall, 2011). These principles were proposed for classroom teaching offline, but I was guided by them when creating a wiki learning environment. There were no tasks for speaking because of the technical affordances of the wiki technology, i.e., asynchronous interaction.

The management of the wiki class was guided by the low-structure approach to arranging teacher-student relationships; the classification into high and low approaches to classroom management was suggested by Briggs and Moore (1993) to distinguish different ways of planning, building teacher-student interaction, classroom procedures and issues of power.

Table 11: Low-structure approach to classroom management in a wiki enhanced learning environment (After Briggs and Moore, 1993, pp. 496–7; adapted from Wright, 2005, p.125)

Management decision	Low structure
Planning	Grouping around activities, learner choice
Procedures	Participative
Questioning	Referential, open-ended
Reward	Encouraging pupil self- discipline
Teacher-student interaction	Less teacher-centred, with greater learner autonomy

The low-structure approach differs from high-structure classroom management, which is teacher-centred, and teacher controlled (Wright, 2005). This approach creates more opportunities for student involvement and gives them greater responsibility for decisions about what and how to learn. Using metaphorical language, teacher-student interaction can be viewed through a metaphor of "musical jam" in which the "musicians" are the participants and "the music" is process-oriented and co-constructed by joint efforts (Tudor, 2001). Such a view is in line with understanding learning as a social practice and can be viewed through the lens of social constructivism in language learning (Council of Europe, 2020).

Relating to TEL, I use one more music metaphor, which is 'orchestration' (Prieto et al., 2011). In this study, I employ the metaphor of orchestration to describe the design of three sites, with preplanned tasks for mediation activities and other tools that are put together to achieve a learning goal. The cyclical nature of the research allowed me to adapt the tasks to the learners' needs and the curriculum requirements, and to redesign them as the wiki developed and the study unfolded (ibid, p.587). In each cycle of the research, the structure of the site was preplanned and included the main structural elements for training fundamental language skills (reading, writing, listening, speaking), with a focus on tasks related to mediation activities.

The main pages also included a welcome page with the logo and the name of the site, and individual pages for groups who worked on the site, with subpages for collaborative tasks, collaborative glossary, and separate pages for projects. In each cycle of the research, mediation activity tasks were designed using CEFR descriptors, and these tasks were adapted to the learners' needs and language competence. In practice, the learners were usually grouped according to their level of English competence. The discourse environment was mainly personal and educational, according to CEFR classification, with the focus on IELTS exam training or ESP (English for specific purposes). The descriptors were chosen to suit these perspectives. For each wiki site, special tasks were designed that would engage students in mediation activities (text, concept, communication). Due to the collaborative nature of wiki, tasks for text and concept dominated the platform. Mediation communication was limited because of the

asynchronous nature of wiki-mediated classes and lack of affordances for communication online.

The systemised design strategy, with examples of the tasks for mediation activities in each cycle, is presented in Table 12.

Table 12: Examples of mediation activities for each cycle

Cycle	Mediating text	Mediating concepts	Mediating communication
Cycle 1: Wiki for IELTS	IELTS texts Graph description Forum Discussion: "Video & Ted Talks"	Writing group Peer-review Glossary Forum External links	Forum Peer-review Discussion: "Video & Ted Talks
Cycle 2: Wiki for General English and ESP	Reading text from websites Relaying information from video Giving summary Photo description Group Forums	Glossary Individual projects Group Mini-projects Subpages for Forums	Subpages for Group forums Commenting on projects Agree-disagree tasks
Cycle 3: English for ESP (art and design)	Relaying information from information texts, videos, websites Book cover description	Art gallery Glossary Unusual art styles My favourite book cover My favourite art supply	Discussion in group projects

The statistics for the first cycle showed that the site was developing in phases, with the weeks in the middle being the most active in terms of students' engagement. The first cycle lasted for 4 weeks, during which the students shared more than 70 posts in the forum and 66 posts for text mediation; 14 topics were chosen for the glossary, and 13 papers were peer- reviewed. These statistics helped refocus attention on collaborative projects during the 2nd and 3rd cycles and design subpages for different groups working simultaneously at one site. The statistics of the third cycle showed that the students took part and shared more than 26 professionally oriented projects (individual and group) on professional topics.

3.8 Qualitative stage: post intervention

3.8.1 Overview of the qualitative stage

Being a "teacher-as-researcher", I viewed the action study as a classroom or practical activity which was focused on teaching and reflective practices (Cohen et al., 2005, p.230). This is akin to Schoen's "reflection–in action" research, which is more individualistic than collaborative in nature (ibid.). Kemmis and McTaggart (2007) suggested using qualitative methods for interpreting teachers' and students' reflections. Priority was given "to interpretations that teachers are making and acting on the situation" (Kemmis & McTaggart, 2007, p.274). Primacy is given to self-reflexivity at each stage of action research. This is understood as central to action research, where the researcher acts as a practitioner and a participant in an authentic situation. It is important to be critical and not be influenced by one's own values and perceptions, so as to avoid any bias in interpreting the data (Cohen, 2005, p. 239).

The qualitative stage of this action study was focused on exploring some aspects of the quantitative stage about the ease of use and usefulness of the wiki site and the students' experiences of using wiki sites for mediation activities. This stage resulted in gathering and analysing qualitative data about students' perceptions of the wiki technology in general (RQ1) and mediation activities in particular (RQ2). In addition, this stage enabled me to generate implications for teachers who would like to use wiki technology for mediation activities in their teaching practices.

As part of the mixed-methods approach undertaken in this study, I conducted semi-structured interviews and questionnaires with a sample of the participants (N=20) who took part in the mediation activities on the wiki sites. This stage started with semi-structured, face-to face, in-depth interviews (N=20) which were conducted online. However, closer to the completion of the data-gathering process, semi-structured questionnaires with a reduced number of questions were sent to the participants of the third cycle of wiki deployment. As data saturation had been achieved after the first and the second cycles, I modified the form of data collection, and reduced the number of questions to focus more on the mediation activities. Such an emergent design is a typical feature of the qualitative research process (Cresswell, 2009, p.164). These

qualitative data, which were viewed through the theoretical lens of the CEFR and analysed using deductive data analysis, resulted in several visual models of the findings for three mediation activities: mediation of text, concept, and communication. Visual models usually help present a holistic picture of complex phenomena under investigation (Creswell & Creswell, 2014, p.186).

3.8.2 Data collection procedures

In this section, I will describe the sampling techniques and data collection tools (interviews, questionnaires and self-reflective diary). Special attention will be paid to the process of conducting interviews and the researcher's role.

3.8.2.1 Sampling

The students from the three cycles of wiki deployment were invited to participate in the study. They took part on a voluntarily basis when the exams were over to avoid any "difficult power issues" (Creswell, 2009, p.165) between me, as a teacher-researcher, and the participants. I decided to use a purposive sampling strategy that would represent students who had shown various degrees of participation in mediation activities via the wiki sites during the English training course. Such a sampling strategy could help "indicate most distinctly the factors which contribute to students' dissatisfaction" (Cohen et al., 2005, p.103).

The participants were purposefully selected using the characteristics identified by Miles and Huberman (1994):

a) the setting was two universities where the wiki site was deployed;
b) the actors were my students who agreed to be interviewed;
c) the events were focused on mediation activities during all the cycles that the students had been engaged in before the interviews;
d) the process was considered when choosing students with different degrees of engagement in mediation activities.

The participants were 2nd-year students in HSE and Minin university. I sent the consent form to the students with different degrees of participation on the wiki sites, so those

who agreed to participate showed various levels of participation in mediation activities on the wiki sites. This strategy helped make the sample more representative:

- Core participants: those who uploaded papers and shared feedback regularly (once or twice a week) and took part in all mediation activities, especially collaborative projects – high level of participation;
- Learners who uploaded and shared feedback with a lower frequency (less than once a week) – medium level;
- Lurkers: learners who were members of the community but did not contribute to collaboration and did only obligatory tasks – low level.

Overall, there were 11 active students from both universities, 6 students from the middle level of engagement and 3 students with a low level of participation. Such a varied pattern of participation in mediation activities helped avoid any bias towards the mediation activities and allowed data to be gathered about a wide range of experiences and perspectives.

3.8.2.2 Data-gathering tools and strategies

Conducting interviews

The questions for the interview were sent in advance to allow the respondents the possibility to think them over and describe experiences with a greater detail. The questions were designed with two purposes: a) to clarify the findings from the quantitative stage; b) to examine students' experiences of using different mediation activities. A list of the parts with the questions for semi-structured interviews is given in Appendix 2. Following the research methodology, the interview questions were centred around the following concerns: 1) general impression; 2) wiki for dealing with the text; 3) and 4) wiki for collaboration with peers and online discussion; 5) online interaction and ethics of wiki learning; 6) implications for students. The alignment between the research questions, the CEFR and the parts of the interview is presented below (Table 13).

Table 13: The alignment between the RQs, CEFR and the parts of the interview

Research question	CEFR	Parts of the interview
RQ1	Needs analysis and learners' readiness	1, 6
RQ 2.1	Text mediation	2
RQ 2.2	Concept mediation	3, 4
RQ 2.3	Communication mediation	5

When conducting interviews, I agreed with each participant about the time and a preferred platform via which the interview would be conducted online. I followed the interview protocol suggested by Creswell and Creswell (2014). I first noted the date, the time, and personal information about the interviewee. I informed the interviewee that the interview would be recorded and kept safe for research purposes only. The participant could switch to the Russian language any time they wished. The students were given the option of an oral interview or written feedback. There were 6 written responses and 14 oral interviews, which were conducted using Zoom or Skype according to the preferences of the participants. There were 5 male students and 15 female students who agreed to share their experiences. Each participant's response was given a code, consisting of "S" for 'student', and a number representing the position of the interview in the sequence. For the convenience of further data analysis, the oral interviews were separated from the written feedback. Information about the respondents was put into a table: data about gender, faculty, university, duration of the oral interview, the format, the degree of participation and the way their responses were collected is given in Appendix 4. The participants showed a variety of preferences as to how to present their responses: oral interviews were conducted using Zoom and Skype, and written answers were sent using social media in the form of a file or even a text message.

The period was chosen so that the interviews took place after the course session. In HSE, it was conducted after the first cycle and the spring session (from 26 April to 14 May 2020). The second and the third rounds of the interviews took place at Minin university after the summer session in academic year 2019-2020 (from 25 June to 3 July) and in 2020-2021 after the winter session (from 9 to 15 February 2021).

The timeline for this data-gathering process is presented below (Table 14).

Table 14: Summary of data collection by interviews and written feedback

Academic year/ cycle	University	Number of students	Languages	Degree of participation	Type of feedback
2019-2020/1 cycle	HSE	14	9-Russian 5-English	6-active 5-moderate 3-low	8-oral 6 -written
2020-2021/2 cycle	Minin university	6	Russian	5-active 1-moderate	Only oral
2020-2021/3 cycle	Minin university	5	Russian	3-active 1-moderate 1-low	3-oral 2-written questionnaires

A special consent form was created using the Template for invitation to study the participants (Appendix 6). The participants were sent the form via social media, and they were offered a choice of either oral interviews or written feedback in either Russian or English. If they agreed to participate, they were required to reply by text message to the researcher and identify which form of feedback and language they would prefer.

The interviews were conducted during breaks or after classes and typically lasted about 30 minutes. The written interviews took 3-6 days for completion. Each oral interview was video recorded, transcribed and translated into English using the services of professional interpreters. The written feedback provided in Russian was also translated into English. In total, 20 responses were received in the following formats: 3 oral interviews in English (active degree of participation); 11 oral interviews in Russian (active, moderate and low degree); 4 written responses in Russian (active, moderate and low degree); and 2 written responses in English (moderate and active).The analysis of the patterns of response and the respondents' preferences showed that students with a high degree of participation and higher language proficiency (only the students from HSE who were training for IELTS) opted for oral interviews and written feedback in English. The respondents from Minin university preferred their native language and written feedback.

Researcher as an interviewer: strategies and challenges

Taking an insider perspective, I must be aware of ethical issues involved in the research. Ethical approval was obtained from the module's lead tutor. All the participants were informed about the goals and the tasks. Access to the learning community and

participation were voluntary and the students were not graded at 2 and 3 cycles. Furthermore, when sharing papers, the students could hide their authorship to avoid any bias. The group was not accessible to outsiders and was administered by the researcher. The students could leave or join the project at any stage of its development without any permission or being penalised for this decision.

When conducting interviews, I tried to make use of appropriate interviewing skills (Åkerlind, 2005, p.65) to put interviewees at ease and avoid prompting particular responses or dominating the discussion. I tried to ask questions about the learners' perceptions regarding the phenomenon of interest, their experiences in using the wiki site for meditation strategies. My attention was especially focused on "why" questions that help to unpack respondents' awareness of particular aspects. I agree with Åkerlind, who states that this type of question is a real challenge for interviewees because it makes them think more, not about what they have done, but about why the suggested activity was effective for learning (Åkerlind, 2005).

I developed an interview protocol and made handwritten notes during the interview process (Creswell & Creswell, 2014, p.194). Another issue that I needed to consider was when to stop questioning, having achieved saturation from data collection. The longest interview (S-8) lasted 55 min 16 sec and the shortest was about 22 min. Following Åkerlind's recommendations, I was waiting for an "a-ha" moment in the interview. In conducting the interviews for the third time (after the third cycle), I revisited CEFR and tried to eliminate questions which were not directly related to RQ2 and I tried to pay more attention to 'why' questions than 'what'. The third round was more focused on the descriptors related to mediation activities. The parts about the teacher's role and ethics of wiki were not included in the list of questions so as to pay more attention to the overall impression of the mediation tasks presented on the wiki and the progress the learners had made.

Questionnaires

At the final stage of the data collection process, after the third cycle of wiki deployment, a questionnaire was designed to encourage students from Minin University to take part in the study without participating in long interviews. By this time, I had collected rich data

and the idea behind the questionnaire was to use a simpler and faster tool to gather data after the third cycle. Questionnaires are known to be one of the most widely used tools in social research techniques, making the research process less lengthy and time consuming in comparison with face-to-face interviews (Blaxter et al., 2006).

The semi structured questionnaire was aimed at collecting data to answer RQ1 and RQ2, but the number of questions was reduced in comparison with the interview questions (from 21 to 11), the language was simplified, and multiple-answer questions were added. When designing the questionnaire, I was guided by the practical considerations outlined by Cohen et al. (2005, p.261). I tried to avoid complex sentences and not to include too many open-ended questions. The questionnaire was also divided into subsections to be aligned with CEFR and mediation activities.

At this stage, more attention was paid to mediation activities: Part 6 of the questionnaire was divided into 2 multiple-answer sections (A and B), requiring the respondents to focus more on text mediation descriptors (Section A) and concept mediation activities (Section B). Moreover, two parts were devoted to communication mediation; the previous data had pointed to the limited use of wiki sites for mediation activity, so more questions about communication mediation were included. It was designed and conducted in Russian and translated into English for the purpose of the research. The questionnaire is presented in Appendix 2 . At the third round of data collection, 5 questionnaires in writing were returned from students with active and moderate degrees of participation

The alignment between the research questions, the CEFR and the parts of the questionnaire is presented below (Table 15):

Table 15 : The alignment between the RQs, CEFR and the parts of the questionnaire

Research question	CEFR	Parts of the questionnaire
RQ1		1
RQ 2.1	Text mediation	2, 6 (group A)
RQ 2.2	Concept mediation	3, 6 (group B)
RQ 2.3	Communication mediation	4, 5

Observations and a reflective diary

The other data collection instrument was a qualitative observation as a part of the reflective diary. As a teacher-researcher and participant in the wiki, I took advantage of this method as I had first-hand experience with the participants and could take notes on their behaviour, the emergent design of the wiki site, and challenges in teaching and learning (Creswell & Creswell, 2014). An observational protocol was designed where I recorded in handwriting the process of working with the site. The structure was rather simple: it included the date and input from the site. This informal document included not only factual information but also reflective notes on my thoughts, speculations and impressions during the intervention/deployment stage. It was a kind of research diary where I was recording and reflecting on progress. These notes were kept apart from the handwritten notes and were in an electronic format in a special file. These data enhanced the process of content design as the site was constantly changing. It also helped me to get a sense of progress and control in the data-collection process (Blaxter et al., 2006). This reflective practice led to me proposing implications for teachers who would like to deploy wiki sites for mediation activities. The findings are presented in the Discussion chapter.

3.8.3 Data analysis

3.8.3.1 Thematic analysis to answer RQ2

Thematic analysis (TA) is seen as one of the most widely used methods in qualitative analysis (Braun & Clarke, 2006). It was chosen as an approach to analysing the data due to its flexibility in the use of theoretical frameworks and types of data (Terry et al., 2017). The process consisted of 6 phases and was not linear but mainly iterative, because I moved back and forward through the data when searching for themes. When analysing the data to answer RQ1 and RQ2, a mix of coding approaches was used. Deductive coding was used to analyse the data on the mediation activities, because I used the descriptors as starting points, "[a] lens through which to interpret the data" (Braun & Clarke, 2021, p.8). On the other hand, inductive coding was used to analyse the data to answer RQ1 about students' perceptions of the wiki site in general. In this case I did not use pre-existing codes and the whole process was data-driven (Braun &Clarke, 2006). In

this way, TA was used from two perspectives, generally known as the "small q/ Big Q" distinction (Terry et al., 2017, p.20) where:

- Small q TA is focused on the theory-driven approach in coding data. It suited RQ2 well, where I explored pre-determined descriptors of mediation activities.
- Big QTA is aimed at approaching the data with a bottom-up approach to analysis. This makes it more data-driven.

At this point of the data analysis, I acted within the mixed-method methodology because small q is concerned more with detailed qualitative research, whereas Big Q is employed with the focus on a broader qualitative paradigm (Braun & Clarke, 2021; Terry et al., 2017). In this research I am more focused on the Big Q approach as this fits well with the overall research design, where qualitative data sets are given the priority.

When analysing the data, I used the guide for thematic analysis suggested by Braun and Clarke (2006). The analysis started by familiarising myself with the data and it ended with reporting the results. The same six steps were taken for the three mediation activities and students' overall perceptions of using the wiki site for learning English (Table 16).

Table 16: Phases of thematic analysis

Phase	Description of the process
1.Familiarising with the data	Transcribing data and active reading
2.Coding data and generating initial codes	Collating data under the mediation activity descriptor across the entire data set
3.Searching for themes	Collating codes into themes that unpack mediation descriptors
4.Reviewing themes	Generating thematic maps for each mediation activity
5. Defining themes	Identifying the scope and the content
6. Producing the report	Presenting and explaining in Findings

Phases 1 to 4 are presented in this chapter, whereas phases 5 and 6 are presented in the Findings section, where the detailed analysis and the content of each theme are explained.

Phase one: familiarisation with the data

I organized and prepared the data for analysis. All the interviews were transcribed and translated into English. I transcribed all the interviews myself, but I used a professional translation agency to translate Russian responses into English. The transcribed texts were also divided into subsections for ease of analysis in future coding. All the interviews were printed and coded, not using the names of students but a special code, such as S1, where S was for Student, and 1 was the number of the interview. The descriptors for each mediation activity were also given codes; text mediation, concept mediation, communication mediation were given codes 1, 2 and 3, respectively. Within each mediation activity, the descriptors were given subcodes, from 1.1 to 3.3. The full list of codes for mediation activities is given in Table 17, Table 18 and Table 19.

Table 17: The codes for descriptors of mediating text

Code number	Mediation activity with descriptors
1	Mediating a text
1.1	Relaying specific information
1.2	Explaining data in writing
1.3	Processing text in writing
1.4	Translating a written text in writing
1.5	Note taking
1.6	Expressing a personal response to creative texts
1.7	Analysis and criticism of creative texts

Table 18: The codes for descriptors of mediating concept

Code number	Mediation activity with descriptors
2	Mediating concepts
2.1	Collaborating in a group
2.1.1	Facilitating collaborative interaction with peers
2.1.2	Collaborating to construct meaning
2.2	Leading group discussion
2.2.1	Managing interaction
2.2.2	Encouraging conceptual talk

Table 19: The codes for descriptors of mediating communication

Code number	Mediation activity with descriptors
3	Mediating communication
3.1	Facilitating pluricultural space

3.2	Acting as intermediary in informal situations
3.3	Facilitating communication in delicate situations and disagreement

The CEFR was used as a theoretical lens to view the data through the descriptors to unpack the meaning of the mediation activities. Thus, in the data analysis, I used the predetermined codes and expected the data to unpack their meaning; for example, how "2.1 collaborating in a group via wiki" was perceived by respondents. Such an approach can be compared to a qualitative codebook (Creswell & Creswell, 2014, p.199), where I used tables with predetermined codes that helped segment data under certain descriptors of mediation activity. This strategy provided me with an idea of coding the descriptors themselves for ease of analysis and making it more structured.

Having transcribed and coded the data from the interviews and the questionnaires, I started reading the data in "an active way" (Braun & Clark, 2006, p.87), searching for patterns and immersing myself in all aspects of the data. At the next stage of the analysis, I focused only on the codes for the descriptors to generate initial codes from the data. The themes were theory-driven because the data were approached with particular questions in mind to identify aspects that would uncover the descriptors from 1.1 to 3.3. During this phase, I was taking notes for coding.

I read each interview and wrote notes on the margins of the printed interview transcripts that would help in further analysis. After that, I started bracketing and created a special file for each interview, with the data organized around the descriptors and their codes. The sentences or phrases that were used by each respondent in relation to a certain descriptor with a code were put into a special file. Initially, these were direct sentences or phrases from the interviews and the questionnaires. Although the file consisted of 17 pages, the analysis was quite manageable because particular sentences which described a certain descriptor were segmented under a certain code. This strategy is recommended as an effective technique for managing data (Blaxter et al., 2006). When compiling the file, I wrote my initial ideas in brackets and in italics for further analysis. An example of the initial coding is presented below (Table 20):

Table 20: Some excerpts from the first interview

S1- student1
1.3
-Instructions needed on how to open and edit the text without opening a new tab
-Everything should be in one place on the site without extra links
-The text should be organized in blocks
-The text presented via wiki was a new /novel way of presenting the text
1.6
We had an opportunity to informally express ourselves in the comments which I did and liked it (*Freedom of speech)*
There was freedom *(to write in such a free style)* as if you were conducting a dialogue with your peers
Too many students responded to all texts
2.2.2
Interesting to read guys' comments *(interest)*
Sharing opinion
3.
Being anonymous can help overcome being embarrassed.
We had the format of a friendly communication like with friends.
3. 1. reluctance to initiate discussion or comment *(fears)*

Some descriptors were represented by long lists of codes (e.g., 27 codes for 1. Mediating text), whereas some descriptors were represented by only a few (e.g., 1.4 translating or 1.5 note taking) because of the wiki affordances, which do not allow these skills to be used frequently. The least represented descriptors were around mediating communication, because wiki's asynchronous nature does not allow online speaking or direct communication. All the interviews for the 1st and 2nd cycles were analysed using this approach. On the third cycle, I decided to switch to questionnaires as a faster data-gathering tool (Codó, 2008).

Coding Data from Questionnaires

The questionnaires were analysed using the same coding strategy. Initially, I checked the questionnaires for completeness and accuracy of the answers to see if there were answers for all the questions and if the respondents understood the procedure, as they were supposed to choose from multiple-mode questions. In processing questionnaire data, I used the same strategy of data reduction (Cohen et al., 2005, p.265). I used the same codes for the mediation activity descriptors. The data from this stage of data collection were focused on the issues where I needed saturation – mediation activities, and especially mediating communication. The data analysis of the interviews at the 2nd and 3rd cycles showed that mediating communication needed more attention because there was scant information about it. However, the data collected from the questionnaires were not so rich in comparison with face-to face interviews. An example of the initial coding of a questionnaire is presented below in Table 21.

Table 21: Example of the initial coding of a questionnaire

S 25 1.1 The ability to convey information from the videos text and audio was the most important improvement. 1.3 It was easy for me to find the information when reading the text 1.4 There were some difficulties in translating the text from Russian into English Basically, the skills of writing and translation were trained. 1.6 The ability to express my opinion about the text is an important improvement in my English language skills. Sharing opinion with the classmates 2.The platform is quite convenient for group collaboration There is a block for each new piece of information; that is why various students' works are not mixed and are conveniently perceived. 3.No experience of any disagreement

When I had the file with all the 25 responses distributed under the particular descriptor from 1.1 to 3, I started reading all of them carefully to get a sense of the whole. I underlined and wrote on the margins either a key word or an interesting phrase or a comment made by the respondent in relation to a particular code. After I completed this for a few responses, I started making a table where I used the same codes for descriptors and codes for the respondents, and I put these words into the table. That was the second sub-step in the process. I used different colours for mediating text (blue), mediating concept (violet) and mediating communication (green). A small part of the table is presented below (Table 22).

Table 22: Example of researcher's colour-coded comments

Code number	S1 (oral interview)
1	Well posted texts
1.2	Convenient organization of the material
1.3	Instructions needed No extra links Wiki presentation is new and novel

Code number	S1 (oral interview)
1.4	Only some phrases or words using it when watching video
1.5	No difference
1.6	Freedom of self-expression as if a dialogue with peers
2	Reluctance to start discussion/ no direct discussion/ being an enormous help to overcome embarrassment/ friendly communication like wit friends
2.1.1	Not many joined
2.1.2	Dialogue with peers Useful to listen to others, it can change your opinion
2.2.1	Using sms for further information -glossary helpful for speaking -sceptical about peer review no experience
2.2.2	Interesting to read comments Sharing opinion
3.1	Reluctance to initiate discussion No direct discussion Being anonymous can help

It can be seen from the table that not all the descriptors were discussed in the interview. If there was no information about a descriptor, it was not included. The idea behind this strategy was to make a list of topics under each indicator for further clustering of similar topics. This preliminary organizing table served the purpose of further analysis to single out similar topics that would be put under the same theme or codes. These codes were used to form categories. In this way, the analysis followed these steps: single out sentences related to a descriptor – identify key words or meanings in them – put together these meanings in a table and, by comparing them, cluster similar ones under overarching codes – cluster codes under a particular category.

Phase two: generating initial codes

I chose to code the data manually because handling paper copies of transcripts was easier for me to annotate, compare and distribute different emerging patterns when moving back and forward through the data. The coding was deductive, and I approached the data with specific descriptors and their codes in mind. I worked systematically with data extracts for each descriptor and collated common meanings within the codes. I used paper copies of the extracts to physically handle and compare the patterns.

The individual transcripts were coded several times for the purpose of generating the themes for different descriptors of mediation activities. That made the process very time consuming and laborious, but putting the initial codes into the file with the table helped handle the data in a manageable way for further phases.

Phases 3 and 4: Searching and reviewing themes

This stage started when the data was coded and collated under the mediation descriptors (from 1 to 3). I had a long list of different codes for each mediation activity with the descriptors. I started sorting the different codes into the potential themes by comparing and grouping the codes to form an overarching theme. This phase was conducted for each mediation activity separately. Stage three was followed by reviewing themes at stage 4 when the candidate themes were checked for internal homogeneity and external heterogeneity (Braun & Clark, 2006). At this stage, thematic maps were generated for further analysis in the Findings chapter. The details of the analysis at stages 3 and 4 are presented below for each mediation activity.

Phases 5 and 6

The process of refining these and writing a report is presented in the section Findings and Discussion (Braun & Clark, 2006)

Data analysis for mediating text

The data set for mediation of text was quite voluminous: the table with the initial codes took 10 pages for all the descriptors. I used this table to think about the relationships between the codes and the patterns within the codes. I analysed them descriptor by

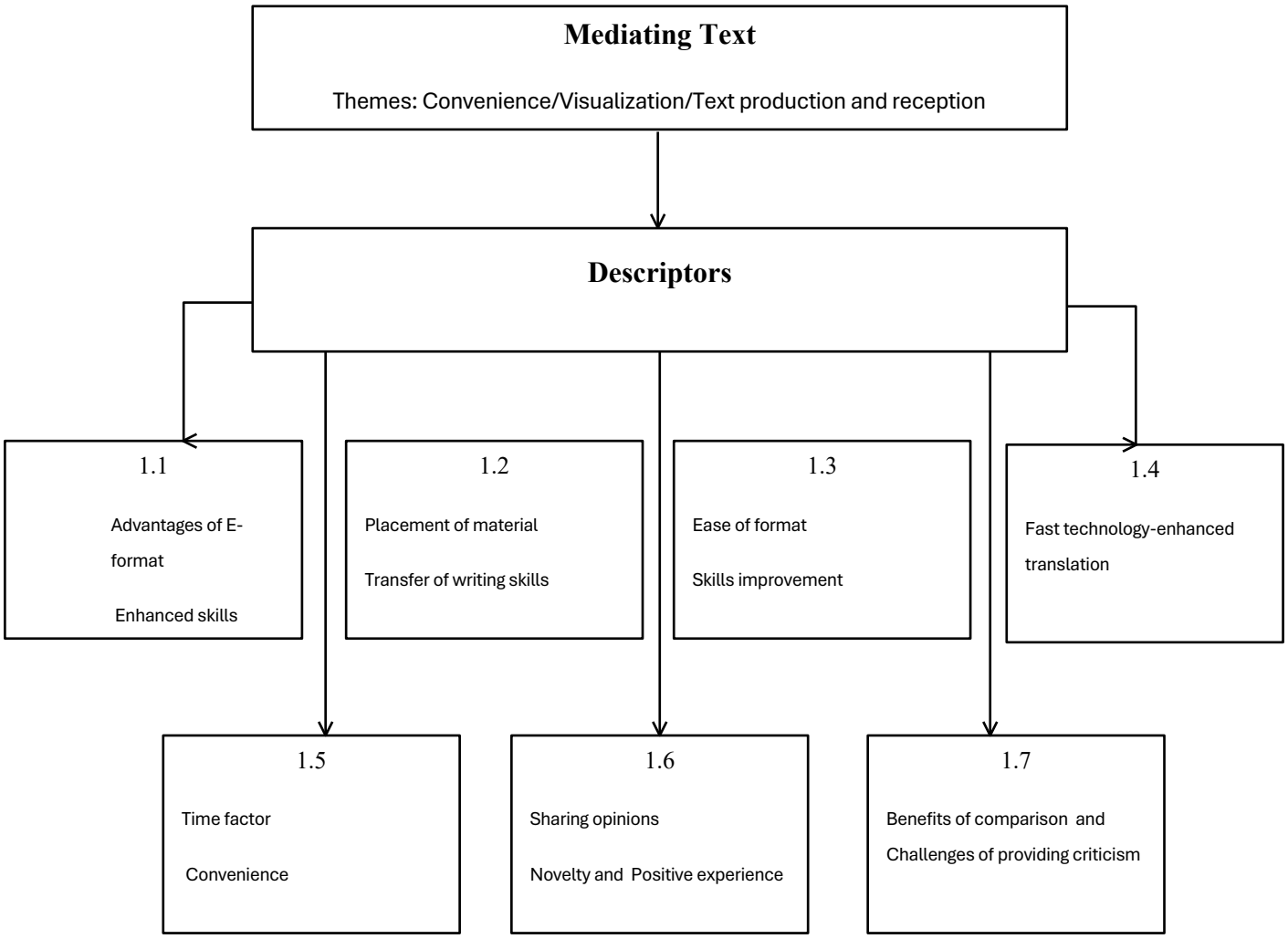


Figure 10: Thematic map for text mediation (with descriptors)

descriptor (1.1–1.7) and identified the themes for each of them. When searching for themes, I printed the table and cut it to explore each descriptor separately. This visual representation helped me with sorting different codes into themes (Braun & Clarke, 2006). There were also some codes that did not seem to belong anywhere, so I put them into a "miscellaneous" group that was then discussed together with the main findings. At the stage of reviewing themes, I tried to refine the themes to avoid external homogeneity of the themes for each descriptor (ibid.). The outcome of this phase was the thematic map below (Figure 10).

Overall, the largest number of codes (27) were identified for mediation of the text. They were grouped together under three themes: visualization, convenience, and text production/reception. The fewest codes (8) were identified for descriptor 1.4. All the descriptors, with the number of codes and the themes, are presented in Table 23. The table shows that the greatest feedback was received about the descriptors 1 (mediating text), 1.3 (processing text), 1.6 (expressing personal response to creative texts).

Table 23: Descriptors for text mediation with codes

Descriptors	Number of codes	Themes	Miscellaneous
1	27	Visualization Convenience Text production/reception	Time consuming
1.1	15	Advantages of e-format Enhanced skills	Comparison with paper format
1.2	14	Placement of material Transfer of writing skills	Access to variety of graphs
1.3	16	Easiness Skills improvement	Working from screen Need for instructions
1.4	8	Fast translation	Focus on details
1.5	12	Time factor Convenience	Using English
1.6	22	Sharing opinion Novelty Positive experience	Difference from traditional teaching
1.7	12	Benefits of comparison Challenges of criticism	Difficulties and discomfort

Data analysis for mediating concept

The data for this mediating activity were centred around the descriptors from 2 to 2.2.2. As with mediating text, I put excerpts from the interviews and questionnaires into a special file and reread them to familiarise myself with the data. When searching for meanings, I coded manually by using notes on the margins. An example of codes applied to a short segment of data is presented below, in Table 24.

Table 24: Codes applied to a short segment of data

Data extract (S14)	Coded for 2 mediating concepts
In general, the site for collaboration is very good. Here you can see your work, look at other people's works you immediately have the whole gallery of other works that you can see and estimate	Good for collaboration The importance of others

In the third phase, I worked with a long list of different codes for each descriptor and started sorting different codes into the potential themes. I used printed parts of the table and again worked manually, using different colours and notes when organising themes. In the fourth stage, the themes were reviewed, and the outcome of the process can be seen in the table below

Table 25: Stage 4 - Review of themes

Descriptors	Number of codes	Themes	Miscellaneous
2	23	Benefits and barriers to group collaboration	Interactive and interesting materials
2.1	14	Convenience and impact for group activity	Problems with asynchronous mode
2.1.1	30	Disadvantages Sense of community Sharing opinion	Informal space
2.1.2	46	The importance of others Shared knowledge Unpacking meaning	Focus on vocabulary
2.2	10	Lack of direct discussion The role of commenting	Enjoyment of a new way
2.2.1	20	Adjustment of style The role of contributions	Motivation
2.2.2	7	Suitability for commenting	Interest

The table shows that the greatest feedback was received concerning the descriptors 2.1.2 (collaboration to construct meaning), 2 (mediating concepts), and 2.1.1 (facilitating collaborative interaction with peers). Some themes seem to overlap, but they unpack different descriptors and activities, so they cannot be discarded from the analysis. The least represented was 2.2.2 (encouraging conceptual talk), because of the

asynchronous format of the wiki site, which does not afford direct talk about concepts. The outcome of the data analysis was the thematic map below (Figure 11), which represents final themes for each descriptor.

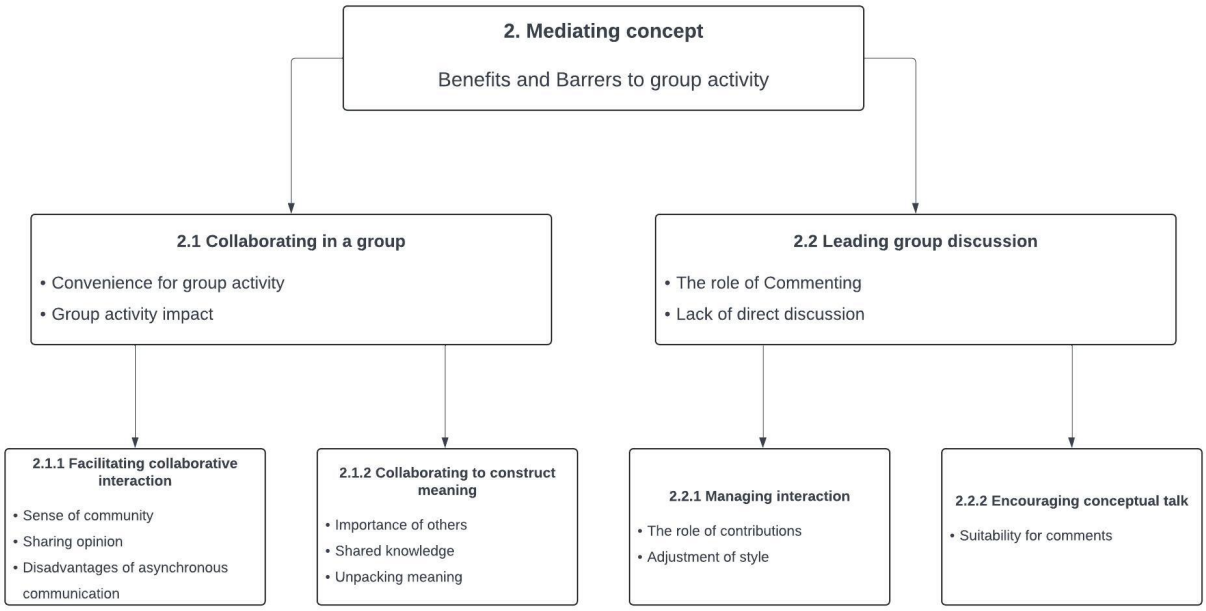


Figure 11: Thematic map for each descriptor: Mediating concepts

Data analysis for mediating communication

Mediating communication is represented by three descriptors, which were given codes before the analysis: 3 – communication mediation as an overarching term, which is unpacked using 3.1 facilitating pluricultural space; 3.2 – acting as an intermediary in informal situations; 3.3 – facilitating communication in delicate situations and disagreement. As stated in the CEFR, "mediating communication is primarily concerned with personal encounters, and so descriptor scales are only provided for spoken communicative activities" (Council of Europe, 2018, p.107). For this reason, the practical implementation of the tasks for mediating communication on the wiki site, which implies asynchronous communication, had certain limitations, which is why the data gathered to describe and unpack the meaning of each descriptor were quite scarce. The analysis was carried out for the activity as a whole; however, the students' feedback was analysed using the same procedure as with the other two mediation activities. The initial codes with the themes are presented below (Table 26).

Table 26: Initial codes and themes for descriptor 3: Mediating communication

Descriptors	Number of codes	Themes	Miscellaneous
3 Mediating communication	16	-Asynchronous communication -Other channels for mediating communication	Importance of friendly atmosphere

The fourth stage resulted in the themes represented in thematic map below (Figure 12).

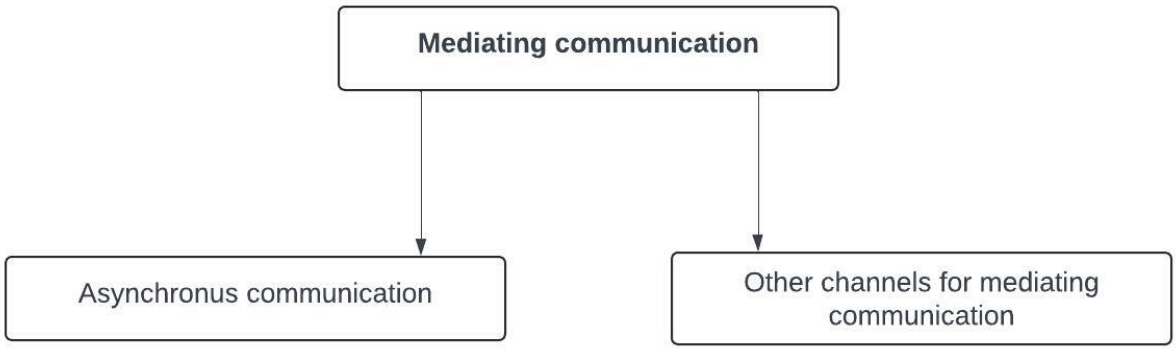


Figure 12: Thematic map for descriptors: Mediating communication

When analysing the data related to mediation activities, I explored aspects related to RQ1 about students' perception of deployment of the wiki site in English learning. The quantitative stage resulted in the findings that were needed to explore and identify the factors impeding or enhancing the deployment of wiki sites.

To achieve this aim and explore the issues related to the ease of use and usefulness of the platform, the data were analysed using the same 6-stage strategy as the thematic analysis. Extracts related to the general perception of the wiki site were separated from the main data and put into a special file containing extracts from each respondent. At the stage of generating initial codes, I used a data-driven approach and the whole process was inductive. The miscellaneous cases were also added at the stage of

searching for themes. See Table 27 for an example of codes applied to a short segment of data.

Table 27: Example of codes applied to a short segment of data

Data extract (Student 4)	Coded for
The site was good for extra materials to study further on one's own. Educational ones not bloggers It gave more independence. using the same account was not good for security issues	-reliability of materials -independence -security

Students with a higher degree of participation provided more comments and consequently more data for coding. All the initial codes were collated together into a separate table to search for themes. Table 28 presents an example of stage three of the thematic analysis.

Table 28: Example of stage 3 of thematic analysis

Initial codes	Emergent themes	Overarching theme
Shared account Log in issues Security issues Editing problems Inconvenient layout Confusing styles Not easy to get accustomed Lack of experience Disadvantages of asynchronous communication Not possible to edit from the phone Hard to process from the screen	Security issues Editing limitations Layout	Disadvantages

The whole data set was analysed using the same approach, identifying 7 sub-themes that were grouped into 4 categories. These categories represent 4 factors that can impede or enhance students' perceptions of wiki technology. The miscellaneous cases from the thematic analysis for RQ2 were also considered. As stated earlier, the students accepted a wiki site as an easy educational platform for their studies. However, a minority of the respondents disagreed with the idea that the platform was easy to

access and was useful for their studies. Thus, the qualitative stage generated data that enabled analysis of the reasons behind this disagreement among the respondents. The data analysis showed the need to pay attention to the rationale and the appropriateness of the tasks designed for the wiki site so that the students could see its usefulness for their studies. The qualitative analysis of semi-structured interviews and questionnaires resulted in identifying four main factors (categories) that affected students' perceptions of wiki sites as an educational platform: technological, motivational, educational and psychological. Each of them can either enhance or impede learning via wiki sites. The factors are described using themes, as presented by the thematic map below (Figure 13).

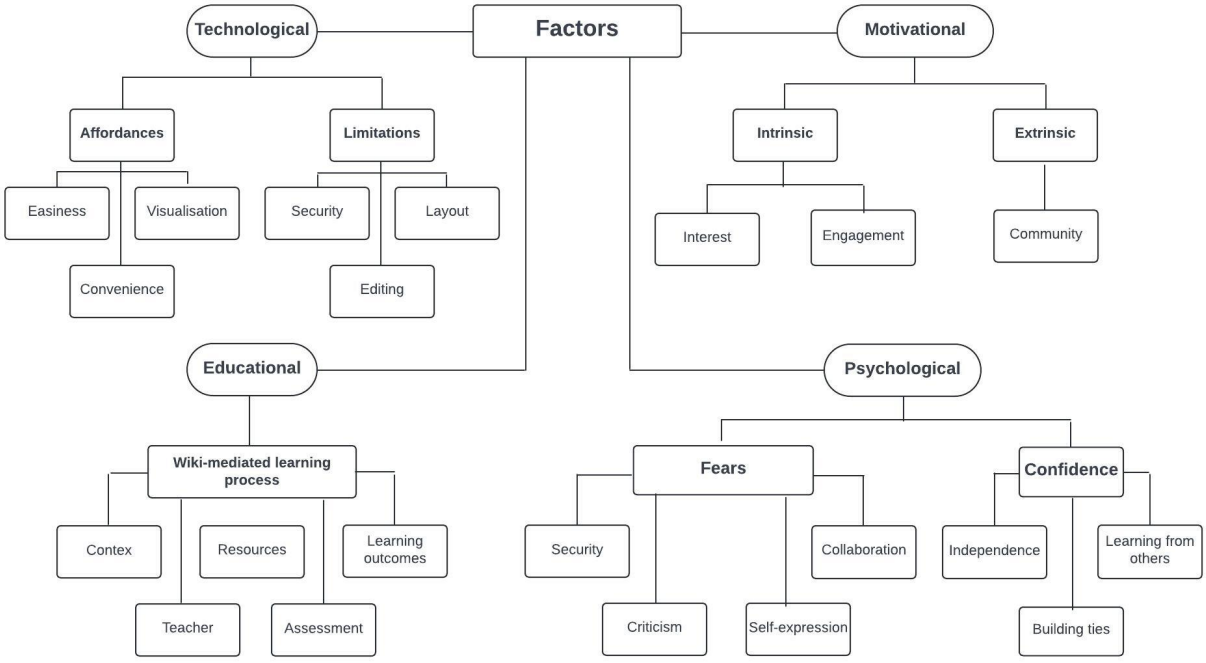


Figure 13: Thematic factors affecting perceptions of wiki sites

3.9 Quality of the mixed-method study

3.9.1 Ethical considerations

Data analysis was based on collecting information from people, so ethical considerations were considered at many stages of the research design. Ethical

questions are of paramount importance for research because the participants and the data they provide need to be protected (Creswell & Creswell, 2014).

The development of the wiki site consisted of several stages, with ethical considerations considered at each stage. The *initiation stage* of the project was associated with the risk of low participation by students. This issue was addressed by providing comprehensive information about the aims and tasks, and the value of collaborative learning and outcomes. Students' participation was voluntary because the wiki site was designed as a platform providing scaffolding for learning outside traditional face-to-face classes.

In the *engagement phase,* the code of ethical conduct, or wiki etiquette, was presented by the teacher to delineate the rules of "co-existing" in the learning community (Reinhardt, 2019). Here, the principles of anonymity and confidentiality were considered in sharing presentations and essays for peer-review; the students were invited to choose wiki names if they wanted to work anonymously.

In the *research phase,* the consent form was designed and sent to the participants after the course was completed and grades were known. This was an important step to avoid any imbalance in power relationships and reduce the fear of bias: students might be afraid of providing honest answers if this could affect their grades for the course. The form was presented in both English and Russian to avoid any misunderstanding about any aspect of the research.

During *data collection*, the participants were asked to negotiate their time and the platform in ways that were convenient for them, so they were treated with respect (Creswell & Creswell, 2014). Moreover, the participants were informed about the processes of using this information and the video recordings only for research purposes. The interviewees were informed at the beginning that the interview would be recorded. In Zoom, the permission of the other party is required to start recording. In some cases, rewards were provided in the form of extra resources and reference books for IELTS training or English e-readers. This was in line with the idea of mutual benefits from the research (Creswell & Creswell, 2014, p.98).

During *data analysis,* the privacy and anonymity of the respondents were respected, and codes were assigned to each participant to avoid any bias on my part or disclosure of information to a third party when interviews were transcribed.

In the *final stage* of presenting and disseminating the research findings, attention was paid to the ways the data would be stored and shared. As shown in Table 29 the attention was paid to ethical issues at all stages of the research.

Table 29: Ethical issues in the study

Stage	Issue	Solution
Preparation	Low participation and the question of power imbalance	Providing information about the usefulness of the wiki site to engage voluntary participation
Development	Confidentiality and anonymity of information	Using wiki names for submissions and posts
Integration	Respecting the norms and opinions of others	Presenting the rules of wiki etiquette
Data gathering	Avoiding pressure in signing consent forms	Collecting data after the exam session on a voluntary basis
Data analysis	Respecting privacy and anonymity	Dissociating names from responses to protect identities
Disseminating research findings	Dealing with the findings and publishing the data	Keeping the data safe Sharing findings with academia Acknowledging the contributions

All these issues were taken into account at early stages of the research to follow good ethical principles and not to harm any interest.

3.9.2 Validity and reliability

Validity is one of the essential characteristics of qualitative research. It can be achieved through several strategies (Creswell, & Creswell 2014). One of the strategies used in this research was triangulation, which was achieved through using different sources of evidence: surveys, semi-structured interviews, questionnaires, and a self-reflection diary; a diary was used during the whole research process, since reflectivity is a core characteristic of qualitative research (Creswell & Creswell, 2014, p. 202)

Following the guidance of Gibbs (2007), several qualitative reliability procedures were followed. The transcripts were checked for accuracy, and the site was deployed three times, with the data gathered in two universities with participants from different faculties. Therefore, the findings can justify a certain degree of qualitative generalization, which is relevant to small- scale research (Blaxter et al., 2006).

3.9.3 Limitations

The wiki sites were deployed during the COVID-19 pandemic, but the issues related to distance learning during the pandemic were beyond the scope of the study and can be explored in future. More crucially, the sample does not represent a multinational or plurilingual community; this is why the concept of communication and its descriptors related to pluricultural space were not fully explored in this study.

This type of technology is not suitable for everyone, so there were students who were either unwilling to participate actively (4 of the participants (S5, S17, S18, S19) demonstrated a low level of wiki activity) or thought that the technology was not quite suitable for their type of learning (S18). Hence, the findings and the results concerning a positive impact on learning are not universally applicable to all types of students. Despite these limitations, the study's findings offer suggestions for teachers to follow when using wiki sites in their professional activities.

3.10 Students 'perceptions of using a wiki site as an educational platform: qualitative Findings for RQ1

In the following sections, I will describe the categories to address RQ1. The thematic analysis resulted in 4 themes/factors that qualitatively describe students' perceptions of wiki use: technological, motivational, psychological, and educational. Each factor is represented by the themes that are defined below.

3.10.1 Technological factors

Technological factors are represented by the affordances and limitations of the platform or advantages and disadvantages that the students experience. The main advantages are *ease of use*, *convenience* and *visualization*. The first two advantages coincide with the findings from the quantitative stage. At the qualitative stage, the analysis helped

unpack the meaning of these findings. Many of the respondents mentioned the *ease of use* of the platform due to its flexibility: "You can attach any file or a picture you want" (S14). Some students also noted that editing was easy, "like editing in Word" (S15); for example, "You could make the text bold or italicised if needed" (S25). S24 explained that "it was easy to find the text [where] you needed to leave a comment".

According to the interview data, all students felt that the site was *convenient* because it "can be used any time and place" (S19). Furthermore, it provides direct access to the materials, which are stored "in one place" (S2, S3). They claimed that it was "more convenient to work with the text from the screen" (S17) in comparison with traditional textbooks: "One can enlarge the text to read if you have poor eyesight. That's convenient" (S15).

Most respondents pointed to the feature of *visualization.* They could "see a lot of pictures" (S10) and "somehow…remember the task right away from the picture" (S13). Many students enjoyed the opportunity to work with different images, colours and fonts, which was especially useful for students from the design faculty. S17 explained that "it is an opportunity to work on the content, taking into account our future profession".

Despite these advantages reported by the learners, there were some disadvantages. For many students, *security issues* caused by log-in issues and personal data safety were the main obstacles. S23 stated that "it's not safe. The inevitable use of a shared account dramatically increases the security risks. Plus, you can forget to log out of your personal account and the entire history…will remain there". Another impediment was *editing limitations*, because it is impossible to edit from a mobile phone. Moreover, *having several participants working simultaneously* on the site can lead to confusion or some comments being deleted. S14 explained that "in synchronous communication you can start writing at the same time as another person using the same line… and it all gets mixed up". Moreover, the layout of the site was perceived by many as inconvenient because of "too many columns" (S9), "lots of designs" (S1), and "pictures of different formats" (S11).

Overall, the advantages outweighed the disadvantages. Students acknowledged that "it was quite an interesting experience" (S2). For many students, the site was "well

structured" (S8), "modern and beautiful" (S5). Students noted that it was convenient when "everything is one place" (S17).

3.10.2 Motivational Factors

Another theme is the motivational aspect, under which the following codes were clustered: *interest, engagement, community*. I classified these codes into intrinsic and extrinsic motivation, with interest and engagement being intrinsic, whereas community is an external condition for participants' motivation.

Many respondents identified an increased degree *of interest*. Students acknowledged that it was "more interesting than doing home tasks" (S10) and "fascinating to see how people work" (S12). Students claimed that working on the site was "different from Moodle" (S13). S14 explained this by characterizing the wiki site as "straightforward and intuitive". S7 noticed that it was different from traditional textbooks because of "more interesting materials". The role of resources is singled out as a code for an educational factor. Hence, some codes are repeated across the sections because the motivational aspect is interconnected with educational outcomes (Deci et al., 1991). Interest from the teacher was also reported as important and "stimulating" (S11). The teacher's role will be discussed in greater detail under the educational factor.

The other code under intrinsic motivation was the feeling of *engagement* in the learning process. Some respondents acknowledged better involvement in their studies (S16, 17). S5 explained that this feeling appeared "when you know that what you have written will be read". Some also mentioned that wiki names contributed to anonymity, which in turn "could help working with other people who I do not know" (S14). S13 said, "We could comment according to our interests [rather than] personal relationships".

There were varying experiences of wiki *collaboration*. A few students stated that due to its asynchronous format, they "did not have a feeling of community" (S6). S18 said that "this format is not my kind of thing". So, the wiki cannot be viewed as a universal format because of different learning styles. However, most students described wiki sites positively as "a friendly team" (S10), "friendly conversation" (S13) or "some kind of friendly support" (S12). It is worth mentioning that this feature was reported mainly by respondents who actively shared projects and commented on papers.

3.10.3 Psychological factors

This theme encompasses codes related to positive and negative feelings the participants experienced when working on the sites. Positive perceptions are grouped around the feeling of *confidence* that is underpinned by the feeling of *independence* and *opportunities for learning from others* and *building ties*. Negative perceptions are centred around various *fears*, such as *lack of security*, *criticism*, *self-expression* and *collaboration*.

For many participants, the initial activities on the site were challenging because of a *lack of security* they felt when using a shared account. This finding was discussed earlier under the theme of technological limitations. S11 shared a story about a participant who was worried about uploading any type of personal information onto the Internet.

Many students pointed to reservations about *collaborating.* Thus, the analysis resulted in identifying some psychological barriers for lurkers, or students with a low level of engagement. Even students with an active degree of participation expressed some fears. S3 said, "I had a fear of making mistakes". S8 expressed unwillingness "to join discussions". For some students, it was challenging to *express themselves* on the site, especially in writing: S24 noted, "I had a fear to express myself. That my opinion would be judged". This code is interconnected with the reverse process of providing criticism in peer reviews. Some students found it hard to comment on others' works because they "have no experience…to evaluate" (S1).

However, several students described a change from the initial fears at the start to growing confidence in the end. S13 explained, "At first it was scary, and then I felt absolutely confident". The students acknowledged that the perception of confidence was fuelled by the feeling of independence and freedom. S1 mentioned that working on the site "provides more freedom of thought, no sense of boundaries of a traditional classroom". Moreover, the respondents highlighted the importance of *learning from others.* S16 said, "We can watch how we learnt vocabulary from each other." The participants mentioned the process of *building ties* as a positive aspect of the wiki. The respondents described the wiki as being "like home" (S13), or "a secret community where you are included" (S14). The other way of feeling positive is "learning more about

others" (S15). S10 said, "It brought us together and closer. We had a common goal and motivation".

3.10.4 Educational factors

The richest data were coded around the category related to education. It was described using the following codes: *context, teacher's role, resources, assessment, learning outcomes*.

As for the *context*, wiki was viewed as a new experience, which was different from Moodle or social networks. S14 noted, "I commented there more than in Moodle". Despite more independence and freedom pointed out by the respondents, the platform was characterised as semi-formal, which means less formal than Moodle but more flexible: S5 described it as "academically informal". The site was viewed as "specially created" for students (S9).

Despite these advantages, the site was perceived only as an additional tool to traditional classes: S2 stated that "the site can't be used as the main source of information". S4 explained that it was good for "extra materials". Many students noticed that it was not convenient for synchronous groupwork, but this asynchronous way of working was perceived as an advantage because students "can have more time to think" (S17) or "can work at [a] convenient time" (S12). Overall, the learning context mediated by wiki is different from a traditional way of learning because of novelty, with more freedom and an asynchronous way of studying, which offers both advantages and disadvantages for learners.

The second category was *teacher's role*, which was characterised as important. However, there were varying opinions on the degree of the teacher's participation and functions on the site. Some students felt that the teacher "should actively participate in commenting" (S1) and even "provide face-to face feedback sessions" (S2). Others believed that the teacher should act only as "a moderator" (S5, S18) or "a guide" (S6). Despite these different views, most students agreed that the teacher's involvement and motivation played a certain role in students' engagement. Many acknowledged the importance of the teacher's feedback and the reliable resources the teacher uploaded

onto the site. S20 said, "The teacher played a huge role in adding lots of content and answering questions".

The third category was *resources.* This is directly related to the teacher, who "acted like an expert about resources that are shared" (S6). The students acknowledged the significance of interesting materials that were "enjoying" [i.e., 'enjoyable'] (S2) and "not burdensome" (S7). It was pointed out that the variety of materials played an important role in students' engagement. S2 noted, "I saw a variety of graphs and essays. So I could choose what I would like to write, and it was a good practice". Many stated that the wiki served as a convenient place for storing materials "in one place which was very convenient" (S17). There was "no switching from one resource to another" (S4). Wiki sites were compared to "a bank of knowledge like one single reference book" (S13). The learners acknowledged that the structure of the site and organisation of materials were of great importance, too. S14 mentioned that "everything was organised well. I understood which page to go to and what to write". In addition, the participants reported that the most interesting materials were "videos that were relevant to our interests" (S21). Overall, the materials "were different from a traditional textbook" (S7), so the students felt their motivation "increased" (S7, S8). Many students noted that it was important to illustrate the text with pictures because "it is more effective to learn something new when I see images not only texts" (S2).

The next category is *assessment.* This category was perceived through several aspects: grades, deadlines, peer and teacher assessments. As for grades, there were varying opinions concerning the necessity or absence of grades. Some students believed that it was an obligatory element, while others thought it to be unnecessary. S1 said, "It will look like forcing people to do tasks": on the other hand, S11 noted that the grades of other students "motivated to do better". In addition, students acknowledged the importance of deadlines. S2 remarked that "we should have some deadlines". S8 underlined the significance "to have some kind of a schedule for paper submissions". This factor is interconnected with peer review practice, when the papers were submitted and reviewed by students.

Overall, this activity was perceived positively by learners. S12 claimed that "it was interesting to read and see how others work. This was like friendly support". The

students talked about the teacher's role in this process, which was to provide criteria for assessment, set deadlines and share resources. S15 stated, "The teacher's role is significant in evaluating work and checking grammar".

3.11 Students' experiences of using a wiki site for mediation activities: qualitative findings for RQ2

3.11.1 Mediating text

This activity is represented by 7 descriptor scales that were unpacked using the themes for each of them. Each scale is characterized by two or three themes.

3.11.1.1 Mediating text as an overarching term

Three themes were identified to define this mediation activity as a whole: visualization, convenience, and text reception/production. Students reported that it is "different from a traditional textbook that is why it is easier to perceive a text" (S17). *Visualization* also contributed to better text perception. Some students explained that "illustration and colours …are very good for perception". It was especially important for future designers, who appreciate pictures and editing functions when working with textual information. Some noted that "there are good fonts" to "enlarge the text" if needed (S14, S15).

Overall, students reported the *convenience* of wiki for text *production and reception* due to "availability of text any time" (S22, S19), easy access to materials (S16), more writing practice (S7) and presentation of materials (S2). Due to these affordances, learners can better perceive texts and produce more writing on the platform.

The 'miscellaneous' category included the opinion that the whole process was more time-consuming in comparison with the traditional way. This can be explained by the fact that students have more thinking time for wiki-mediated activities due to the asynchronous format. Mediating text is represented by seven descriptors identified in CEFR, which I coded from 1.1–1.7 for convenience of analysis.

Relaying specific information in writing

Relaying specific information in writing was described using the themes: 'advantages of e-format' and 'enhanced skills'. A text in *e-format* gives more opportunities than a

traditional format. The students reported that it was faster because there were no handwritten notes (S6). S12 noted that "it is easier to do everything using a computer". The comparison with the paper format was made by some students. S3 noted that "it was more comfortable for me than paper". The editing functions, such as "copy-paste functions" to relay data (S14) and "integration with Google docs" (S3) made the learning process easier and more convenient. The ability "to attach pictures" (S16, S17) or edit work made the learners feel ownership of the content. S13 mentioned feeling like "an owner of your page". As a result of wiki-mediated learning, "an improvement" (S25) or "a change" (S24) in skills was reported by respondents. They talked about "more writing practice" (S18), directly related to the ability to explain data in writing.

Explaining data in writing

Explaining data in writing was represented by two themes: 'placement of the materials' and 'transfer of writing skills'. This descriptor relates to an ability to describe data in the form of graphs or charts. Organisation of the material and its *placement on the wiki site* were reported to be important for better understanding of the task given in a written format. S24 mentioned the convenience of "having visuals in front of you on the screen": visual convenience was mentioned by many respondents. In addition, the learners acknowledged the importance of "variety of graphs" to make "writing enjoying" [i.e., 'enjoyable'] (S2). Some students felt no difference between explaining graphs on the wiki or on paper. For example, S23 said, "I didn't feel any special differences… I was looking at the picture only on the screen". S18 agreed that "it doesn't differ from traditional practice", so it was easy for students *to transfer their writing skill* to e-format. S15 compared this experience with writing in Microsoft Word: "…in Word, there are the same functions, and all can be edited as needed". However, some students noted the need to make "notes" (S2) or to have "a separate page for each text" (S5).

Processing text in speech/writing

Processing text in speech/writing is represented by two themes: 'ease of use' and 'skills improvement'. *Ease of use* of the wiki format was explained by the use of laptops or computers. The students explained that "it was convenient to read from a laptop or a phone" (S19). Most students felt comfortable seeing texts on the screen. One student mentioned the fact that it was "good for eyes" that one could enlarge the text if needed

(S19). In addition, it was noted that the e-format enabled better navigation when processing texts. S25 noted that "it was easy for me to find the information when reading the text". The opportunity to edit texts also added to a higher level of text processing. S21 claimed that "there was a possibility of text division. The site used a convenient division of the text into blocks". Visualisation also contributed to better text processing. S11 acknowledged that, because of the pictures, "the perception of the text is easier and clearer". However, there was an opinion that "instructions are needed [on] how to open and edit the text" (S1). Overall, some learners noticed changes in their skill in text processing. S14 remarked that "we could improve the skills of working with the text and analysis".

Translating a written text in speech/writing

Translating a written text in speech/writing was described using the theme *speed of translation* due to the affordances of the wiki site. The site was not used to translate long professional texts, but only "some words or terms". S20 said, "I can easily translate some words using Internet". However, the participants emphasized the speed and convenience of using technology-enhanced translation. Using copy-paste functions made it faster to translate. There was an opinion that the wiki helped in focusing on details: S17 noted that "you can work in more detail [with the text] and translate it in more detail". Another student mentioned an improved ability to translate videos because "you can watch and listen several times" (S13).

Note-taking

Note taking was explained using two themes*:* 'time factor' and 'convenience'. Time is an important theme because some participants needed more time to take notes via wiki, because the learning process happened asynchronously. Others noted that note-taking could happen "immediately" on the site when watching a video or listening to audio (S16, S17). S13 remarked, "It is convenient for comments as this is a dialogue window and the information is given right away. No need to switch anywhere". The ability to edit with no time delay is an advantage of the e-format. Due to these features, the students found it easy and convenient to take notes on the wiki platform. Furthermore, there was an opinion that taking notes in English was "another opportunity to develop language skills" (S24).

Expressing a personal response to creative texts

Expressing a personal response to creative texts was unpacked using three themes: 'novelty', 'sharing opinion' and 'positive experience'. Most students claimed that this experience was quite new for them: S5 said, "Never done it before. New activity. Great!". This feeling of enjoyment was noted in many responses, enabling me to draw the conclusion that perceptions in general were positive. Overall, sharing opinion via wiki was associated with freedom to discuss texts with peers: S7 noted that "it was easier to express opinion, easier to say what you think. There was more freedom".

However, respondents reported some challenges that this activity was "not for live discussion" (S8) as there were "too many students who responded to all texts" (S1). The other challenge was associated with the difference from traditional classroom learning: S3 explained, "I don't usually do it in real life". Despite some limitations, this mediation activity was perceived as simple and easy to do. Some students noticed improvement of skills in expressing themselves: S25 remarked, "The ability to express my opinion about texts is an important improvement in my English language skills".

Analysis and criticism of creative texts

Analysis and criticism of creative texts was reported by two themes: 'benefits of comparison' and 'challenges of criticism': the site created an opportunity to compare works and evaluate them. Many students appreciated this opportunity because they could learn from analysis and criticism. S21 remarked that the students had an opportunity "to independently evaluate the work of other students, note their mistakes and find similar ones". Another benefit was the fact that criticism from peers helped "understand one's own mistakes and expand the outlook" (S9).

3.11.2 Mediating concepts

This activity is represented by two scales that contain two descriptors each. The first scale (2.1. collaborating in a group) concerns "the conditions for effective work". It is focused on relational mediation. The second scale (2.2 leading group discussion) is concerned with the development of new knowledge and is related to cognitive mediation (Council of Europe, 2018, p.117). *Mediating concepts* as an overarching mediation activity was described by two themes describing benefits and barriers to group

collaboration. In general, the wiki was perceived as "a good platform for collaboration" (S15) and was described as "interactive" (S7, S23). Some students appreciated "the feedback from others" (S2), while for other respondents it was "interesting learning experience" (S22) and "positive teamwork" (S24).

However, it was noticed that the process was not effective because of some challenges that arose: reluctance, or "a feeling of embarrassment" (S1), to take part in or start discussion, and a lack of real-time communication, meaning "waiting time for the feedback" or waiting for comments to come (S10). Despite some barriers, the respondents found this process interesting and valuable. S2 explained, "Seeing other people working was interesting. Working atmosphere is at the heart". S7 mentioned the importance of "interactive and interesting learning materials" to encourage students' engagement.

3.11.2.1 Collaborating in a group

Collaborating in a group is subdivided into 'facilitating collaborative interaction with peers' (2.1.1.) and 'collaborating to construct meaning' (2.1.2). As for 2.1, it was described using two themes: 'convenience for group activity' and 'impact of group activity': S13 found the site to be "a good tool for group activity". The students mentioned that it was "easy and helpful", as they "can jointly develop a section" (S23) or "cope with joint projects" (S20). Many noted the convenience of "finding other students on the platform" (S24). Another factor to describe collaborating in a group via wiki is its impact on learners; first, it resulted in more writing practice because the students were collaboratively working in a writing group or on other projects. Second, collaborating in a group enhanced understanding of the tasks and the language: S21 remarked that one "can look at how other students approach the task and find some interesting details for oneself". Third, some students acknowledged growing motivation due to "more freedom… [to write in such a free style] as if you were conducting a dialogue with your peers" (S1).

It is worth mentioning some problems that can appear when collaborating on the wiki site. Asynchronous communication makes collaboration difficult and not all students

are engaged in the activity. The disadvantages of asynchronous communication are discussed further below.

Descriptor 2.1.1, *facilitating collaborative interaction with peers*, can be understood through three themes: 'sense of community', 'sharing opinion' and 'disadvantages of asynchronous communication'. The participants characterised the collaborative interaction with peers via wiki in a positive way; they mentioned the sense of a dialogue which took place in a friendly atmosphere. S1 compared this experience with "a dialogue with peers". The sense of community was shaped through supporting each other in collaborative projects: S2 noticed that "in writing group., it was interesting to get comments and it leads to better progress because we help each other". Some respondents mentioned the sense of involvement through collaborative interaction. S5 noted that, through "vivid interaction with peers", the participants "had some sense of involvement". Overall, the wiki platform was perceived by many students as an informal space, "like a friendly team" (S10) or "a group of friends" (S7).

Sharing opinions is one of the most valuable advantages which was acknowledged by the respondents. It was performed through peer review. Open access to different written works by students was reported as one of the most important collaborative activities. The opportunity to read each other's papers is not usually provided in a traditional classroom. The respondents stated that peer review and writing groups created opportunities "to learn how to analyse the work and improve one's own work" (S6).

However, this collaborative format was not convenient for all students because of the disadvantages of the asynchronous way of working. The most frequently cited issues were lack of real-time communication and fears of editing or sharing opinions in public. S21 added that some participants of collaborative projects waited for "students' evaluation for a long time. Not all students were active".

Despite certain disadvantages, the students' perceptions of the wiki for collaborative projects were favourable: S20 said, "I think it is a good tool for group activity."

Descriptor 2.1.2 is concerned with developing ideas as a group member. It is related to collaborative projects and concept development. The key themes identified in the scale include: importance of others, shared knowledge, and unpacking meaning. The first

theme is related to the role that others play in constructing meaning: various skills were trained through the wiki, from simple questioning to developing other students' ideas and evaluating works. For many participants, the activity of other students was beneficial in many ways: shaping attitudes (S1), correcting mistakes (S2), brainstorming and debating with peers (S4).

Such collaborative projects as Glossary were perceived as useful to prepare for classes: S5 explained that these projects helped "develop your own ideas or get new points of view: you could find something new that you would never find yourself". Many students stated that the knowledge that was shared by others was valuable in many aspects of language learning: S7 explained that "through reading other papers I could improve my writing style by noticing how others have written their papers". Familiarity with grammar constructions and new vocabulary which were used by others helped the participants improve their language skills: S8 noted that "it was very useful when we shared knowledge and materials to have a common base. For example, I used the contributions to the glossary when I didn't know the topic".

3.11.2.2 Leading group discussion

The third theme is closely related to the previous two. Unpacking meaning occurred through the help of other students and shared knowledge: it was the outcome of collaborative activity happening on the wiki site. S11 noted that "a lot of information has been learnt from groupmates". S14 added, "If I didn't understand I looked at the works of another group and I took it as a basis". In addition to the main findings, there was an interesting observation that these collaborative activities encouraged students to be focused on vocabulary and grammar used by others in their works; this was an additional learning outcome mentioned by some students.

Scale *2.2 Leading group discussion* is represented by two descriptors: 2.2.1 managing interaction and 2.2.2 encouraging conceptual talk. The scale was characterised using two themes: the role of commenting and the lack of direct discussion. The former can be perceived as a positive experience, while the latter is reported as an obstacle. The additional 'miscellaneous' theme was the feeling of enjoyment experienced by students during group discussion on the wiki site. Commenting was reported as an important part

of discussion: S20 noted that "it was my favourite activity". For others, it was interesting to discuss academic topics together but in a less formal environment than a traditional classroom. S25 mentioned the fact that "the teacher should start the discussion and observe how it develops. The questions, comments … created further conditions for discussion".

On the other hand, many respondents felt there was no real discussion for various reasons: "not all students were active" (S21) or "a long waiting time" (S10) for peers' comments. Yet, overall, students reported that their commenting skills had improved. As an extra comment, some students felt enjoyment at being a part of group discussions: S22 said, "I like the experience and the fact that I can get feedback from other students".

Managing interaction (2.2.1). When managing interaction, the learner is expected to demonstrate different skills, from leading a plenary discussion to monitoring communication. However, the asynchronous format of wiki-mediated learning does not allow direct communication to be organised effectively. For this reason, the scale was analysed using only the concept of "adapting own contributions and interactive role to support group communication" (Council of Europe, 2018, p.120). The focus of the analysis was on the following progression up the scale: from 'showing interest' at A1 to 'ensuring even participation by balancing contributions' at B1 and B2. This analysis helped identify two themes, 'the role of contributions' and 'adjustment of style' as conditions for smooth interaction on the wiki.

As for contributions, the participants talked about having a positive experience of this mediation activity although the experience was new for them. Students reported the fact that they tried to comment on the works with "fewer comments" or to "pay attention to every work" (S15). This signifies the desire to manage the interaction through balancing contributions on the wiki. The main positive perceptions of this mediation activity were the ideas of novelty and interest: S7 mentioned that "it worked because people were interacting by writing papers and commenting… It was a positive experience… It was great that guys provided positive feedback, especially from those who you don't know". Some students expressed the feeling of being motivated to show or get interest from others. Despite positive experiences, some students mentioned negative feelings they

had when interacting with peers: "reluctance to participate" (S1), "waiting time for comments" (S8), or "feeling alone without contributions" (S8).

The other theme is adjustment of style when writing on the site. The students explained that, when comparing contributions, they understood "how to adjust" to the main discussion in terms of language and structure (S11) or how to "keep up with the style of writing" (S13). By adjusting the style of writing and communicating, the students had a feeling of better interaction in a group discussion.

3.11.3 Mediating communication

Mediating communication is the third mediation activity under analysis. It involves an ability to understand others' perspectives and act accordingly in situations of tension or disagreement. It is especially important for multicultural spaces, where users mediate between various cultural viewpoints. In this study, however, the focus is on creating positive learning environments, where users have different linguistic competence but come from the same cultural background. The key concepts under analysis include:

- Showing interest in promoting understanding of cultural views and perspectives between speakers;
- Dealing with disagreement or misunderstanding.

The students were expected to show the ability to appreciate different views and to be flexible and sensitive in delicate situations (Council of Europe, 2018. p.122). The other ability was to overcome potential difficulties when contrasting cultural viewpoints were voiced.

3.11.4 Summary of the qualitative findings for RQ1 and RQ2

This section presents a brief summary that can be drawn from the findings. The respondents provided rich descriptions of the wiki-mediated environments that were designed for mediation activities. The quantitative findings of the ease of use and convenience of the wiki sites were confirmed and explored further to identify affordances and limitations of these sites. Overall, the findings point to favourable perceptions by students when working on the wiki sites. Wiki sites can be effectively used for all the skills that are required for overall mediation, such as collaborating with

people from different backgrounds, creating a positive space by providing support, comparing answers or providing ideas. The sites proved to be effective for generating ideas and co-constructing meaning in collaborative activities when mediating texts and concepts. These characteristics coincide with the understanding of overall mediation given in CEFR (Council of Europe, 2018, p.103).

Most students reported that wiki-mediated learning for mediation activities was a new experience for them. The experience differed from traditional classroom activities in many ways: asynchronous format, focus on collaborative activities, editing functions, and access to others' works. The most valuable outcomes related to linguistic, cognitive and relational mediation. As for cross-linguistic mediation, the main advantage was improvement of language skills in writing, text processing, translating and commenting in English. Relational mediation was developed due to enhanced opportunities for group activity and collaboration. Cognitive mediation was represented by high order thinking skills, such as analysis, processing information and evaluation skills.

However, the respondents reported many challenges and limitations of this type of learning. The main difficulties related to fears of editing, the time-consuming nature of the asynchronous format, and login and security issues. Despite these disadvantages, the respondents shared favourable perceptions, especially of text and concept mediation activities. Activities involving mediation of communication were limited because of the asynchronous format, which did not allow direct discussion. The cases labelled 'miscellaneous' represented interesting findings that could be separately explored in future studies.

Chapter 4: Discussion

4.1 Introduction

This chapter will discuss the main findings resulting from quantitative and qualitative analysis. It will be organized according to the research questions. At the end of the chapter I will propose enhancing and impeding factors for text, concept and communication mediation. Different patterns of collaboration in a wiki-mediated environments are also presented in this chapter.

4.2 Response to the research questions

In this section I will respond first to RQ1 and then RQ2 with three sub-questions. I conclude this section by drawing together the findings from RQ1 and RQ2 to answer the overarching question.

4.2.1 **RQ1** Students' acceptance of the wiki sites for English learning

This research question was explored first quantitatively and then qualitatively**.** This mixed-methods approach was used to explore students' acceptance and intentions to use the technology before the deployment. Then, the findings related to moderate disagreement among the respondents were explored using qualitative thematic analysis. The analysis showed that there were no responses showing strong disagreement among participants in regard to ease, usefulness or intentions to use. Overall, all the participants reported awareness of wiki technology for educational purposes. The quantitative findings showed an overwhelming positive attitude (87% of respondents) and a high degree of intention (more than 90%) to use wiki sites for studying English, because wiki sites were perceived as useful for studies (94%).

This is in line with previous findings by Altanopoulou and Tselios (2017) and by Luo and Chea (2020). However, most research is devoted to the factors influencing the acceptance of wiki technology, whereas I was more focused on the variables where moderate disagreement arose among students: ease of use and usefulness of the site for studies. This quantitative stage was viewed as a needs analysis, which is an important aspect of CEFR action research (CEFR, 2001, p.7). Ahead of the intervention

stage, these findings provided me with information regarding the need to explain how to use, access, and make wiki sites useful for studies. Also, this stage enabled me to identify aspects for further exploration at a qualitative stage: factors that can impact the ease of use and usefulness of the sites. In a qualitative analysis, during interviews and questionnaires these challenging issues were raised again. Much attention was paid to the challenges experienced during the actual use of the sites.

Overall, participants mentioned the main advantages that wiki learning could bring, especially the affordances of Google wiki sites such as convenience, ease of use, and a high degree of visualization that can be used on the platform. Participants noted that working from the site is different in a positive manner from a traditional classroom because of some unique features of wiki sites: the materials are stored in one place and can be accessed any time, texts can be edited in a convenient way, learners have an opportunity to work with images. These benefits are explained by a way of working known as the "wiki way" (Leuf & Cunningham, 2001). According to Leuf and Cunningham (2001), creators of the original wiki concept, "a wiki is a freely expandable collection of interlinked webpages, a hypertext system for storing and modifying information – a database, where each page is easily edited by any user with a forms-capable Web browser client" (ibid. p. 14).

As stated in the literature (Bolisani & Scarso, 2015), effective implementation and acceptance of wiki is not an automatic result, but it requires certain conditions to be created and certain factors to be taken into account. Previous research has enumerated key factors that could enhance or impede wiki deployment (Almeida & Rocha, 2011; Jennex et al., 2007; Soto-Acosta et al., 2014). Overall, these factors can be grouped into five categories: technical, economic, operational, organizational, and cultural (Bolisani & Scarso, 2015). These factors were identified in relation to organizational wikis that were used in a small enterprise as a knowledge management system. Recent research in this field expands these theoretical findings and points to the importance of taking into account design principles, operations involving a virtual community, and an environment where knowledge-sharing is an important motivation (Hung & Wang, 2020). Moreover, learners' characteristics must also be considered (Luo & Chea, 2020). This study identified four factors that should be taken into account when designing and deploying

wiki sites for mediation activities in teaching English at university: technological, motivational, psychological, and educational. This is a new finding that can enhance implementation of wiki sites for mediation activities .

In an educational context, wiki is viewed as a "repository of knowledge and for building communities of practice'' (Grace, 2009, p. 66). Being a structured wiki, Google Sites offers the benefits of sharing and collaborating between peers and educators. However, successful integration is also underpinned by certain factors: technical affordances and limitations of the system; teachers' experience and motivation; and pedagogical approaches (Coutinho, 2009).

The technological factor is represented by the affordances of Google Sites and their limitations. Participants named ease and convenience of the sites for studies. This factor has been mentioned in previous research (Data, 2022). A link has been found between ease of use and further intention to use wiki for work and studies (Harsanto, 2014). However, researchers have pointed to the need for awareness of technological limitations and technical support for users (Coutinho, 2009; Data, 2022; Halim & Abd. Halim, 2024; Hung & Wang, 2020; Li, 2012). In this study, the students reported issues related to security, layout, and editing functions available on Google Sites.

The aspect of security is not a new finding (Zhang, 2009). Data security issues result from the open nature of wiki, which also causes some "chaos, inconsistency" when managing content (Bolisani & Scarso, 2015, p. 426). The students perceived difficulties of a technological origin in relation to the layout of the sites, including the proliferation of columns and pages for content generation. This challenge can be overcome using the design principles of wiki sites, including "supportive measures" to create a "knowledge transfer climate": clear explanation of the purpose, appropriate training, and having teachers play a leading role in monitoring the site (Hung & Wang, 2020, p. 9).

Other important facilitating factors can be clearly established criteria and instructions for peer evaluation and creative contributions (Zhang, 2009). These will help reduce the tension arising from the "open, emergent, chaotic nature of online interaction [that] often conflicts with [the] rigidly organized social structure of formal learning" (ibid., p, 276).

On the other hand, students mentioned that the sites looked attractive and interesting. The ability to adapt the site layout to the users' needs and goals or to use themes "to decorate the site" is one of the "powerful features" of Google Sites (Harsanto, 2014, p. 21). Overall, respondents reported positive feelings of fun, interest, motivation and pleasure when working on the sites. This finding is in line with previous research conducted more than a decade ago (Li, 2012). This can point to the appropriateness of wiki sites for a new generation of learners who are different from previous generations regarding interaction with technologies.

In addition, such a feature as visualization was quite helpful in better understanding and facilitating knowledge retention in language learning. This finding is supported by computer -assisted language learning (CALL) which recommends making language input "salient" or supporting visual learning preferences (Chapelle , 2001, p. 19). This idea is underpinned by current research that "acknowledges external and internal images as integrated in thinking and learning" (Lacković & Olteanu, 2020, p. 597). Images can serve as "rich sources of knowledge development" and play an " integral role in concept development" (ibid., p. 608-609). For the target audience of this study, who were born in the new millennium and who are considered to be Generation Z, visually- rich materials are of paramount importance (E.J. Cilliers, 2017). According to Rothman:

> The brains of Generation Zs have become wired to sophisticated, complex visual imagery, and as a result, the part of the brain responsible for visual ability is far more developed, making visual forms of learning more effective. (2016, p.2)

So, visualization in the form of graphics, pictures, images, and other visual forms of learning can keep learners interested and motivated (Rothman, 2016; E. J. Cilliers, 2017).

Previous research points to the fact that the more students are "psychologically invested in their studies, the more they believe the wiki is of some value for them" (Luo & Chea, 2020, p. 6). The interplay between technology and psychology was also identified in previous research (Dillenbourg, 1999; Porras-Hernández & Salinas-Amescua, 2013; Rosenberg & Koehler, 2015; Salomon & Almog, 1998;). This shows the

importance of paying attention to educational psychology in TEL research. Salomon and Almog (1998) described "reciprocal relations" between psychology and technology: "Technologies and prevailing psychological conceptions of learning, thinking, and instruction have always served and inspired each other in reciprocal ways."

This view is supported by the findings of this study, which has identified motivational and psychological factors affecting students' perceptions of wiki technology. The findings show that attention should be paid to the affective domain of learning and the context of education itself (specifics of the discipline, assessment, etc.). Teaching and learning are inseparable from the affective domain (Miller, 2005). That is why when designing and deploying wiki sites, teachers should start by exploring not only students' educational needs and learning outcomes (an educational factor) but primarily the affective domain, including the feelings, values, motivations, and attitudes of learners (Anderson & Krathwohl,2001). These findings correlate with previous qualitative research exploring students' perceptions of wiki collaboration. Social and affective aspects of learning are also identified as key factors, depending on many features, such as learners' personality, the social dimension of interaction, and communicative competence (Chapelle, 2001; Luo& Chea, 2020; Zorko, 2009).

Previous research has emphasised students' context and learners' characteristics as part of the contextual knowledge of the technological pedagogical content knowledge (TPACK) framework (Brianza et al., 2022; Rosenberg & Koehler, 2015). Studies have mentioned the following contextual features: grade level, students' background, and characteristics of students. However, prior research did not clearly define what teachers' knowledge on students should include. The framework for context which was advanced by Porras-Hernández and Salinas-Amescua (2013) underscored the importance of considering this aspect. They paid special attention to external and internal factors that could impact students' engagement with the technology and the effects of its use. Since these factors have an influence on students' learning outcomes, most instructional design models should consider "students' previous knowledge, attitudes, preconceptions, and interests" (Porras-Hernández & Salinas-Amescua, 2013, p. 231). This is in line with recent research into wiki use showing the need to integrate learner characteristics (Luo & Chea, 2020).

This study resulted in identifying the constraints that arise from students' context. It is necessary to be aware of psychological barriers that learners can experience when studying via wiki: lack of security, reservations about collaboration, fears related to self-expression, privacy, and peer criticism. These findings are supported by the latest research in the context of higher education (Halim & Abd. Halim, 2024). On the other hand, respondents reported that they experienced growth in confidence as a result of using wiki sites. The findings show that this was underpinned by the feeling of greater independence and the opportunity to learn from others and build ties. It can be explained by the nature of wiki technology with its less hierarchical structure and the constructivist nature of knowledge generation it allows (Ruth & Houghton, 2009). The analysis of students' experiences showed that despite technological constraints and fears, the respondents felt strengthening confidence due to establishing connections through peer review, sharing materials, and collaborative learning. For some students, it was really like "a Learning society" in which "everybody has immediate access to whatever source of information one needs or desires" (Salomon & Almog, 1998, p. 235). Belonging to a community was one of the sub-themes under the motivational factor, which included intrinsic and extrinsic motivation. The findings of the research show that motivation plays an important role in students' experience. Extrinsic motivation is presented by the concept of community, which is viewed as an external factor influencing learners' overall perceptions. Student engagement based on interest and a feeling of community is categorized as an intrinsic type of motivation. Recent research in this field demonstrates enhanced interest and improved engagement of students when learning via Google sites (Halim & Abd. Halim, 2024; Luo & Chea, 2020). The previous research has proved the importance of the results of this study. However, the known ideas and well known approaches have been used and interpreted in a new educational context.

In this research, the educational factor is another critical element of the wiki-mediated learning process. The data analysis resulted in identifying the following aspects : context, teacher, resources, assessment, and learning outcomes. Teachers play a crucial role in this process by analysing the context, choosing the necessary teaching resources, and selecting types of assessment to achieve the learning outcomes. It is

noteworthy that these findings demonstrate the most important aspects from students' perspectives, not from teachers', as stated in the TPACK framework, which describes teachers' knowledge of technology integration (Koehler & Mishra, 2009). An updated model of the TPACK includes contextual knowledge that "involves considering known and unknown contextual factors in order to minimize uncertainty and make informed guesses" (Petko et al., 2025, p. 3). The qualitative findings of this research support the importance of knowledge of the specific context—in this study, a wiki-mediated learning environment. The empirical work presented in the study has not been done so far, that is why the above mentioned findings can contribute to better understanding the contextual knowledge of wiki mediated learning spaces.

4.2.2 **RQ2** What are the students' experiences of using wiki sites for mediation activities?

This research question is addressed using three sub-questions to explore each mediation activity separately: mediating text, mediating concepts and mediating communication

4.2.2.1 **RQ2.1** What are the students' experiences of using wiki sites for mediating texts?

Overall, the findings show that Google wiki sites are perceived as an effective tool to teach mediation activities in English learning. The question addressed three types of mediation activities proposed by the CEFR: text, concepts and communication (Council of Europe, 2020). The findings allowed identification of students' perceptions of each descriptor within each type. These new findings provide the information on the aspects to be considered when designing mediation activities which are mediated wiki wiki technology. The data analysis resulted in three maps that visually present the themes for each descriptor. These themes, in their turn, describe the students' experiences with regard to mediation activities in which they were engaged using Google wiki sites.

According to the findings, the process of *relaying specific information (1.1)* can be enhanced using the advantages of the e- format. The respondents compared the traditional format with wiki-sites and reported speed and ease when working on the sites. In contrast with a paper text book, students can use a variety of editing functions

and take ownership of the content they generate on the wiki. The process of relaying information is not only simplified but it also creates more opportunities for independent learning when students' autonomy increases. This feeling of ownership and greater autonomy is reported in previous research devoted to wiki-mediated collaborative writing, such as Halim and Abd. Halim (2024), Kessler (2009) and Zorko (2009). Furthermore, the respondents reported overall improvement in their writing skills due to increased practice and having a variety of tasks.

Explaining data in writing was another text mediating activity which was practiced on the sites. Wiki has been traditionally used for collaborative writing activities in the language classroom (Li, 2012). Unlike previous research in this field, this study was focused on individual writing (graph descriptions, essays, contributions to forums, etc.). The collaborative nature of wiki was employed during peer review and small group activities. The findings showed that material placement was important for students when describing graphs in writing on the sites: visual convenience of the tasks was reported as one of the benefits of wiki-mediated writing. Therefore, embedded images or other multimedia can contribute to better understanding and performance of the tasks. Following Lund and Rasmussen (2008), the findings point to the alignment between wiki features and the tasks. Greater visualization, convenience of editing and transfer of skills from a traditional paper-based way of writing to a wiki-mediated explanation of data in writing are mentioned as main contributors to knowledge production. The variety of tasks was also reported as an important feature making learning more engaging and enjoyable. This is in line with previous research showing the relationships between the complexity of tasks and students' responses (Lund & Rasmussen, 2008).

The other descriptor which is included in text mediation is *processing text in speech/ writing.* Wiki sites were used only for writing due to the asynchronous nature of wiki learning. The findings point to two features of wiki sites, i.e., ease of use of the wiki format for this activity, and overall skills improvement in text processing. The respondents reported many advantages of e-format that could make text processing easier in comparison with a traditional format: reading from the screen; getting access to the text from different devices at any time; quicker text navigation; and editing functions. Visualisation through embedded images and graphs combined with students'

experience of using digital devices for reading and working with textual information made the overall perception process easy. As a result, respondents reported progress in text analysis. As stated in CV (Council of Europe, 2020 p. 100), processing text requires a variety of texts in terms of genres, language complexity, different sources, and variety of topics. The skills that can be trained via wiki sites can include: summarising, synthesis, paraphrasing, explaining or collating information in writing. Previous research, such as that of Li (2012) and Altanopoulou et al. (2014) has shown the effectiveness of using wiki technology to improve writing skills.

Translating a written text is understood in the CEFR/CV(Council of Europe, 2020, p.102) as "functional description of the language ability necessary to reproduce a source text in another language". The key concepts described by the scale include comprehensibility of the translation; the extent to which the original formulations and structure (over)influence the translation, as opposed to relevant conventions in the target language; capturing nuances in the original. Progression up the scale involves translating simple words and phrases at level A1, rising to producing clearly organised translation at B2 level. However, it must be noted that proposed wiki was not designed and deployed to practice this particular skill; in terms of translation, the students used wiki only to translate simple words or phrases. Despite this limitation, the respondents reported the convenience of the platform due to the speed of its translation and editing functions. For some students, translating videos from speech to text was facilitated by the ability to re-watch the content. Some students noted that the wiki enhanced concentration on the details for better text translation, thus capturing "nuances in the original" (ibid.). This is in line with previous research showing that students are more focused on forms when writing (Li, 2012). Overall, wiki can facilitate the translation of a written text due to the technological affordances of computer-based translation, such as online dictionaries, copy pasting functions, revisiting the content from different devices, machine translation (Google or Yandex translate). The respondents can quickly switch to a variety of tools available and compatible with wiki sites. The integration of wiki sites with other digital tools is highlighted by researchers in this field (Halim & Abd. Halim, 2024).

Note taking concerns listening comprehension and the ability to take notes during lectures, presentations and seminars. The students noted the convenience of the platform for this skill training. The opportunity to take notes synchronously when listening or reading is considered by the respondents as one of the advantages of wiki sites. It is directly related to time saving as the learners do not need to switch to a note book to take handwritten notes. Also, learners who need more time for this mediation activity can benefit from an opportunity to stop a video or a seminar to accurately "capture abstract concepts, relationships between ideas" (Council of Europe, 2020, p. 105). The time factor is also mentioned as an advantage of online collaboration when students need more time "to think more and produce better and more succinct and meaningful messages" (Zorko, 2009, p. 648). In addition, all lectures and presentations can be stored in one place, providing "a centralized platform for resource sharing and communication" (Halim & Abd. Halim, 2024, p. 121).

The sixth mediation activity is *expressing a personal response to creative texts.* It was expressed mainly using the descriptors of engagement and evaluation, which are explained in the CEFR as the following (Council of Europe, 2020, p. 106).

- engagement: giving personal reaction to the language, style or content, drawn to an aspect of the work or a character or characteristic of it;
- evaluation: giving a critical appraisal of technique, structure, the vision of the artist etc.

In this study creative texts were presented in the form of short stories or personal essays about the experience of doing projects (especially with students from the Design faculty). The findings point to three advantages of wiki-mediated learning. Although it was a new experience for many respondents, it was positively perceived. For many respondents it was the first time they got access to the creative work of other students or a variety of opinions. The freedom of expressing themselves and sharing opinions gave a feeling of enjoyment.

Such a positive student attitude towards the collaborative wiki way of learning is in line with other studies. In the literature reviews conducted by Lee (2012) and Halim and Abd. Halim (2024), there is much evidence highlighting student engagement, positive

perceptions and increased motivation and interest. Also, previous research described ways that technologies like wiki can foster creative contributions associated with "enjoyment of dialogue and collaboration" (Zhang, 2009, p. 275). However, for some students this difference from a traditional way of learning was a challenge. Some reported the chaotic nature of giving too many responses at one time or lack of experience or skill to take part in this mediation activity. Despite certain challenges, students pointed to an improvement in the ability to express themselves. Working from the wiki was perceived by many as positive because it allowed them to read many texts, analyse and evaluate them. In this way students were learning from each other. This mediation activity is closely related to concept mediation, as students learn from co-construction of meaning and knowledge sharing.

Summing all the findings, I can conclude that the proposed wiki brought more advantages than drawbacks, which can be grouped using the terminology of enhancing or impeding factors that affect mediating text. The table below (Table 30) summarizes the main findings and presents a final analysis of the suitability of wiki sites for each descriptor and the factors that can be taken into account when deploying wiki sites for text mediation. The findings show that the most significant factor that impeded mediating text is asynchronous format. In addition, mediation activities are not applicable when talking about speech.

Table 30: Enhancing and impeding factors for wiki-mediated text mediation

Descriptor for text mediation	Fully suitable	Partly	Not applicable	Enhancing factors	Impeding factors
1.1 Relaying specific information in text/ speech	+		In speech	Quickness Ease Editing functions	Asynchronous communication
1.2 explaining data in speech/ writing	+		In speech	Collaborative nature of wiki Materials placement Visual aids Variety of tasks	Asynchronous communication

Descriptor for text mediation	Fully suitable	Partly	Not applicable	Enhancing factors	Impeding factors
1.3 Processing text in writing	+		In speech	Editing functions Reading from screen Visualisation Site navigation	Asynchronous communication
1.4 Translating written text		+		Speed Editing functions Compatibility with computer-based translation	Few tasks
1.5 Note taking	+			Immediacy of note taking One place for all materials Time factor Ability to review notes	
1.6 Expressing personal response to creative texts	+			Access to peers' work Collaboration	Lack of experience Synchronous work
1.7 Analysis and criticism of creative texts	+			Access to peers' work Learning from others	Language level Psychological and motivational barriers

4.2.2.2 **RQ2.2** What are the students' experiences of using wiki sites for mediating concepts?

Mediating concepts concerns learners' ability to facilitate "access to knowledge and concepts through language (Council of Europe, 2020, p. 108). It can happen either through collaborating in a group or leading group discussions. According to the CEFR/ CV, mediation of this type concerns either creating conditions for effective collaboration (which is defined in the document as 'relational mediation') or developing and clarifying concepts ('cognitive mediation'). The findings under this research question describe factors/conditions that can enhance or impede collaboration for mediating concepts via

wiki sites. Both cognitive and relational types of mediation are represented by two scales (Table 31). The table below presents briefly the activities that characterise both scales.

Table 31: Four descriptor scales for mediating concepts (the CEFR, 2018, p. 118)

Scales	Relational mediation	Cognitive mediation
Collaborating in a group	Facilitating collaborative interactions with peers	Collaborating to construct meaning
Leading group discussion	Managing interaction	Encouraging conceptual talk

All four scales were analysed and the themes were identified for mediating concepts as a whole and each scale individually. The analysis resulted in a thematic map representing the themes for each descriptive scale. The findings will be discussed below.

Mediating concepts activity via wiki sites was perceived positively by the respondents, who pointed out both benefits and barriers to collaboration. The findings show that the perceived advantages include interactivity of the sites, peer feedback, and an interesting learning experience. Respondents expressed interest in interacting with peers and learning in the wiki way as they found it interactive. The importance of peer interaction is highlighted in previous research about wiki because collaboration and co construction of knowledge are rooted in the wiki way of learning (Ruth & Houghton, 2009). Wiki is "socially oriented and "involves community ideals" (ibid. p.135). The wiki way of learning can be explained using a "communities of practice" philosophy (Lave & Wenger, 1991), in which "learning is an integral and inseparable aspect of social practice" (ibid. p. 31). This study identified factors or conditions that could explain the effective use of wiki from students' perspectives as active participants of mediation activities.

However, barriers to wiki-mediated collaboration and interaction were pointed out by respondents: asynchronous communication resulted in longer waiting times for peer feedback and some were reluctant to contribute or start a discussion. These findings differ from those highlighted by Ruth and Houghton (2009), who argued that students are "actively engaged" in knowledge construction or community building. This study revealed that psychological factors should be considered when deploying wikis. The role

of the teacher should not be underestimated, despite the flat structure of wiki sites. Student participation should be ensured by particular learning settings, an appropriate syllabus and adaptation of smart environments (Nguyen, 2022).

Collaborating in a group, as one of the mediation activities, was perceived by respondents as being convenient and having an impact on group activity. Some students noted that this activity was used to jointly create wiki page content and to find more people for collaboration. However, students mentioned problems of asynchronous communication which hindered group collaboration. Another factor, as described in the interviews, was a positive impact on learning. Respondents reported many advantages of group activity via wiki: more writing practice; better understanding of the task through shared knowledge; and increased motivation due to having more freedom in comparison with traditional classroom activities. It is noteworthy that wiki has been traditionally used for collaborative tasks (Halim & Abd. Halim, 2024; Li, 2012; Zorko, 2009).

Collaborating in a group is represented by two descriptive scales that were also analysed using interviews. The first is *facilitating collaborative interaction*, which is categorised under relational mediation. It means that learners contribute to successful collaboration by making meaningful interventions. As stated in CEFR /CV(Council of Europe, 2020, p. 109), it includes:

- Contributions to group communication;
- Orientation of teamwork;
- Balancing contributions;
- Moving discussion forward.

As this descriptor relates to relational mediation, it is necessary to pay attention to enhancing conditions. The findings of this study suggest two ways that students' interaction can be supported. Respondents pointed out that having a sense of community and sharing opinions can facilitate collaboration. Students perceived collaborative wiki-mediated activities through a dialogue among peers. The role of community manifested itself in scaffolding, noticing mistakes, and giving comments during peer review practices. Students said that peer review helped them to focus more on the form in terms of different writing components of an essay or a graph description:

content, structure, and coherence. This is in line with previous research pointing to these advantages of collaborative work mediated by wiki (Elola & Oskoz, 2010). This focus on community is also highlighted in previous research by Ruth and Houghton (2009) and Zhang (2009). It is noteworthy that students collaborated to understand different aspects of language learning: from assessing each other's works to providing contributions to forum threads or individual comments. In all activities, the teacher provided clear criteria for how to contribute to peer review and explained why a certain grade was given for the project. The importance of clear criteria for quality review is mentioned by Zhang (2009), who mentioned the significance of providing learners with the criteria to examine each other's work critically. Sharing opinions about openly accessible work is considered by respondents to be the most valuable advantage of wiki-mediated learning, which makes the learning process different from traditional ways of assessment. Respondents claimed that providing contributions in the form of peer assessment was a new learning experience that helped improve their own style of writing. In this way, wiki sites could "bridge the gap between online and traditional classes" (Halim & Abd. Halim, 2024; Karipidis & Tsimperidis, 2024). The main problems reported by the respondents were centred around asynchronous communication, fears of sharing opinions, and long waiting times.

The other descriptor is *collaborating to construct meaning.* According to the CEFR/CV, this refers to developing ideas as a group member (Council of Europe, 2020, p. 109). This descriptor relates to cognitive mediation and is characterised by activities progressing from simple questioning techniques to further co-developing people's ideas and evaluating problems and challenges. This mediation activity is also facilitated in a collaborative group environment. There are three themes under this category: importance of others, shared knowledge, and unpacking meaning. The themes are interconnected, showing the process of knowledge generation through team cognitive collaboration (Luo & Chea, 2020). By sharing individual opinions, students develop concepts and move discussion forward. This is a form of learning that "requires individuality in order to be a collective experience" (ibid. p. 138). This can be defined as cognitive elaboration mediated by wiki. This study supports the idea that in a wiki context, learners with higher cognitive elaboration skills can improve comprehension

and assimilation of information by other team members by commenting, clarifying or explaining some points openly. Other team members then scrutinise different thoughts and perspectives on the issue under consideration and are then expected to integrate their understanding with the collectively generated context.

Thus, processing information requires not only synthesising and analysing skills but also embedding new individual knowledge into a collectively shared context. This process requires considerable cognitive effort. According to the CEFR/CV, purposeful collaboration lies at the heart of language learning and language use, where learners act as social agents "acting in real-life situations, expressing themselves and accomplishing tasks of different nature" (Council of Europe, 2020, p.29). It is stated in the framework that collaborative tasks are "essential" and collaboration should receive special attention. In general, the CEFR is informed by socio-constructivist theories (ibid.32), and this also applies to most research in the field of wiki studies (Li, 2012). According to social constructivism, learning happens through interaction and other people's assistance, often in a group setting (Vygotsky, 1978). The social aspect of learning is important in regard to the concept of the zone of proximal development (ZPD). This concept was introduced to explain "internal course of development" through "problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). In the theory, much attention is paid to the role of interaction with other people and cooperation with peers, with learning taking place through the creation of the ZPD to evoke "a variety of internal developmental processes" needed for the "child's independent developmental achievement" (ibid. 90). This study support the idea that collaboration mediated by wiki technology can create a condition for the ZPD when teachers or students with different levels of command of the language interact to accomplish goal-oriented tasks (Lund, 2008). Wiki technology, as an interactive multimedia format, enables students to construct new knowledge through social interaction (Kennedy & McNaught, 1997). Collaborative learning is well researched in the literature and involves three types of actors: teachers, learners and peers (Laurillard, 2009; Cubric, 2011; Luo & Chea, 2020; Karipidis & Tsimperidis, 2024). Collaboration in a wiki-mediated space can be represented as in Figure 14, where different actors are involved in different types of transactions (individual, group and peer interaction).

Following Dillenbourg (1999), collaborative learning space can be characterised using the dimensions of scale (duration of collaboration and group size), type of learning and type of collaboration. The range of research into wiki-supported collaborative learning extends beyond the scope of this study but can be investigated in future (Cubric, 2011; Laurillard, 2009; Li, 2012; Lund, 2008). It is reported in previous research that these relationships are "quite complex" (Laurillard, 2009 .p.8). Collaboration can happen between a teacher and an individual student (T-S), a teacher and multiple students (T-Ss), or a student and peers (S-Ss). This scheme describes complex interactions that can happen in a reciprocal mode by providing feedback, commenting, and sharing understanding. In order to achieve this reciprocity, students should be exposed to certain tasks that require discussion and "reciprocal dialogic process" (ibid.). According to Laurillard (2009), in collaborative learning the learners "learn from and build on the outputs of their peers". This gives focus to the discussion of their activities and the products they make (ibid., 10).

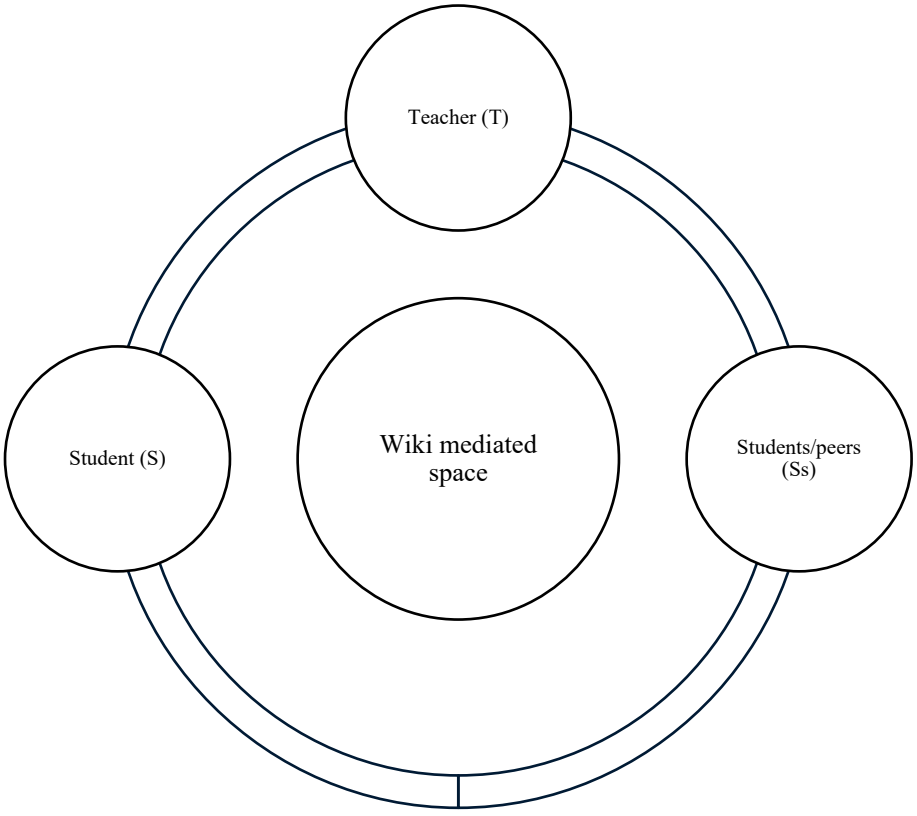


Figure 14: Patterns of collaboration in a wiki-mediated space

Collaboration to construct meaning should be based on goal-oriented tasks. The typology of the mediation tasks can follow Bloom's Taxonomy and start from simple tasks, such as a glossary, which requires factual knowledge, to more challenging tasks at the top of Bloom's hierarchy, which require essay writing, project collaboration, and peer review (Cubric, 2011). In order for the tasks to achieve their teaching goals, their justification and the rationale behind them should be explained to learners (Salomon & Almog, 1998). Appropriate tasks for mediation activities can also promote higher order thinking and collaborative interactions (Li, 2012).

The second scale related to concept mediation is *leading group discussion,* which is represented by two scales managing interaction as a type of relational mediation and encouraging conceptual talk as a type of cognitive mediation. As general mediation activity, the respondents reported the role of commenting for developing discussions. They noted the importance of the teacher's participation. This finding is in line with studies on collaborative learning, where teachers design collaborative spaces together with other actors and their role is to present concepts to initiate the topic.

Overall, wikis create the conditions for designing collaborative learning spaces, but the findings of the study show that there are limited opportunities for synchronous group discussion. Many respondents reported a lack of direct discussion and the challenges associated with this form of interaction—inactive students and long waiting times for comments or feedback. These side effects are associated with the asynchronous nature of wiki learning. The delays in responses may hinder discussion. On the other hand, it gives learners more time to produce an answer and to focus on the language and the structure of the answer. It is recommended that teachers should develop "conversational rules for coping with these delays" (Dillenbourg, 1999, p. 9). Synchronicity as a criterion for collaborative interaction turns out to be an aspect of relational mediation activities when learners should be taught how to mediate discussion and manage interaction in an asynchronous format.

Managing interaction covers activities ranging from leading plenaries and facilitating group communication to giving simple instructions (Council of Europe, 2020, p. 112).

Because of asynchronous communication, this activity was mainly limited to adapting one's own contributions and supporting group communication. Furthermore, there were no tasks which assigned the roles of group leaders. Wiki projects were student- centred with peer feedback or discussion initiated by the teacher, where opinions were shared. There were few opportunities to negotiate roles or any misunderstanding. The students used "other spaces for negotiations" (Dillenbourg, 1999, p. 10).

A collaborative effort was expected from the students when constructing meaning in peer review activities or other tasks. This study revealed that students perceived wiki-mediated interaction positively. The respondents reported that they tried to balance their contributions and adjust writing style in terms of language and structure. This can be explained using Dillenbourg's concept of symmetry of actions which means "the extent to which the same range of actions is allowed to each agent" (Dillenbourg, 1999, p.7). However, inevitable asymmetry in contributions, language or styles makes managing interaction more challenging and difficult, so it leads to a situation with active learners and lurkers (Cubric, 2011, p. 9). Analysis of unequal students' contributions can reveal patterns of interaction, especially in text co construction or peer review as a group discussion (Li, 2012).

The other descriptor under analysis was *encouraging conceptual talk*, which is related to cognitive mediation. According to the CEFR/CV it involves taking part in dialogic talk and building contributions into logical discourse. Progression up the scales moves from showing interest at A1 level to constructing coherent lines of thinking at higher levels (Council of Europe, 2020, p. 112). The findings of this study revealed the suitability of wiki sites for comments. However, this mediation activity needed the role of a teacher to act as "facilitator to manage group collaborative interactions" (Dillenbourg, 1999, p. 6). The convenience of wiki for contributions in group discussions is reported in previous research (Halim & Abd. Halim, 2024; Li, 2012).

The table below (Table 32) presents a synthesis of the findings for different descriptors for concept mediating activity. As can be seen from the table, wiki Google sites present a convenient platform for collaborative mediating concepts, especially in the conditions of asynchronous written communication. It is noteworthy that these sites are reported to be convenient for collaborating in a group. However, the asynchronous nature of wiki

learning reduces opportunities for leading group discussion. According to the findings, small group collaboration is preferable. Both types of mediation (relational and cognitive) can be effectively developed via wiki-mediated spaces. They can be enhanced with the teacher's support and using strategies to manage interactions and encourage conceptual talk.

It is necessary to consider social aspects of learning. When designing wiki-mediated spaces for learning, there must be a rationale for group collaboration with clear criteria, real-life situations, and different patterns of interaction. The type of learning and collaboration should be considered in advance. Overall, wiki creates opportunities for co-constructing meaning through goal-oriented collaboration in order to carry out various mediation activities. However, its asynchronous nature reduces the educational potential of the technology for leading group discussions. Well-designed tasks with cognitive effort, a teacher's facilitating role and clear criteria and strategies for interaction can help overcome the barriers.

Table 32: Enhancing and impeding factors for wiki-mediated concept mediation

Descriptors for mediating concepts	Fully suitable	Partly suitable	Not applicable	Enhancing factors	Impeding factors
2.1 Collaborating in a group	+			Working in small groups Co-constructing dialogue with peers	Asynchronous communication
2.1.1 Facilitating collaborative interaction with peers	+			Sense of community Peer review Open access to works Clear criteria	Asynchronous communication Psychological barriers Long waiting time
2.1.2 Collaborating to construct meaning	+			Group collaboration Goal oriented tasks Different patterns of interaction	Lack of feedback and reciprocity Lack of interaction
2.2 Leading group discussion		+		Teacher's participation Role of commenting Discussion rules	Limited synchronous group discussion Waiting time
2.2.1 Managing		+		Balancing	No tasks for

Descriptors for mediating concepts	Fully suitable	Partly suitable	Not applicable	Enhancing factors	Impeding factors
interaction				contributions Strategies to support group communication	leading groups Different modes of participation Asymmetry in contributions
2.2.2 Encouraging conceptual talk		+	In speech	Group discussion Teacher's role Suitability for comments	No real-time dialogic talk

4.2.2.3 **RQ2.3** What are the students' experiences of using wiki sites for mediating communication?

According to the CEFR/CV (2020), mediating communication implies understanding each other's perspectives, communicating in delicate situations, and overcoming tension and disagreement that can arise in communication. It is represented by the following descriptors: *facilitating pluricultural space as an intermediary in informal situations* and *facilitating communication in situations of disagreement* (Council of Europe, 2020, p. 114). Facilitating pluricultural environments means creating "a shared space among linguistically and culturally different interlocutors" where the learner is supposed to act as "a cultural mediator" to enhance communication (ibid.). In this regard, awareness of sociocultural and sociolinguistic differences is needed. Progression up the scale moves from simply showing welcome and interest at A1 level to supporting communication across cultures using different communicative strategies at higher levels. This descriptor was not applicable to the study because the respondents presented a culturally homogeneous group of learners who were not required to interact with culturally different learners.

The second descriptor of mediating communication is *acting as an intermediary in informal communication*. This refers to mediating across cultures in different informal situations from a welcoming speech to a presentation. It concerns communicating in speech, so it was not applicable to the asynchronous format of wiki interaction.

The third descriptor is facilitating communication in delicate situations and disagreement when the learner is supposed to resolve the issue or clarify the problem in

order to establish common ground or persuade an interlocutor to find the resolution. The descriptor is only applicable to situations of live communication and could not really be used to describe asynchronous interaction (ibid. p. 115). The following explanation is given in the CEFR/ CV, "Mediating communication is primarily concerned with personal encounters, and so descriptor scales are only provided for spoken communication activities" (Council of Europe, 2018, p. 107). The table below (Table 33) summarises the factors that can affect this mediation activity. The lack of spoken communication is considered to be an impeding factor for mediating communication. However, this limitation can be mitigated by using other channels of communication, for example social networking sites or messengers.

Table 33: Enhancing and impeding factors for wiki-mediated communication mediation

Descriptors for mediating communication	Fully suitable	Partly suitable	Not applicable	Enhancing factors	Impeding factors
3.Mediating communication		+		Other channels of communication Informal nature of wiki	No spoken communication

As stated previously, mediating communication descriptors can be used only in real-life oral communication. Despite obvious limitations, there could be interesting topics for further research, especially in the area of pluricultural education, which was not the case for this study.

The findings of the research show that mediating communication was not successfully implemented in this wiki due to the asynchronous wiki way of learning. Despite these limitations, there were some cases of disagreement and delicate situations among peers when doing peer review, contributing to discussion spaces or clarifying the task. In this case, respondents preferred to use other channels of communication. This can be explained by students' need for real face-to face communication. It is supported by research by Salomon and Almog (1998) showing that students need real contact. Furthermore, previous research by Ruth and Houghton (2009) and Zorko (2009) showed that students prefer other messengers for communication. This is explained by the fact that these technologies have become an essential part of students' lives because they

enable immediate communication. Respondents reported that they preferred other synchronous ways of communication (social networking sites, messengers, face to face contacts, chats) to negotiate and discuss any disagreement. As explained in previous research, asynchronous wiki communication is not effective for exchanging messages instantly (Lund, 2008). These limitations to direct collaboration via wiki are said to pose difficulties for collective production (Li, 2012). Despite these limitations, wiki-mediated learning environments work well when combined with other forms of computer-assisted communication, for example emails, chats, social networks (Cubric, 2011), so they can be used as an element of blended learning.

4.3 What are the students' perceptions of using wiki sites for mediation activities in language learning (main RQ)

The findings of the study show favourable overall perceptions of using wiki sites for three mediation activities: text, concept and communication. Wiki sites are perceived as useful and convenient for these mediation activities in the process of English learning. It is noteworthy that wiki sites are more suitable for text and especially concept mediation when meaning is co-constructed using different patterns of collaboration. However, wiki sites offer limited opportunities to develop skills needed for mediating communication. This is explained by the asynchronous nature of wiki-learning.

The study resulted in identifying factors that can impact learners' acceptance of wiki sites for English studies. These factors are of the following types: technological, educational, psychological, motivational. They can be grouped under the classifications of explicit and implicit factors that can holistically describe wiki-mediated learning environments. Explicit factors include technological aspects, whereas implicit factors include psychological and motivational aspects. The educational category encompasses both implicit and explicit aspects.

Chapter 5 presents a synthesis of the findings on the contextual factors that affect students' experiences and perceptions. The findings of the research highlight the importance of paying attention to the interplay between psychology and technology when designing wiki-mediated educational environments. The results point to the significance of further exploration of the contextual factors to enhance teachers'

understanding of the learning environment before technology deployment. The study revealed enhancing and impeding factors for each mediation activity. In addition, the study resulted in three maps that present students' experiences of using wiki for different mediation descriptors.

As for mediating text, the most cited enhancing factors include ease of access, speed of performing tasks, various editing functions, and greater visualisation and collaboration with peers, especially access to peers' work, which creates opportunities for learning from others. The main barrier is the asynchronous mode of interaction, which leads to various obstacles. Additionally, students' experienced difficulty because of not having enough experience or language skills to participate effectively. Because of these problems, psychological and motivational barriers were also reported.

Mediating concepts can be facilitated due to a variety of enhancing factors. Wiki sites are perceived as suitable for small-group collaboration, which must be based on clear criteria and discussion rules. The role of the teacher is indispensable in setting rules and choosing strategies to support different patterns of collaboration and interaction (Figure 14). Students reported having a sense of community when co-constructing a dialogue with peers and carrying out goal-oriented tasks. However, the asynchronous nature of communication on the wiki sites resulted in challenges to overcome: long waiting times, limited interaction, asymmetry in contributions and psychological barriers to participating or contributing to group discussions.

The study showed that there are few options for encouraging wiki-mediated conceptual talk or leading a group discussion. Mediating communication was limited by the asynchronous nature of wiki way of learning and lack of technological affordances for real-time spoken communication on the site. The enhancing factors were reported to be other channels of communication which are less formal and more flexible. Despite these limitations, wiki sites were perceived as informal learning spaces where asynchronous communication can take place. Overall, the analysis of the students' perceptions, underpinned by their experiences of using wiki sites for mediation activities, enabled the identification of explicit and implicit factors that can enhance or impede wiki-mediated learning. These findings are expected to contribute to theory and practice.

Chapter 5: Conclusion

In this chapter I will highlight the contribution to knowledge, discuss the implications and provide recommendations for teachers who wish to deploy wiki technology in English teaching practices. In addition, I will identify potential areas for further research.

5.1 Contribution to theory

This study shows that Google sites can create a "creative classroom set up" which offers visual learning materials and more interaction among students and teachers (Du Plessis, 2011, p. 28). The research findings show the possibility of effective integration of wiki into the process of learning the English language, provided that wiki affordances and limitations are taken into account when designing the site and the tasks for mediation activities. Understanding wiki strengths and weaknesses can help educators develop effective, technologically informed design to support teaching practices. Wiki sites can be incorporated in a blended model of learning which embraces traditional offline classes and a multimedia-rich wiki space which can be easily combined with state of the art technologies like AI (such as for image generation or writing).

These findings contradict the belief that Web 2.0 technologies conflict with the "rigidly organized social structure of formal education" (Zhang, 2009, p. 276). The students' feedback was positive towards wiki integration into the English learning process due to its ease of use, convenience, and the usefulness of the tasks for studies. Also, the students did not see much difference between the wiki way of learning and traditional practices, but they reported more advantages that they could benefit from.

However, wiki sites cannot replace traditional classes: they can be deployed additionally to train skills in text and concept mediation. Some ways are discussed below in which the research findings can contribute to theory and practice in TEL.

5.1.1 Implicit and explicit factors for extending contextual knowledge

The study revealed factors that can enhance or impede wiki deployment for mediation activities in language learning. Wiki-mediated learning spaces offer certain advantages that can be used to teach mediation activities: transparency of contributions; a variety of editing functions for text construction; more freedom and learners' autonomy due to the

open structure of wiki sites; the asynchronous nature of communication, which allows more focus on language structures and forms; and access to works and projects for peer review.

On the other hand, the research pointed not only to advantages that Google sites can bring to the process of teaching mediation activities; the findings also help to identify challenges that should be taken into account when integrating wiki technology in teaching practices. The study enabled greater understanding of where "the digital disconnect" between the students and the technology can happen (Zhang, 2009, p. 276). A mismatch is also found between the open nature of the wiki, with a flat structure that offers much freedom, and formal education that involves standardised goals and exam requirements.

The qualitative stage identified four factors that can be categorised broadly as implicit or explicit (see Figure 15), taking into account external and internal dimensions of contextual knowledge. Technological factors can be categorised as an external one, while psychological and motivational factors seem to be more of internal nature as they relate to intrapersonal factors such as attitudes, self-regulation, comfort and others.

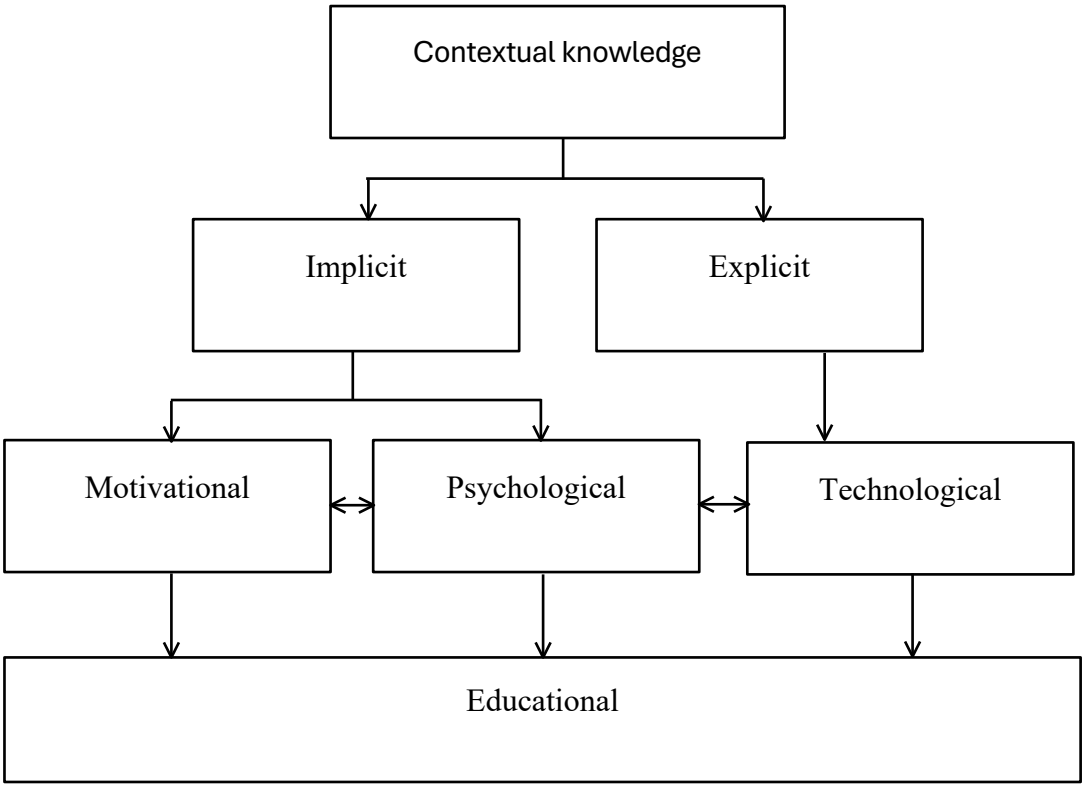


Figure 15: Implicit and explicit factors affecting wiki-mediated spaces for mediation activities

Educational factors play an important role in understanding context-specific features related to resources, teachers' role, assessment and expected learning outcomes. Understanding contextual factors that affect wiki integration helps inform technology-enhanced innovations and improve technology designs. An updated model of the TPACK includes contextual knowledge that "involves considering known and unknown contextual factors in order to minimize uncertainty and make informed guesses" (Petko et al., 2025, p.3,).

The qualitative findings of this research support the importance of having knowledge of the specific context—in this study, a wiki-mediated learning environment. Contextual knowledge can be understood through the interconnectedness of the factors which were revealed by the study; they are interconnected in teaching and learning processes and can be used to describe technological, motivational, psychological and educational dimensions of wiki deployment or mediation activities in learning and teaching English.

The interconnectedness of the factors is presented in Figure 15. Educational factors include external and internal issues for learners that must be taken into account when considering contextual factors mentioned in the TPACK. The connection and dependence among the factors can be further researched in future.

In addition to this broad categorisation, the research resulted in identifying enhancing and impeding factors for each descriptor of every mediation activity. The findings can extend awareness of the contextual knowledge of the design of wiki-mediated spaces to enhance mediation activities in English teaching and learning. This can help optimise the use of wiki Google sites for educational purposes and promote the idea of technology-enhanced learning via wiki technology. The research contributes to the theory by describing educationally oriented use of Google wiki sites for mediation activities in English learning.

5.1.2 Using the CEFR beyond its scope: extension of the uses

The study presented the way the CEFR can be applied as a conceptual framework to guide the research design, deployment of wiki sites for mediation activities and analysis of the data. The study shows the way the CEFR theoretical and educational principles can be put into practice to guide the research. It can encourage other practitioners to use the Framework in a way to research other issues related to teaching, learning, assessment. The study shows that the CEFR can be effectively deployed for this intended purpose, which is clearly stated in the document (CEFR, 2001, p.1). The research shows that the CEFR fulfils its criteria described in the document (ibid., p. 7). It proved to be flexible and open because in this study it was applied for a research aim that was outside the scope of the CEFR usage as stated in the document, such as planning language programs, and certification and self-directed learning (ibid., p 6).

The Framework also proved to be "dynamic" and "non-dogmatic", allowing the use of other theoretical models and practices at different stages of the research design. The CEFR was combined with TAM to answer RQ1 about students' readiness and willingness to use wiki for language learning. This encouraged me to think about identifying needs, which is an important component of the Framework and this resulted in starting the study with a quantitative stage (ibid.). At the deployment stage, I was

guided by an action-oriented approach, which is adopted in the framework. Its theoretical underpinnings guided me to focus on the specific context, activities, domains and tasks. At this stage it was easily combined with Salmon's 5-stage model (E-learning underpinnings (e-moderating)) (Salmon et al., 2010). Furthermore, it underpinned the thematic analysis by informing the theory-driven approach in coding data for RQ2. These examples from the study show that the CEFR is multi-purpose, which means it can be used for a variety of research purposes – not only for teaching, learning and assessment.

5.2 Implications for teachers: contribution to practice

The action-oriented approach, which is adopted in the study and advocated in the CEFR, is cyclical and reflective in its nature. During the research design, data analysis and discussion, I reflected on such questions as:

- How does wiki-mediated learning take place?
- How can mediation activities be enhanced via wiki?
- What can I do help other practitioners teach mediation activities better?

The CEFR advises users to keep in mind a series of such reflective questions (Council of Europe, 2001, p. xi). Some implications for instructors were highlighted as a result of the reflective practice. Using the research findings, educators can find recommendations on what aspects of wiki-mediated spaces they need to consider for each mediation activity: text, concept, communication. The research also describes the ways in which individual knowledge and language skills can be advanced through collective inquiries in concept and text mediation. Wiki sites can be viewed as learning spaces which create opportunities for social scaffolding (through wiki-mediated communication) and cognitive scaffolding (through mediation activities) to guide students' decisions in their learning.

5.2.1 Wiki as a safe environment for learning, teaching and assessment

One of the conclusions of the study is the idea that the wiki can offer a safe learning environment to learners and teachers. The open nature of wiki sites allows learners to contribute ideas freely. It engages students by activating their prior knowledge of the topic or connecting them to the topic in other ways. Teachers are able to support

students' individual learning needs through monitoring their progress and ongoing daily assessment that will assist learners in staying more focused and self-regulated.

On the whole, students' positive experiences centre upon advantages and benefits that wiki sites can bring. Working with a wiki site helps produce a meaningful output in language learning because students are given an opportunity to process language more deeply than in a traditional classroom, with more time for thinking and reflecting due to the asynchronous nature of wiki learning. Also, they have greater control over their learning due to constant access to the materials and the ability to work at their own pace. Collaborative projects create an opportunity not only to experiment with and create new language forms but also to notice forms that can be used in the areas of language they need to work on (Swain, 2000).

Another obvious benefit for learners can be the opportunity to create a portfolio of different written papers and works. This can be a platform for peer support that is a safe environment where peers assess each other using clear criteria established by a teacher-facilitator. This is a way that more options can be created for collaboration and group work. Additionally, it creates contextual circumstances that provide learning opportunities for the teacher to deepen learners' understanding of particular criteria or enhance concept mediation. It can be a language-rich environment where the teacher and learners take advantages of spontaneous opportunities to enhance learning (Halsey, 2012).

As for teaching, teachers can design and adjust various tasks for mediation activities given different scales and types of collaboration and individual group needs (ESP, or academic English for certain groups of learners, etc.) For instance, such activities as glossary management can be an example of teaching vocabulary in a content area to practice mediating concepts. One more example of the tasks for mediating concepts is a Writing Group activity. Working in a writing group can be facilitated not only by peer feedback but also by teacher guidance, giving learners the models and suggestions on how to improve writing process. Students' performance will be enhanced if they see how to do the task through samples provided by a teacher and getting peer feedback. Such projects as a writing group provide multiple opportunities for mini-reviews of the main strategies for performing better in writing. Even if students are not active

performers, they are exposed to different essays where they can read and see how to follow the criteria in their own writing. It can be an example of improving metacognition; knowing how to approach a task and understanding how well you are doing is a metacognitive skill. Wiki offers an alternative way of learning and supports students' metacognitive abilities. The importance of metacognition in the process of learning is an idea that can be traced from Socrates' questioning to Dewey's idea that we learn more from reflecting on our experiences. It is related to increased awareness of one's own learning and includes self-regulation and the ability to orchestrate one's learning (Prieto et al., 2011).

Wiki can be used for assessment practices, primarily formative but possibly also summative (Earl, 2012). Assessment provided by feedback from peers and teachers comes regularly and this is viewed as a formative type of assessment, helping students to develop their skills and understanding. Such an approach can provide students with the opportunity to reflect on their learning before making the next step (for example, when taking part in a writing group and getting feedback from their peers and the teacher). It turns out to be a form of scaffolding which is given instantaneously, not at the end of the module or a unit but during the whole process of learning. This feature makes wiki based collaborative assessment an interactive way of learning through ongoing assessment. Summative assessment can be achieved by evaluating students' work at the end of a particular phase, assisted by the linkage between the wiki's structure and the CEFR descriptors.

Overall, wiki sites can be used for a variety of mediation activities but especially for mediating concepts and text. The discussion section (Chapter 4, Discussion) described the applicability and suitability of wiki sites for different descriptors of each mediation activity. The research revealed the effectiveness of the platform for mediating text and concepts.

5.2.2 Recommendations for wiki deployment for mediation activities in language learning

This conclusion deals with the implications for teachers and educators wishing to deploy wiki sites and design wiki spaces for teaching mediation activities for English as

a foreign language. In order to deploy wiki sites and design appropriate tasks, teachers should be aware of the stages of wiki deployment. The process of wiki deployment can consist of several stages, shown in Figure 16.

At the preliminary stage, teachers as designers should consider students' affective domain to find out their motivation and interests to persuade future wiki users of the rationale for working on the sites. Furthermore, it is necessary to find out the readiness of both teachers and learners to use the platform. The affordances of the platform should also be explored to predict possible challenges to be overcome and potential benefits to exploit.

Moreover, needs analysis is needed to establish conditions for deployment and the choice of pedagogic design. Much attention must be paid to the design of a community, with varied interaction patterns and types of mediation activities. At the development stage, it is necessary to think in advance about the structure of the site, including the number of pages for different learning purposes, the relevance of the wiki site content to the curriculum, assessment strategies and criteria for peer reviews, and collaborative interactions. All these educational issues can be flexibly adjusted during the deployment stage, given teachers' reflection on the wiki's development and adjustment to the ongoing needs of the learners. This stage is characterized by the need for flexibility, adjustability, opportunities for spontaneous learning and appearance of contextual circumstances that could enhance or hinder mediation activities.

At a culminating stage, teachers can be free to choose different types of tasks to assess mediation activities. A subsequent reflection stage following the culminating stage gives teachers and designers an opportunity to reflect on the learning outcomes and possible changes that are needed for the next cycle of wiki deployment.

The elaboration stage implies revisiting the design approaches, teaching methods and pedagogical strategies based on the outcomes of the previous cycle. The model below (Figure 16) illustrates the stages of deployment of a wiki as an educational platform to enhance mediation activities. It is cyclical in nature and the process typically involves several iterations as in the action-oriented approach utilised in the CEFR (see chapter 3, Methodology).This model delineates the process, which is in line with the basic steps in

the design cycle: 1 - inquiring and analysing; 2 - developing ideas; 3 - creating the solution; 4 - evaluating and improving.

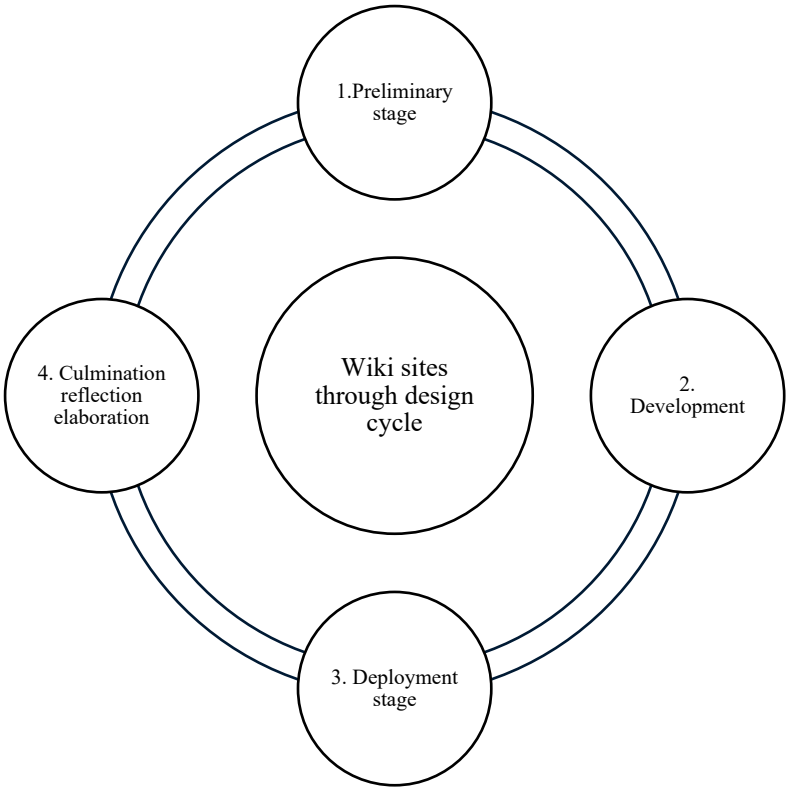


Figure 16: The process of wiki deployment

When deploying a wiki for mediation activities, teachers should keep in mind such questions as teachers' readiness; the needs of the target audience; rationale for the intervention; strategies to support and assess learners; and contextual knowledge. The latter includes explicit and implicit factors of technological, educational, psychological, and motivational nature.

5.3 Implications for future research

Recognising both weaknesses, or challenges, and strengths of wiki sites helps educators better integrate wiki sites in teaching practices and guides researchers in action-oriented research to develop effective educational solutions that would meet current demands and support the advancement of knowledge in TEL. Some areas for further research are outlined below.

5.3.1 Mediation activities and CEFR informed research

This research did not include practice in certain mediation activities; for example, there were not many creative texts for students to analyse and respond to. Google wiki sites, however, can be an effective platform for sharing different types of creative texts, ranging from poems to pieces of literature for reading for pleasure. The platform can be easily used as an online reading club for all types of responses, including interpretation and analysis. The platform can also be used effectively for other communicative language activities and strategies—reception, written production and interaction—but that was out of the research scope of this study, which was to explore mediation activities.

Future research could investigate production, reception and interaction strategies outlined in the CEFR at different language levels and for different domains: personal, public, occupational, educational. Further investigation could focus on mediation strategies to explain concepts or how to simplify a text. It could also investigate mediation communication in multicultural settings, where mediation activities can be trained and developed.

This study highlighted the need to explore how other designs integrated with Google sites can impact learners and their learning outcomes. Further investigation can be directed towards expanding tutorial content for mediation activities and testing of mediation skills via Google sites. Moreover, further research should focus on longitudinal studies to assess the long-term effects of employing mediation activities for teaching English at other educational levels or other domains described in the CEFR, such as personal, public, and occupational. This could provide a more comprehensive understanding of the ways technology can enhance mediation. The CEFR offers a wide range of research strands for an action-oriented approach to teaching a foreign language.

5.3.2 Interplay between educational psychology and technology

Another area of investigation could be about the interplay between pedagogical approaches and technological wiki-designs aimed at enhancing mediation skills needed for organizing communication. The multidisciplinary nature of the research in this

direction and "the benefits of collaboration between scientists from psychology and computer sciences" are noted by Dillenbourg (1999, p.13).

More research is needed when considering contextual knowledge of technology-enhanced communication. Knowledge of students' context (motivational and psychological factors) can contribute to teachers' pedagogical and technological knowledge by identifying challenges that students can experience when learning through technological innovations. Research is also needed to understand better how to build wiki-mediated relationships for different types of collaboration (T-S, S-Ss, T-Ss). More research can be directed to exploring relational and cognitive aspect of mediation activities, especially when designing tasks for concept mediation. Psychological and motivational aspects of students' engagement with wiki sites can also be of great interest as they are considered to be "inner factors" related to individual learners' personality and experience (Cubric, 2011, p. 12).

Also, the concept of cognitive load with regard to collaborating in a group can be experimented with when designing tasks and building different types of interactions. Conflict in wiki-mediated social interactions is another concept that may be of interest, especially concerning "intra-individual and inter-individual planes" when teaching mediation communication (Dillenbourg, 1999, p.11). Psychological aspects of group dynamics in wiki-mediated environments can also be investigated in further research.

5.3.3 The alignment between specific wiki features and design of tasks for mediation activities.

The findings of the research contribute to better understanding of the ways that specific wiki functions can be used to design tasks for mediation activities in English teaching and learning. The findings show that Google wiki sites are appropriate for mediation activities and can offer many affordances for better learning. The research addresses the relationships between mediation activities (presented in the form of different tasks) and wiki technology (used as a tool). It captures particular aspects of students' learning that can enhance or impede these relationships. Further research could address the limitation of the study in relation to the concept of pluriculturalism. This concept is closely connected with mediating communication and can be viewed through wiki-

mediated spaces that are intentionally created to increase pluricultural competence of learners.

5.3.4 Using other theoretical frameworks to explore mediation activities via wiki

Wiki as an educational technology can be explored using other approaches and theoretical frameworks. As stated in the findings, wiki-mediated collaborative learning as a mediation activity can be investigated using Luaurillard's Conversational Framework. This framework can be applied to wiki sites to see if the design of wiki-mediated environment is "sufficiently rich" to support effective learning (Laurillard, 2009, p.6).

Another area of research can be directed towards TPACK and wiki-mediated context. The future research can contribute to teachers' knowledge about wiki-mediated context used for teaching mediation activities in English learning. It is necessary for "intelligent integration of technology" (Petko et al., 2025, p. 3). This research has identified technological, educational, motivational and psychological factors that arise from students' context and their experiences.

Future research can be directed towards exploring other "inner factors, related to the individual learners' personality and experience" that could enhance effective implementation of wiki (Cubric, 2011, p.12). The importance of considering individual differences is also highlighted in the CEFR/CV (Council of Europe, 2020, p. 39).

Additionally, wiki sites can be explored in the context of Dillenbourg's collaborative learning spaces using the proposed dimensions: the scale of the collaborative situation (group size and time span), what is referred to as "learning" and what is referred to as "collaboration" (Dillenbourg, 1999, p.1). Research in this field can focus on a variety of scales used for teaching mediation activities or the concepts of learning or collaboration in regard to teaching mediation activities. Suggestions for further exploration are not limited by the proposed models and frameworks: the CEFR presents a flexible way for educators and teachers to reflect on their teaching practices.

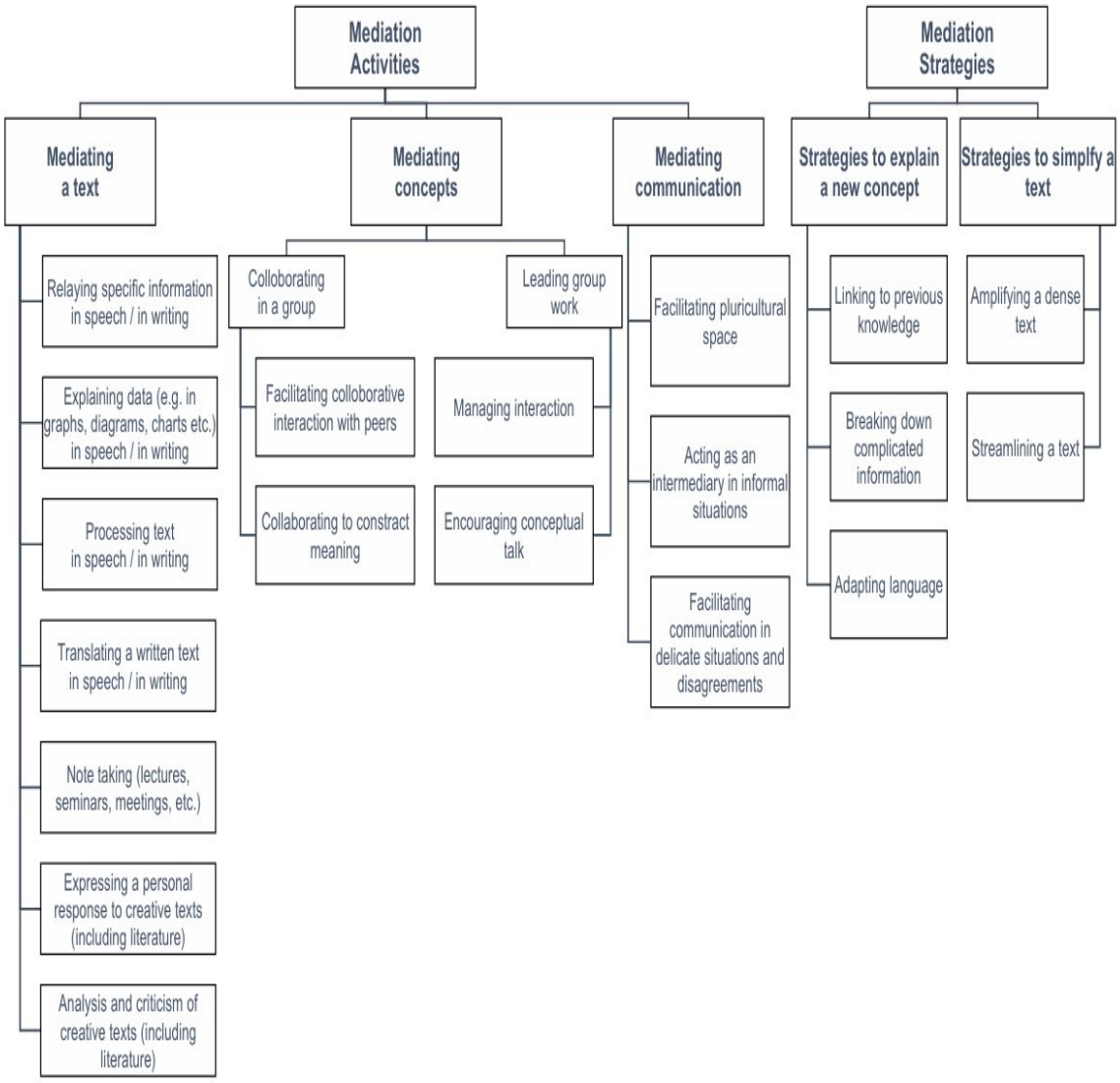
5.4 Final remarks

The findings on an empirical level contribute to better understanding how wiki-mediated sites can be designed and deployed to enhance mediation activities in English learning. The research resulted in presenting factors that should be taken into account when using the technology for teaching. The findings of the study also point to specific features of wiki-mediated learning that should be considered for each descriptor of mediation activities.

On a methodological level, the contribution of the study is found in applying a mixed methods approach to examine students' perceptions of using wiki sites for mediation activities. Also, the CEFR has been deployed as a conceptual framework not only for designing and employing wiki sites as a tool but also the tasks for mediation activities. Thus, the study shows the possibility of extending the application of the CEFR.

Theoretically, the research attempts to extend the understanding of teachers' knowledge of wiki-mediated context. It would seem that implications of the study could contribute to intelligent integration of wiki technology into teaching practices to enhance mediation activities in English teaching and learning.

Appendix 1 Mediation with its descriptors (Council of Europe, 2018, p. 104)



Appendix 2 Data gathering tools

Online questionnaire (RQ1): quantitative data

To what extent do you agree with each of the following statements?

1. Wiki is used for studies
2. I used wiki for studies in the past
3. Wiki is easy to use
4. Wiki is easy to access
5. Using wiki is useful for English studies
6. It is a good idea to use wiki sites for English studies
7. I am going to use wiki sites for English studies

7 point Likert scale

1. Strongly disagree

2. Moderately disagree

3. Somewhat disagree

4. Neutral

5. Somewhat agree

6. Moderately agree

7. Strongly agree

Questions for interview (RQ2): qualitative data

Part I: General impression

1. Can you tell me about your activity on the wiki site? How does it appear to you? Please expand on your motivation to be/not to be an active participant of the community, to share papers, to contribute to discussions, to observe by reading the comments etc).

2. What is your approach to it? Describe please, what did you do first/ next/ last? Was any part/ skill/process difficult? How did you overcome the problem?
3. How does this approach to learning English differ from a traditional approach in face-to face classes?
4. Would you use the same approach?
    a. For other subjects? If you are taught by another teacher?
    b. If you are faced with a different assessment method (grades or obligation to do the task)?

Please give reasons why/why not?

Part II: Wiki site for dealing with texts

5. Describe your experience of doing the below given tasks on the wiki site. Please expand on the advantages and disadvantages and your experiences of using the wiki site for these learning activities.

- Relaying specific information – in speech and in writing;
- Explaining data (e.g. in graphs, diagrams, charts etc.) in writing;
- Processing text – in speech and in writing;
- Translating a written text – in speech and in writing;
- Note-taking (videos/ listening tasks , etc.)
- Expressing a personal response to creative texts (including literature)

Part III. *Wiki site for facilitating collaboration with peers*

6. How would you describe the wiki site as a platform for **collaborative tasks?** Was it appropriate for group collaboration? Why/ why not?
7. How did working on Glossary or in Writing group help you in learning and studying? Were there any challenges or problems when using the wiki site or doing the tasks?
8. How do you perceive the teacher's role in the process? How can you describe your experience of collaborating with peers and the teacher in doing the task? Did you

need more help on the course? If yes, what was the reason for this problem or difficulty?

9. Please describe your experience (if any) of using wiki site for dealing with disagreement with peers/ the teacher or informal situations with your group mates?

Part IV: *Wiki site for online conversation and discussion*

10. How would you describe your experience on the wiki site in online conversation and discussion? How would you assess a wiki site as a learning platform in the following activities?

    Describe your experiences of doing these tasks on the wiki site:

    - instances of simultaneous (real-time) and consecutive interaction;
    - participation in sustained interaction ;
    - composing posts and contributions for others to respond to;
    - comments (e.g. evaluative) on posts, comments and contributions of others;
    - reactions to embedded media (video/ images etc);
    - the ability to include symbols, images, and other codes for making the message convey tone, stress and prosody, as well as the affective/emotional side, irony, etc.

Part V: Online interaction via wiki as a learning event:

11. How can you describe online interaction via wiki as a process? How did you feel being the part of the community? Was it a positive experience? Why/ why not?
12. What are your perceptions of the feedback received from the teacher and the peers? Was it supportive in better understanding of how to train for the exam? Why/ why not?
13. How did you feel about the system of submitting papers/ projects and their assessment? Was it well scheduled? What did you like most/ least about the format/ tasks and the approaches offered in the community?

14. How did you personally benefit from the access to others' papers? How did you benefit by sharing the papers with the peers? How did it vary in comparison with your past experience?

Part V: Ethics of wiki learning

15. How did you feel about choosing a wiki name for participating in the project? How was it helpful or not? How did it influence your presence on the site and learning activities you were doing? How did you feel about some kind of anonymity?

16. Describe your experience (if any) of dealing with cheating or other issues related to academic fraud such as. Describe your experience if you came across any unethical behaviour related to the following issues:

    - Use of sources on papers and projects;
    - Writing assistance and other tutoring ;Use of academic resources;
    - Respecting the work of others;
    - Computer ethics;
    - Giving assistance to others;
    - Moral code for students to follow

17. How can you describe a wiki site as a learning platform in terms of Security and safety issues.

18. How can you describe quality of teaching in the following respects? Give reasons and include any relevant examples from your experience:

    - quality and efficiency of teaching process for you personally;
    - quality and reliability of the chosen resources;
    - following standards of assessment in providing teacher's feedback;
    - observing copyrights

    You can describe any other aspects that you think are valuable

Part VI. Expectations and implications:

19. How has this learning event influenced your motivation for learning to improve IELTS skills? Can you explain if you have noticed any changes in the way how you are learning now?

20. What was the most/least valuable experience for you being the part of the community? How did you feel looking back to the launch of the community?

21. You can share any other reflections or experiences as a suggestion for improving a wiki site for learning English.

Thank you for your support and help!

Questionnaire (RQ2): qualitative data

Part I: General impression

1. Can you tell me about your activity on the wiki site? How does it appear to you? Please explain motivation to be/not to be an active participant of the community, to share papers, to contribute to discussions, to observe by reading the comments etc).

Part II: Wiki site for dealing with texts

2. Describe your experience of doing the below given tasks on the wiki site. Please dwell on the advantages and disadvantages and your experiences of using the wiki site for these learning activities? Choose the aspects that wiki was useful
   - Relaying specific information – in speech and in writing
   - Explaining data (e.g. in graphs, diagrams, charts etc.) in writing
   - Processing text – in speech and in writing
   - Translating a written text – in speech and in writing
   - Note-taking (videos/ listening tasks , etc.)
   - Expressing a personal response to creative texts (including literature)

Part III. *Wiki site for facilitating collaboration with peers*

3. How would you describe a wiki site as a platform for collaborative tasks? Were there any challenges or problems when using the wiki site or doing the tasks?
   - Glossary

- Art gallery
- Unusual styles

Part IV: ***Wiki site for online conversation and discussion***

4. How would you describe your experience on the wiki site in online conversation and discussion? How would you assess a wiki site as a learning platform in the following activities. Choose the aspects where you used wiki. Describe your experiences of doing these tasks on the wiki site
   - instances of simultaneous (real time) and consecutive interaction
   - participation in sustained interaction
   - composing posts and contributions for others to respond to;
   - comments (e.g. evaluative) on posts, comments and contributions of others;
   - reactions to embedded media (video/ images etc)
   - the ability to include symbols, images, and other codes for making the message convey tone, stress and prosody, but also the affective/emotional side, irony etc.

Part V: Online interaction via wiki as a learning event:

5. Was it a positive experience? Why/ why not?
6. Was the system of feedback and paper submission well scheduled? What did you like most/ least about the format/ tasks and the approaches offered in the community?
7. How did you personally benefit from the access to others' papers?
8. Did you use wiki to deal with disagreement with peers/ the teacher or informal situations with your groupmates? If yes, please describe it

Part VI. Expectations and implications:

9. How has this learning event influenced your motivation for learning?
10. What was the most/least valuable experience for you being the part of the community?

    - ability to convey information from educational text, video, audio
    - the ability to express an opinion about an educational text (video or audio link)

- the ability to leave a comment under the opinion of another participant to continue the discussion or continue the conversation
- the ability to explain your point of view or express emotions about what you read or see
- ability to ask for another point of view
- ability to maintain communication (on the site), exchanging information, explaining or answering questions
- the ability to exchange information about your impressions, experiences and feelings on a proposed topic with one or more people
- the ability to take part in joint work on a project where there is visual content (picture, sign, image, etc.) For example, gallery.
- ability to participate in a joint writing project dedicated to one topic (my favorite art supply)

11. *You can share any other reflections or experiences as a suggestion how a wiki site can be improved for learning English?*

Thank you for your support and help!

Appendix 3 Variants of wiki names

Management Faculty, HSE, 1st cycle (the real names are changed for the purpose of confidentiality)

Student name	Wiki name
Eva	evka
Nastya	anak
Polina	soko
Peter	pvts
Aleksandra	klnv
Sasha	Ait
Egor	Rmrf
Lena	mkhl
Lyuba	Laa
Andrey	avg
Ira	lapa

Appendix 4 Information about the interviewees

Student	Date	gender	File ID	Faculty/ University	Language of the interview	Duration	Format	Form of participation on the wiki site	Platform
Sasha	26.04.20	m	S_1	Management/ HSE	Russian	40:02	oral	Moderate	Skype
Eva	26.04.20	f	S_2	Management/ HSE	English	38:34	oral	Active (writing group)	Skype
Misha	27.04.20	m	S_3	IT/ HSE	Russian	44:18	oral	Active (writing group)	Skype
Marina	30.04.20	f	S_4	Economic/ HSE	Russian	35:21	oral	Moderate	Zoom
Maksim	30.04.20	m	S_5	IT/ HSE	Russian	38:33	oral	Low	Zoom
Nastya	30.04.20	f	S_6	Management/ HSE	English	34:07	oral	Active	Zoom
Ira	30.04.20	f	S_7	Management/ HSE	Russian	28:02	oral	Moderate	Skype
Ksyusha	07.05.20	f	S_8	Economic/ HSE	English	53:16	oral	Active (writing group)	Zoom
Masha	25.06.20	f	S_9	Design/ Minin	Russian	35:29	oral	Active	Zoom
Marina	25.06.20	f	S_10	Design/ Minin	Russian	24:42	oral	Active	Zoom
Katya	25.06.20	f	S_11	Design/ Minin	Russian	21:59	oral	Moderate	Zoom
Lera	01.07.20	f	S_12	Design/ Minin	Russian	31:46	oral	Active	Zoom

Alena	02.07.20	f	S_13	Design/ Minin	Russian	36:53	oral	Active	Zoom
Masha	03.07.20	f	S_14	Design/ Minin	Russian	39:36	oral	Active	Zoom
WRITTEN FEEDBACK									
Tanya	27.04.20	f	S_15w	IT/ HSE	Russian		written	Low	SNS (.doc)
Yan	28.04.20	m	S_16w	IT/ HSE	Russian		written	Low	SNS (.doc)
Dasha	02.05.20	f	S_17w	IT/ HSE	English		written	Moderate	SNS 9.txt)
Lena	06.05.20	f	S_18w	Economic/ HSE	Russian		written	Active	SNS (.doc)
Varya	07.05.20	f	S_19w	Economic/ HSE	English		written	Active	SNS (.doc)
Andrey	14.05.20	m	S_20w	IT/ HSE	Russian		written	Moderate	SNS (.doc)

Appendix 5 Consent form

Invitation to Participate & Consent Form for a Research Study

I wish to invite you to participate in a study entitled: Wiki-sites for English teaching and learning.

Please read this form carefully, and feel free to ask questions you might have. You can contact me with questions by email: mslyashenko@mail.ru.

As a participant of our wiki community you are asked to participate in an interview in order to provide me with your expertise on your experience of being engaged into the process of collaborative e- tasks.

The purpose of the study is to examine various experiences of the participants.

Please consider this interview as informal. The interview can be in written or face-to-face format.

If you agree to participate, I will either send you the list of questions or will tell you the time of the interview. Your comments can be either in English or in Russian. You will have up to one week to send your comments to me or to add, revise, or delete information.

The data from this study will be used in the completion of course work in a doctoral programme. The data may also be included in my doctoral thesis or published and presented at conferences. To safeguard your confidentiality and anonymity, you will be given a pseudonym, and all identifying information, such as the institution or department to which you belong, will be removed.

The email transcript of our discussion will be safely stored, as will your contact information. You may withdraw from the study for any reason, at any time, without penalty of any sort. If you withdraw from the study at any time, any data that you have contributed will be destroyed.

A direct message from you that states, "I agree to participate," will be considered confirmation of your consent.

Consent to participate

I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily.

I consent to participate in the study described above, understanding that I may withdraw this consent at any time.

I prefer to participate in an oral interview / give written feedback (Delete as appropriate).

I prefer to contribute in Russian / English (Delete as appropriate).

Glossary and Abbreviations

CEFR the Common European Framework of References for Languages (

CEFR/ CV the Common European Framework of References for Languages / Companion Volume

L2 a second language

IT Information technologies

ICT information communication technologies

TAM Technology acceptance model

RQ- Research question

TEL Technology enhanced learning

DIAT Discovery, integration, application, teaching

CAMR mode -the CEFR-focused Action research model

ZPD Zone of proximal development

SLA Second language acquisition

HSE Higher School of Economics

ESP English for specific purposes

IELTS International English language testing system

LMS learning management system

CBAM Concerns-based Adoption Model

UTAUT The Unified Theory of Acceptance and Use of Technology

PEU Perceived ease of use

PU Perceived usefulness .

S Student

T Teacher

TA Thematic analysis

TPACK Technological pedagogical content knowledge

References

Achterman, D. (2006). Making connections with blogs and wikis. CSLA Journal, 30(1), 29-31

Åkerlind, G. S. (2005). Variation and commonality in phenomenographic research methods. *Higher education research & development*, *24*(4), 321-334.

Alderson, J. C. (2007). The CEFR and the need for more research. *The Modern Language Journal*, *91*(4), 659-663.

Alghasab, M. (2015). *Student-student collaboration in wiki mediated collaborative writing activities: Exploring EFL teachers' roles in the collaborative process* (Doctoral dissertation, University of York).

Almeida, F. L., & Rocha, R. M. (2011). Introduction of a Wiki in an Enterprise: Motives and Challenges. *Journal of Systems Integration*, *2*(4), 46.

Altanopoulou, P., & Tselios, N. (2017). Assessing acceptance toward wiki technology in the context of higher education. *International Review of Research in Open and Distributed Learning*, *18*(6), 127-149.

Altanopoulou, P., Tselios, N., Katsanos, C., Georgoutsou, M., & Panagiotaki, M. A. (2015). Wiki-mediated activities in higher education: Evidence-based analysis of learning effectiveness across three studies. *Journal of Educational Technology & Society*, *18*(4), 511-522.

Anderson, L. W. and Krathwohl, D. R., et al (Eds.) (2001) A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. Allyn & Bacon. Boston, MA (Pearson Education Group)

Antonenko, P. D. (2015). The instrumental value of conceptual frameworks in educational technology research. *Educational Technology Research and Development*, *63*, 53-71.

Arnott, S., Brogden, L. M., Faez, F., Péguret, M., Piccardo, E., Rehner, K., ... & Wernicke, M. (2017). The common European framework of reference (CEFR) in Canada: A research agenda. *Canadian Journal of Applied Linguistics*, *20*(1), 31.

Bagozzi, R. P. (2007). The legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the association for information systems*, *8*(4), 3.

Baker, C. (2011). *Foundations of bilingual education and bilingualism*. Multilingual matters.

Banks, S. (2022). Community-based participatory research: a guide to ethical principles and practice.

Bennett, F., & Roberts, M. (2004). *From input to influence: Participatory approaches to research and inquiry into poverty. Joseph Rowntree Foundation*.

Bergold, J., & Thomas, S. (2012). Participatory research methods: A methodological approach in motion. *Historical Social Research/Historische Sozialforschung*, 191-222.

Biasutti, M. and El-Deghaidy,(2012). Using Wiki in teacher education: Impact on knowledge management processes and student satisfaction. *Computers & Education*, *59*(3), pp.861-872.

Birch, G. C., Bower, J. V., Nagai, N., & Schmidt, M. G. (2021). Foreign language education reform through action research—Putting CEFR educational principles into practice. *CEFR Journal—Research and Practice*, *4*(November), 43-65.

Birch, G. C. (2024). Using an Electronic European Language Portfolio (e-ELP) to Promote Learner Autonomy. In *Putting the CEFR into Practice Through Action Research: Reflecting on Principles for Foreign Language Teaching* (pp. 219-252). Singapore: Springer Nature Singapore.

Blaxter, L., Hughes, C., & Tight, M. (2006). *How to research*. Berkshire.

Bligh, B., & Flood, M. (2015). The change laboratory in higher education: Research-intervention using activity theory. In *Theory and method in higher education research* (pp. 141-168). Emerald Group Publishing Limited.

Bolisani, E., & Scarso, E. (2015). Strategic planning approaches to knowledge management: a taxonomy. *Vine*, *45*(4), 495-508.

Booth, S. (2008). Symposium 9: Researching Learning in Networked Learning–Phenomenography and Variation theory as empirical and theoretical approaches. In *Proceedings of the International Conference on Networked Learning* (Vol. 6, pp. 450-455).

Borg, W. R., & Gall, M. D. (1989). Educational research: An introduction (5th ed.). New York: Longman.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton University Press, 3175 Princeton Pike, Lawrenceville, NJ 08648..

Bradley, L. (2014). Peer-reviewing in an intercultural wiki environment-student interaction and reflections. *Computers and Composition*, *34*, 80-95.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis?. *Qualitative research in psychology*, *18*(3), 328-352.

Brianza, E. M., Schmid, M. Tondeur, J., & Petko, D. (2022). Investigating contextual knowledge within TPACK: How has it been done empirically so far? In: *Society for Information Technology Teacher Education International Conference*, San Diego, USA, 11 April 2022. Association for the Advancement of Computing in Education (AACE), 2204-2212.

Briggs, J. and Moore, P. (1993) The Process of Learning. 3rd edition. Sydney: Prentice Hall.

Broeder, P., Martyniuk, W. (2008). Language Education in Europe: The Common European Framework of Reference. In: Hornberger, N.H. (eds) Encyclopedia of Language and Education. Springer, Boston, MA. https://doi.org/10.1007/978-0-387-30424-3_100

Brownson, S. M. (2009). *A study of the integration of wikis and blogs into an online course on student interaction and satisfaction* (Doctoral dissertation, Capella University).

Brown, S. L., Ladeira, I. M., Winterbottom, C. B., & Blake, E. H. (2002). *An investigation on the effects of mediation in a storytelling virtual environment*. University of Cape Town.

Bryman, A. (2004). Qualitative research on leadership: A critical but appreciative review. *The Leadership Quarterly, 15*(6), 729–769. https://doi.org/10.1016/j.leaqua.2004.09.007

Byram, M. (2022). Politics, origins and futures of the CEFR. *The language learning journal*, *50*(5), 586-599.

Cambridge ESOL (2011). *Principles of good practice: Quality management and validation in language assessment*.

Carrel, A., & Ebner, N. (2019). Mind the Gap: Bringing Technology to the Mediation Table. *Journal of Dispute Resolution*, 1.

Carvalho, L., Goodyear, P., & de Laat, M. (2016). Place, space, and networked learning. In *Place-Based Spaces for Networked Learning* (pp. 1-10). Routledge.

Cervini, C., & Masperi, M. (2021). Designing a Multilingual Large-Scale Placement Test with a Formative Perspective: A Case Study at the University of Grenoble Alpes. In *Challenges in Language Testing Around the World: Insights for language test users* (pp. 243-253). Singapore: Springer Singapore.

Chapelle, C. A. (2001). Computer Applications in Second Language Acquisition. Cambridge: Cambridge University Press.

Chao, Y. C. J., & Lo, H. C. (2011). Students' perceptions of Wiki-based collaborative writing for learners of English as a foreign language. *Interactive learning environments*, *19*(4), 395-411.

Cinganotto, L. (2019). Online interaction in teaching and learning a foreign language: An Italian pilot project on the companion volume to the CEFR. *Journal of e-Learning and Knowledge Society*, *15*(1).

Cilliers, L. (2017). Wiki acceptance by university students to improve collaboration in higher education. *Innovations in Education and Teaching International*, *54*(5), 485-493.

Cilliers, E., J. (2017). The Challenge of Teaching Generation Z. PEOPLE :*International Journal of Social Sciences,* 3(1), 188-198.

Codó, E. (2008). Interviews and questionnaires. *The Blackwell guide to research methods in bilingualism and multilingualism*, 158-176.

Cohen, L., Manion, L., & Morrison, K. (2005). *Research methods in education*. Routledge.

Cohen, L., Manion, L., & Morrison, K. (2017). Mixed methods research. In *Research Methods in Education* (pp. 31-50). Routledge.

Corbett J (2021) Revisiting mediation: implications for intercultural language education, *Language and Intercultural Communication*, 21:1, 8-23, DOI: 10.1080/14708477.2020.1833897

Council of Europe (2001). Council for Cultural Co-operation. Education Committee. Modern Languages Division.. *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge University Press.

Council of Europe (CoE) (2018). The Common European Framework of Reference for Languages: Learning, Teaching, Assessment—Companion Volume with New Descriptors. Strasbourg: CoE. https://rm.coe.int/cefr-companion-volumewith-new-descriptors-2018/168078798

Council of Europe (2020), Common European Framework of Reference for Languages: Learning, teaching, assessment – Companion volume, Council of Europe Publishing, Strasbourg, available at www.coe.int/lang-cefr.

Coutinho, C. (2009). Using blogs, podcasts and Google sites as educational tools in a teacher education program. In *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 2476-2484). Association for the Advancement of Computing in Education (AACE).

Coutinho, C. (2012). Developing Pre-Service Teachers Competencies In Using Technologies In The Classroom: An Example From Portugal. In *Society for Information Technology & Teacher Education International Conference* (pp. 2754-2763). Association for the Advancement of Computing in Education (AACE).

Creswell, J. W., & Creswell, J. D. (2014). *Research design: qualitative, quantitative and mixed methods approaches* (Vol. 54). United State of America: Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Cubric, M. (2011). Wiki-supported collaborative learning. *Wiki supporting formal and informal learning*.

Data, N. (2022). Maximum Utilization of Google Sites (MUGS) in Teaching English for Academic and Professional Purposes. *AJARCDE (Asian Journal of Applied Research for Community Development and Empowerment)*, *6*(3), 68-72.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, *35*(8), 982-1003.

Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and Education: The Self-Determination Perspective. *Educational Psychologist, 26*(3–4), 325–346. https://doi.org/10.1080/00461520.1991.9653137

Deygers, B. (2021). The CEFR companion volume: Between research-based policy and policy-based research. *Applied Linguistics*, *42*(1), 186-191.

Díez-Bedmar, M. B., & Byram, M. (2017). The current influence of the CEFR in secondary education: Teachers' perceptions. *Language, Culture and Curriculum, 32*(1), 1–15.

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

Dlalisa, S. F., & Govender, D. W. (2020). Challenges of acceptance and usage of a learning management system amongst academics. *International Journal of eBusiness and eGovernment Studies*, *12*(1), 63-78.

Driskell, J. E., Radtke, P. H., & Salas, E. (2003). Virtual teams: Effects of technological mediation on team performance. *Group Dynamics: Theory, Research, and Practice*, *7*(4), 297.

Du Plessis, N. (2011). Social media in higher education: The case of Facebook. *Vaal University of Technology, North-West University: Vaal Campus*.

Earl, L. M. (2012). *Assessment as learning: Using classroom assessment to maximize student learning*. Corwin press.

Elola, I., & Oskoz, A. (2010). Collaborative Writing: Fostering Foreign Language and Writing Conventions Development. *Language Learning & Technology*, *14*(3), 51-71.

Engeström, Y. (2009). The future of activity theory: A rough draft. *Learning and expanding with activity theory*, 303-328.

Fontich, X., Van Rijt, J., & Gauvin, I. (2020). Research on L1 grammar in schooling: Mediation at the heart of learning grammar. *L1-Educational Studies in Language and Literature*, 1-13.

Fox, S. (2002). Studying networked learning: Some implications from socially situated learning theory and actor network theory. In *Networked learning: Perspectives and issues* (pp. 77-91). London: Springer London.

Gaillat, T., Simpkin, A., Ballier, N., Stearns, B., Sousa, A., Bouyé, M., & Zarrouk, M. (2022). Predicting CEFR levels in learners of English: The use of microsystem criterial features in a machine learning approach. *ReCALL*, *34*(2), 130-146.

Gerich, D. (2013). Beyond the Class Blog: Creative and Practical Uses of Blogger for the ESL Classroom. *TESOL Journal*, *4*(1), 175–181. https://doi.org/10.1002/tesj.68

Gibbons, P. (2007). Mediating academic language learning through classroom discourse. In *International handbook of English language teaching* (pp. 701-718). Boston, MA: Springer US.

Gibbs, G. R. (2007). Thematic coding and categorizing. *Analyzing qualitative data*, *703*(38-56).

Godwin-Jones, R. (2003). Emerging technologies: blogs and wikis: environments for on-line collaboration. *Language, Learning & Technology*, *7*(2), 12-12.

González, G. R. (2014). How to Create a Google Site Webpage for Your English Class. *Revista de Lenguas Modernas*, *20*, 467.

Grace, T. P. L. (2009). Wikis as a knowledge management tool. *Journal of knowledge management*, *13*(4), 64-74.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, *2*(163-194), 105.

Guba, E. G., & Lincoln, Y. S. (2000). Paradigms and Perspectives in Transition, *The Handbook of qualitative research* (pp. 163–188). Sage Publications Ltd.

Guest, G., & Fleming, P. (2015). Mixed methods research. In *Public Health Research Methods* (pp. 581-614). SAGE Publications, Inc., https://doi.org/10.4135/9781483398839

Hubbard, P. (2023). Emerging technologies and language learning: mining the past to transform the future. *Journal of China Computer-Assisted Language Learning*, *3*(2), 239-257.

Halim, A. A., & Abd. Halim, N. D. (2024). Exploring the integration and impact of Google sites in teaching and learning: a structured scoping review. *Quantum Journal of Social Sciences and Humanities*, *5*(SI1), 110-124.

Hall, J. (2011). Engaging teachers and students with real data: Benefits and challenges. In *Teaching Statistics in School Mathematics-Challenges for Teaching and Teacher Education: A Joint ICMI/IASE Study: The 18th ICMI Study* (pp. 335-346). Dordrecht: Springer Netherlands.

Hammond, M., & Wellington, J. (2013). *Research methods: The key concepts*. Routledge.

Harasim, L. (2000). Shift happens: Online education as a new paradigm in learning. *The Internet and higher education*, *3*(1-2), 41-61.

Harsanto, B. (2014). Innovation to enhance blended learning experience: Applying google sites in higher education. *Information Management and Business Review*, *6*(1), 17-24.

Harsch, C. (2014). General language proficiency revisited: Current and future issues. *Language Assessment Quarterly*, *11*(2), 152-169.

Halsey, S. D. (2012). *Time to wiki: A tool to build students' science vocabulary* (Doctoral dissertation, Montana State University-Bozeman).

Hawkey, R. (2009). *Examining FCE and CAE: Key issues and recurring themes in developing the First Certificate in English and Certificate in Advanced English exams* (Vol. 28). Cambridge University Press.

Hegel, G. W. F. (2014). *Science of logic*. Routledge.

Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of 'useful' digital technology in university teaching and learning. *Studies in higher education*, *42*(8), 1567-1579.

Hodgson, V., McConnell, D., & Dirckinck-Holmfeld, L. (2011). The theory, practice and pedagogy of networked learning. In *Exploring the theory, pedagogy and practice of networked learning* (pp. 291-305). New York, NY: Springer New York.

Hord, S. M., & Roussin, J. L. (2013). *Implementing change through learning: Concerns-based concepts, tools, and strategies for guiding change*. Corwin Press.

Hu, Q., & Johnston, E. (2012). Using a wiki-based course design to create a student-centered learning environment: Strategies and lessons. *Journal of Public Affairs Education*, *18*(3), 493-512.

Hubbard, P. (2023). Emerging technologies and language learning: mining the past to transform the future. *Journal of China Computer-Assisted Language Learning*, *3*(2), 239-257.

Hulstijn, J. H. (2007). The shaky ground beneath the CEFR: Quantitative and qualitative dimensions of language proficiency. *The Modern Language Journal*, *91*(4), 663-667.

Hulstijn, J. H. (2011). Language proficiency in native and nonnative speakers: An agenda for research and suggestions for second-language assessment. *Language Assessment Quarterly, 8*(3), 229–249. https://doi.org/10.1080/15434303.2011.565844

Hung, W. H., & Wang, W. H. (2020). Design principles of wiki system for knowledge transfer and sharing in organizational education and training. *Sustainability*, *12*(17), 6771.

Ihde, D. (2004). Philosophy of technology. In *Philosophical problems today: World and worldhood* (pp. 91-108). Dordrecht: Springer Netherlands.

Igira, F. T., & Gregory, J. (2009). Cultural historical activity theory. *Handbook of research on contemporary theoretical models in information systems*, 434-454.

Jager, S. (2009). Towards ICT-integrated language learning. *Groningen: Groningen dissertations in linguistics*.

James, W. (1898). *Philosophical conceptions and practical results. University Chronicle,[The University of California, Berkeley],* 1 (4), 287–310.

James, W. (1907). Pragmatism's Conception of Truth. *The Journal of Philosophy, Psychology and Scientific Methods*, *4*(6), 141–155. https://doi.org/10.2307/2012189

Jenkins, J. J., & Palermo, D. S. (1964). Mediation processes and the acquisition of linguistic structure. *Monographs of the Society for Research in Child Development*, 141-169.

Jennex, M. E., Smolnik, S., & Croasdell, D. T. (2007). Knowledge management success. *International Journal of Knowledge Management*, *3*(2), I.

Jones, N. (2011). Linking assessments to international frameworks of language proficiency: the Common European Framework of Reference. *Research matters: A Cambridge assessment publication*, (2), 42-47

Jones, N., & Saville, N. (2009).European language policy: assessment, learning, and the CEFR . *Annual Review of Applied Linguistics*, *29*, 51–63. doi:10.1017/S0267190509090059

Karipidis, N., Tsimperidis, I. Integration of wikis in education: a qualitative systematic review. *Discov Educ*, 3, 61 (2024). https://doi.org/10.1007/s44217-024-00150-6.

Karkoulia, K.-C. (2016). Teachers' attitudes towards the integration of Web 2.0 tools in EFL teaching. *Research Papers in Language Teaching and Learning*, *7*(1), 46.

Kemmis, S. (2009). Action research as a practice-based practice. *Educational Action Research, 17*(3), 463-474. https://doi.org/10.1080/09650790903093284

Kemmis, S., & McTaggart, R. (2007). Communicative action and the public sphere. *The Sage handbook of qualitative research*, *3*, 559-603.

Kemmis, S., McTaggart, R., & Nixon, R. (2013). *The action research planner: Doing critical participatory action research*. Springer Science & Business Media.

Kessler, G. (2009). Student-Initiated Attention to Form in Wiki-Based Collaborative Writing. *Language Learning & Technology*, *13*(1), 79-95.

Kinshuk, Chen, N. S., Cheng, I. L., & Chew, S. W. (2016). Evolution is not enough: Revolutionizing current learning environments to smart learning environments. *International Journal of Artificial Intelligence in Education*, *26*(2), 561-581.

Kiran, A. H. (2015). Four dimensions of technological mediation. *Postphenomenological investigations: Essays on human-technology relations*, 123-140.

Khezrlou, S. (2024). Effects of task repetition with consciousness-raising in wiki-mediated collaborative writing on the development of explicit and implicit knowledge. *Computer Assisted Language Learning*, *37*(1–2), 243–278. https://doi.org/10.1080/09588221.2022.2033789

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. *Contemporary issues in technology and teacher education*, *9*(1), 60-70.

Kok, N. M., & Aziz, A. A. (2019). English language teachers' perceptions on the implementation of CEFR-aligned curriculum among primary schools in Malaysia. In *Seminar Wacana Pendidikan* (pp. 212-222).

Lacković, N., & Olteanu, A. (2020). Rethinking educational theory and practice in times of visual media: Learning as image-concept integration. *Educational Philosophy and Theory*, *53*(6), 597–612. https://doi.org/10.1080/00131857.2020.1799783

Lafleur, F. (2023). Conceptualisation de l'espace numérique dans l'enseignement-apprentissage des langues. *ALSIC : Apprentissage Des Langues et Systèmes d'information et de Communication*, *26*(2). https://doi.org/10.4000/alsic.6783

Lantolf J. P. (2000). Second language learning as a mediated process. *Language Teaching, 33*, 7996. doi:10.1017/S0261444800015329

Latour, B. (1996). On actor-network theory: A few clarifications. *Soziale welt*, 369-381.

Laurillard, D. (2009). The pedagogical challenges to collaborative technologies. *International Journal of Computer-supported collaborative learning*, *4*, 5-20.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Lee, L. (2010). Exploring wiki-mediated collaborative writing: A case study in an elementary Spanish course. *Calico Journal*, *27*(2), 260-276.

Lee, N. A. A., Kassim, A. A. M., & Bakar, R. A. (2022). The CEFR-aligned curriculum execution in Malaysia and other countries: A conceptual paper. *Malaysian Journal of ELT Research*, *19*(1).

Lenoir, Y. (1996). Médiation cognitive et médiation didactique. *Le didactique au-delà des didactiques. Débats autour de concepts fédérateurs*, 223-251.

Leuf, B., & Cunningham, W. (2001). *The Wiki way: quick collaboration on the Web*. Addison-Wesley Longman Publishing Co., Inc.

Liashenko, M. (2017). ICT in EFL (English as a Foreign Language) Teaching: Shifting to Informal Learning. In *Conference proceedings. ICT for language learning* (p. 72). libreriauniversitaria. it Edizioni.

Liashenko, M. S. (2020). Deployment of wiki and social networking sites in language teaching at university. *Problems of modern pedagogical education*, (69-2), 105-108.

Liashenko, M., & Öztok, M. (2020). The acceptance of a wiki site as a learning platform in English exam training: students' perceptions. In *Proceedings of the International Conference on Networked Learning* (Vol. 12, pp. 26-29).

Li, J. (2006). The mediation of technology in ESL writing and its implications for writing assessment. *Assessing writing*, *11*(1), 5-21.

Li, M. (2012). Use of wikis in second/foreign language classes: A literature review. CALL-EJ, 13(1), 17-35.

Li, M., & Zhu, W. (2016). Explaining dynamic interactions in wiki-based collaborative writing.

Liddicoat, A. J. (2022). Intercultural mediation in language teaching and learning. *Intercultural learning in language education and beyond: Evolving concepts, perspectives and practices*, 41-59.

Lin, W. C., & Yang, S. C. (2011). Exploring students' perceptions of integrating Wiki technology and peer feedback into English writing courses. *English Teaching: Practice and Critique*, *10*(2), 88-103.

Lindoo, E., & Lauderdale-Davie, F. (2009). Using google sites, google groups and google documents to enhance your course. *Journal of Computing Sciences in Colleges*, *25*(2), 46-51.

Little, D. (2007). The Common European Framework of Reference for Languages: Perspectives on the making of supranational language education policy. *The Modern Language Journal*, *91*(4), 645-655.

Liu, Y. (2010). Social media tools as a learning resource. *Journal of Educational Technology Development and Exchange*, *3*(1), 101-114.

Lyashenko, M. S. (2016). Implementation of web-based technologies into teaching and learning practices in the university. *International Journal of Information and Education Technology*, *6*(3), 243.

Lopes, A. (2011). Changing Teachers' Attitudes Towards ICT-Based Language Learning Tasks: The ETALAGE Comenius Project (the Portuguese Case). *European Association for Computer-Assisted Language Learning (EUROCALL)*.

Luís, A. R. (2024). Mediation Tasks across ELT Resources: An Analysis within the CEFR-CV Framework. *Biblos*, (10), 327-352.

Lund, A. (2008). Wikis: A collective approach to language production. *ReCALL*, *20*(1), 35-54.

Lund, A., & Rasmussen, I. (2008). The right tool for the wrong task? Match and mismatch between first and second stimulus in double stimulation. *International Journal of Computer-Supported Collaborative Learning*, *3*(4), 387-412.

Luo, M. M., & Chea, S. (2020). Wiki use for knowledge integration and learning: A three tier conceptualization. *Computers & Education*, *154*, 103920.

Martyniuk, W. (2017). How to assess mediation. In E.G. Eugenio (Ed.), Learning and assessment: making the connections. *Proceedings of the ALTE 6th international conference*, Bologna, Italy, 3-5 May 2017, 245-251.

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach: An interactive approach*. sage.

McConnell, D. (2000). *Implementing computer-supported cooperative learnin*g, 2nd Edition. London: Kogan Page.

McLoughlin, I. (2002). *Creative technological change: the shaping of technology and organisations*. Routledge.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Miller, M. (2005). Teaching and learning in affective domain. *Emerging perspectives on learning, teaching, and technology.* Retrieved March *6*, 2008.

Mills, T. (2007). Wiki-based construction knowledge sharing. In *The ASC Annual Conference* (pp. 1-9). Flagstaff, Arizona: Associated Schools of Construction.

Miyazoe, T., & Anderson, T. (2010). Learning outcomes and students' perceptions of online writing: Simultaneous implementation of a forum, blog, and wiki in an EFL blended learning setting. *System*, *38*(2), 185-199.

Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative inquiry*, *20*(8), 1045-1053.

Morgan, B., & Smith, R. D. (2008). A wiki for classroom writing. *The Reading Teacher*, *62*(1), 80-82.

Morse, J.M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, 120–123

Murphy-Judy, K., & Youngs, B. L. (2006). Technology standards for teacher education, credentialing, and certification. *Teacher education in CALL*, 45-60.

Ng, E. M. (2016). Fostering pre-service teachers' self-regulated learning through self-and peer assessment of wiki projects. *Computers & Education*, *98*, 180-191.

North, B. (2007). The CEFR: Development, theoretical and practical issues. *Babylonia*, *1*(07), 22-29.

North, B., & Piccardo, E. (2016). Common European Framework of Reference for Languages: Learning, Teaching, Assessment: Developing Illustrative Descriptors of Aspects of Mediation for The CEFR. Strasbourg: Council of Europe. https://rm.coe.int/common-european-framework-of-reference-for-languages-learning-teaching/168073ff31

North B. and Piccardo E. (2016), "Developing illustrative descriptors of aspects of mediation for the CEFR", Education Policy Division, Council of Europe, Strasbourg.

North, B., & Piccardo, E. (2017). Mediation and exploiting one's plurilingual repertoire: exploring classroom potential with proposed new CEFR descriptors. *Learning and Assessment: Making the Connections*, 87.

Nguyen, H. T. T. (2022). Critical reflection and learning motivation in a smart education environment: A study through a Google Sites-based project (GBP). *The International Journal of Technologies in Learning*, *29*(1), 95.

O'Connor, B. (1999). The concept of mediation in Hegel and Adorno. *Hegel Bulletin*, *20*(1-2), 84-96.cuases much criticism

Oktalia, D., & Drajati, N. A. (2018). English teachers' perceptions of text to speech software and Google site in an EFL Classroom: What English teachers really think and know. *International Journal of Education and Development Using Information and Communication Technology*, *14*(3), 183–192.

Olmedo, I. M. (2003). Language mediation among emergent bilingual children. *Linguistics and education*, *14*(2), 143-162.

Onwuegbuzie, A. J., & Leech, N. L. (2005). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research

methodologies. *International journal of social research methodology*, *8*(5), 375-387.

O'Reilly, T. (2004). Open source paradigm shift. *DiBona, C., Stone, M., Cooper, D.: Open Sources*, *2*, 253-272.

Passey, D. (2010). Mobile learning in school contexts: can teachers alone make it happen?. *IEEE Transactions on Learning Technologies*, *3*(1), 68-81

Passey, D & Higgins, S (2011) Learning platforms and learning outcomes – insights from research, *Learning, Media and Technology, 36*:4, 329-333, DOI: 10.1080/17439884.2011.626783

Passey, D. (2013). *Inclusive technology enhanced learning: Overcoming cognitive, physical, emotional, and geographic challenges*. Routledge.

Passey, D. (2019). Technology-enhanced learning: Rethinking the term, the concept and its theoretical background. *British Journal of Educational Technology*, *50*(3), 972-986.

Patton, M. Q. (1985). Logical incompatibilities and pragmatism. *Evaluation and Programme Planning*, *8*(4), 307-308.

Petko, D., Mishra, P., & Koehler, M. J. (2025). TPACK in context: an updated model. *Computers and Education Open*, 100244.

Piccardo, E. (2012). Multidimensionality of assessment in the Common European Framework of Reference for languages (CEFR). *OLBI Journal*, *4*.

Piccardo, E., North, B., & Goodier, T. (2019). Broadening the scope of language education: Mediation, plurilingualism, and collaborative learning: The CEFR companion volume. *Journal of e-learning and knowledge society*, *15*(1).

Piccardo, E. (2020). The Common European Framework of Reference (CEFR) in language education: Past, present, and future.

Pick, H. L. (1992). Eleanor J. Gibson: Learning to perceive and perceiving to learn. *Developmental Psychology*, *28*(5), 787.

Porras-Hernández, L. H., & Salinas-Amescua, B. (2013). Strengthening TPACK: A broader notion of context and the use of teacher's narratives to reveal knowledge construction. *Journal of Educational Computing Research*, *48*(2), 223-244.

Price, A. W. (2011) Aristotle on Practical Reasoning. *Virtue and Reason in Plato and Aristotle.* Oxford Academic. https://academic.oup.com/book/12345/chapter-

abstract/161904218?redirectedFrom=fulltext https://doi.org/10.1093/acprof:oso/9780199609611.003.0007

Prieto, L.P., Holenko Dlab, M., Gutiérrez, I., Abdulwahed, M. and Balid, W. (2011) Orchestrating technology enhanced learning: a literature review and a conceptual framework. *International Journal of Technology Enhanced Learning*, 3(6), 583–598.

Ravitch, S. M., & Riggan, M. (2016). *Reason & rigor: How conceptual frameworks guide research*. Sage publications.

Reinhardt, J. (2019). Social media in second and foreign language teaching and learning: Blogs, wikis, and social networking. *Language Teaching, 52*(1), 1-39. doi:10.1017/S0261444818000356

Rosenberg, J. M., & Koehler, M. J. (2015). Context and technological pedagogical content knowledge (TPACK): A systematic review. *Journal of research on technology in education*, *47*(3), 186-210.

Rothman, D. (2016). A Tsunami of learners called Generation Z. http://www.mdle.net/Journal/A_Tsunami_of_Learners_Called_Generation_Z.pdf

Ruth, A., & Houghton, L. (2009). The wiki way of learning. *Australasian journal of educational technology*, *25*(2).

Sabio Pinilla, J. A. (2006). Methodology in the history of translation: State of the art. *Sendebar : boletín de la E.U.T.I. de Granada*, *17*, 21–21.

Sadhasivam, S., Michael, M. V. P., Mohamad, M., & Yunus, M. M. (2023). The importance of innovative teaching and learning approaches in the implementation of CEFR: a literature review. *International Journal of Academic Research in Progressive Education and Development*, *12*(2), 1696-1705.

Salmon, G. (2013). *E-tivities: The key to active online learning*. Routledge.

Salmon, G., Nie, M., & Edirisingha, P. (2010). Developing a five-stage model of learning in Second Life. *Educational Research*, *52*(2), 169-182.

Salomon, G., & Almog, T. (1998). Educational psychology and technology: A matter of reciprocal relations. *Teachers college record*, *100*(2), 222-241.

Selwyn, N. (2014). Education and 'the digital'. *British Journal of Sociology of Education*, *35*(1), 155-164.

Scarino, A. (2016). Reconceptualising translation as intercultural mediation: A renewed place in language learning. *Perspectives*, *24*(3), 470–485. https://doi.org/10.1080/0907676X.2015.1022192

Schmidt, M. G., & Bower, J. V. (2024). Using the CEFR as a Conceptual Tool for Action Research. In *Putting the CEFR into Practice Through Action Research: Reflecting on Principles for Foreign Language Teaching* (pp. 3-18). Singapore: Springer Nature Singapore.

Shaw, P. A. (2009). The Syllabus is Dead, Long Live the Syllabus: Thoughts on the State of Language Curriculum, Content, Language, Tasks, Projects, Materials, Wikis, Blogs and the World Wide Web. *Language and Linguistics Compass*, *3*(5), 1266–1283. https://doi.org/10.1111/j.1749-818X.2009.00154.x

Shermis, M. D. (2018). Establishing a crosswalk between the Common European Framework for Languages (CEFR) and writing domains scored by automated essay scoring. *Applied Measurement in Education*, *31*(3), 177-190.

Somekh, B. (1995). The contribution of action research to development in social endeavours: a position paper on action research methodology. *British Educational Research Journal*, *21*(3), 339-355.

Soto-Acosta, P., Perez-Gonzalez, D., & Popa, S. (2014). Determinants of Web 2.0 technologies for knowledge sharing in SMEs. *Service Business*, *8*, 425-438.

Stathopoulou, M. (2014). The linguistic characteristics of KPG written mediation tasks across proficiency levels. In *Major Trends in Theoretical and Applied Linguistics Volume 3* (pp. 349-366). Versita.

Stenhouse, L. (2007). The teacher as researcher. *Curriculum and Imagination: Process Theory, Pedagogy and Action Research*, 109.

Stern, D.M. and Willits, M.D.D. (2011), "Social media killed the LMS: Re-imagining the traditional learning management system in the age of blogs and online social networks", Wankel, C. (Ed.) *Educating Educators with Social Media* (*Cutting-Edge Technologies in Higher Education, Vol. 1*), Emerald Group Publishing Limited, Leeds, pp. 347-373. https://doi.org/10.1108/S2044-9968(2011)0000001020

Storch, N. (2017). Peer corrective feedback in computer-mediated collaborative writing. In *Corrective feedback in second language teaching and learning* (pp. 66-79). Routledge.

Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. *Sociocultural theory and second language learning*, *97*(1), 97-114.

Taylor, L., & Jones, N. (2006). Cambridge ESOL exams and the common European framework of reference (CEFR). *Research Notes*, *24*(1), 2-5.

Taylor, S. K. (2015). Conformists & mavericks: Introducing IT-enabled plurilingual pedagogy informed by the CEFR in high school French immersion. *Intercultural Education*, *26*(6), 515-529.

Teddlie, C., and Tashakkori, A. 2009. *Foundations of Mixed Methods Research*, Thousand Oaks, CA: Sage Publications.

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. *The SAGE handbook of qualitative research in psychology*, *2*(17-37), 25.

Thompson, I. (2013). The mediation of learning in the zone of proximal development through a co-constructed writing activity. *Research in the Teaching of English*, *47*(3), 247-276.

Thorne, S. L. (2014). Mediating technologies and second language learning. In *Handbook of research on new literacies* (pp. 415-448). Routledge.

Tudor, I. (2001) The Dynamics of the Language Classroom. Cambridge: CUP. van Lier, L. (1988a) *The Classroom and the Language Learner*. Harlow: Longman

Tumolo, C. H. S., & Finardi, K. R. (2021). Digital resources in English as L2: designs and affordances. *Ilha do Desterro*, *74*(3), 11-16.

Toh C. H. (2013). Assessing adoption of wikis in a Singapore secondary school: Using the UTAUT model. *IEEE 63rd Annual Conference International Council for Education Media (ICEM)*, Singapore, 2013, pp. 1-9. doi: 10.1109/CICEM.2013.6820158.

Verbeek, P. P. (2016). Toward a theory of technological mediation: A programme for postphenomenological research. In *Technoscience and postphenomenology: The Manhattan papers* (p. 189). Lexington Books.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Venkatesh, V., Brown, S. A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS quarterly*, 21-54.

Virkkunen, J., & Newnham, D. S. (2013). Preparing and Carrying Out Change Laboratory Sessions. In *The Change Laboratory: a Tool for Collaborative Development of Work and Education* (pp. 79-116). Rotterdam: SensePublishers.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (Vol. 86). Harvard university press.

Warschauer, M., & Grimes, D. (2007). Audience, authorship, and artifact: The emergent semiotics of Web 2.0. *Annual Review of Applied Linguistics, 27*, 1-23.

Wertsch, J. V. (2007). Mediation. In M. Daniels, M. Cole, & J. V. Wertsch (Eds.), *The Cambridge companion to Vygotsky* (pp. 178-192). Cambridge: Cambridge University Press.

Wiid, J. A., Cant, M. C., & Kallier, S. M. (2015). The perceptions of students on the use of social networking systems as a teaching tool in ODL institutions. *The International Business & Economics Research Journal (Online)*, *14*(1), 27.

Williams, M. D., Rana, N. P., & Dwivedi, Y. K. (2015). The unified theory of acceptance and use of technology (UTAUT): a literature review. *Journal of Enterprise Information Management*, *28*(3), 443-488.

Wright, T. (2005). Concerns and Practices in Classroom Management. In *Classroom Management in Language Education* (pp. 115-146). London: Palgrave Macmillan UK.

Wright, S., & Parchoma, G. (2011). Technologies for learning? An actor-network theory critique of 'affordances' in research on mobile learning. *Research in Learning Technology*, *19*(3).

Zawacki-Richter O., Anderson, T. (2014). *Online distance education : towards a research agenda*. AU Pres

Zhang, J. (2009). Comments on Greenhow, Robelia, and Hughes: Toward a creative social web for learners and teachers. *Educational Researcher*, *38*(4), 274-279.

Zheng, B., Niiya, M., & Warschauer, M. (2015). Wikis and collaborative learning in higher education. *Technology, Pedagogy and Education*, *24*(3), 357-374.

Zorko, V. (2009). Factors affecting the way students collaborate in a wiki for English language learning. *Australasian Journal of Educational Technology*, *25*(5).