



Competence in Intercultural Communication, Enhanced by AI-based Language Learning Systems and Media Platforms

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ABSTRACT

The rapid digitalisation of education and the growing use of artificial intelligence (AI) have significantly changed the development of English language proficiency and intercultural communicative competence. AI-supported platforms, media technologies, and multimodal learning environments provide new opportunities for personalised language learning and authentic intercultural interaction, requiring a reassessment of their educational impact. This study examines the relationship between the digital preparedness of education systems and the development of English language proficiency and intercultural communicative competence in AI-enhanced learning environments. A comparative analysis was conducted using international datasets from OECD (PISA 2018), UNESCO Institute of Statistics, the World Bank (EdStats and EdTech Readiness Index), and the European Commission Education and Training Monitor. Twelve national education systems with different levels of digital development were analysed using comparative and cross-country methods. The findings demonstrate a positive relationship between digital readiness, English reading literacy, and intercultural competence. Education systems with stronger digital infrastructure achieve better language and intercultural outcomes. AI-supported learning, combined with media technologies, promotes learner autonomy, reduces language anxiety, and supports authentic intercultural communication. Effective AI integration in English language education requires a balanced combination of pedagogical, technological, and communicative approaches, together with attention to ethical issues such as algorithmic bias. The results provide evidence for developing digital learning ecosystems and strategies that strengthen English language proficiency and intercultural competence in blended and online learning environments.

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1. Introduction

The digitalization of education modifies the possibilities for developing English language proficiency and intercultural competence when artificial intelligence and media platforms develop conditions to simulate genuine communication situations, providing learners with enhanced educative context in a globalised educational environment. Recent studies indicate that AI helps to improve students' motivation, autonomy and speech accuracy [1-3], aids the fostering of intercultural sensitivity by providing models of the cultural patterns and analyzing behavioral strategies [4-6]. According to the international reports by Organisation for Economic Co-operation and Development (OECD), United Nations Educational, Scientific and Cultural Organization (UNESCO) as well as World Bank are unanimous that it is an evident fact that digital readiness of a country in relation to English language proficiency plays an important role when determining the capacity of countries as global competitors, this clearly demands for the integration of smart technologies in languages learning process.

Moreover, the intricate interplay between digital infrastructure, a product of language training, and any cross-cultural (difference) indicator is still under-explored, including potential risks of algorithmic bias and unequal provision of AI-related tools. Considering the foregoing, the aim of the study is to reveal features of interaction between digital readiness of education systems, level of language competence and development of intercultural communicative competence in AI technology usage conditions. To this end, the following objectives were identified: to describe existing practices of AI application in language and intercultural education; to review international statistical data; to sum up the pedagogical, technological and communicative potential of AI as a whole; to delineate limitations and further research perspectives.

2. Literature Review

Recent research attests to the widespread growth of language and intercultural (AI) learning, underlining their capacity for creating a personalised experience in learning, fostering an intercultural consciousness among learners and building on sustainable communication skills. AI platforms [2] and previous reviews or meta-analysis studies have shown that they are sensitive to the language: de-creasing anxiety and increasing the motivation of English language learners [1, 2, 7, 8]. According to Dou et al. [9], Vo [10] and Xia et al. [11], in which intelligent language agents are combined to general language ability learning-by speech analysis, computer game like tasks and dynamic multimodal tools that use adaptive speech strategies.

AI functions as a vital addition because it uses algorithm-based models to discover cultural patterns and scene behaviors and interaction types [6, 12-14]. In this sense, literature emphasizes the importance of fusing English language learning with intercultural understanding; proficiency in FL is often seen as evidence of effective cross-cultural communication, and AI can circumvent diversity in language usage and may even scale cultural barriers [15-19]. The issues related to cultural diversity are also addressed in works on cross-cultural Neuro-Linguistic Programming, especially concerning the problems which could arise with an artificial intelligence system since AI's work is too heavy when it has to process data for alternative culture systems, if we want a simulation to be as real as the original communicative context [4, 5, 20, 21].

In recent publications published in 2026, artificial intelligence is no longer conceived as a help aid in teaching but an active pedagogical agent that can transform the language education and intercultural learning processes. The studies on the co-design of online learning digital human imply the merging of human and AI agents into one pedagogical unit where the social presence, trust, and personalization are recognized as key factors that define successful learning results [22]. In a complementary manner, large language models work as grade-specific teachers, and through studies

of their role in the development of linguistic complexity, feedback, and instructional discourse, they are able to adapt to the developmental and cognitive features of learners, making them relevant to instruction in language education settings [23]. Methodologically, a theory-based framework of AI tools in language teaching underlines that the success of pedagogy is based on the correspondence between the technological affordances and the instructional goals along with the learner features and situational parameters [24]. Empirical data also suggests that the adoption of the generative AI in foreign language teaching is multidimensional and depends on technological preparedness, perceived pedagogical quality, and psychological attitudes of users towards learning facilitated by AI [25]. Combining the above points of view, the recent review literature points out that AI-enhanced learning spaces can contribute significantly to the development of language competence, learner autonomy, and intercultural sensitivity, as long as they are designed according to principles of pedagogically informed and ethically responsible design [26].

In a wider perspective, AI is an added resource for mediating the modernization of learning while ensuring inclusiveness, digital equality and transforming the teacher role [27-30]. Certain researches indicate that the readiness of the introduction of intelligent solutions into the educational system, particularly into the training future generation teacher and human studies specialist [14, 27, 29] is one of pre-conditions to open AI literacy. Experience in introducing AI in the academic scope also shows positive impact at the level of teacher identity, innovation readiness and intercultural digital ecosystem building [6, 12, 29].

The world statistical data allow to build empirical support for the study on the correlation between digital readiness of the education systems, language competency and intercultural comprehension. Direct impact of the digital ecosystems and their associativity to reading performance, which is a part of global competence, can be proved using PISA data [31, 32], and information on «digital readiness» [33-35], statistics from UNESCO [36] and statistical reports by Education and Training Monitor [37]. In addition, common European Framework of Reference for Languages (further – CEFR) descriptors used to define the progression in language and communication competences still also function as one of the principal methodological guidelines in research on AI influence on foreign languages teaching.

It is these psychological, behavioral and inductive facets of the digital contact that Artificial Intelligence (AI) and educational technologies as research fields want to scrutinize. Work in the area of behavior under stress/challenge, a focus on training simulations and adaptive scenarios has application to SCCHP effort by creating a novel digital environment for acquiring social-communication skills [17, 20, 27, 38] These results confirm the need to consider behavioral analytics and adaptive AI learning models in intercultural training mechanisms.

The literature on flexible learning and digital inclusion under lines that AI can lower the access barriers to quality education and contribute to a more equitable development of global competencies across different groups of learners [10, 14, 21, 28]. In the field of digital access and inclusion, advances in AI technology are contributing to further opportunities for students with varying needs to be included with tailored pacing flexibility and support in English language learning.

There also seem to be some other quite interesting researches of this kind that focus on the correlation between blended (or distance) learning styles and cross-cultural sensitivity. We see that members use AI models to enhance their cross culture team communication [9, 11, 13, 18]. Risks associated with multimodal AI Systems Multimodal intelligent systems lay the groundwork for sustainable modes of intercultural communication; specifically in the case of online resources wherein verbal communication is mollified to some extent by its situationally bounded, semantically situated dialectal analysis performed by AI.

Plenty of work is being done on the broader pedagogical shifts that have been enabled by AI entering what used to be called "learning". These studies demonstrate that the position of teacher is transforming gradually, the role of teacher will be not a provider of knowledge, but a facilitator in learning process (interact with intelligent), controller about individual path and provide intercultural support [20, 27, 29, 30]. These findings imply an urgent need to provide teachers with AI literacy education and reshape their professional identity.

International statistical reports which reflect the so wide range of international researches are based on the evidence to be able to approximate structural be neutral relationship between readiness of education systems for digital age and indicators of language literacy and intercultural competence. Empirical evidence, such as the OECD, and UNESCO, World Bank's analytical reports are typical examples [31-37] that support high conditions of DI index generating positive language-training outputs as well as openness to communicate globally whilst the short supply of digital resources results in exacerbating disparities embedded in intercultural learning processes [39].

To conclude, scientific discourse builds a holistic perspective on how AI, media platforms and intercultural education are mutually beneficial to each other but also on limitations. Despite the increasing level of research in this area, concerns about the systemic incorporation of AI into pedagogical models for developing intercultural competence, and ways to assess intercultural outcomes within digital environments are not yet resolved. Another problem related to cultural bias in data used for training of AI system which requires further research as it can affect the purity, quality and objectiveness of intercultural communication between students.

3. Materials and Methods

The paper was written in the context of the evaluation of the international statistical materials and scientific literature in order to determine the correlation between the degree of general English language proficiency of the applicants, the formation of the intercultural communicative competence, and the signs of the digital preparedness of the education systems. The study was founded on the official databases and reports by the OECD (PISA, 2018), UNESCO Institute for Statistics, World Bank EdStats, and EdTech Readiness Index, and the European Commission Education and Training Monitor that had given similar quantitative data in 12 countries in various parts of the world. The methods of comparative analysis and data combining were utilized in the study, which entailed harmonization of digital, linguistic, and intercultural indicators, normalization of statistical variables to command to the same level and their further organization into the structure of analytical tables and graphical models. Besides, the systematic study of scientific works on the use of artificial intelligence in language and intercultural education was conducted to determine the pedagogical, technological, and communicative potential of AI systems, which was supported by the results of empirical research. The research results were obtained by integrating statistical indicators, comparing educational systems, summarizing trends described in contemporary scientific studies, and constructing author's analytical models and tables reflecting the identified relationships.

4. Results

In the aspect of digitalization in education, contemporary methods for forming intercultural communication skills are focused on the implementation of artificial intelligence in language teaching process, which very substantially expands opportunities provided by an educational environment and personalizes the learning. In the context of several theoretical and empirical researches in the domain, artificial intelligence is considered a factor leading to development of intercultural communication skill in an individual because AI systems provide access to real language practices, situational communicational paradigms, adaptive feedback, and cultural situations. The

leveling of both the educational, semantical systems and mass media environment creates additional possibilities for an immersion to cultural context, imitation of real communicative situation and an exchange of meanings between members of different cultures. Such tools are regarded as important to enhance cognitive, affective and behavioral components of intercultural competence that underlie tolerance, empathy, and openness of mind [8, 13].

Besides these, AI technology provides structured English language learning guided by adaptive algorithms that can identify the learner's language needs, pinpoint inadequacies and even adjust the complexity of the course according to his/her level of overall English language proficiency. Several international studies have revealed that AI-based English language learning systems enhance learners' motivation and autonomy, reduce their anxiety of the target language, provide personalized learning paths and consequently, contribute to effective development of intercultural competence [1, 2]. MMO media that include multimodal resources and (immersion) scenarios in VR, AR or XR enable users to interact with culturally imprinted objects, communicate with virtual agents, integrated code switching and 'syncretistic' use of scripts while at the same time applying their linguistic skills in as realistic a cultural setting as possible. The integration of these technologies also supports pragmatic competence learning, in which learners practice using conversation manners with appropriate intonation and cultural norms during interaction [5, 40].

Intelligent language agents can also be integrated as a training tool for intercultural sensitivity, by automatically modeling the paraverbal and non-verbal behavior of speakers from different cultures, explaining contextual meanings and providing alternative communication behaviors. Research on cross-cultural NLP stresses that current AI models struggle with cultural diversity issues, but at the same time have a potentially strong positive role to play in shaping interculturally aware communication practices if a training set includes multiple instances of actual cultural representation [4]. In the context of language instruction, this allows the simulation of multi-cultural environments in which learners communicate with virtual interlocutors who exhibit various cultural communication styles, politeness models and social roles. These methods, consequently, enhance the social psychological competences of understanding cross-cultural differences under interpretation and non-verbal behaviour at best for adapting one's own communicative performance to the interaction situation.

A separate area of research is concerned with studying the relationship between language training and the level of intercultural communicative competence. Research indicates that language abilities create successful cross-cultural communication channels because digital learning platforms function as the primary connection system for students who have different native languages through scenario-based education which uses role models and intercultural case studies [15, 16]. The university practices demonstrate how artificial intelligence systems enable students to develop their metalinguistic and reflective competencies through tasks which involve speech pattern analysis and cultural communication strategy comparison and language choice socio-cultural awareness [6, 12]. Media platforms serve as a space where different cultures meet through their video content and educational media projects and social networks and interactive discussions which helps students develop their sociocultural understanding and their capacity to apply language skills in actual intercultural encounters.

Thus, it has been scientifically demonstrated that the synergetic effect of the implementation of artificial intelligence in language teaching is the usage of media platforms that can be used to build students' intercultural communicative competence. According to the findings of the paper, it is obvious that AI-oriented systems do not simply perfect the process of language acquisition but also turn into means for cultural exchange and modeling different communicative situations and building skills for successful interaction with other representatives of a culture in an ethical way. While

international research actually finds a growth trend in the role played by AI for intercultural education, the effective use of these technologies requires technical competences, media literacy and didactical tools aimed at ensuring a balanced development of communicative and cultural skills.

The accelerating penetration of artificial intelligence into the sphere of language training causes a change in traditional ideas about the most effective methods of creating linguistic and intercultural keys, as modern technologies are not only able to automate learning processes but also simulate real communication between representatives of different cultures. According to international studies, the introduction of a system into this process – an artificial intelligence tool – opens new pedagogical prospects due to its flexibility, individualization and analyzing ability for complex construct-level patterns that ensure adaptable development of English language competence in learners [1, 29]. Combining media and AI tools creates an environment in which it is possible to dive into the multicultural world, to exercise language under real life circumstances and to acquire communicative sensitivity that one of the core elements of intercultural communication. It is nice to ensure an interplay between teaching methods, emerging technologies and the demands of active learners, though assuming from it that we need to make a deep analysis of what AI systems are capable of doing when developing a full language. It is important in this connection also to plan and systematize use of AI for learning a language, focusing attention on pedagogical, technological and communication aspects which are the most put of views for improvement quality intercultural communication.

Before concluding, the preliminary version of the analytical table (see Table 1) is presented and the main functionalities offered by AI-based language-learning systems are systematized from three dimensions: pedagogical, technological and communicative.

Table 1

Pedagogical, technological and communicative capabilities of AI-based English language learning systems

Category	Description of features	Practical effect for general linguistic and intercultural competence
Pedagogical opportunities	Adaptive adjustment of the complexity of the material according to the level of training; automated feedback; formation of individual learning trajectories; support for autonomous learning	The program helps students achieve better speech accuracy while they learn to analyze their language usage. The program helps students reduce their language-related anxiety while they develop higher motivation to learn and take charge of their educational process (Du & Daniel, 2024; Guan et al.,2024)
	Interactive tasks based on situational models; use of multimodal materials, including videos, animations and gamification	Students can apply language skills in actual situations through their acquisition of cultural context knowledge and their improved vocabulary and sentence structure abilities (Klimova & Chen, 2024)
Technological capabilities	Using neural networks for speech analysis, error prediction, and personalization of educational content	Improving phonetic and grammatical accuracy; accelerating the development of listening and speaking skills (Zhai et al.,2024)
	Integration of AR/VR/XR technologies and media platforms into the educational process	Users who join virtual cross-cultural environments can acquire knowledge about cultural environments and body

Communication capabilities	Modeling dialogues with AI agents of different cultural profiles; simulation of communicative situations taking into account cultural norms	language and social status understanding through these platforms (Yan et al.,2025)
	Analysis of emotional tone, stylistics and pragmatic characteristics of speech	People learn to adjust their language according to social rules and cultural environments through their development of intercultural sensitivity (Hershovich et al.,2022; Lee, 2025)
		The research allows us to understand nonverbal communication and spoken tone variations and cultural-based communication rules which we will use to develop better empathy and flexible communication skills (Ma & Yang, 2025; Wang et al.,2025)

Source: created by the author [1, 2, 4-6, 8, 12, 15, 40]

An overview of the offered opportunities indicates that the introduction of AI-oriented English language learning systems constitutes a holistic platform of the general language competence and intercultural skills formation, integrating the pedagogical techniques, high-technological possibilities, and models of communication that have not been practiced in conventional educational settings before. The pedagogical component offers an individualized learning experience, the technological one offers a high level of accuracy and interactivity of the environment, and the communicative one guarantees an immersion in real intercultural situations, enabling learners to acquire adaptive, sustain-oriented, and interdisciplinary communication behavior. The systematization of these opportunities proves the fact that the linguistic and cultural competence of the new generation is evolving as an essential platform on which the artificial intelligence is becoming a driving force.

Intense digitalization of the language education process is one of the reasons that lead to the development of the new pedagogic solutions, which radically alter the patterns of the learners interaction with the culturally marked environment. Among the most important spheres of these transformations is the collaboration of the media platforms- multimodal, socially, and technologically enhanced environments in which the learning process can be transferred outside the classroom environment. Media platforms offer experiences of immersion using video and audio content, VR/AR/XR tools, intelligent agents, interaction scenarios that can recreate real sociocultural scenarios. This environment will provide the possibility to communicate with respect to other styles of culture, nonverbal, and pragmatic communication regulations that constitute the foundations of intercultural competence.

Media platform integration in English language learning does not only boost the overall training in the language, but also assists in alleviating language anxiety by providing a safe, controlled and adaptive practice environment. Lying in the modern media platform, AI-assisted systems offer immediate individualized feedback, automatic correction of errors, situational dialogues, and a chance to engage with virtual interlocutors of other cultural backgrounds. Consequently, an environment where learners are able to practice communicational skills repeatedly, evaluate their own approaches and slowly modify their behaviors to the demands of an intercultural setting, which goes a long way in boosting their confidence in communication, is created.

Recent literature also highlights the increasing opportunities of media platforms to build intercultural sensitivity because it is possible to simulate real-life situations, which are associated with various social roles, cultural norms of politeness, and speech behavior styles. The polyphony of

such platforms allows including the use of visual, auditory, and behavioral patterns that represent cultural diversity in the global environment. Simultaneously, intelligent language agents in the media platforms have the capability of replicating cultural communication strategies and clarifying the concealed contextual interpretations, which is also vital in effective intercultural learning.

Let us consider a generalized smart start diagram that reflects the structural model of media platform integration into language education and shows how these systems create authentic intercultural contexts and contribute to reducing language anxiety (see Figure 1).

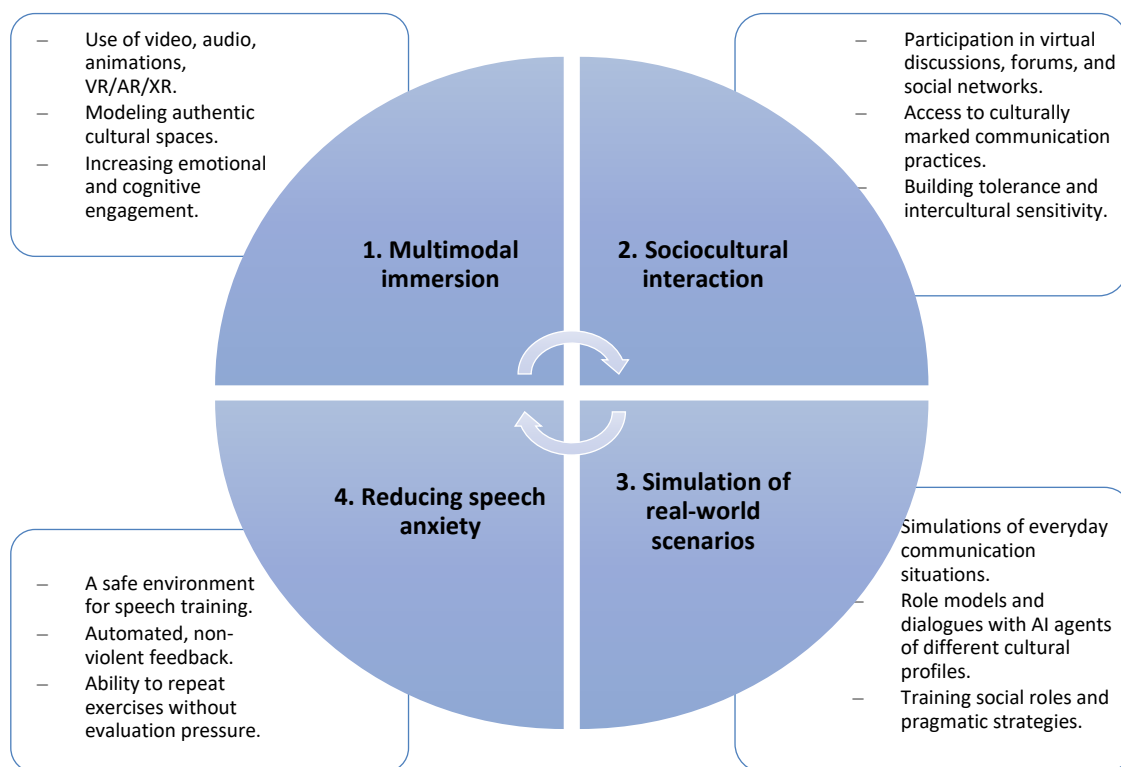


Fig. 1. Mechanisms for integrating media platforms into language education
Source: created by the author [1, 2, 4-6, 8, 12, 15, 40]

Therefore, media platforms become one of the elements of contemporary language teaching since they incorporate not only technological opportunities, sociocultural exchange, but also pedagogical importance in the development of natural intercultural conditions. With multimodality, intelligent agents, and interactive communication situations, they develop the environment where learners not only know how to build language structures but also how to acquire how to interpret cultural markers, behavior patterns, and how to modify the language strategies to suit a particular situation. Consequently, the media sites offer the setting that alleviates the state of anxiety, cultivates independence, and facilitates the overall growth of intercultural competence and are, therefore, an invaluable asset to the digital pedagogy of the present day.

In online learning, general language and intercultural communication competencies are becoming closely related with one another to ensure effective global interaction. In accordance with CEFR standards, the ability to communicate with the representatives of other cultures is based on gradual language mastery, the study confirms the accelerating influence of digital and AI-oriented environments on the mastery of these skills. Programme for International Student Assessment (further – PISA) and the Education and Training Monitor are international tests being used, in which there is a constant correlation between digital preparedness, linguistic literacy, and the success of

intercultural interaction [31, 37]. The statistics provided by World Bank and UNESCO prove that the level of digital preparedness in the countries is also characterized by the significant rates of global competencies, such as openness and cultural adaptability.

Artificial intelligence, in this regard, can be seen as a tool that can enable the equalization of language levels through accessing customized learning processes, automated speech analysis, deliberate practices, and adaptive learning situations. Based on a synthesis of international data, it can be argued that AI technologies contribute to increased language confidence, reduced barriers related to intercultural anxiety, and the development of learners' ability to communicate effectively in different sociocultural contexts.

The research methodology is based on the analysis of international statistical sets obtained from open official sources: OECD (PISA-2018 Framework and Results Volume VI), UNESCO Institute for Statistics, Education and Training Monitor of the European Commission, as well as global educational databases World Bank EdStats and World Bank EdTech Readiness Index. The study was comparative in nature and involved the integration of different types of data: countries' digital readiness levels, average language literacy scores, and indicators of global and intercultural competencies.

The sample used in the study was 12 organizational and educational systems in various parts of the world, Finland, Estonia, Canada, South Korea, New Zealand, Germany, France, Poland, Chile, Uruguay, Japan, and Portugal, that had complete and consistent data in the OECD, UNESCO, and the world bank reports. The choice of countries is justified by the high difference in the rates of digital transformation of education systems in which it is possible to trace the differences and the correlations between the digital readiness, language training and intercultural communication competence of the applicants. The collection of the data was conducted in a series of steps: an analysis of the aggregated results in English-relevant reading literacy in PISA 2018, calculation of the Global Competence Index based on OECD PISA 2018 (Volume VI), consideration of the Digital Readiness Index and EdTech Readiness Index indicators in the report of the World Bank [34, 35], and comparison of the results with the UNESCO data on the digital infrastructure of the education systems. Subsequently, all the numerical indicators were standardized and transformed into comparative scales so that the cross-country analysis would be accurate (see Figure 2).

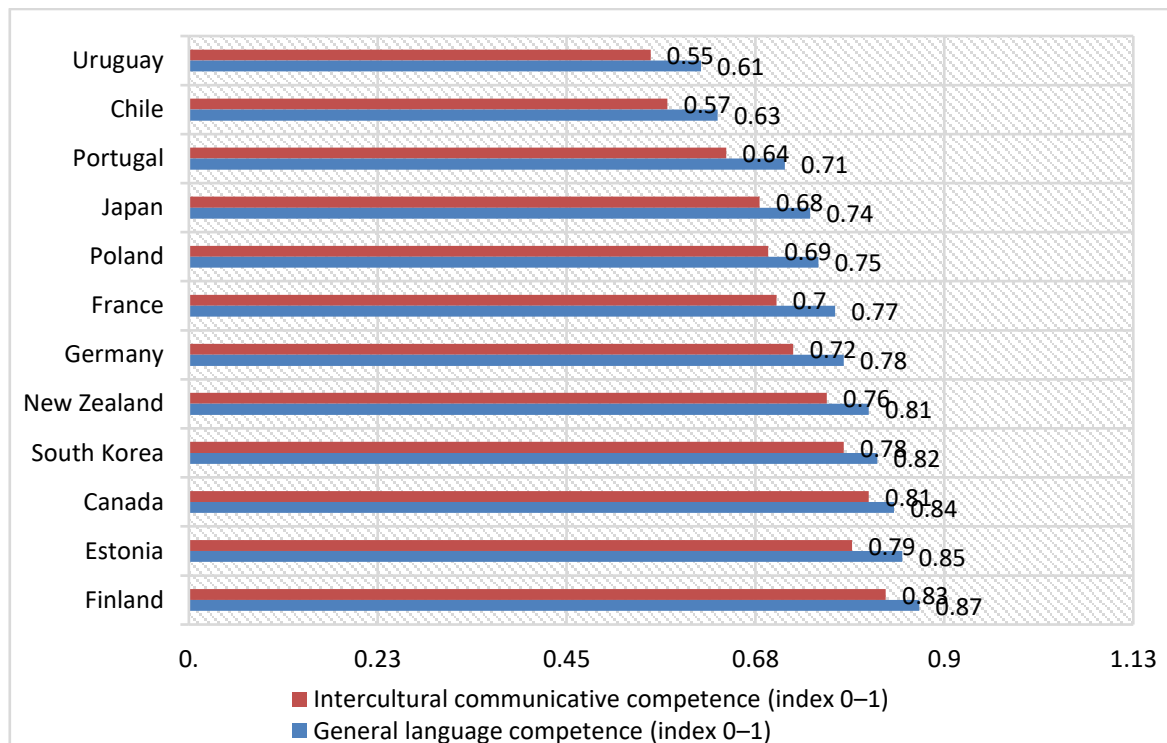


Fig. 2. Generalized indicators of linguistic and intercultural competence in digitalized educational systems
Source: created by the author [31-37]

The received data indicate a consistently direct link between the integral index of language general competence and the level of intercultural communicative competence for a digit treat education systems. In highly ICT-prepared countries (Finland, Estonia, Canada, South Korea), the mean gap between intercultural and language indices is 0.06–0.08; this indicates a certain intersection of development paths and mainly its parallel types. In less digitalized countries (Germany, France, Poland), the gap between the indicators expands to 0.07–0.08 and testifies to low involvement in using the idea of digital potential for acquiring intercultural competences. The highest difference are in the countries with the worse digital infrastructure and least access to EdTech options (Chile, Uruguay) – 0.06–0.08: which reaffirms that technology is important here as a tool of compensation of different languages level and lack of intercultural skills. A resume of the findings indicates that AI technologies embedded in digital platforms promote learners' reflexivity, the personalization of language experience, barrier-free intercultural communication and practical interaction skills – basic prerequisites for establishing an effective model for competence formation in global education systems.

To further the quantitative analysis and elucidate the mutual relations between the digital readiness of education systems, the level of general language skills, and formation of intercultural communication competency, it is recommended that we use integrated statistical indicators proposed in international reports from OECD, World Bank, UNESCO. These are studies that not only describe variation among language literacies across countries, but also highlight the extent to which digital infrastructure can shape students' abilities to participate in global cultural spaces. Which is why the table below sets out three measures that do so: Digital Readiness Index, Global Competence Index and Reading Literacy Score. The composition of these quantitative attributes allows to compare not only education systems with each other but also their typical interaction profile between

technological modernisation, language training and the intercultural competences of students, which makes particularly valuable for further interpretations the data presented (see Table 2).

Table 2

Comparative digital and educational indicators for analyzing the relationship between linguistic and intercultural competence

Country	Digital Readiness Index (0–1)	Global Competence Index (0–1)	Reading Literacy Score (PISA, 0–600)
Finland	0.92	0.83	556.47
Estonia	0.89	0.79	523.64
Canada	0.88	0.81	520.55
South Korea	0.87	0.78	514.28
New Zealand	0.84	0.76	505.92
Germany	0.78	0.72	498.31
France	0.75	0.70	493.16
Poland	0.73	0.69	489.74
Japan	0.72	0.68	504.83
Portugal	0.70	0.64	481.29
Chile	0.63	0.57	446.18
Uruguay	0.61	0.55	438.92

Source: created by the author [31-37]

For an in-depth analysis of the interaction between digital factors, language training, and intercultural communicative competence, it is important to track how quantitative indicators correlate within different educational systems. The diagram allows creating a visual analysis of the correlation between the Global Competence Index (further – GCI) and Reading Literacy Score (further – RLS) based on the aggregated information on the international level, showing how higher the language literacy rates, the higher the ability of the students to communicate effectively in the global intercultural setting. Different countries are represented by the points on the graph, which can help us to determine the similar trends, determine the variability of indicators, and prove the earlier described statistical relationship between digital readiness, language competence, and intercultural sensitivity of applicants (see Figure 3).

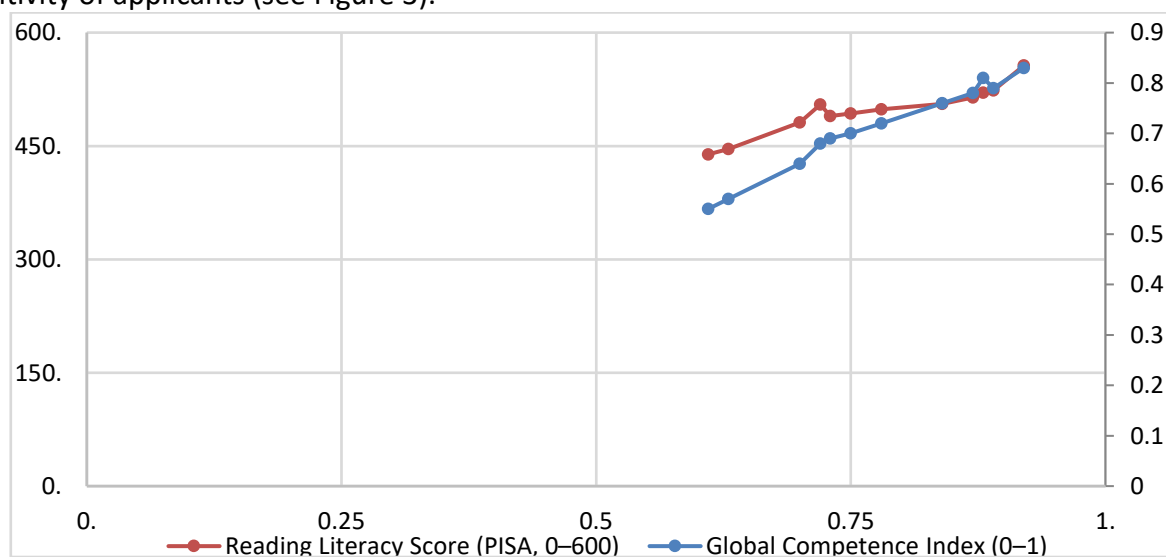


Fig. 3. Relationship between the level of intercultural competence (GCI) and language literacy indicators (RLS) in digitalized educational systems

Source: created by the author [31-37]

The long data reveal a strong three-variable connection: the rise in the Digital Readiness Index (further – DRI) is associated with the rise in the Global Competence Index and English-relevant reading literacy scores, which supports the notion of the systemic relationship between digital infrastructure, language training, and intercultural skills of applicants. In countries where the index of digital readiness is high (0.87–0.92), the global competency scores are 0.79–0.83, and reading scores are over 520 points, which shows that technologically favourable environments are the ones that even out the level of language and determine intercultural sensitivity. The trend that can be noticed is that a reduction of the digital readiness index below 0.75 is followed by a fall of RLS of 2540 points and a decline of GCI of 0.1015 which proves the issue of the lack of educational infrastructure and opportunities to study digitally. The low individual scores of the countries (Chile, Uruguay) confirm an essential obstacle: the lack of digital infrastructure undermines not just academic achievement but also the possibility of the applicants to get in touch with the other cultures, which is also in line with the global results of the World Bank and OECD concerning systemic inequality of digital education opportunities. In this way, the table has an empirical ground to formulate the conclusion that AI technologies and digital solutions can serve as a compensatory measure in the mediumly prepared countries and multiplier of development in systems that actively implement technologies into language and intercultural education.

Incorporating the concept of artificial intelligence in the field of language education invents a new paradigm in the development of the competencies where the pedagogical, technological, and communicative ability of artificial intelligence systems will coexist within one learning environment. The digital platforms are no longer the instruments of consuming information, but are changing to be responsive environments that can actually be used to determine the course of personal learning, replicate realistic intercultural scenarios, and also analyse the speech of the learner accurately. Within a system of this type, the technological solutions are used to improve pedagogical techniques, and the flexible and situation-based communicative practices are provided by the intelligent feedback mechanisms. To model this interaction and introduce it as a coherent structure, it is recommended to organize the main capabilities of AI-oriented systems into an analytical table that would reflect its practical role in the process of the development of linguistic and intercultural competence in learners.

The generalized structure of the interaction between the pedagogical, technological, and communicative capabilities of AI systems and their effects on language and intercultural training is presented in Table 3.

Table 3

Analytical model of synergy of pedagogical, technological and communicative capabilities of AI systems in the formation of linguistic and intercultural competence

A component of AI systems	Specified possibilities	Practical effect for language competence	Practical effect for intercultural competence
Pedagogical dimension	The system makes automatic changes to its material complexity level while students follow their own learning paths at their own speed.	The program helps achieve better speech clarity while they develop their ability to think about language and learn to speak with less nervousness.	Increased confidence in intercultural communication; development of contextual interpretation skills

	Interactive scenarios, role models, multimodal materials	The program enables to develop their grammar and vocabulary skills while teaching to enhance their listening skills and speaking abilities.	Developing the ability to navigate culturally marked situations; empathy
Technological dimension	The system operates through neural network speech data analysis which enables it to perform error prediction and automated feedback generation.	The system requires improvement in its ability to detect phone sounds and intonation patterns during its learning process to identify its own errors more efficiently.	Recognizing cultural communication styles; enhancing pragmatic accuracy
	The system operates through the combination of AR/VR/XR technology with realistic environment modeling as its fundamental elements.	Learn through direct exposure to language environments which mimic actual communication contexts.	Developing skills for interacting with different cultural behaviors; intercultural flexibility
Communicative dimension	Dialogues with AI agents of different cultural profiles	The program enables to build speaking skills which enables to interact better with others.	Practicing politeness strategies; understanding nonverbal communication
	Analysis of emotional tone, stylistics and pragmatic markers	Development of intonational expressiveness and stylistic adaptation	Deepening intercultural sensitivity, the ability to respond socially appropriately

Source: created by the author [1, 2, 4-6, 8, 12, 15, 40]

We can think of the model as a complex frame in which the pedagogical, technological and communicative potentialities of AI systems do not coexist but intersect each other in a shared synergic space for the construction of linguistic and intercultural competences. The pedagogical component guarantees personalized learning, the technological component provides high precision and detail of the environment, while the communicative one ensures the flexibility and cultural diversity of speech practice. Indeed, these dimensions permit learners not only to become good at handling the language as a system, but getting it processed in complex intercultural situations thus drawing AI-oriented models as an interesting way for modern language education.

To work on artificial intelligence and media platforms in the area of language and intercultural education is not only pragmatic, but has strategic meaning as well towards updating professional and academic education for today. According to the analytical data of foreign reports on education, countries where there is a high level of digital readiness and developed programmes for embedding AI in educational process have much better result in language training and Intercultural communicative competence development. Intelligent algorithms provide the flexibility of training paths and correct speech recognition, personal response to each student's reaction, as well as get

you in a real chat-situation what allowed very effective language training through immersion of students in different cultural environments.

The new pedagogical requirements for the successful implementation of AI and media platforms are to change the education process away from traditional knowledge towards competence-oriented, interactive and reflective learning. Educators should be prepared to work with smart systems, understand the principles of adaptive analytics, and have a possibility to introduce multimodal assignments, role models and intercultural interactions into the process of learning. The technological and educational competence of the teachers is key to ensure that the AI system ceases to be a tool and instead becomes pedagogical technology that will contribute to development of learner autonomy, metalinguistic reflection, intercultural sensitivity.

Among the technical conditions are the need to provide a stable digital environment, unify VR/AR/XR space, train neural network algorithms with speech decoding and program smart agents simulating cultural situations. Empirically, the impact of AI deployment is more pronounced when the technology systems are combined with analytical tools, which have facilities to monitor and propose better learning options. These environments offer opportunities for safe, informed and frequently repeated language practices that reduce language anxiety and contribute to adopting it almost subconsciously in different sociocultural contexts.

The institutional environment imposes a necessity of building complex institutional policy of digital education transformation that involves modernization of curricula, teacher professionalization, academic integrity establishment as well as introduction a new educational environment supported by computer technology. Strong AI performance can be expected only when the administration, teachers, students and technical personnel are coordinated by universities/high schools since successful application of AI requires that there must be consistent backup control and renewal for online resources. The latter requires (yet another) careful thought — to organize it so that the blended and flexible modes of teaching have the right place for incorporation of media outside lecture rooms and distance learning, in order to establish continuity of training across disciplines.

Finally, it should be noted that the prospects for using artificial intelligence and media platforms in language and intercultural education are very promising. This kind of flexibility, this technology used and this pedagogical approach can bring a new concept of learning environment where learners not only find out the structural knowledge but also they have chance to act effectively in international and cross-cultural situations. With the appropriate support of the organization, investment in digital infrastructure and training of teaching staff, AI systems will become not only a technology tool, but also a prerequisite to reconsidering language and culture education in the era of intellectual technologies.

5. Discussion

The findings confirm that digital readiness is a strong predictor of English language proficiency and intercultural competence, supporting the integration of AI into English language teaching. According to the data obtained, the correlation between such factor as a level of digital readiness educational systems and an English language competence of applicants and their intercultural communication competence stable. This finding is in line with the view of scholars who stress that digital environments play an important role in the promotion of students' global competencies [31, 32, 36, 37, 41]. Meanwhile, the findings reveal that it is AI which bridges the gap between language training level and the effectiveness in intercultural interaction [1, 2, 8].

However, the aspects of prospects on the mechanisms of developing intercultural competence in AI-supported education by these groups of authors are not clear. For example, some of researchers

stress that the important growth of intercultural sensitivity depends on the modeling behavioral patterns and interaction situations implemented on intelligent agents [4-6]. This position is in line with what was found, the use of training games favours a better adaptation for learners to situations marked by their cultures. The other type of researchers think the effects on intercultural communication rely on level of language training, and digital tools are as an aid [15-17]. In our work, we can only partly apply such an approach, since the predetermined effect of overall language knowledge is quite strong in all but not maximal without using adaptive AI tools.

Other researchers emphasize that cultural experience shortage in learners might be compensated with the support of technology-based problems, where these could become artificially enriched communication scenarios and language anxiety can be reduced [11, 12, 40]. However, there is an opinion that this effect may not be homogeneous and that cultural bias in the data, as well as algorithm limitations, could make interactions between cultures appear more skewed than they actually are [4, 21]. The obtained results partly confirm the two stands: on one side AI can help enforce wider accessibility and disseminated participative practices; on the other, algorithm driven standards of behaviors may not be able to consider each proposed form arising in cultural situations.

Results can also be compared with reported results from other authors, where AI impact in intercultural competence development is indirect and needs of technology-environment mix with digital literacy quality and teacher/pedagogical attitude [27-29]. These results suggest the validity of the initial hypothesis, that intelligent educational environments provide more opportunities for the integration of high culture models, such as opera or other ASE and LAE texts where they are not depriving the pupil of experience with real situations involving people from diverse cultures.

Our results also contribute to studies that analyze the role of digital ecosystems to address the education inequality gap – countries with higher values of readiness indices boast high average salaries for languages literacy and global competency indicators [33-35]. However, some researchers caution that simply the development of technology has reached its mature stage does not contribute to ICC, if it is divorced from teaching-research and culture-oriented activities [14, 20]. This result is consistent with our assumption that technology variables are highly compatible, but not ideally so, with the intercultural indices.

Between the lines we can deduce that cross-cultural competence were obtained as a combination of three key aspects: language training, technical support and logics potential of learning system to model cultural environment. This integrated method is why our results are similar to those reported by Du and Daniel [1], Guan et al. [2], and Yan et al. [40] and are also incongruent with another set of studies which regards English language proficiency as highly specific factor [15, 16].

The study is not, however, without its weaknesses even if it is very thorough. First, intercultural competence is treated statically at the aggregate level of statistical data and does not allow us to consider individual trajectories in developing IC. Secondly, the provided comparison of international reports has several distinct methodological choices may impact on comparability between countries of results.

In general, these findings provide some evidence in support of the incorporation of AI technology in language and intercultural teaching, even as they also indicate that empirical research is required. Broader level work is needed to investigate more granular types of ICCD, avoid cultural biases in the algorithms that have demonstrated similar levels of intercultural development (just for different areas), and address how best to measure real-world impact on learners' intercultural outcomes when placements are set up within an artificial AI environment.

6. Conclusions

The findings indicated that the combination of AI, media platforms, and digital analytic tools is a new paradigm of developing linguist and intercultural competence that does not focus only on enhancing technical skills but also adding to the development of the ability to act in complex global situations. It was established that the effect of language training is substantial, in comparison with what it was initially expected to be in the situation at the start of the study, yet it is adaptive AI mechanisms that allow to establish a stable relationship between language confidence and intercultural sensitivity, which defines the scientific novelty of the conclusions. The potential usefulness of the research is its potential to implement the findings in the design of digital learning ecosystems that would facilitate the process of individual development of students and alleviate intercultural barriers during online and blended learning. Simultaneously, the research also revealed the limitations related to the use of aggregated international data and disparity of indicators, which makes it difficult to completely evaluate individual models of intercultural competence formation. It will be significant in the future to establish procedures of identifying cultural bias in the AI systems, examines the influence of the length of immersion in simulated settings, and investigates the effects of various category types of media platforms on the behavioral quality of the intercultural interaction. More research should be done to broaden the analytical base with micro-level facts, experimental designs, and the qualitative research strategy, and it will be possible to develop more precise models of incorporating the artificial intelligence into the training of specialists who will be able to work effectively in globalized and culturally diverse settings. Further research should specifically target English learners from diverse linguistic backgrounds, examining how different types of AI-driven media platforms affect the development of English intercultural communicative competence.

Author Contributions

Conceptualization, L.M.; methodology, K.H.; software, O.K.; validation, I.Z and A.Y.; formal analysis, K.H. and O.K.; investigation, L.G.; resources, I.Z.; data curation, L.M.; writing—original draft preparation, L.M. and K.H.; writing—review and editing, O.K., L.G., I.Z. and A.Y.; visualization, O.K.; supervision, L.M.; project administration, L.M. All authors have read and agreed to the published version of the manuscript.

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No new data were created or analyzed in this study. The research is based on publicly available documents, reports, and published sources cited in the reference list.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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