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ENHANCING LEARNER AUTONOMY AND INTERCULTURAL COMPETENCE THROUGH VIRTUAL EXCHANGE IN ESL CLASSROOMS

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Abstract:

In today's globalized learning environment, English as a Second Language (ESL) education must go beyond linguistic competence to foster autonomy and intercultural awareness. This study investigates the effects of structured virtual exchange programs on Malaysian tertiary ESL students' learner autonomy and intercultural competence. Forty students engaged in six weeks of collaborative online projects with peers from an international partner university. A convergent mixed-methods design was employed, incorporating pre- and post-intervention surveys and semi-structured interviews. Quantitative results revealed significant gains in self-directed learning behaviors, goal-setting, and intercultural adaptability. Qualitative findings highlighted learners' increased motivation, cultural empathy, and resilience in managing logistical challenges. These results indicate that virtual exchange can function as a dual catalyst for autonomy and intercultural competence, aligning with Malaysia's educational goals and the United Nations Sustainable Development Goal 4. The study concludes that embedding structured intercultural digital collaboration into ESL curricula can enhance learner-centered pedagogies and prepare students for global citizenship.

Keywords:

Autonomy, Behavior, Communication, Diversity, Exchange

Introduction

Background of the Study
The rapid pace of globalization and digital transformation has redefined the expectations of English as a Second Language (ESL) education. Beyond grammatical accuracy and lexical proficiency, ESL learners today must acquire intercultural competence and independent learning skills to succeed in multicultural academic and professional settings (Byram, 2021; Higgins, 2024). Virtual exchange programs with structured online collaborations with international peers, offer authentic opportunities for students to practice language skills while engaging with diverse cultural perspectives (O'Dowd, 2020; Lenkaitis, 2021).

In Malaysia, the demand for autonomous, culturally competent learners has been emphasized in both national and global educational agendas. The Malaysia Education Blueprint (2013–2025) highlights the need for learner-centered approaches that prepare students for the demands of Industry 4.0. Similarly, the Highly Immersive Programme (HIP) aims to create interactive learning environments that extend beyond the classroom (Ministry of Education Malaysia, 2017). However, exam-oriented practices and teacher-centered approaches continue to dominate many Malaysian ESL classrooms, limiting students' capacity to engage in authentic, self-directed communicative tasks (Rahman & Pandian, 2018; Lee, 2022).

Problem Statement
Despite growing interest in integrating technology into ESL instruction, limited empirical research has examined how virtual exchange simultaneously develops both learner autonomy and intercultural competence in the Malaysian higher education context. Most prior studies have investigated these constructs separately focusing either on language proficiency gains or intercultural awareness (Vinagre, 2016; Gruber & Bailey, 2021) without exploring their intersection in structured online collaborations. This gap raises important questions about how Malaysian ESL students can be better equipped with global communication skills while fostering independence in their learning practices.

Purpose of the Study
This study seeks to examine the impact of a six-week virtual exchange program on Malaysian tertiary ESL students. Specifically, it investigates how collaboration with international peers influences students' autonomy in managing their learning and their competence in navigating intercultural communication.

Significance of the Study
The findings of this research are significant in three ways. First, they address a research gap by linking learner autonomy and intercultural competence in a single intervention. Second, the study provides practical recommendations for embedding structured virtual exchange into ESL curricula in Malaysia. Finally, the results align with the United Nations Sustainable Development Goal 4, which advocates inclusive, equitable, and globally relevant education (UNESCO, 2021).

Research Objectives
The primary aim of this study is to investigate how structured virtual exchange programs influence learner autonomy and intercultural communicative competence (ICC) among Malaysian tertiary ESL students. Specifically, the study seeks to:

- Examine the extent to which participation in a six-week virtual exchange enhances learner autonomy in Malaysian ESL students.
- Evaluate the development of intercultural communicative competence as a result of sustained interaction with international peers.
- Identify the perceived benefits, challenges, and strategies employed by learners in navigating online cross-cultural collaboration.
- Explore how virtual exchange can be integrated into Malaysian higher education ESL curricula to support the goals of the Highly Immersive Programme (HIP) and the United Nations Sustainable Development Goal 4 on quality education.

Research Questions

To address these objectives, the study is guided by the following research questions:

- To what extent does participation in virtual exchange promote learner autonomy among Malaysian tertiary ESL students?
- How does engagement in virtual exchange influence the development of intercultural communicative competence?
- What benefits and challenges do learners report when participating in online global interactions with international peers?
- In what ways can virtual exchange be pedagogically integrated into Malaysian ESL higher education to align with national and global education priorities?

Literature Review

Learner Autonomy in ESL Education

Learner autonomy is defined as the ability of learners to take responsibility for their learning by setting goals, selecting strategies, and evaluating progress (Benson, 2011). In ESL contexts, autonomy is closely tied to motivation, metacognitive regulation, and decision-making (Oxford, 2016). Research consistently shows that students who develop autonomy demonstrate stronger engagement and language proficiency (Little, 2007; Higgins, 2024).

In Malaysia, efforts such as the Highly Immersive Programme (HIP) were introduced to encourage learner-centered classrooms. However, traditional exam-oriented instruction still dominates, restricting opportunities for authentic, self-directed communication (Rahman & Pandian, 2018; Lee, 2022). This mismatch between policy aspirations and classroom realities highlights the need for innovative approaches that promote learner autonomy.

Intercultural Communicative Competence (ICC)

Intercultural communicative competence (ICC) refers to the ability to interact effectively and appropriately with individuals from diverse cultural backgrounds (Byram, 1997). It encompasses openness, empathy, cultural knowledge, and adaptability in communication (Chen & Starosta, 2000). Recent research emphasizes ICC as essential in preparing ESL learners for global citizenship and professional success (Byram, 2021; Gruber & Bailey, 2021).

While Malaysian ESL learners often have limited opportunities for authentic intercultural interaction due to local classroom constraints, virtual platforms can bridge this gap (Helm, 2020). Studies show that participation in international exchanges improves cultural sensitivity, tolerance for ambiguity, and communicative flexibility (Lenkaitis, 2021; Higgins, 2024).

Virtual Exchange in Language Learning

Virtual exchange (telecollaboration) leverages digital tools to connect learners from different countries for sustained, structured interaction (O'Dowd, 2020). Grounded in constructivist and social interactionist principles, it provides authentic communicative tasks requiring negotiation of meaning, collaboration, and reflection (Vygotsky, 1978; Kramsch, 1993).

Studies indicate that virtual exchange improves linguistic fluency, intercultural awareness, and digital literacy (Bailey & Gruber, 2020; Helm, 2020). In addition, it reduces language anxiety and enhances communicative competence through authentic peer interaction (Lenkaitis, 2021). However, technological limitations, time-zone differences, and varying digital literacy remain challenges (Higgins, 2024).

Linking Learner Autonomy, ICC, and Virtual Exchange

While learner autonomy and intercultural competence are often studied separately, they are mutually reinforcing outcomes in virtual exchange environments. The requirement to navigate intercultural dialogue compels learners to adapt their language use creatively and independently, while autonomy enables them to sustain meaningful engagement with culturally diverse peers. Yet, despite its promise, research combining these two constructs in Malaysian ESL contexts remains sparse. Existing studies tend to focus on either autonomy development in local settings or intercultural competence through general mobility programs, leaving a gap in understanding their combined growth through virtual exchange (O'Dowd, 2018; Helm, 2020).

Theoretical Frameworks

This study is underpinned by two complementary theories:

- Constructivist Learning Theory (Piaget, 1972; Vygotsky, 1978): Learners construct knowledge through active engagement and authentic tasks, fostering autonomy.
- Social Interactionist Theory (Kramsch, 1993): Language development occurs through meaningful intercultural interaction, building communicative competence.

Together, these frameworks explain how virtual exchange fosters both learner autonomy and ICC, making it a relevant pedagogical approach in Malaysian ESL contexts. Figure 1 shows the theoretical framework for the study.
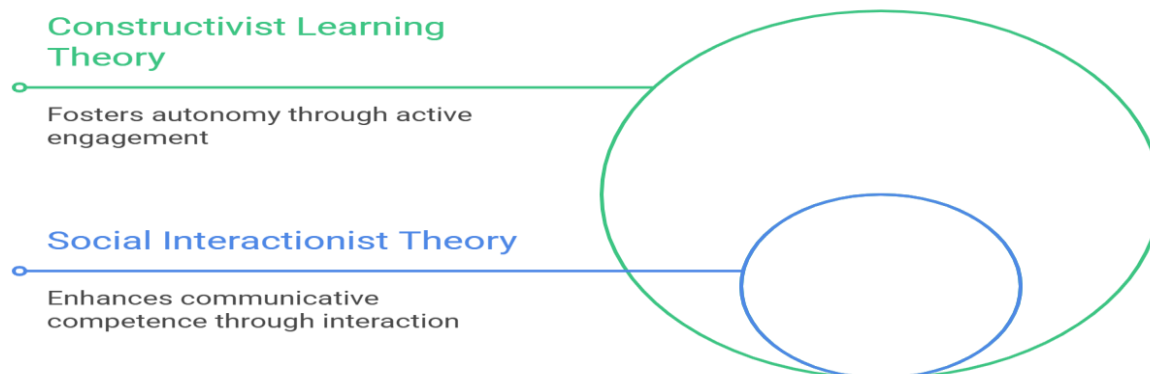
Educational Theories Framework

Figure 1: Theoretical Framework

Past Studies on Virtual Exchange, Autonomy, and ICC

Table 1: Past Studies

Author(s), Year	Context/Method	Focus	Key Findings
Vinagre (2016)	Spain, higher education, mixed methods	Virtual collaboration, digital skills	Improved digital literacy, collaboration, and ICC.
Helm (2020)	EU, Erasmus+ Virtual Exchange, case study	Global citizenship, intercultural learning	Enhanced ICC and autonomy through structured intercultural tasks.
Bailey & Gruber (2020)	USA-Europe, experimental study	Language anxiety, peer interaction	Reduced anxiety, increased communicative confidence.
Lenkaitis (2021)	USA, university ESL, qualitative	Videoconferencing in ESL	Improved language awareness, reflection, and intercultural skills.
Gruber & Bailey (2021)	EU universities, mixed methods	Plurilingual competence, ICC	Strengthened intercultural adaptability and plurilingualism.
Higgins (2024)	Asia, higher education, survey + interviews	Technology-enhanced collaboration	Increased learner motivation, autonomy, and cultural curiosity.
Lee (2022)	Malaysia, higher education, qualitative	HIP implementation, ESL teaching	Identified gaps between policy goals and classroom practices.

Research Gap and Link to Present Study

While international studies highlight the benefits of virtual exchange for autonomy and ICC, limited empirical evidence exists within the Malaysian ESL context. Most prior work has examined either autonomy or ICC in isolation, leaving a gap in understanding their interconnected development through structured online collaboration. This study addresses the gap by investigating Malaysian tertiary ESL learners' experiences in a six-week virtual exchange, offering insights into both autonomy and intercultural competence in alignment with national educational reforms and global sustainability goals.

Thus, the literature confirms the synergy between autonomy and intercultural competence but highlights gaps in empirical evidence from Malaysian ESL contexts. This study addresses this gap by examining both dimensions through a mixed-methods design.

Methodology

Research Design

This study employed a convergent mixed-methods design (Creswell & Plano Clark, 2018) to examine the effects of virtual exchange on learner autonomy and intercultural communicative competence (ICC). Quantitative data were collected through pre- and post-intervention surveys, while qualitative insights were obtained through semi-structured interviews and reflective journals. The combination of methods allowed for triangulation of findings and a deeper understanding of students' experiences.

Participants

The participants were 40 ESL undergraduates (23 female, 17 male) enrolled in a proficiency English course at a Malaysian public university. Their ages ranged between 19 and 22 years. Participants were selected through purposive sampling based on willingness to engage in an international collaborative project. All students had intermediate English proficiency levels (B1–B2 CEFR) as determined by their university placement test.

Instruments

- Learner Autonomy Survey: Adapted from Littlewood (1999) and revised by Chan (2021) to measure goal-setting, strategy use, and self-regulation.
- Intercultural Competence Scale: Adapted from Byram's (1997) model, covering openness, empathy, knowledge, and interaction skills.
- Semi-Structured Interviews: Conducted with 10 randomly selected participants to explore experiences in depth.
- Reflective Journals: Weekly entries allowed learners to document progress, challenges, and insights.

Procedure

The virtual exchange lasted six weeks and involved collaboration with students from a partner university KJ Somayya College India. Students engaged in structured tasks such as cultural storytelling, problem-solving discussions, and joint presentations.

Flow of the Study
Pre-Test Phase
Learner Autonomy Survey (Week 1)
Intercultural Competence Scale (Week 1)
Virtual Exchange Intervention (Weeks 2–7)
Weekly online meetings (Zoom/MS Teams)
Collaborative projects (storytelling, debates, cultural sharing)
Reflective journal writing
Post-Test Phase
Post-surveys (Week 8)
Semi-structured interviews (Week 8)
Data Analysis
Quantitative: Pre/post comparison
Qualitative: Thematic coding of interviews and journals

Study Timeline: Enhancing Learner Autonomy and Intercultural Competence

Week 1
Pre-Test Phase: Learner Autonomy and Intercultural Competence Surveys

Weeks 2–7
Virtual Exchange Intervention: Weekly Online Meetings and Collaborative Projects

Week 8
Post-Test Phase: Post-Surveys and Semi-Structured Interviews

Figure 2: Flowchart of Research Design

Data Analysis
Quantitative Analysis: Data from surveys were analyzed using SPSS version 26. Paired-sample t-tests were conducted to determine significant differences between pre- and post-test scores for learner autonomy and ICC. Effect sizes were calculated using Cohen's d.

Qualitative Analysis: Interview transcripts and reflective journals were coded thematically using Braun and Clarke's (2006) six-step framework. Triangulation was applied to cross-check survey results with qualitative insights, ensuring validity.
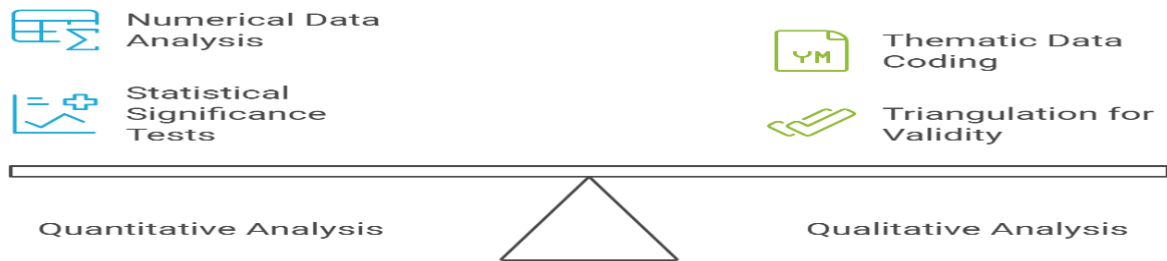
Figure 3: Data Analysis

Validity, Reliability, and Ethical Considerations
Both survey instruments underwent expert validation by three ESL specialists to ensure content relevance. Cronbach's alpha values above 0.80 indicating strong internal consistency (Pallant, 2020). Content validity was ensured by adapting well-established instruments and consulting three ESL experts. Ethical clearance was granted by the university's research ethics committee. Informed consent was obtained from all participants, and confidentiality was maintained through pseudonyms.

Findings

Quantitative Results
The paired-sample t-tests revealed significant differences between pre- and post-test scores for both learner autonomy and intercultural competence.

Table 2: Paired-Sample t-Test Results for Learner Autonomy and Intercultural Competence (N=40)

Variable	Pre-Test M (SD)	Post-Test M (SD)	$t(39)$	p	Cohen's d
Learner Autonomy	3.28 (0.45)	4.12 (0.42)	6.42	< .001	1.02
Goal-setting	3.25 (0.48)	4.15 (0.40)	6.10	< .001	0.96
Self-monitoring	3.34 (0.50)	4.05 (0.39)	5.78	< .001	0.91
Decision-making	3.21 (0.47)	4.02 (0.44)	5.95	< .001	0.94
Intercultural Communicative Competence (ICC)	3.38 (0.46)	4.14 (0.41)	5.88	< .001	0.93
Openness to diversity	3.45 (0.43)	4.23 (0.39)	5.72	< .001	0.90
Empathy	3.31 (0.49)	4.08 (0.42)	5.61	< .001	0.88
Adaptability in language use	3.37 (0.45)	4.11 (0.40)	5.54	< .001	0.87

Results show statistically significant improvements across all dimensions of learner autonomy and ICC, with large effect sizes ranging from 0.87 to 1.02. These gains indicate that the virtual exchange program substantially enhanced students' independent learning skills and intercultural adaptability. Improvements in goal-setting, self-monitoring, and decision-making

reflect stronger self-regulation, consistent with Constructivist Learning Theory (Vygotsky, 1978). Gains in openness to diversity, empathy, and adaptability align with Social Interactionist Theory (Kramsch, 1993), highlighting the value of authentic cross-cultural interaction.

Qualitative Findings

Table 3: Themes from Semi-Structured Interviews (N = 10)

Theme	Description	Representative Quote
Increased Self-Direction in Learning	Students reported greater independence in managing tasks and goals.	"Before this, I waited for the teacher's instructions. Now I know how to plan myself."
Enhanced Intercultural Awareness	Learners gained deeper understanding of cultural norms and values.	"I realised humour, politeness, and silence can mean different things in countries."
Navigating Practical Challenges	Logistical issues became opportunities for resilience and growth.	"It was difficult at first to find a meeting time, but it taught me how to compromise."

Participants consistently highlighted greater confidence in communication, stronger problem-solving skills, and increased empathy toward cultural differences. These findings echo Oxford's (2016) view that overcoming challenges fosters autonomy.

Integrated Summary of Findings

Table 4: Summary of Quantitative and Qualitative Results

Dimension	Quantitative Evidence	Qualitative Evidence	Overall Outcome
Learner Autonomy	Significant gains (M=3.28 → 4.12, d=1.02)	Reported greater independence and self-plans	Stronger self-regulation and autonomy achieved
Intercultural Competence	Significant gains (M=3.38 → 4.14, d=0.93)	Greater empathy and cultural awareness	Enhanced intercultural communicative competence
Coping with Challenges	Not measured quantitatively	Developed resilience, adaptability	Challenges reframed as learning opportunities

The combination of quantitative and qualitative results paints a clear picture: virtual exchange can act as a dual catalyst for both learner autonomy and intercultural competence. The self-directed nature of project planning and cross-cultural coordination explains the marked autonomy gains, while sustained, authentic interaction with international peers explains the growth in ICC.

These findings corroborate earlier work by Helm (2020) and Vinagre (2016), who found that online global collaborations enhance both linguistic and intercultural skills. However, this study extends previous research by documenting these gains in the Malaysian higher education context and linking them directly to the Highly Immersive Programme (HIP) objectives. This not only provides empirical support for integrating virtual exchange into Malaysian ESL

curricula but also aligns with SDG 4, which promotes inclusive and equitable quality education for global citizenship.

Conclusion and Discussion

This study investigated the impact of a six-week virtual exchange program on Malaysian ESL undergraduates' learner autonomy and intercultural communicative competence (ICC). The findings provide compelling evidence that structured intercultural collaboration significantly enhances both independent learning skills and global communicative abilities.

Quantitative results showed statistically significant improvements across all dimensions of autonomy (goal-setting, self-monitoring, decision-making) and ICC (openness, empathy, adaptability), with large effect sizes (0.87–1.02). These gains indicate that learners not only acquired stronger self-regulation skills but also developed the capacity to adapt communication strategies in diverse cultural contexts. Qualitative findings further reinforced these outcomes, with students reporting heightened self-direction, deeper cultural awareness, and resilience in navigating logistical challenges. Importantly, students reframed these challenges as authentic opportunities for problem-solving, demonstrating the transformative potential of virtual exchange.

Theoretically, the findings align with Constructivist Learning Theory (Vygotsky, 1978), which emphasizes the development of autonomy through authentic, self-managed tasks, and Social Interactionist Theory (Kramsch, 1993), which highlights the centrality of intercultural dialogue in building communicative competence. Together, these frameworks explain how virtual exchange can foster both cognitive independence and intercultural empathy in ESL learning.

In the Malaysian context, the results provide concrete evidence that virtual exchange can operationalize the aims of the Highly Immersive Programme (HIP) by cultivating communicative, learner-centered environments that extend beyond traditional classroom boundaries. At the global level, the outcomes support United Nations Sustainable Development Goal 4 (SDG 4), which calls for inclusive, equitable, and quality education that nurtures global citizenship and intercultural understanding.

Overall, this study demonstrates that virtual exchange is a powerful pedagogical innovation capable of addressing long-standing challenges in ESL education. By bridging local and global dimensions of learning, it positions students not only as autonomous learners but also as responsible participants in a multicultural world.

Contributions of the Study

This research contributes to the existing body of knowledge in several ways:

- Theoretical Contribution: It extends the application of Constructivist Learning Theory and Social Interactionist Theory by showing how virtual exchange fosters self-regulation and intercultural skills in ESL contexts.
- Empirical Contribution: It offers empirical evidence from Malaysia, a context where studies on autonomy and ICC in virtual exchange remain limited.
- Practical Contribution: It provides insights for educators on integrating authentic global collaboration into ESL pedagogy to strengthen both language learning and global citizenship competencies.

Implications
- For ESL Pedagogy: Virtual exchange should be embedded as a structured component of ESL curricula to support learner autonomy and intercultural competence development.
- For Institutions: Universities should invest in digital infrastructure and training to ensure accessibility, minimize technical barriers, and maximize the effectiveness of international collaborations.
- For Policy: The findings align with the Malaysian Education Blueprint (2013–2025) and its emphasis on autonomy and 21st-century competencies, providing practical strategies for realizing these policy goals.

Limitations
Several limitations must be acknowledged:
- The study was conducted with a relatively small sample (N=40), limiting generalizability.
- Participants were from a single Malaysian university, reducing cross-institutional representativeness.
- The six-week duration may not fully capture long-term development of autonomy and ICC.
- Self-reported data (surveys, journals) may be subject to social desirability bias.

Recommendations for Future Research
Future studies may consider the following directions:
- Expanding the sample size and including multiple institutions to improve generalizability.
- Conducting longitudinal studies to explore the sustainability of autonomy and ICC growth.
- Investigating the role of specific digital tools (e.g., AI-powered platforms, immersive VR) in enhancing intercultural learning.
- Examining the perspectives of instructors and international partners to provide a more holistic understanding of virtual exchange.

Acknowledgements

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