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Applying IT a based Project in a Foreign language Classroom to Foster Tertiary Students' Intercultural Communication Competence

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Abstract: This study investigates the impact of IT-based project implementation in foreign language classrooms on tertiary students' intercultural communication competence (ICC). The primary objective is to evaluate students' perceptions of how IT-based projects contribute to their learning in the course "Intercultural Communication Competence," enhance their multicultural communication skills and identify challenges they face during this integration. A mixed-method research design, combining quantitative and qualitative approaches, was employed. The study involved 109 university students in Vietnam enrolled in the ICC course and were selected through purposive sampling. Data collection tools included structured questionnaires, open-ended questions, and semi-structured interviews. Findings indicate that students generally expressed positive evaluations regarding the effectiveness of IT-based projects in enhancing their ICC. Notable improvements were observed in students' writing and speaking skills related to intercultural contexts. However, students also reported challenges such as time management, planning academic activities, and addressing task complexity. Despite these obstacles, most participants felt satisfied with their academic performance and valued the autonomy fostered by project-based learning. The results underscore the potential of integrating IT-based projects into



ICC instruction to promote learner engagement and cultural competence. This study contributes to developing innovative teaching strategies aligned with digital transformation in higher education.

Keywords: IT-based project, foreign language classroom, tertiary students, intercultural communication competence.

Introduction

Enhancing Intercultural Communication Competence is one of the essential goals that higher education needs to achieve within the context of integration. According to Liu and Laohawiriyanon (2013), incorporating culture into language education is crucial for nurturing learners' understanding of their own culture, the culture of the target language, and foreign cultures (Chen & Bryer, 2012). The authors emphasize that English, as a lingua franca, must align with the cultural context in which it is utilized for communication. Similarly, Levy (2007) states that integrating diverse cultures into English instruction is essential for enhancing learners' proficiency and knowledge in intercultural communication, enabling them to become effective communicators in multicultural and global settings.

Kenning (2007) suggests that English can be metaphorically described as a "killer" language, with communication technology as a key facilitator. This notion highlights the significant role of technology in language learning, enabling students to acquire English as a second language while accessing extensive knowledge resources, developing their skills, and facilitating global collaboration beyond traditional classroom settings. Researchers and educators have embraced Information Technology (IT), constantly integrating it into their methodologies to enhance learners' proficiency in a second language with ease. The increasing adoption of online platforms for English instruction reflects a global trend, offering numerous advantages (Madge et al., 2009). These platforms allow both students and teachers to engage in learning from the convenience of their own homes. Nichols (2003) acknowledges the introduction of e-learning platforms as a pedagogical advancement, enriching learning experiences with varied assignments, resources, activities, and administrative functionalities. Such platforms offer interactive materials, promote learning autonomy through self-correcting questions and immediate feedback, facilitate progress assessment, and encourage collaboration among participants for reflection, discussion, and problem-solving (Carliner, 2008).

Academic institutions are increasingly adopting online learning as a primary mode or integrating it into traditional approaches to enhance education quality. Dunrong & Jin (2020) suggest that experimenting with online learning can offer lifelong educational benefits during school closures and post-pandemic. Online learning and assessment methods have become more prevalent, allowing students to choose diverse learning environments online instead of



attending physical classes. Consequently, the constraints of traditional approaches, such as limited campus capacity, autonomy, reflection, and collaboration, can be mitigated with innovative online teaching tools. Teachers can leverage technological advancements to supplement traditional education effectively. In online teaching experiments, learners are provided with ample resources, including e-learning materials, course curricula, interactive communication platforms, and IT-assisted applications, surpassing the resources available in traditional teaching methods (Alexander, 2013; de Bruin & van Gog, 2012; Eitel, 2016; Rodrigues et al., 2011).

Educational institutions have introduced courses related to foreign cultures as a compulsory subject in the English curriculum. Nonetheless, universities face numerous challenges in implementing these courses to equip students with an in-depth understanding of culture and cross-cultural communication skills. To innovate the teaching culture approaches, IT-based projects are generated to boost students' ICC in the culture courses. The projects were implemented with the assistance of Google Sites. Employing IT-based projects for educational purposes proves to be a suitable and viable option in higher education settings. Doung-In (2017) contends that the evolving landscape of education prioritizes applying knowledge over mere acquisition. In e-learning contexts, the teacher's role evolves from that of a lecturer to that of a facilitator, necessitating the integration of IT into the learning process. Among various technology-based educational tools, Google Sites emerges as a promising instrument for fostering active learning, serving as a viable alternative to traditional face-to-face assessment. GS is recognized for its user-friendly interface, accessibility, and secure services, facilitating reflective practices, collaborative endeavors, and skill development (Casley & Day, 2014).

According to Chan et al. (2025), students' ICC significantly improved after the intervention and showed greater confidence and motivation. This implies that Virtual Reality can successfully improve ICC with suitable education. Shadiev and Sintawati (2021) also acknowledge that the project allowed students to participate in cultural exchanges with peers from other cultures by incorporating intercultural learning activities into traditional classroom settings. 360-degree movies created immersive experiences that improved ICC and language proficiency.

While numerous previous studies have examined the advantages of integrating technology in English language learning (Chan et al., 2025; Macpherson et al., 2004; Moeller et al., 2010; Shadiev and Sintawati, 2021; Woods et al., 2004; Yueh & Hsu, 2008), relatively few have concentrated on investigating the effects of GS on students' Intercultural Communication Competence (IC), and their views regarding the challenges relevant to ITP implementation. Thus, the article underscores the importance of addressing the following three research questions:

1. To what extent does an IT-based project contribute to learning the course "Intercultural Communication Competence"?



2. How does using IT-based projects in education influence students' Intercultural Communication Competence?
3. What challenges do students encounter while incorporating an IT-based project into their IC learning experience?

Literature Review

This literature review aims to investigate the application of information technology in higher education, focusing on utilizing Google Sites in English language instruction. It emphasizes Google Sites' features and impact as a tool for blended learning programs at the university, exploring how it can improve student engagement, encourage teamwork, and enhance resource accessibility. Additionally, this review aims to provide insights into the Culture and Intercultural Competence theory, examining how Google Sites can support language acquisition and accommodate diverse learning.

Information Technology in Higher Education Environment

Online learning encompasses any learning activity facilitated by technology as an alternative to traditional approaches or an integrated component of formal education. Regardless of its form, Information Technology (IT) is a potent resource for learning assistance in a Smart Education Environment. E-learning, which entails online learning, provides students with flexible and personalized learning opportunities, reducing costs and reshaping learning paradigms in the new millennium (Greenhow & Robelia, 2009). The debate surrounding the implementation of e-learning has persisted for some time. Johnstone et al. (1993) acknowledge that the judicious application of educational technology is pivotal in addressing key educational issues, including financial strains, resource inadequacies, and organizational constraints (Georgiev et al., 2005).

Casley and Day (2014) underscored Google Sites' commitment to key criteria, offering learners indefinite access, independent of enrollment, free, and easy to use. They asserted that Google Sites is designed explicitly for ePortfolio use, meeting all criteria for practical ePortfolio usage. In a case study conducted at EIT University, the authors identified factors contributing to implementing Google Sites for ePortfolios as an assessment tool in tertiary learning and teaching. The study revealed that Google Sites is optimal for managing ePortfolios due to its free, secure service, enabling reflective practice, collaboration, and lifelong learning.

In another study, Harsanto (2014) highlighted Google Sites' features as a tool for blended learning programs at his university. Despite the complex challenges associated with website creation and maintenance, Google Sites facilitated student interaction and information sharing. The research, involving 84 participants (78 students and six faculty members), revealed a high consensus regarding the benefits of information sharing in the learning process with GS support.



Blended Google Sites usage has positively impacted student course ratings (Moeller et al., 2010; Nichols, 2003). Successful implementation requires attention to pedagogical attributes, including five parameters: developing content, storing and managing content, packaging content, student support, and assessment (Govindasamy, 2001). In another study, Google Site ePortfolios were chosen as a successful alternative to traditional hard copy photographic portfolios in teaching Applied Professional Skills. This approach helped students reduce printing costs by uploading photos to Google Photos and ePortfolios. The portfolio monitored activities and personal reflections, with photos and reflection quality serving as criteria for final course assessment. The report demonstrates that Google Sites can be implemented successfully, fostering skills development and reflective practice (Casley & Day, 2014).

Culture and Intercultural Competence

Lustig and Koester (2010) define intercultural communication as a symbolic, interpretive, contextual process in which people from different cultures create shared meanings. Intercultural communication occurs when distinct cultural differences create different interpretations and expectations about effective communication.

Many research results have supported the view that intercultural communication competency (ICC) is a collection of personal skills such as flexibility, empathy, openness, personal awareness, adaptability, language ability, and other factors of the communication context, such as communication purpose, motivation, etc. Kosareva et al. (2016) proposed an Intercultural Communicative Competence (ICC) model comprising several components, including global awareness, proficiency in foreign languages, practical communication skills, cultural empathy, and acceptance of foreign individuals and cultures (Szczurek-Boruta, 2020). Various Intercultural Communicative Competence (ICC) models have been developed to assess ICC, drawing from key components. The predominant ICC model typically encompasses three main components: knowledge, attitudes, and skills. According to Liu et al. (2025), by taking part in informal digital learning of English activities, students can develop their understanding of cultural differences and eventually gain the skills necessary to communicate successfully across cultural boundaries. Furthermore, it has been established that intercultural awareness had a significant role in comprehending the ICC of Chinese college EFL

Description of an IT-based Project in teaching ICC

In the course "Intercultural competence," the 57 students in experimental groups were required to complete online assignments with the assistance of the GS. The teacher randomly assigned students to groups, each with an Editor-in-Chief and an administrator responsible for editing and publishing. At the beginning of the course, participants were divided into four classes, with two classes designated as control groups and the remaining two as experimental groups. During the initial phase of the course, all students took the same pretest to establish equal average scores for both groups. In the learning process, the control group received lectures



based on traditional methods, focusing on theory, examples, feedback, and revisions. Conversely, teachers in the experimental groups adjusted the syllabus to emphasize practice and learning autonomy through GS.

GS served as the primary learning tool for students, facilitating the creation of group learning webpages. After each classroom lesson, groups compiled and posted reading texts on cultural knowledge, along with a video and an attached analysis on intercultural problems such as cultural shocks, misunderstandings in intercultural communication, or intercultural communication barriers occurring in specific situations, and recommended solutions. The videos were either produced by students or extracted from movies. Other group members and teachers visited the websites to pose questions or provide comments. Groups were required to clarify their activities and answer questions posed by other students. Instructors provided feedback based on writing assessment rubrics, offering recommendations for improving content quality. At the end of the course, teachers reviewed the websites, read reader comments, provided feedback, and assigned scores. The evaluation was based on the rubrics provided and assessed by the instructor.

Materials and Methods

Participants

The mixed-method research combining qualitative and quantitative methods was undertaken in this study to provide a more thorough comprehension of intricate concepts such as intercultural communicative competence (ICC) and digital learning, as well as greater insights into learners' experiences, difficulties, and viewpoints about digital learning. By cross-checking results, using numerous data sources improves reliability.. A total of 109 participants in 4 classes of the ICC took part in the mixed methods study, based on purposive sampling. Students come from the legal foreign language faculty, majoring in English. The participants in the study were third-year students, 29.4% of whom were 20 years old, while others were 21 years old. There were more female participants than male. These students were joining the higher-level course in the 2022-2023 academic year. They completed the general English courses in the previous semesters.

Data Collection Instruments

The author employed surveys with questionnaires, interviews, and tests to collect data. A questionnaire was constructed based on a literature review of GS studies in learning IC. The questionnaire items were grouped into categories covering demographics, school details, and respondents' evaluations of benefits and the effects of GS on students' ICC development. Responses were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) for evaluations of the effects of GS, and from 1 (Very Low) to 5 (Very High) for evaluations of learning motivation.



Respondents were randomly assigned to either the experimental group (n=57) receiving GS in the learning process, or the control group learning through traditional methods without GS interference (n=52). Pretests were conducted at the course outset to establish baseline levels between control and experimental groups before intervention. Post-tests occurred at the end of the course, following treatment in the experimental group. Teacher assessments were scored using a 10-point scale. The effectiveness of using GBP in academic performance was assessed through the final exam. The test consists of 3 tasks, including theoretical questions (multiple choice and open questions to check the cultural knowledge) and problem-solving questions to test students' capacity to address the intercultural issues in particular situations.

In-depth interviews were conducted to gather student viewpoints on the challenges of using GBP in the learning culture. Twenty students were randomly selected from the experimental groups for interviews. Questionnaire sheets were distributed directly to participants via face-to-face meetings, Gmail, Google Forms, and social networks like Zalo and Facebook.

Data Analysis

The quantitative data were analyzed using descriptive statistics in IBM SPSS software. Demographic information of the participants was analyzed using frequency descriptive tests. Using descriptive analysis tools, the mean and standard deviation values of students' evaluations regarding contributive features in learning with the support of Google Sites.

The impact of using Google Sites on students' Intercultural Communication Competence was assessed through Independent-sample T-tests to measure differences in academic achievement between the two groups applying intervention with the support of GBP.

Qualitative data were analyzed using the coding technique. Coding identifies text passages, selects a specified amount of text, and then codes the passage with a previously selected code. Information gathered from interviews was categorized based on recurring indigenous categories, specialized vocabulary, key words in context, comparisons and contrasts, metaphors, and analogies, to group them into codes and identify common themes (Bernard & Ryan, 2010).

Results

Students' evaluations of the contributive features of an IT-based project in learning the IC course

The statistical values in the quantitative component provide measurable effectiveness of digital learning tools on intercultural communicative competence in different aspects. Table 1 demonstrates that the participants highly value the contributive features of IT-based projects. Specifically, aspects relevant to boosting problem-solving ability within specific cultural contexts, gaining insights into the diversity of cultures, and increasing collaboration in learning have garnered the highest ratings. These attributes are reflected in their respective means of 3.76,



3.73, and 3.72, with standard deviations (SD) of 0.993, 0.899, and 0.901, respectively. Reinforcing cultural awareness, sensitivity, and adaptability closely follows, achieving a mean of 3.65 and an SD of 0.952. Furthermore, allowing students to explore various cultural perspectives and practices and exposing them to real-life scenarios within different cultural contexts are also highly regarded, with means of 3.58 and SD of 1.042 and 0.894, respectively.

Table 1

Contributive features of an IT-based project to learning ICC

Descriptive Statistics

	Mean	Std. Deviation
Getting students engaged with more authentic resources	3.12	.781
Increasing reflection and revision	3.55	.886
Empowering assessment ability	3.47	.835
Facilitating immersive language experiences	3.52	.965
Exposing students to real-life scenarios in different cultural contexts.	3.58	.894
Boosting problem-solving ability through particular cultural situations	3.76	.993
Gaining insights into the diversity of culture	3.73	.899
Enhancing critical thinking	3.22	1.007
Promoting creativity	3.42	.853
Building a forum for discussion	3.37	.793
Developing autonomous learning	3.50	.888
Increasing collaboration in learning	3.72	.901
Allowing students to explore different cultural perspectives and practices	3.58	1.042
Reinforcing self- assessment	3.52	.825
Reinforcing cultural awareness, sensitivity, and adaptability	3.65	.952
Valid N (listwise)		

Source: Author's elaboration.



The relatively high standard deviation (>0.8) indicates the variation of perspectives among respondents regarding these aspects. Moreover, participants leveraged IT-based projects for reflection and revision, utilizing e-portfolios to meticulously track activities, lectures, and performance, thereby facilitating self-reflection on strengths and weaknesses (mean = 3.55, SD = 0.886). Despite being ranked lowest, the feature of engaging students with more authentic resources still maintains an average level of significance, with a mean of 3.12 and an SD of 0.781.

The Influence of an IT-based Project with Google Sites on Students' Intercultural Communication Competence

Studies often use pre-test and post-test designs with statistical comparisons. These values summarize students' ICC levels before and after an intervention. The results from the tests of two groups that are utilized to examine the difference in average overall scores are presented in Table 3. The tests comprise three parts: specific cultural knowledge, general cultural theories, and solving intercultural situations to investigate students' Intercultural communication competence.

Table 2

Comparison of students' Intercultural communication competence in two groups

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
V1	Equal variances assumed	2,999	.086	-4.518	107	.000	-.7414	.1641	-1.0667	-.4160
	Equal variances not assumed.			-4.527	102.308	.000	-.7414	.1638	-1.0662	-.4166

Source: Author's elaboration.

As observed in Table 1, the Sig value of Levene's Test surpasses the preset threshold (0.086 > 0.05). Consequently, the independent t-test is conducted, considering that the value of equal variances is not assumed. Notably, the Sig. (2-tailed) The value is lower at 0.000 than the significance level $\alpha = 0.05$. This outcome concludes that a disparity exists between the average overall scores of the two groups. The discrepancy is marginal, with a Mean Difference value of



0.74. The findings indicate a slight difference in scores on the final tests between the control and experimental groups. The group's scores using GS in learning are higher than those of the group without the assistance of GS. This data suggests that students improve their ICC within an IT-assisted educational setting rather than in the traditional classroom.

Insights collected from open-ended inquiries underscore a significant trend among students who exhibit heightened motivation toward learning about diverse cultures within IT-based education. Many students consistently engage deeply in various activities to hone their cultural knowledge and skills. Integrating IT tools has substantially nurtured their learning experiences in various ways. While textbooks offer foundational knowledge, IT-based projects expose real-life scenarios within diverse cultural contexts, often presented through videos or scenarios created by students. The diligent pursuit of academic goals, supported by guided instruction and dynamic activities facilitated by educational technology, enables students to make tangible strides in developing intercultural communication competence.

Discussion

This study sheds light on using Google Sites-based projects as an innovative approach to teaching culture, specifically within the context of Intercultural Communication (ICC) subjects. While the benefits of integrating IT resources into learning and teaching are vast, this study focuses on the primary effects of ICC, language, and skills development. The highlighted data from the findings elucidate the project's impact on learners. Central to the results is the reinforcement of cultural awareness and scenario-solving skills, built upon fundamental cultural knowledge; boosting problem-solving ability through particular cultural situations; and gaining insights into the diversity of culture. Google Sites provides students with additional tools to review their learning, evaluate their progress, and make appropriate adjustments to the webpages, which serve as their academic products. Reflection during the learning process is a crucial phase for students to undergo. The findings also demonstrate the effect of collaboration through project activities in which students can enhance their interaction and connections with classmates and teachers—this collaborative effort fosters group discussion and assessment, motivating them to work effectively towards achieving optimal results. Furthermore, participation in the project leads to developing various skills, including language competence, logical and critical thinking skills, IT competence, and learning autonomy. The adage "practice makes perfect" holds true, as the project provides students opportunities to improve their skills. These findings align with previous research by McLoughlin and Lee (2008) and Subrahmanyam et al. (2008), emphasizing how reflection on learning and teaching platforms facilitates personalization, communication, collaboration, and sharing. This supports social learning and communication (Greenhow & Robelia, 2009; Chen & Bryer, 2012; Nguyen, 2021; Madge et al., 2009).

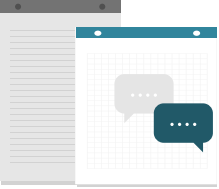


Whereas traditional learning methods may emphasize theoretical understanding, innovative approaches augment this knowledge by broadening students' perspectives through interactive academic activities such as writing articles, engaging in reflections, and revising cultural topics within the digital platform. As a result, when faced with the rigors of final examinations, students are better equipped to navigate and effectively respond to a range of questions, owing to their enriched understanding of cultural nuances and enhanced ability to apply this knowledge in diverse contexts. This investigation is based on Harris and Hodges' (2016) research on Google Sites' experiments. Eitel (2016) revealed that multimedia helps students be more confident in doing the tests better (Alexander, 2013; de Bruin & van Gog, 2012).

Conclusions and Implications

The study delved into students' assessments of the impact of utilizing IT-based projects in learning Intercultural Communication (ICC) subjects, the influence of these projects on students' ICC proficiency, and their perspectives on potential challenges associated with using Google Sites (GS) in learning. An experimental investigation involved 109 students enrolled in an ICC course at a university in Vietnam. The findings revealed a positive evaluation of GS's effects, particularly in exposing students to real-life scenarios across diverse cultural contexts, enhancing problem-solving skills through culturally specific situations, broadening understanding of cultural diversity, enabling exploration of various cultural perspectives and practices, strengthening cultural awareness, sensitivity, and adaptability, facilitating immersive language experiences, and fostering the development of skills, such as critical thinking, assessment abilities, collaborative learning capacities, and creativity. In light of these project effects, a notable positive impact on students' intercultural communication competence emerged. The study demonstrated a significant difference in academic achievement between the experimental group utilizing GS and the control group not utilizing GS in their learning processes. The groups utilizing GS exhibited higher results compared to those without GS intervention. Interview findings revealed that while students encountered difficulties managing time for the project, designing academic activities, and grappling with task complexities to meet requirements, they expressed overall satisfaction with their academic performance.

Teaching, learning and assessment methods must evolve to align with IT-assisted educational environments. Therefore, educators should adjust the syllabus to incorporate such projects into the course effectively, which may involve reducing traditional classroom theory sessions, increasing online study time for students to complete tasks at home, and refining instructional methods and classroom management. Teachers must appropriately allocate time for each stage of the project implementation process, avoiding overlapping activities. Effective collaboration among team members is also crucial for successful implementation. Teachers should closely monitor team activities, provide timely instructions and support to students, and offer compliments and rewards to maintain high motivation levels, increasing interest, passion, and effort towards achieving learning goals.



Suggestions for Future Research

The study investigates the positive impacts of IT-based projects, particularly GS, on students' academic achievement and intercultural communication competence, while also identifying areas for further investigation and improvement in assessment methodologies. One study limitation was the lack of authentic sources to evaluate students' ICC. Consequently, ICC was examined through tests encompassing cultural knowledge and resolution of intercultural communication scenarios. Future research should explore additional assessment approaches to more comprehensively evaluate ICC.

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Conflict of Interest

None.

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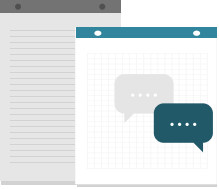
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